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FRANK: G. RUFFIN, EDITOR.

# THE SOUTHERN PLANTER



DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND THE

HOUSEHOLD ARTS.

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# THE SOUTHERN PLANTER



*Devoted to Agriculture, Horticulture, and the Household Arts.*

Agriculture is the nursing mother of the Arts. | Tillage and Pasturage are the two breasts of  
—Xenophon. | the State.—Sully.

FRANK. G. RUFFIN, EDITOR.

F. G. RUFFIN & N. AUGUST, PROP'RS.

VOL. XVII.

RICHMOND, VA., NOVEMBER, 1857.

NO. 11.

## Keeping Cabbages in Winter---Planting Cabbages, Onions and Irish Potatoes in the Fall.

The following directions for keeping cabbages will do very well for this climate, except the instructions for covering. They, according to our experience, are unnecessary. Last November, in the latter part of the month, we selected an exposed situation and put away two hundred head of cabbages according to the plan here laid down, only we did not cover them with any sort of roof whatever. The heads were inclined due north. In the memorable storm of the 6th of January, the snow blew entirely away from the knoll on which they were, and they were left naked to the cold. Not more than half a dozen succumbed to it, and those that survived the kitchen lived healthy and well until after the cold weather in March, which followed the warm weather in February. There was a reason for it. Vegetables, in fact, all living tissues are not hurt by freezing; not at all: but by the kind of thaw which succeeds. If that be sudden then comes frost bite—a misnomer—in man, beast, or vegetable. But if it be gradual, then no harm is done. That is the reason why when one's hands or ears are nearly frozen, he dips them in cold water, or rubs them with snow, and re-

stores the circulation by active friction before he approaches them to the fire. In the case of the cabbages the outer leaves, which, when they were put away, were made to hug the head closely, received the first rays of the sun; as they were killed, they stuck still more closely to the head, and by keeping it from becoming thawed too soon, preserved it. Had it fronted south it could not have received the protection of the leaf.

About the same time we planted a small crop of spring cabbages—Early Yorks. Pretty high lists were formed for them, and they were planted in rows about half way up the *southern* slope of each list. They two were left bare by the snow, and lived well until the warm spell in February started them to growing. They had become filled with sap, and, of course, were tender and succulent, when the cold weather of March attacked them, and nearly one half were killed; though, as they had been planted thrice as thick as they were meant to stand to provide against such accidents, an abundance was left for table use. Had they been planted on the northern slope it *might* have been different.

The onions planted in November upon ground guanoed at the rate of 400 lbs. per acre, because it was poor, lived perfectly well

and made a fine crop. We therefore say to all, plant your onions in November or early December, and save that much spring work.

Irish potatoes for an early crop may also, as we know well by experience, be planted in the fall; and if they are well covered, say about three inches thick, with straw or leaves secured against wind by a little brush, they will give a fine crop. They may come up with the warm spells in late winter and be killed down several times, but take our word for it they will make a crop. We have raised early potatoes of good quality six years hand-running on the same spot from the "volunteers" that were left in digging them through the summer. But where that practice is intended to be followed, it is well, at least it was our practise, not to molest the hills after they had been once "robbed."

### Heading Cabbages in Winter.

The following plan to accomplish this desirable end, is that which, we are informed, is adopted in the New England States, by the best farmers and gardeners there. We invite to it attention in this region, as we not unfrequently see much cabbage, which failed to head in the fall from various causes, either pulled and fed to stock, or left a prey to the frost:

"Select a suitable spot in a garden or field, six feet in width, of any desired length, free from standing water; run a furrow the proposed length of your bed, and throw a back furrow upon it. This double furrow will form a *side wall* of your cabbage house. In the trench stand your cabbages on their roots leaning to the furrow at an angle of 40 to 45°. Let the next furrow be thrown upon the roots and stalks of the cabbages, and another row be placed in the trench made by the second furrow; thus proceed until your six feet of width is planted, then let the last furrow be a double one—making the other side wall about the height of the cabbage head. Through the whole length of the middle of the patch lay rails lengthwise, supported by crutches, at a height of about two feet from the cabbages; this will form the ridge of the cabbage house. Lay light brush-wood from the side-walls to the ridge pole; then throw on salt hay, or bog hay, or straw, two inches in depth. As the cold weather advances throw on dirt until you have a depth of say six or eight inches—or even more, when the winters are severe, and finally spank the dirt roof with the flat of a spade, until it will shed the rain. Fill up the two ends of your house in the same manner, leaving only small air holes of a foot or two in diameter, which may be closed with hay.

The length of the house should be on a north and south line.

In the early spring you will find your most unpromising plants have heads of their own, and all be thriving and fresh. Try it at once, and you'll try it ever afterwards."—*Ex.*

### Fall Ploughing Gardens.

If persons who have gardens of clay soil, will first manure them in the month of November, and then plough them in lists, bedding the lists as high as the plough will make them, and then will break the middles with a coultter and pull up the loose dirt to the top so as to have the land in narrow sharp ridges, at least eighteen inches high, and as much higher as the base of the list will allow, they will find their account in it. The land will become thoroughly pulverized by the Spring, when it may be thrown back and fine manure harrowed in with it. Provided the ground has been drained, (and such soil should, in nearly all cases, be thorough-drained with tile or such substitute therefor as may be at hand,) the soil will then be "as light as a bank of ashes," and in fine condition for any garden crop. But when we say *fine manure*, we do not mean what is called "well rotted manure." The well rotting of manure is a most wasteful process, and we always feel ashamed when we see any about our premises. A far cheaper article, and quite as effective, is a compost of stable manure and dirt, the nearer to a pure clay the better, in alternate layers of six inches of manure, well trodden down, and three inches of clay on that, well rammed down when it is not wet. Raise each heap about five feet high, and "let it sweat" until you want it. If well rotted manure, as usually manufactured, is what is wanted, it may easily be made of weeds, or leaves and woods, mould in alternate layers, with dirt, plentifully sprinkled with lime.

### He Pumpkins and She Pumpkins.

By the above distinction the initiated refer to a particular mark on the Pumpkin, which guides them in the selection of those from which they mean to save the seed.

At the end of the pumpkin from which the bloom drops is a scar. That scar is either large or small. By selecting the seed only from the very largest—the *She Pumpkin*—the size of the pumpkins of the next year's crop will be very much increased. But such selec-

tion must be made every year to keep up the size. With it the crop will be very much improved. The plan is so simple that any one may try it; and we warrant success to each one who does.

What causes the remarkable difference in the size of the scar we cannot tell. We only know that it exists. It has not the slightest reference to the sex of the pumpkin. No more than the bloom of the strawberry has to its sex, which is the same in all plants and in every bloom.

### ROLLING WHEAT IN TAR.

*The Country Gentleman* informs its readers that Major Dickinson, a very superior farmer of Steuben county, New York, always rolls his wheat and grass seeds in tar preparatory to sowing. The tar is diluted with hot water at the rate of a half pint of tar to five or six gallons of water for a half bushel of the seed. Then a half bushel of lime in the case of the wheat, or of plaster for clover, is mixed with the half bushel of tarred seed, and enough of either adheres, he thinks, to do a great deal of good, as much as a greatly larger quantity would, if applied broadcast. If this should reach any farmer before he finishes seeding, we hope he will try at least a half bushel in this way and note the result for the Planter.

### IMPORTED STOCK.

We are glad to see that a few of our public spirited breeders have added to their previous importations from England. We learn that Messrs. Betts & Co., of New York, shipped from England on the 12th of August, amongst other stock for different parties in the United States, the following for our own citizens.

A Short Horn Bull, two Short Horn Heifers, a South Down Buck and a Cleveland Bay Mare for R. H. Dulany, Esq., of Loudoun.

Also, a thoroughbred Stallion for Col. Ware, of Clarke county.

These, with their previous importations, and Mr. Rives' and Dr. J. R. Woods' Cleveland stock, in Albemarle, are all specimens that entitle their owners to the thanks of the public.

### FINE CHEWING TOBACCO.

We owe our thanks to Messrs. S. & T. Hardgrove, tobacco manufacturers, for a box of their

superior chewing tobacco. We write with a quid in our mouth; and having chewed all sorts, pronounce this very superior. No man in the world ought to chew tobacco, but all who do ought to select the best, if they are guided by considerations of health or comfort. Those who agree with us in this opinion, will find their views fully met by S. & T. Hardgrove.

### SWEET POTATOES AND SORGHO SUCRE SYRUP.

We are indebted to our friend, Wm. C. Jones, of Surry, for a present of some very fine sweet potatoes. They are nearly all of a size, and the largest weighs four pounds. It seems to be of that sort sometimes raised in North Carolina, where it is said that they are sometimes compelled to cook them out of doors, sitting on one end and roasting the other.

The bottle of syrup of the Sorgho, which we received at the same time, was almost as good as honey.

### MORRISON'S REAPER.

The reader will see in our advertising columns, that this valuable implement will be manufactured, for the coming harvest, by Capt. Charles Dimmock. The iron work will be done by Mr. Thos. Samson, of this place. His name is a guarantee of the goodness of his work.

### A Gentlemanly Subscriber.

We beg pardon of our correspondent for publishing his letter. But it is so different from a good many we receive on the same subject—dropping delinquents—that we think it worth publishing as a model. A good many do not pay, and grumble because we cannot afford to give them the paper:

DEAR SIR:

I expect you are about to give me up permanently as a subscriber. But I cannot afford to give you up. The "Planter" has become an indispensable member of my family, and I request you to begin again to send it to my P. O. I approve very much of your plan to cut off delinquents, though I may suffer by it. I send you five dollars, which will a little more than square accounts in my favour. I will soon enclose you a further sum on the accruing subscription. Yours, Respectfully.

F. G. Ruffin, Esq.

September 30th, 1857.

## Who is "Frank Peyton?"

DEAR PLANTER:

Unlike your correspondent, "John Dump-ling," *I love tobacco*. I take pleasure in its cultivation and management, and read with interest all you publish on the subject.

Two articles have appeared in your paper over the fictitious signature of "Frank Peyton," which in my humble opinion are worth a hoghead of "first-rate," to every Planter who will read them. Now, while *I* may not be disposed to pay their author the full value of his productions, it is but due to him that we should render our thanks for what he has already written, and call upon him for "more light." Will you, who turn a period with as much ease as I can roll a quid, undertake this pleasant duty? And if you would confer a double favor upon your readers, while you give to him our thanks, please give to us his name.

R. W. N. N.

*Albemarle County, Va.*

The author of the communications to which our friend, Mr. NOLAND, refers, is F. P. Wood, Esq., of Prince Edward. We take the liberty of giving his name without asking his leave, because it is demanded by a gentleman fully competent to appreciate his merits. Himself no mean Planter, as his last Spring's sales of tobacco will prove—for he got a higher price than any one else in Albemarle,—he is fully imbued with the spirit of a Southern landholder, and enthusiastically devoted to everything that can advance or elevate his profession. It shall not be our fault if he and Mr. Wood do not shake hands at the Fair. Meanwhile we will say to Mr. N., what Mr. Wood's modesty would not allow him to say, if he will go to Prince Edward and become acquainted with the members of the Agricultural Club of that county, he will not only make the acquaintance of a set of very pleasant gentlemen, but he will find that sense on the subject of tobacco, as well as on other departments of Agriculture, can be talked as well as written by Mr. Wood and his neighbours. Especially in the management of slave labour & some of these gentlemen excel.—Ed. So. Pl.

## Wheat Crop, and Prospect for Corn, in the Valley of Virginia.

The following letter, from a farmer, who has good opportunities of learning such facts as he gives, was not received in time for the October No. of the Planter. The prospect is gloomy enough, and reminds one of Western New

York, whose finest wheat lands are desolated by the midge.

If our friend will sell his sixty dollar land and come to Eastern Virginia, on tide-water, we can promise him two things, which it will astonish him and his neighbours to have the proffer of, to wit: better HEALTH and better crops, on lands whose average cost, (we do not say value), shall not exceed twenty dollars per acre.

I am sorry to inform you that the wheat crop in this section, bad as it was, is turning out just about one half it was estimated at, at the close of harvest. All the wheat harvested after the 25th of July is not suitable for milling purposes. I learn from good authority, that the result has been the same throughout the Valley, that is, from Jefferson county to Augusta county. We have a good crop of corn throughout the Valley, but it is not as good as was expected; the chinch-bug are more numerous than were ever known before. I am exceedingly doubtful as to there being wheat enough in the Valley for seed and bread. Wheat with us is only worth 90 cents per bushel. What farmers are to hope for, who are now about to use guano, at a cost of from \$60 to \$70 per ton, I am at a loss to know. When we have such seasons as will enable us to make good crops, and we can get from \$1 00 to \$1 50, or perhaps \$1 75 per bushel for our wheat at home, guano, and all fertilizers made by honest persons, will pay.

The following statement will show that the best farming, with such seasons as the past three have been, will not pay, especially so long as the bugs and worms remain so numerous. Land is valued, in this section, at from \$40 to \$70 per acre; river low land at \$100. I cultivate a farm of between seven and eight hundred acres, valued at \$60 per acre.

Within the last three years I have used	
of guano, phosphate of lime, and bone dust,	23 tons.
Plaster of Paris,	25 "
50 sacks of salt, equal to	15 "

63 tons.

Also, 300 bushels of stone lime, equal to 600 bushels of slaked lime, 300 bushels of ashes, at a cost in cash of \$1500, not estimating the ashes, nor the hauling. No estimate is made of farm manure hauled out, nor grass seed purchased. I have seeded during the three years 1060 bushels of nice seed wheat; 3800 bushels is all the wheat that has been grown within the three years. Such seasons as we formerly had, two thousand, or twenty-five hundred bushels, would have been a reasonable crop to expect per year, without an outlay for manure. As bad as this sounds, to come from such a fine section of country, it is as true as

gospel; and there are ten, or perhaps twenty, farmers who have done worse in the way of cropping, where there is one who has done better; but there are some who have undoubtedly done better, but they are few and far between.

### NEW BOOKS.

*Patent Office Report, for 1856.*

We have received a copy of the above work. Like its predecessors, we find it a tub to the whale, and a useless burden to the treasury. We have looked over it attentively, and except two articles, find nothing worth inserting that has not appeared, or might not as well appear in the ordinary agricultural journals of the day. The exceptions are a voluminous correspondence with certain consuls at various foreign points, on the cultivation of cotton; which, if it belongs at all to the United States to meddle with, should be found in the report of the Secretary of the Treasury: and a short treatise on meteorology, by Prof. Henry, of the Smithsonian Institute, which is no doubt valuable, but which might as well have appeared in that anomalous department "for the diffusion of science among men."

The lithograph of the Arden horses, which, as the breed is extinct, is a mere imaginary sketch, of no practical utility, is well executed. So is the lithograph of the South Down ram. So, also, is the coloured engraving of Mr. Peabody's strawberry; but not at all better than it had been done by Mr. Peabody previously, at his own private expense for his own private purposes.

The wood cuts of squirrels and other vermin, and of a good many birds, are passable. But for what purpose are such things inserted? Why is this annual report to become a pictorial of even less merit than the common catch-pennies of that description?

It will be obvious to all who examine this book, that it has been the object of those who get it up rather to earn their salary and tickle the people than to contribute anything useful; and as might have been expected from such purposes, it is, as a contribution of the United States to the Agricultural interest, simply contemptible.

When Mr. Mason, the late Commissioner of the Patent Office, resigned, we understood that it was because Mr. Buchanan refused to grant an appropriation of ten thousand dollars to the

importation of seeds, cuttings and roots of new varieties, or new names. Mr. Mason may have been a good officer, but if he made such follies the condition of his remaining at Washington, we are very much obliged to the President for letting him go.

We have also received, from C. B. Williams, Esq., the Secretary, *The Journal of Transactions of the Virginia State Agricultural Society, from the close of the first annual exhibition, in 1853, to the commencement of the third, in 1855.* J. W. Randolph, publisher; and for sale by him and at the office of the Society.

The essays in this little volume, on the various branches of rural economy, and the minutes, agricultural facts, &c., of the Commissioner of the Society, are of themselves worth the half dollar which this publication sells for. We hope all friends of the Society will call and get a copy; for it is really a valuable publication.

*Moss-Side.* By MARION HARLAND.

We have received from J. W. Randolph, a copy of *Moss-Side*, the last novel of Marion Harland. We have had no time to read it, and most probably shall not have; but its reception gives us opportunity to say a word in respect to *Alone*, the first novel of this authoress, which we wonder some one else has not said before. We read that work with pleasure; and when we reflected that it was the production of a young lady of eighteen years, we were astonished at the ripeness of intellect it displayed. But it had one sad fault, and contained, unintentionally no doubt, an imputation upon the social life it attempted to portray; which, as an humble member of that society, we always protested against. We allude, of course, to the episode of Ashlin and Mrs. Read, which was a case of *crim. con.* nipped in the bud. Now novels, if not of the purely imaginative kind, like some German tales, are only valuable as pictures of real life. Every character and every incident must find its type in society; and if it does not, that much of it is a failure. The episode we speak of, tried by that standard, is an offence against art; and if introduced for effect merely, is also an offence against good taste, if not morality, for the fictitious incident may be rather suggestive than remedial.

Now so far as we know, who have been familiar with Virginia society for five-and-twenty years, only one case of *crim. con.*, whether meditated or accomplished, has stained its annals within that time. So that Mrs. Read does not represent anything in the picture, and misleads all who read the novel. But if she did, we respectfully submit that young ladies should know nothing about such things; and that matrons should seem to be as innocent as maidens, so far at least as the public is concerned.

In plays, villains usually get their deserts, or, at all events, are thwarted and discomfited; as Ashlin was. But the moral conveyed in such poetic justice is not commonly deemed an offset for the suggestions and temptations of the highly wrought scenes of passion which lend their fascination to the stage. If such things constitute a valid objection to theatres, as they do to *some* extent by common consent, it is difficult to see by what logic they shall be deemed unobjectionable, when elaborately wrought into the fabric of a novel and made one of its prominent features; more especially when they cannot claim to find their counterpart in society, and must therefore be introduced only for effect.

Queechy, and other novels of Miss Warner, upon which, as a model, *Alone* seems to have been written, presents no such fault, though New England society comes much nearer justifying its commission than anything in Virginia.

### Cattle Killed by Eating Corn Stalks that Hogs had Chewed.

Mr. George Effinger, a farmer living near Harrisonburg, lost a number of valuable cattle within the last few days, caused by permitting them to pasture in the same field where he had a number of hogs. The hogs chewing the corn stalks and putting them out on the ground without swallowing it, when the cattle eat it. They at once commenced rubbing their heads, when their throats swelled, and in a short time death ensued. Farmers would save themselves many fine cattle by not permitting them to run in the same field with hogs—[that is to say, when the hogs are fed on green corn, stalk and all.]—*Richmond Dispatch.*

We are very sorry to hear of Mr. Effinger's loss; but we cannot help thinking that if he had been a subscriber to the Planter he might have escaped it. We have repeatedly warned farmers against this practice; and only a

month or two ago we spoke of it. Had he taken the Planter, how many times his annual subscription would this have saved him?

### PATENT OFFICE WHEAT.

Mr. R. W. N. Noland authorizes us, on his authority, to caution the public against sowing any of the packages of wheat from the Patent Office.

He thinks the insects imported will do more harm than the introduction of new varieties will do good. In some specimens of wheat sent him were at least three varieties of weevil, one of which he had never seen nor read of before.

### Stacking Corn Stalks.

The following sensible article from a very sensible paper, the Michigan Farmer, is well worth perusal and meditation. One of the best farmers we ever knew practised the plan of ricking his corn stalks; and always kept everything fat even in winter. His plan was a very simple one—merely to lay the stalks horizontally in piles, taking care to keep the top level until he got them high enough, when he capped off with the same material leaned together like a roof, and supported on its under side by the stalks laid the long way of the rick and narrowed to an edge. It is very easy to do, and will obviously make the feed worth a great deal more:

"When the ears are removed the stalks, if not taken into the barn, should be immediately stacked. These stacks ought not to be made of stalks alone, but should be composed of layers of oat straw, or if there be no oat straw, there is probably some of wheat or barley, alternate with the layers of stalks. Each layer of stalks, which may be a wagon load, should have at least four quarts of salt, with a handful of lime strewed over it. This will keep them sweet, and prevent them from sweating and moulding, and the stock will eat them much cleaner and more greedily, especially where they are fed without cutting. The stacks of cornstalks should be thatched, and as carefully protected from the snow and rain as hay. They should be built so as to keep out the wet, and when once opened a whole stack should at once be hurried under cover. By pushing this system the stock of the whole farm will get the whole benefit of one of the best crops we have, and the farmer himself will be able to make more beef, more mutton, and more wool off an acre than he can otherwise. The mixing of the cornstalks,



with straw when in a somewhat green state, as they ought to be when first brought out of the field to be stocked, renders the straw more palatable to the cattle also, at least it will be found that they eat it better. The sprinkling of salt plentifully on the cornstalks, has the effect of keeping them from heating, and at the same time, the dampness engendered in the stack dissolves it, and it also makes the whole mass better relished by the animals. That lime has the same effect, we need only point to the experience detailed in this volume of the *Farmer*, where it has been tried in curing moist clover.

No attempt should be made to feed cornstalks without cutting them, and we believe that where they can be both cut and steamed, they would pay well. One of the best machines for cutting cornstalks well and thoroughly is the one made by Messrs. Felts of Brooklyn, and which we believe is known as the Cummings patent. It cuts them both rapidly and thoroughly, leaving no pieces of stalk uncut. Where the stalks are not needed for food when cut with straw they make the best litter for stall animals there is, as it absorbs a vast quantity of liquid manure which would otherwise be wasted or evaporated. At this season, even though hay and straw are both plentiful and cheap, the prices of meat point out that the utmost care should be taken to preserve cornstalk fodder.

*To the Editor of the Southern Planter:*

- Your reply to "A Farmer of King & Queen" is so conclusive that it would seem superfluous to say more, but with your permission I will offer a few remarks.

What you assert in relation as to wheat prices in Richmond and New York is already proved, they being now (Oct. 10) at the same figures, or if any difference, it is in favor of Richmond. If the New York dealers would buy wheat before it reaches market, they might be flooded with the millions of bushels now accumulating in the Lake and Canal ports for shipment to New York. Suppose the Farmers to have appointed (as "A Farmer" suggests,) one agent to receive and sell *all* the wheat sent to Richmond, and that it was pouring in at the rate of 100,000 bushels per week, as it should do—what would be his condition in the present state of monetary affairs, when the country banks have suspended, and the city banks can afford no facilities for fear of being in the same predicament? When, as now, wheat cannot be sold for cash, and there is not a purchaser for shipment to New York, or to any other market; when the strongest houses in that city are failing, and deputations are sent from merchants *there* who receive the largest consignments from Virginia, to the Banks *here*, asking for an extension of time on their acceptances; I ask what would be the condition of the general

agent, who could not decently refuse to advance a few cents per bushel in addition to the cost of transportation, requiring him to raise some \$20,000 or \$30,000 per week, cut off from any prudent recourse to the Northern markets, and compelled either to store the wheat or to sell it to the millers, who would have *him* much more in their power than they now have his constituents.

Suppose that the monetary difficulties did not exist; would there not be some hazard in entrusting to one man, were it possible for him to take charge of it, such a vast amount of produce and the proceeds of it? Agents are sometimes unfortunate or unfaithful, and temptation is sometimes irresistible.

I cannot imagine that the Farmers would expect the agent to guarantee his sales. If they did, it would be necessary to employ a Rothschild or an Astor to make the guarantee substantial.

Should, however, the suggestion of "A Farmer" be adopted, I would propose an amendment to it, which would teach the millers a lesson that would fully meet the views of "A Farmer," in more than one respect. Let the equally feasible project of building a line of steamers of 20,000 tons each be carried out; let the same agent have charge of the steamers and of the wheat crop, and let all the wheat be shipped to Europe in the great steamers—thus attaining many objects at once: markets for the wheat—cargoes for the steamers—direct foreign trade—punishment to the millers, and returns in gold, instead of bank-notes. This would be a glorious result. Foreign millers would pay liberal prices to encourage such a trade, and no doubt give an extra price to promote it. The Richmond millers would then be forced to obtain their supplies from Baltimore or New York, or from Charleston and Savannah, which are now large wheat markets.

"A Farmer" states that the Richmond millers obtain a much higher price for their flour than do the New York millers, and therefore should pay higher in proportion for wheat. If he will ascertain how many more barrels of flour a New York miller will make from a given quantity of wheat than does a Richmond miller, and will compare the quality of wheat ground by each, he will find there is not so much difference in the relative profits.

New York is not the great market for Richmond City Mills Flour. It is true that the money negotiations may centre there, as do most others in this country; but the great markets for such flour are Brazil and Australia, and the cargoes are shipped direct from Richmond. It is true that a considerable quantity is sent to New York, Boston, &c., and thence distributed to various markets, not in cargoes, but in moderate quantities.

Has "A Farmer" ever looked into the results of combinations, and of attempts to force or control trade, or of attempts to monopolize

it? If he has found them favorable, let him exert his influence to carry out the grand scheme I have suggested.

A MERCHANT.

For the *Southern Planter*.

### Attention Farmers!

Is there a right and a wrong way to gear horses or mules, and oxen? You all will answer with one voice, yes; and you will all think, if you do not say so, that you gear your horses right. Well, what is right and what is wrong in this matter? Every Farmer has his idea about the right and the wrong of it; some have geared one way because Daddy did so before them; some another way because it has happened to be so; and some still another way, without having even spent one thought upon the reason of it.

What I mean by right and wrong in gearing teams, is to gear them so that they can apply their whole power to the draft in such a manner as that it shall be *direct*, and without loss, and without cramping the animal in any way, or the reverse of it.

I will await an answer, before publishing the balance of this article, in the hope that the above may excite some interest in the matter before the answer is given.

G\*\* W\*\*\*\*.

[From the Papers of the Nottoway Farmers' Club of 1856.]

### Sowing Plant Beds in December.

MR. PRESIDENT:—On former similar occasions, I have exhausted nearly all the materials at my command either for an essay or report of an experiment. The subject of tobacco plants, at this time, excites much anxiety and solicitude; and renders any communication concerning them particularly interesting. For a number of years I was induced to follow the usual plan of sowing the first good weather after Christmas. This sometimes delayed the operation till February and March. For the few past years I have been tempted by the suitable weather to try the experiment of sowing in December, and my uniform success has caused a settled conviction that it is not only best to sow in December, but the early part of it.

I happened very early in Dec. last, to sow a patch. A portion was not covered with brush until the long continued snow passed off. It not only now looks well, but constitutes my chief reliance, being sufficiently forward and sufficiently thick. My patches more recently sowed are small, and are suffering much more from the depredations of the fly. On another patch an experiment was tried of covering a portion with stable manure immediately after it was sown. This has succeeded well where thus covered, and shows the advantage of such an operation. I am satisfied from these re-

sults that it is best to sow early, and cover with manure at the time of sowing. One peculiar advantage of sowing early in December is, that the ground is much drier then, and requires much less wood; and one advantage in manuring at that time is, that it can be done with less care and trouble, and with less danger to the young plants, and be ready to impart early sustenance to them.

Respectfully submitted,  
E. G. BOOTH.

For the *Planter*.

### Horse Charms.

DEAR SIR:—I have heard of love powders, never until to-day have seen an exhibition of any thing that so nearly approached them. The expedient recommended, in a back number of this journal, for taming wild horses, I this day tried on an unbroken four year old filly. I obtained from an apothecary a small phial of oil of cummin, with a few drops of which I rubbed my hands, which enabled me to approach the animal and rub her head and nose. Eight drops of the oil of rhodium were then poured upon her tongue from a silver thimble. At once the colt was tranquilized, and allowed itself to be freely handled. All wildness disappeared,

"Its savage eyes turned to a modest gaze," but perfectly submissive. The animal would neither lead nor drive until a small portion of the castors taken from the front legs of a horse was pulverized, mixed with loaf sugar likewise pulverized, and inserted in her mouth. From that time the filly became obedient to the rein—would follow me like a dog, and was soon saddled and rode with little or no resistance. This medicine possesses great power over wild horses. Try it.

FAUQUIER.

### Lard and Resin for Tools.

"A penny saved is two-pence earned."

Take about three pounds of lard and one pound of resin. Melt them together in a basin or kettle, and rub over all iron or steel surface in danger of being rusted. It can be put on with a brush or piece of cloth, and wherever it is applied it most effectually keeps air and moisture away, and of course prevents rust. When knives and folks, or other household articles, liable to become rusted or spotted, are to be laid away, rub them over with this mixture, and they will come out bright and clean even years afterwards. The coating may be so thin as not to be perceived, and it will still be effectual. Let every one keep a dish of this preparation on hand. As it does not spoil of itself it may be kept ready mixed for months or years. *Mem.* Fresh lard, containing no salt, should be used. Resin is a cheap article, and may be obtained almost anywhere for four to six cents per pound.—*American Agriculturist*.

From the British Farmers' Magazine.

**On some Points in the Composition of Wheat Grain, its Products in the Mill, and Bread.**

By J. B. Lawes, F.R.S., F.C.S., and J. H. Gilbert, Ph. D., F.C.S.\*

This paper discussed an extensive series of experiments, in which wheat-grain and its products were traced from the field to the bakery, the results being given in numerous tables. The first of these gave a summary of the results of the growth of wheat for ten years consecutively, on the same land, and illustrated the influence of variation of climatic circumstance from year to year in one and the same locality upon the general character and composition of the crop. The conclusion the authors arrived at was that, within the limits of their own locality and climate, the season yielding the admittedly best character of grain, also afforded a high per-centage of dry substance in the grain, and comparatively low per-centages both of mineral matter and of nitrogen in that dry substance.—The straw showed variations in these same points of composition generally somewhat in the same direction as the grain, but subject to a wider range of exceptions than the latter in this respect.

The influence of various conditions of manuring upon the character and composition of the crop was next considered.—With this view, the results obtained upon individual plots during the same ten years were now given, instead of the average from many plots in each year, as when the effects of season alone were to be discussed. In the experiments illustrating the effects of manures, there was pretty generally a slight increase in the per-centage of nitrogen in the grain grown by an annual excess of ammoniacal salts, compared with that grown by its side on land which was continuously unmanured. In the average of the seasons, however, there was a somewhat lower per-centage of nitrogen in the grain, where there had been a liberal supply of the required mineral constituents also, than where the ammoniacal salts were used alone. The range of difference in the per-centage of nitrogen in the produce in one and the same season was, however, even with these extreme variations as to

the available supplies within the soil, not nearly so great as it was in different seasons with one and the same condition of manuring.

Twenty-three analyses of wheat-grain ashes were next recorded; nine referring to grains grown by different manures in 1844, eight to similarly varying specimens the produce of 1845, and six to as many of 1846. From these it did not appear that the per-centage of any particular constituent of the ash of the ripened grain was directly affected by the liberal use of it in manure. At any rate the differences, if any, due to this cause, were within the limits of the ordinary errors of analysis.—Here again, however, the effects of varying season were more marked than those of various manuring. Thus it was shown, in a summary-table of the results of the ash-analysis, that the difference in the per-centage amount of almost every constituent was much the greatest among the several grain-ashes of 1845, which was a very bad ripening season, and much the least among those of 1846, which was the best maturing season of the three included in this comparison. It would thus appear that, other things being equal, the more favorably and perfectly matured the grain, the more constant would be the composition of the ash, and the less any direct effect upon it, from the mineral supplies by manure. Taking together the mean of the twenty-three analyses of the ashes of grains grown at Rothamsted, and that of twenty-six analyses of wheat-grain ashes published by Mr. Way, it appeared that this ash consisted essentially of phosphates of potash, magnesia, and lime. The phosphoric acid amounted to nearly 50 per cent., the potash to about 30, the magnesia to from 10 to 12, and the lime from  $3\frac{1}{2}$  to 4 per cent. in the crude ash. The remainder, excluding adventitious sand and charcoal, consisted of small but variable amounts of soluble silica, peroxide of iron, and soda or chloride of sodium, with, according to Mr. Way, occasional traces of sulphuric and carbonic acids also. Soda or chloride of sodium seemed to abound much more in the ash of the less favorably ripened specimens; and the results afforded no reason for supposing that soda could take the place of potash as a constituent of the ash of fully-developed grain.

In selected cases, quantities of the ex-

\* Quarterly Journal of the Chemical Society, April 1857. Read January 19th, 1857.

perimentally-grown grains—namely, seven lots from the produce of 1846, nineteen from that of 1847, and two from that of 1848—were carefully watched through the milling process. In some of the cases nine, and in others seven, different products of the dressing apparatus were separately taken. The proportion of each of the several products in the respective grains was ascertained and recorded; and the percentages of dry substance and mineral matter were also in every case determined. The three first wires of the dressing machines gave, on the average, rather more than 70 per cent. of the grain as fine flour; but in practice, about 10 per cent. more would be obtained from the next two products, yielding in all 80 per cent. or more of pretty good bread flour. The average amount of dry substance in the various mill products was about 85 per cent.; the external or more branny portions containing rather more, and the finer flours rather less. The per-centage of mineral matter varied very much in the different products; it being scarcely three-fourths of 1 per cent. in the fine flours, and ten times as much, or more than seven per cent., in the coarsest bran. From the much larger proportion of flour than bran, however, it resulted that rather more than one-third of the total mineral matter of the grain would be accumulated in its currently edible portions.

In one series of these mill-products, from the finest flour at the head of the machine, down to the coarsest bran, the nitrogen was determined, and also some of the constituents of the respective ashes. It appeared that the per-centage of nitrogen was about one-and-a-half as great in the bran as in the finer flours; and, even including all the currently edible portions, still the excluded branny parts contained considerably higher per-centages of nitrogen. Turning to the ashes of the respective mill-products, there was a much larger proportion of matter insoluble in acid in those of the finer flours than in those of the coarser brans. Of the phosphoric acid, on the other hand, there was considerably the higher per-centage in the ash of the brans. The magnesia, also, was the higher in the ash of the brans; and the potash and lime the higher in that of the flours. Looking to the distribution of the various constituents, according to the average pro-

portion in the grain, of each of the several mill-products, it appeared that about three-fourths of the total nitrogen, and about one-third or two-fifths of the total mineral matter, were accumulated in the usually-edible flours; and of the total phosphoric acid there was only about one-third in the ashes of the latter. Notwithstanding the higher per-centage of nitrogen, and the large actual amounts of the mineral constituents of the grain contained in the branny portions, the authors were of opinion that, besides the information at present at command as to the character and condition of the nitrogenous constituents of the bran, such were the effects of the branny particles themselves in increasing the peristaltic action, and thus clearing the alimentary canal more rapidly of its contents, that it was questionable whether, frequently more nutriment would not be lost to the system by the admission into the food of the imperfectly-divided branny particles, than would be gained by the introduction into the body, coincidentally with them, of the larger amount of supposed nutritious matters. The action alluded to might, indeed, be conducive to health with those of a sluggish habit, or who were overfed; but with those who were not so, the benefits derivable from an already perhaps scanty diet would be but still further reduced.

Experiments were also described, in which several lots of the experimentally-grown wheats were ground in a colonist's steel hand-mill. The results of the examination of the products thus obtained were, in the main, consistent with those from the products of the ordinary mill. They showed, however, more strikingly the effects of mechanical means in separating different chemical compounds, within the limits of the floury part of the grain.

Experiments were next adduced, in which the different edible products from grains grown by different manures or in different seasons, were made into bread; the several products of the dressing machine being employed sometimes separately and sometimes collectively. The result obtained was that, comparing with each other the three separate products, which together yielded a fine flour, that at the head of the machine (which was the least nitrogenous) yielded, on the average, the least weight of bread for a given amount

of flour—that is to say, it retained the least amount of water. Again, when three products were mixed together, the flours of the season of 1846, which were the less nitrogenous, gave the less weight of bread—that is, retained less water than those of 1847, which were rather the more nitrogenous. The effect of an increase of nitrogen in augmenting the weight of bread was, however, not observable when this increase was due to including more of the more branny portion of the grain. The average yield of bread, in 22 experiments with the individual products, was rather more than 135 for every 100 of flour—equal to about 63 per cent. of dry substance, and 37 of water, in the bread.—The average of 19 experiments with fine flour, composed of the products of the first three wires mixed together, gave a produce of about 137½ of bread for every 100 of flour; and about 61½ of dry substance, and 38½ of water, in the bread. Bakers' loaves were next examined. Of these, four (obtained from different bakers in the country) gave an average of about 62 per cent. of dry substance, and 38 of water, in the bread; and three procured in London, rather more than 64 of dry matter, and rather less than 36 of water. The authors concluded that from 36 to 38 per cent. of water was, perhaps, the best average that could be assumed for baker's bread, within 12 hours of its being withdrawn from the oven. They showed, by reference to a table of the results of other experimenters, that this agreed pretty well with the determination of some of the most recent and trustworthy. Others, however, gave the water in bread as much higher; and all seem to agree that it was generally higher in country bread than in that of towns and cities.

The point next illustrated was the general influence of locality and varying climatic circumstance upon the per-centage of gluten in wheaten-flour. It appeared by the numerous results adduced, that other things being equal, there was a tendency to an increase in the per-centage of gluten, proceeding from the north to the south—a point which was illustrated in specimens both from the European and American continents. A comparatively high ripening temperature was indeed, among other circumstances, favorable to a high per-centage of gluten. There were,

however, interesting exceptions to this generalization; at any rate so far as the per-centage of the *nitrogen*, if not of the gluten itself, was concerned. Direct determination of nitrogen, in numerous pairs of specimens contrasted as to locality, had, however, led to conclusions perfectly consistent, in the main, with those to which the quoted results as to gluten had conducted, whilst the results of others pointed in the same direction.

The foreign wheats containing a high per-centage of gluten, which were generally ripened under a high temperature, had the undoubted character of yielding a flour of great "*strength*," and retaining a considerable amount of water in the bread. Owing, however, to their frequent hardness, and the peculiarity of their structural character generally, which rendered them both refractory in the mill, and less fitted to make an easily-workable dough, and a bread of the desired color, texture, and likeness, they are less valued to use *alone* for bread-making purposes than many grains of less *per-centage* of gluten, provided only that they are in an equal condition as to maturation or elaboration of their constituents. Some of the most approved foreign bread-flour grains in the market had, indeed, a comparatively low per-centage of nitrogen, but apparently a very high condition, of both their nitrogenous and non-nitrogenous compounds, as well as a very favorable relation to each other of these two classes of constituents. Within the limits of our own island, again, on the average of season, the better-elaborated grain would probably be the less nitrogenous; though the nitrogenous matter it did contain would be in a high condition as to elaboration, and as to its mutual relations, structural and chemical, with the other constituents of the flour. Hence it came to pass, that as our home-grown flours go, those which were the best in the view of the baker would frequently be those having a comparatively low *per-centage* of nitrogenous compounds—a higher *condition* more than compensating for the higher per-centage of nitrogen, generally associated as it was in our climate with an inferior degree of development and maturation of the grain.

It was further maintained that the high per-centage of nitrogen or gluten in wheaten-flour was no more an unconditional

measure of value to the *consumer* than it is in the view of the baker.

In illustration of this latter point, a table was given showing the relation of nitrogen to carbon in a number of current articles of food. It was submitted that the under-fed or chiefly bread-fed working-man would, as his means increased, generally first have recourse to the addition of bacon or other highly-fatty matters, which, though they might increase the actual amount of nitrogen consumed would seldom increase, and frequently decrease, the *proportion* of the nitrogenous or flesh-forming to the more exclusively respiratory and fat-forming constituents. Indeed, so large was the amount of fat, and therefore of respirable hydrogen, as well as respirable carbon, even in fresh meat itself, that, by its use, the proportion of the nitrogenous to the other constituents would be much less augmented than might be generally supposed. Further illustrating the point by reference to the average relation of nitrogen to carbon in numerous dietaries, in many of which meat was included, and therefore fat with its respirable hydrogen as well as respirable carbon, the authors concluded that, independently of cookery, that which was admitted to be a superior class of diet was distinguished much more by including a certain amount of the more peculiarly respiratory and fat-forming constituents, in the condition and state of concentration as in fatty matter itself, and of the nitrogenous ones, in the high condition as in animal food, than by the higher proportion of the flesh-forming, to the more exclusively respiratory and fat-forming constituents.

Finally, in an appendix was given a tabular form, showing the relation of the yield, and composition of the bread, to that of the flour, according to the number of loaves obtained per sack (280 lbs.) of the latter. And, assuming it to be established that the loss of dry substance by fermentation was less than one, or perhaps less than half of one per cent. of that of the flour employed, it resulted that the gain in the weight of bread by the non-fermenting method was simply a gain in the water retained. Unless, therefore, the unfermented bread were better adapted for digestion and assimilation, or it were sold at a correspondingly lower price, the consumer would be a considerable loser by the purchase of the unfermented loaf.

#### Leicester Sheep and Short Horn Cattle.

I have ever been of Mr. Grey's opinion, that the average weight of sheep in 20 lbs. per quarter is the most eligible for general use, and the farmer's object is clearly to possess a flock of hardy, compact, and woolly animals of medium size—quiet in habit, and possessing aptitude to fatten, quality of flesh, and an early maturity; and I further agree with Mr. Grey, that on land suited to the Leicester sheep, and under duly favorable circumstances, in flocks of considerable size, and ordinary keeping, no breed will be found to equal the sheep now used in Northumberland under the name of the Leicester breed. Mr. Grey makes a statement of true utility, which discards all overgrown bulks from stall feeding, with a restriction to suiting the markets with an average weight of 20 lbs. per quarter, or which may range from 16 lbs. to 24 lbs. The due fecundity is preserved in about one-third of the ewes producing twin lambs, and the ordinary keeping of grass pasturage in summer, and turnips to assist during winter. The fattened state happens at the age of two years, when the best animals are sold from turnip feeding, with the second fleece unshorn, and the more backward are sent to graze, and are shorn, and sold during summer. The draft ewes are yearly fattened on turnips, or sold lean to the southern counties, bear another crop of lambs, and are fattened. This breed has resulted from importations of the original Leicester sheep by the Culleys, the well-known improvers of that country, and have been preserved in much purity by the breeders and localities mentioned in Mr. Grey's letter.—Probably the animals inherit as much of the true Bakewellian type as any Leicester sheep in England, if the size be not rather small. But this want may be fully compensated by the utility that is now confirmed by the soil and climate.

All cross-bred animals, as Leicester sheep are understood to be of mixed descent, possess a large faculty of adaptation to soil and climate, which produces as many varieties and modifications of the breed, as there are employed fancy and judgment in the propagation, and arable culture in the maintenance. Even in Northumberland, from which Mr. Grey writes and describes the useful sheep, I found, during my tyro residence in it, and within a few

miles of each other, several varieties of sheep—open and close woolled, piled and curly coats, delicate skins, large and small faces, with straight and arched frontal bones. The results may be of fancy or judgment, of accident or carelessness; still the Leicester sheep there are much more uniform than in the midland and southern counties.

When I lived in Leicestershire, I knew the flocks of Mr. Smith, of Dishley, of Swarkstone Lowes, near Derby, and of Mr. Hassal Hartshorne, near Ashby-de-la-Zouch, eminent breeders at that time, or 20 or 25 years ago. Each breeder possessed a variety of sheep, or his own breed, that was not only unlike his neighbor's, but not resembling among themselves, and from a flock two or three sorts could be culled that were very dissimilar in shape, size, wool, and face. Larger than the Northumberland breed, the animals were more silky and loose in flesh, and showed a very considerable relaxation from hardness. Though the herbage is rich in Leicestershire, it is not luxuriantly flaccid, but is sufficiently rigid and concentrated to sustain a firm muscular consistency. These differences could not arise from the soil, but from the tendency of the animals, and fancy of the breeder. I recollect Mr. Stokes of that county, who is known as a judge at shows, was in possession of a small-sized variety compact and close-woolled, which might be doubted to have been the Leicester sheep, as appeared around him; the animals were produced by his own judgment, and were exactly what Mr. Grey describes as useful sheep in ordinary keeping.

The public shows of fat and lean sheep exhibit the same large variety of appearance in the Leicester breed. The silken delicacy of Nottinghamshire is not of general utility; the large carcasses from Lincolnshire, with thin and open coats of wool in curly piles, large heads with arched frontal bones, and even the prized sheep of Bedfordshire, are not to be considered as pure Leicesters, but modification from fancy and circumstances. This result was most obvious at the late fat cattle shows of the Smithfield Club, where the true Bakewellian type was nowhere to be seen, and that in the opinion of the most enlightened observers. The animals exhibited were refined sheep, but hardly to be referred to any standard.

Though physiologists have not yet been able to establish the certainty of "species," inheriting persistent and permanently-impressed qualities, which adhere and will return after a long series of gradations, yet there is more than a probability attached to the supposition that all crosses, mixed descents, and hybridal productions, though upheld for a time, will degenerate and dwindle, and ultimately become extinct, or divided and split, into so many varieties and modifications as to render any original type or standard impossible to be recognised. Of this result the Leicester sheep have begun to exhibit most unequivocal symptoms, and it is very probable that some such attempt as is now being made by Mr. Clarke, of long Sutton, to improve the Lincoln sheep among themselves, will proceed on a solid basis to rear a superstructure that will overtop its predecessors, and occupy the place of the previous erections. Such a variety as now occupies Northumberland may continue to exist for a length of time, being firmly established in a uniform character, inured to soil and climate, and enjoying the preference in practical judgment. Mr. Grey's expression of "ordinary keeping" conveys a most important lesson on the subject of sheep management, that extras are not to be admitted into general calculation, nor any results to be estimated that are not accessible to common means.

The best sheep at present for the purpose of the butcher are the Down and Leicester Cross, as exhibited by Mr. Overman, of Norfolk; and similar crosses are being tried with the Cotswold long-woolled sheep. Such animals, however useful, are only a production, and can never become a breed or variety, from having no elemental means of self-support; but the means may be specially provided, in order to produce the valuable articles.

The Shorthorn cattle are situated as the Leicester sheep in a cross descent, and a very strong propensity to constitute varieties and modifications, according to the circumstances of soil and climate, and the general treatment. In this propensity the cattle much exceed the Hereford and Devon breeds; and though the degeneracies are large from the pure excelence, they are still found to be far from the native cattle, and always exhibit general traits of the true breed. The cross descent

from the York cattle and Scotch Galloway breed may confer this propensity, which is most peculiarly fitted for exportation, and has very much enhanced the value of the animals. Among the best-reputed herds of Shorthorn cattle, very much difference is seen to exist in color, shape, size, and in general conformation. Two varieties exist: the one claims a descent from the Yorkshire cattle, improved among themselves; the other termed in reproach the "Alloy," has sprung from the cross of the York cattle with a red Galloway cow. This last is much the most numerous variety, and forms the herds of the most noted breeders of Shorthorn cattle. The first is fine in the bone and smaller in size, with an amazing tendency to fatten, and with a weight of flesh on the least quantity of bone and with least compass, that exceeds all fattened animals in the United Kingdom. The variety is exhibited by Mr. Wiley and Mr. Booth of Yorkshire, and some others of that celebrated county.—The other cattle, or the "Alloy," are larger in size, coarse in the bone, leathery and shaggy in the neck, with a most ponderous coarseness of bone in the fore-quarter, which produces much bareness of flesh on the shoulder and fore-arm.—The very best breeders have not been able to banish from their herds this coarseness of fore-quarter and shaggy neck. The cattle of the late and present Earl Spencer are of this sort; also Mr. Stratton's prize oxen of two years past; and of many other possessors of this breed. The long-remembered ox of Earl Spencer's, exhibited some years back, was coarse and heavy in the bone, and not fine in the quarters. To look at the varieties of these animals, arranged in a juxtaposition, it is hard to imagine a source of descent that is the same in kind or degree: the same name may be applied, but very wide discrepancies are to be allowed.

The only superiority of Shorthorn cattle lies in the very ample development of the hind-quarters, in the length and depth of thigh, width of buttock, and the perpendicular up-standing of the posterior animal. From the mid-ribs forwards, in the covering of flesh on the shoulder, and in the slope of the shoulder into the neck and ribs, the animals are much surpassed by the Hereford and Devon breeds; which, not being mixed in descent, but improved among

themselves, are much more uniform in character, and present few or no deviations from an established type. The large girth of the Shorthorn cattle arises in most cases from a downward flattened shape of the fore-ribs, that are not regularly curved, and which has been clearly inherited from the Galloway cattle of Scotland. This girth not being supported along the carcass, but tapering backwards like a tree from the root end, falsifies the calculations of weight from measurement, from being a too large dimension in one place. On the other hand, the posterior width of carcass is far best supported by the Shorthorn cattle, likening the frame to a square; while the Hereford and Devon oxen, by losing the posterior width, or narrowing behind the hook bones, present the figures of a trapezium.

The animal carcass is circular, forming a cylindrical barrel, that extends between the ends of shoulders and thighs, which close the extremities, on which are placed the legs that support the body, and afford the locomotive power. A circle is the most handsome and capacious of all geometrical figures, and contains within its area the greatest possible extent of space, of which the exact proportion to a square has never been found. The improved animal carcass tends to form a square by a level back, straight under belly, shoulder, ribs, and thighs in a line, and both sides being equi-distant in every point. This perfection is attained by the rotundity of the barrel, and by the girth being uniform along its extent. The height of the animal and deep flat ribs show a seeming large bulk of materials in aggregation; but the failure soon appears when compared by measurement with a lower stature, a uniformly cylindrical barrel, wide thighs, full girth, and shoulders overspread with flesh. The circular frame, and not the deep flat carcass, maintains the dimensions of weight.

Two most notable instances have lately occurred of this superiority of shape over bulk, in Mr. Ambler's shorthorn heifer, and Mr. Towneley's shorthorn cow, that were exhibited at the Smithfield Club fat cattle shows of the two last years; and gained, the first animal, a prize of small value, and the last a larger prize, and the gold medal as the best cow of any class. These decisions were much reversed at Birmingham; the first being promoted, and



the latter rather thrown into the shade.—Both animals seemed clear of the alloy, and exhibited most unmistakable proofs of the highest degree of breeding. The uniformity of cylindrical barrel was maintained in a most superior manner, almost beyond recollection; while the deeply rounded shoulders and the fore-ribs were covered with flesh that excited universal admiration. Mr. Towneley's cow was only two inches of less girth than the Duke of Rutland's shorthorn ox, which gained the gold medal in 1854, and which presented to the observation a much larger bulk and an extent of dimensions of not less than one-half more than the cow; but the ribs were deep and flat, girth comparatively lean and not circular, length disproportionate to the depth of carcase, back sunk, and the belly depending—forming a by-no-means symmetrical carcase, but with much posterior width and a head of a large emasculation. These two qualities could not balance the former deficiencies, and whatever general merits have been ascribed, the most approved form of the animal frame was not exhibited. The cow presented nearly the same weight in a compass of much seeming less extent, and the superiority was undoubted on the most incontestable ground of preference, or the greatest weight in the smallest compass.

The best similitude of a fattened carcase of the proper symmetry, is a cast-iron roll of towards 6 ft. in length and 3 ft. in diameter, or about 9 ft. in circumference; which is nearly the utmost girth attained by the largest-sized animal. The cylinder preserves a uniform girth in every point, and though some deviation must be allowed in a living organism, which is capable of assuming different forms over the inert matters, that retain any impressed form, yet the thickness of the cylinder at the fore-end joining the shoulders must not be much increased, though something must be allowed, as it destroys the uniformity of girth, and falsifies every attempt of calculation of weight. The chest must be deep and capacious, in order to afford room for the play of large and healthy lungs; but the ribs behind the chest must be curved into a barrel, and not lengthened downwards, forming a large girth in appearance but not in measure, that is immediately lost before the mid rib is reached. The hind girth over the hips, midway between the

rump and hook-bones, must be nearly the same as that of the fore-ribs, and commences on the thigh in a line with the under belly and lower flank, thus reducing the carcase into a correctly defined compass.

In the above expressed views of our judgment of fattened animals, Mr. Towneley's cow of 1854 exhibited a specimen of cylindrical barrel, true on every point of girth, such as our recollection can hardly bring forward an equal, and certainly no superior. The award to the animal of the gold medal, and of a high prize, fully justifies our commendation.

Whatever may be the ultimate result of cross breeds, mixed descents, and amalgamation of qualities, if the original work be wholly lost as it came in the stereotyped edition of Bakewell and Colling, in the Leicester sheep and Shorthorn cattle, and if Nature has decreed that there may be special improvements but not permanent mixtures of its living works, even then the primary object has been answered in the breeding of animals, by the production of refined varieties and modifications which exist, as with Mr. Grey, in useful sheep, "in considerable flocks and ordinary keeping";—by breeding such animals as Mr. Overman's, which were in our opinion the most handsomely fattened sheep in last show, especially the single specimen, No. 186 of the Catalogue—and by producing Mr. Ambler's heifer, and Mr. Towneley's cow; all which show that refined materials are in existence, and continue a highly useful propagation. The varieties and modifications will progress in introducing refinements, and settle into independent flocks and herds long after the original source has disappeared—refined animals will be propagated, of whatever name, class, or origin; and prizes may be given to the best animals irrespective of any strict alliance. And thus the refinement of organization has answered a wider purpose than if restricted to one single type, which, though sunk from view, will continue to infuse its qualities through many ramifications, that will again be extended into future growths. Mr. Overman's sheep could not have been produced without the Down and Leicester improved breeds, nor the elements found without the genius of Ellman and Bakewell. In whatever way the progress may advance, the value of the origin is unimpaired.

J. D.

For The Southern Planter.

### Crops in Mecklenburg.

The crop of tobacco is very late, and did not mature. Most of the crop has been secured, but I think will fall short of an average one third, and quite inferior at that. Many of the farmers are experimenting with the Chinese Sugar Cane; they have succeeded in making a tolerable molasses. None have tried to granulate it; from what I have seen I think it is poor in saccharine matter—though it may be, it was not ripe, or had not matured.

The wheat crop was a very short one, owing to the chinch bug. Oat and corn crops very good.

### Steam Walking Engine.

The town of Boston, England, was the scene of considerable excitement on Wednesday last, in consequence of a novel feat of pedestrianism. For some time past the Messrs. Tuxford have been engaged with the construction of traction or walking engines for the West Indies, where they are intended to supersede animal power in the working of plows on some large sugar plantations at Havanna, and for drawing trains of cars laden with the production of the plantation to a railway at a few miles' distance; also for acting as stationary engines on the estates when not otherwise employed. The traction engine, as is well known to many, is an adaptation of the farmers' portable steam engine to the purpose of locomotion; this is effected through the application of "Boyden's patent endless railway," and the necessary intermediate mechanism for connecting the same with the portable steam engine. The engine of Messrs. Tuxford, which caused so much excitement in the good old town of Boston, is very different from any other traction engine that has yet been attempted. The spirited constructors of this engine have introduced the admirable arrangement of their celebrated first prize Carlisle engine into this walking novelty. There are two impelling wheels, each seven feet in diameter, with a guide or steering wheel in front, all fitted with Boyden's endless railway. The appearance of the wheels is peculiar, the railway being attached to them in six pieces, or slippers, and hanging apparently very loosely on to the wheels. The action of them when in motion is decidedly that of walking; thus the heel of the following slipper first comes on the ground in advance of the former slipper, the wheel then rolls over the rail upon it to the toe, and as it passes onward to another slipper, the wheel itself picks up the slipper just used by an ankle-like joint connected with the felloe, and carries it around the nave or axle, which acts

the part of a knee, and so enables the slipper again to be laid down in its proper turn.

One of Messrs. Tuxford's greatest improvements is the very smooth and effective way that either of the large impelling wheels can be disengaged or re-connected with the engine whilst it is travelling, so as to admit of its making quick and easy turns to either side without galling or straining the machinery.—It should be remembered that when a cart makes a turn at the right angle, one wheel does not rotate, but acts merely as a pivot, around which the other rotates as it revolves; hence the importance of being able to perfectly control and disconnect the opposing wheels of the traction engine. The following is the outline of Wednesday's feat of steam pedestrianism:—The engine first made a circuit of the works of Messrs. Tuxford's, about five acres in extent, clearing the various corners in capital style; it then came upon the Skirbeck road, making a right angle to the off side; after a short distance it made another right angle to the near side, and took a side road to Bargate bridge; from thence it made another sharp bend, and walked about a mile towards Sibsey, then turned round for home, walking through the Boston streets and market stalls, and along South End and the Skirbeck road, back again to the works, at fully four miles an hour.—*Lincolnshire Chronicle.*

### Salt Barrels for Preserving Apples.

A correspondent of the *Scientific American* says, "he purchased five barrels of choice apples taken from one pile, last autumn, and put them into his cellar. On the 1st of April last, when he came to examine them, those in four of the barrels were mostly all damaged, while those placed in the other barrel were sound—fresh and good." What was the cause of the preservation of the apples in this barrel? Our correspondent says it was a Syracuse salt barrel, and he believes this was the cause of their immunity from rot. He, at least, can give no other reason. Neither can we.—*Country Gentleman.*

### Starch made of Flour.

A superior laundress neighbor says she never uses anything but flour for starch. To prepare starch, rub up a tea cup of starch into a smooth paste with water. Mix it in a half gallon of water, boil it a half hour, add a tea spoonful of salt, sugar, spermaceti or clarified tallow. Strain it and it is ready for use.

Gum arabic or loaf sugar dissolved, or pure ising glass will stiffen well where the trouble of making starch is cared for. Gum arabic in starch improves it. Some persons make starch in coffee for mourning prints; we prefer glue dissolved; a piece as big as a silver dollar to 1 quart of water.

From the N. Y. Economist.

### Corn Exports.

The late accounts from Great Britain indicate that the failure of the potato crop must lead to a renewed activity in the demand for Indian corn, the trade in which has become important only since the great famine of 1847. In that year the utmost exertion was made to overcome not only prejudices existing against corn, but the practical difficulty arising from a want of acquaintance with its uses. The clergy exerted themselves to introduce hand-mills for the grinding of the grain, giving also instruction as to the cooking of the meal. The result has been a considerable extension of the use of that. In England, as fodder, it has also become extensively used as a substitute for other materials. Since that year the export of corn to the British Islands has been annually large in the last 10 years, (83,000,000 bushels at about \$72,000,000,) varying in each year with the supply of the coarser grains. In the two last years the quantity and value exported has been considerable.

The trade which has thus sprung up in Indian corn has about equalled the annual interest which is paid abroad upon American stocks held in Europe, and the growing ability to supply corn is a result of the uses to which that borrowed capital was applied. Indian corn is almost the sole instrument of settling the Western country. It is this sure and abundant crop which, with little labor, gives the pioneer of the wilderness fodder for horses, cattle and swine, food for the family, materials for bedding, and surplus for sale.— Depending on corn the settler pushes fearlessly into the wilderness, certain that a few months' growth of corn will give subsistence for a year for man and beast, and if he can command a market, the means of getting luxuries. Railroads have given him command of the markets, and the growing use of corn in Europe points the way to increasing sales. The following table, from official sources, shows the quantities of corn exported to the British Islands, and the total quantity, with the average per bushel and the total value:

#### Indian Corn Exported from the United States.

	England. bush.	Scotland. bush.	Ireland. bush.	Total. bush.	Per bush. c.	Value. \$
1845	134,898	—	790	840,184	49	411,741
1846	688,714	78,006	425,960	1,826,068	62	1,186,663
1847	7,216,878	310,708	7,998,939	16,326,050	90	14,395,212
1848	3,365,392	126,907	1,569,921	5,817,634	66	3,837,483
1849	7,289,642	345,316	4,191,284	13,257,309	60	7,966,369
1850	4,431,929	172,732	1,342,545	6,595,092	59	3,892,193
1851	2,226,647	38,940	494,742	3,426,811	52	1,762,549
1852	1,337,651	39,566	517,483	2,627,075	59	1,540,225
1853	1,324,625	18,960	310,255	2,274,909	60	1,374,077
1854	5,488,979	122,033	354,838	7,768,816	77	6,070,277
1855	4,747,045	152,640	1,037,899	7,807,585	89	6,961,511
1856	6,704,105	159,732	828,748	10,292,280	75	7,622,565
1857	5,000,000	—	—	8,000,000	70	5,600,000

The figures for 1857 represent the quantity sent to all the British Islands.— The quantity sent to the Continent of Europe has been double that of any previous year.

The quantity sent to Great Britain is continually increasing, and the demand in Europe is also larger. This year the crops of potatoes being small, the demand for corn has set afresh. The crops here are said, however, never to have been so large as now, and the means of transport never so abundant. In fact, both railroads and shipping have been depressed by over-supply, and they can now meet the ex-

gencies of a very extensive export trade. The quantity and value of corn produced in the United States has been given in official tables, as follows:

	bush.	Value.
1840	377,531,875	\$139,749,612
1850	592,071,104	296,035,552
1855	717,812,540	358,101,000
1857—estimated	1,200,000,000	600,000,000

The chief corn-producing States were in 1850, per census, South; that is, more than half the corn was produced in the Southern States. Since then the sales of land at the West, and the opening of railroads, have carried the Western crops to

a high figure. Since 1850 the U. States have disposed of 11,000,000 acres of land in Illinois alone, and there have been built in that State 2,000 miles of railroad, including the great Illinois Central, at a cost of \$50,000,000. The lands over which these roads run are settled by farmers who raise corn mostly. If one-fourth the Illinois land sold since 1850 is under corn, the result would in that State be an increase of 100,000,000 bushels. The crop of 1850 was 57,646,984 bushels.—A surplus crop of 50,000,000 bushels gives

1,600,000 tons freight for the railroads.— This year, in all sections, every available field has been put in corn, and the growth has been favored by a fine season, and it is likely that the production is everywhere at least doubled, affording ample for exportation. Thus it has been the case that the funds borrowed in England to build railroads has enabled more surplus corn to come to market by far than will suffice to pay the interest on these borrowed funds. The course of the grain market in New York has been as follows for some months

Prices of Flour and Grain in New York.

	Flour.		Grain.	
	State, straight.	Western Mixed.	Wheat, white.	Corn, Round Yellow
June 1,	\$6 65@7 00	\$6 75@6 95	\$1 71@1 85	\$1 01@1 02
June 5,	6 65@6 70	6 50@6 60	1 63@1 72	0 96@0 98
June 25,	6 45@6 50	6 45@6 50	1 65@1 81	0 88@0 90
July 2,	6 35@6 40	6 20@6 30	1 65@1 80	0 88@0 89
July 16,	6 25@6 30	6 10@6 20	1 65@1 80	0 86@0 87
Aug. 1,	6 45@6 55	6 30@6 50	1 70@1 75	0 94@0 96
Aug. 21,	6 40@6 50	6 30@6 40	1 60@1 79	0 90@0 92
Sept. 5,	5 65@5 75	5 50@5 65	1 60@1 63	0 83@0 84
Sept. 12,	5 20@5 30	5 10@5 25	1 40@1 45	0 60@0 66
Sept. 19,	5 55@5 65	5 30@5 45	1 35@1 45	0 82@0 83

From the New England Farmer.  
**Foundering Horses.**

In your issue of August 1st, I noticed an article, purporting to have been penned by "a farmer of Niagara county, N. Y.," saying that "in his opinion, nine-tenths of the foundered horses are made so by the shoer." From this idea, I beg leave through the columns of your paper to express my entire dissent. I am not a shoer of horses, nor am I a justifier of the cruel acts of those who are. But for a farmer of Niagara county, or any other county, to assert that a smith, (or all of them,) could, if they tried, "*founder*" a horse by shoeing, is, in my opinion, asserting his entire ignorance of the pathology of the disease.

The disease, *founder*, does not lie in the feet of horses. That the feet contract, I will allow, but the contraction is the effect and not the cause, of the disease. A foundered horse is in precisely the same pathological condition that a man is with a *rheumatic fever*; experiences the secondary effects in like manner, from subsequent exposure.

The cause of founder is attributed to a

sudden cessation of the perspiratory action, while the horse is in a heated condition, resulting from the too free use of cold water, standing in a cool current of air, or any other cause briefly checking perspiration while the horse is in a heated condition; causing severe inflammation of the parts of the system which have been recently arduously taxed—most frequently the muscles of the shoulders and the flexor tendons of the anterior limbs. These are more severely taxed in fast driving in light vehicles than any other parts of the muscular proportions. Although a horse, from long and general fatigue, thus exposed, is quite as likely to have the entire system affected, as otherwise.

But for the contraction of the feet. The inflammation of the tissues of the limbs of the horse cuts off the supply of nourishment, through the assimilative organs, to the horny texture, and consequently they become dry and brittle, contract upon the coffin-bone, diminishing the space and use of the sensitive laminae, between the crust of the hoof and the coffin-bone within, and if not soon relieved, ossification takes place, and the horse is permanently

lame. The horse losing the spring-like elasticity of the foot, (between the coffin-bone and the crust,) consequently strikes a dead blow upon the distal end of the lower pastern-bone every time he puts his foot to the ground, causing pain and soreness and constant lameness.

I would like much to treat your readers (especially your smiths) to a chapter on horse shoeing, and may do so at a future time if you desire it. M. D.

Georgetown, Mass., Aug. 4, 1857.

#### To Render Textile Fabrics Waterproof.

Take one pound of wheat bran and one ounce of glue, and boil them in three gallons of water in a tin vessel for half an hour. Now lift the vessel from the fire, and set it aside for ten minutes; during this period the bran will fall to the bottom, leaving a clear liquor above, which is to be poured off, and the bran thrown away; one pound of bar soap cut into small pieces is now to be dissolved in it. The liquor may be put on the fire in the tin pan, and stirred until all the soap is dissolved. In another vessel one pound of alum is dissolved in half a gallon of water; this must be added to the soap-bran liquor while it is boiling, and all is well stirred; this forms the water-proofing liquor. It is used while cool. The textile fabric to be rendered water-proof is immersed in it, and pressed between the hands until it is perfectly saturated. It is now wrung, to squeeze out as much of the free liquor as possible, then shaken or stretched, and hung up to dry in a warm room, or in a dry atmosphere out-doors. When dry, the fabric, or cloth so treated will repel rain and moisture, but allow the air or perspiration to pass through it.

The alum, gluten, gelatine and soap unite together, and form an insoluble compound, which coats every fibre of the textile fabric, and when dry repels water like the natural oil in the feathers of a duck.—There are various substances which are soluble in water singly, but when combined form insoluble compounds, and *vice versa*. Alum, soap and gelatine are soluble in water singly, but form insoluble compounds when united chemically. Oil is insoluble in water singly, but combined with caustic soda or potash it forms soluble soap. Such are some of the usual curiosities of chemistry.—*Scientific Amer.*

From the Valley Farmer.

#### The Farmer in his Relation to Ornamental Gardening.

Great has been the exertion which the agricultural and horticultural press have put forth within the last ten years, to bring the enjoyment and blessings which Horticulture bestows upon man, to the notice of the hard working farmer. Abundant success has crowned these endeavors and much has been accomplished in this direction. In proof of this, let me only point to the astonishing progress which the culture of fruits and vegetables has now made throughout the land, abundantly repaying the farmer for his outlays and cares required by the orchard and garden. This branch of Horticulture has proved to be a paying one, and for this reason it is daily meeting with more approbation in the sight of our people, securing for it a still brighter future. Yet while the generous fruits of the orchard and garden greet our eyes in every direction, and the time seems to come nigh when the earth shall again bloom like Eden, we should never forget that the vegetable kingdom is not merely made by the Creator to be eat up by man or beast, but that there is a higher signification in every plant or tree which adorns the land. To admire the tree only for the apples growing on it, or for the quantity of fire wood contained in it, is but too common a philosophy with many farmers, yet nevertheless a wrong and base sentiment. It would be unfair to suppose that our first parents found Paradise delightful merely because of the enormous apples and pumpkins growing in it, it was above all that charm of perfection and beauty, reflecting everywhere, which elevated their aspirations pointing them to the infinite goodness and wisdom of their Creator. This also should be the centre to which our enjoyments of rural life should direct us, although the golden days of Eden have long passed away from earth. To find our way to this we should ever remember that man lives not on bread alone, and that his belly should not be his God; that there is a soul living in him, which is to exist forever.—This soul, if it is as it ought to be, does not find its true sphere in material things, it moves in spiritual regions, in a world of thought and impression. It is, in one word, the better portion of man, and distinguishes

him from the brutal beast. And it finds no small share of its enjoyments in exercising those relations of mutual love and esteem, which alone can make home attractive and delightful, giving it a higher significance than a mere sleeping and eating place. But besides the home, the soul is deeply interested in the surrounding nature, uniting its various single beauties into one harmonious conception. It will not be asserted that our inward nature is not closely, mysteriously associated to outward nature; and especially to that part, which above all, adorns it as with a beautiful garment—the vegetable world. Home and nature are therefore two most important components to a happy and feeling man. If both are equally charming and dear to him, he will experience pleasures which money cannot buy, and sublunary troubles cannot take away.

The other branch of Horticulture, ornamental gardening, or the cultivation of the ascetic taste of man will lend great assistance to make the home attractive, while beautifying surrounding nature. It is, therefore, nearly related, yea, indispensably necessary to rural life. It has been denounced by many as utterly useless and senseless, especially for a practical country like ours, where the industrious farmer has no time to fool away on unremunerative flowers. We think such men are mistaking their true mission as farmers and as men. The farmer above all ought to have a spot consecrated to plants and flowers, (which are nearer associated to his inward man than corn and potatoes,) where he might spend a leisure hour with his family. Besides if he should have no room in his heart for such enjoyments, his wife and daughters surely have it, and for their sake he should do something to render his home beautiful.

It is true this branch of gardening has come to us in a pretending style. It assumes the character of an art—a fine art even, requiring a master spirit to carry it on. Coming from Europe to us, it has brought along much of needless European fancy and vain invention which is to be carefully separated from the true essence, before it can meet with the good will of the farmer, and before it can find its way to every humble cottage of the land.

Among all civilized nations, ornamental gardening has been practiced. Originating

from the desire to beautify the homestead it has eagerly been taken up by the mighty of the earth to display their splendor and magnificence. History tells us of many ancient and modern gardens of almost a mythic splendor. In Europe, the seat of the most civilized nations, it has been carried to its greatest glory. It might be well to mention briefly the two different styles which have prevailed there.—The artificial or geometrical style was calculated to display only man's art and cunning in his garden. Every feature was calculated to contrast strongly from nature. All figures, trees, and soon the gardener's fancy had to conform to geometrical proportions and laws, but within these had unrestricted freedom. This ancient style, as it is often called, was superseded by the so called modern style of gardening. It is acknowledged that in nature we have to find all the truly beautiful, which man is able to imagine, and as but rarely all those perfect features are united in one spot, this style of gardening aimed to create such perfect scenes by art, strictly observing the patterns set by nature. It assumed the name of Landscape gardening as being productive of Landscapes on a smaller compass. And here the question arises, should not the farmer, too, have his full share in the enjoyments of a charming landscape; should he not cultivate and nourish within his soul a love and respect for those thousand fold beauties which nature has spread out before his eyes; and should not this noble sentiment prompt him to employ every means to preserve the natural charms of his lordly dominion and to surround his homestead with a smiling scene, whose features are those of free and beautiful nature, heightened however by a small effort of art, to show forth the privileges which the habitation of man is entitled to claim over scenes habitated by birds of the air or beasts of the field?

If such be the standard by which the farmer measures and directs his improvements, he may be said to be a Landscape gardener, educated by good taste and guided by good sense. Arrayed with these weapons he may compare favorably with many of our professional, highly-learned landscape gardeners, who coming from European parks and gardens, are ever ready to give us thrilling accounts of in-

numerable curiosities to be seen in Great Britain, France or the German Fatherland, and who but too often have crippled American gardens by ridiculous copies or caricatures of European parks. Good taste will ever be an open door by which improvements and new beautiful scenes may be introduced, and joined to those which already exist, whilst good sense will prove a stronghold to rebuke such fancies and suggestions which are contrary to the wants, customs and the climate of our country.

We can also readily understand that the garden of the farmer will always contrast from the ornamental ground surrounding the suburban villa of the wealthy. In one we love to witness the charms of a peaceful and happy country home, in the other we are forcibly led to admire and envy the riches and splendors of one of our fellow citizens. Which of both enjoyments is the most genial and agreeable? The reader may judge for himself.

Ornamental gardening, when properly understood and wisely practised, furnishes innumerable pleasures and enjoyments to every class of society. The more, however, it finds its way to the home and heart of the agriculturists who till the soil of this goodly land, the more it will fulfil its mission, which, in our opinion, is to please and to elevate the millions, and not merely the few. M. G. KERN.

### Close Stables.

Messrs. Editors:—During a visit to a friend who is fond of a good horse, I have been taught in a single lesson more than all my reading life has accomplished in the way of inculcation, "on the necessity of air and cleanliness in stable management," for by an early morning visit to his stables, my eyes, nose and throat became witness to the deleterious effects of a close and poisonous atmosphere kept at a high degree of temperature to insure the wretched inmates sleek and shining coats, under cover of double blankets, with weeping eyes, running noses, hacking coughs and chapped heels, that only served to make the wonder of my friends the greater, why with so much care, caution and circumspection his horses were always ailing in some way or other, and not at all in such health and spirit as many others, whose

owners took not a tenth of the trouble that he did, to render his animals comfortable and happy. On our approach to the stable, I found that a small aperture at the top of the door had been stopped with straw, while the space under it had been banked up with dung, lest the cold air should affect the heels of the horses and produce a tendency to grease, or farcy, while the window-shutter was closed, so as to exclude the light, to save their eyes; and in addition to all this misery, there had been inflicted a short allowance of water, lest the animals should become lax and fatulent!

The following remarks on the building and arrangement of stables are pertinent to the subject, and deserve to be more generally known; pray give them a wider range, and oblige a SUBSCRIBER.

Most stables are constructed in direct violation of every law of nature. They are made to slope from the hay-rack back to the heels of the horse, when a horse's natural position is with the fore feet the lowest. The hay-rack is so high the horse is compelled to reach up to get the hay.—His natural position while feeding is with his head down to the ground. The stalls are so high he cannot see his companions, while he is naturally gregarious and loves company. In the stable he stands on a floor; naturally on the earth. In his natural wilds, he is a racing animal; in the stable he is so confined that he cannot lie down, and can scarcely turn himself.

Is it wonderful, then, that nearly every horse is unsound? Standing with the fore feet the highest throws the weight and the strain on the flexor tendons, and destroys the back. Turning the nose unnaturally upwards strains the tendons on the neck while he is eating, and is often the cause of poll-evil. High and separate stalls destroy his natural social qualities, and make him sour and morose; and a hard plank floor, on which he is doomed to stand for twenty and twenty-four hours at a time, will produce ring-bone.

Another defect in many stables is that they are too tight, with a mow of hay over them. The ammonia arising from the urine has no chance of escape; the horse is continually breathing it; it penetrates the hay, and he is continually eating it. How often do we enter a stable in hot weather, when the ammoniacal air is so

pungent that we can scarcely breathe it; and yet the horse is compelled to stand in it, and breathe it, and eat his food that is completely saturated with it. Can we wonder that the horse is subject to unusual and sudden acute and fatal diseases?—It is more to be wondered that he lives at all under such circumstances. Hay should never be placed over a stable, so as to receive the ammoniacal gas; but stables should be ventilated above, so as to let the gas and foul air escape.

Another error in the construction of stables is the openings for throwing out manure and ventilation. In most stables, the openings are for the two-fold purposes.—In the first place, the openings are too low, and allow the current of air to blow on the horse. The effect is the same as a current of air on a human being, producing cold, fever, cough, and consumption. Nor is this all; this current of air, which is all the good air the horse has, comes in from the manure heap, and is but adding more poisonous gas to that already existing.

It is wrong morally, as well as economically wrong, thus to treat the horse, one of the best and noblest of the brute creation.—*Boston Cultivator.*

#### Cultivation of Onions.

A writer in the London Gardener's Chronicle, gives the following as his mode of cultivating onions:—

"The land is selected in November—generally a plat which has had one scourging crop taken off after a good manuring. It is trenched and ridged—the ridges remaining until the early part of March, when being leveled down, it is marked out into beds 42 inches wide, with alleys of 15 inches. Before the seed is sown, the beds are raised by soil from the alleys 9 inches above the ordinary ground level. When the bed has become very dry, the seed is sown and trod over by the laborers' feet until the beds appear as hard as the gravel walk. A very thin coating of soil is then strown evenly over the whole, and finally the roller is passed over the bed. When the onions are fairly up, they are weeded at two distinct operations, not a weed being left at the last one; and they are thinned out also at two distinct periods, leaving them finally about three or four inches apart. We never use the hoe, and

this may appear strange to those who are great sticklers, for what is termed "high cultivation." We have found by experience that hoeing, by loosening the surface, expose the onions to the mercy of every storm, and if luxuriant, throws them prostrate on the surface. But by the above method they will keep erect until the ripening period, which we consider a most important matter. The narrowness of the beds enables the operator to weed clean with facility, and without injuring the plants. Plants thus situated, having a greater depth of soil than usual, grow with a more sturdy character than those highly manured, whilst the greater elevation of the beds enables a warm July sun to penetrate a considerable depth into the earth slightly checking late growth, and of course inducing the bulbous principle betimes. At any rate our success for the last seven years has always astonished our neighbors, and this too on land which was notorious some years ago for the grub.

Let it be remembered that onions grown in this way are not intended for exhibition and that moderate size and well-ripened onions will keep weeks longer than pampered ones, and they are, moreover, far more economical."

#### Corn Husking Machines.

A number of corn husking machines have been invented, but none have yet come into general use. The labor of husking corn is comparatively slow and tedious, and a machine that would do the work perfectly and with efficiency, would prove an important desideratum. Mr. S. H. Mix, of Scoharie county, N. Y., has lately invented a machine that is said to perform the work successfully. One ear is fed into the machine at a time, as in the ordinary corn sheller, with the butt end foremost, and is held an instant between springs, while the butt of the cob or stalk is removed, when it passes through and is acted upon by rough surface which entirely separates the husk from the ear.

Another machine has recently been invented which it is also claimed will prove successful with this, the butt of the ear is first sawed off close, at the union with the husk, which leave it loose and easily stripped off with a sort of picker or spiked roller. In this machine also, the ears require to be fed one at a time; but then if the work is perfectly done, a great saving is secured. We shall keep an eye to this and all other improved machines adapted to the farm and report progress, and describe their operations as fast as they can reach us.—*Scientific American.*



## Improved "Kentucky Sheep."

Below we give extracts from a communication written by ROBT. W. SCOTT, Esq., to the Western Farm Journal, giving the history and characteristics of the Kentucky Improved Sheep, of which he is the originator:

The accompanying drawing of them was taken by J. R. Page, a farmer and amateur artist of New York, who has won so much reputation by his pictures for the "American Herd Book." The likeness on the extreme right is of a grown ewe, and the other two are of a two year old buck in two positions. They are regarded as truthful and life-like by all who have seen them and their originals.

## ORIGIN AND HISTORY.

The sheep which are called "common or native" in the West are a hardy and prolific variety, but they are deficient in size, in thrift, and in fleece. Though their general diffusion shows their adaptation to all the circumstances under which they are placed, yet it is well known that the tendency which all animals have to adapt themselves to climate and subsistence may be materially modified and controlled by judicious crosses, and that the improvement made by these crosses becomes permanent and thereby stamps distinct varieties of the same class of animals. Chiefly by these three influences, crosses, climate and subsistence, the Bakewell, the Southdown, the Saxony, and other varieties were produced, and their distinctive features in their respective localities, are as indelible as those of the present or native stocks. In the same manner, no doubt, still new varieties may be produced, nor does there appear to be any insuperable difficulty in blending in the same animal any number of valuable qualities which are not actually antagonistic to each other. These principles extend even to points almost of fancy merely. For example, some breeds are hornless, while others have two, others three, and others still have four horns. The Syrian shepherd delights in a breed whose tails are so long and fat that a pair of wheels are required on which to draw them over the pastures; but we prefer sheep with short tails, and we might breed a variety which were as wholly destitute of them as dogs of some breeds are.

Acting on these impressions, I have perseveringly endeavored, for about twenty years, to combine in the same animal the hardiness and prolific quality of the native sheep—the size and thrift of the Bakewell or Cotswold, and the symmetry of form and delicacy of mutton of the Southdown, and also to combine in the same fleeces the weight and length of the Cotswold, with the thickness and softness of the Saxony.

In the beginning about thirty ewes were selected from a flock of unimproved common sheep, and were bred to a very large and fine Saxony buck—the object being, to give to the offspring more thickness to the fleece, more fineness to the fibre of the wool, and more delicacy to the mutton. This step was thought advisable before uniting the coarse fleeces of the common sheep with the coarser and still more open fleeces of the large imported varieties, and the effect was satisfactory. The ewe lambs of this cross, were bred on the 1st of October, after they were one year old, to an imported Bakewell buck of large, full, round carcass, and heavy fleece of long wool—the object being to increase, in the offspring, the weight of the carcass, and the quantity of the wool. The ewe lambs of this latter cross were also in due time bred to an imported Southdown buck of large size and high form—the object being to infuse into the progeny that active, sprightly and thrifty disposition, and highly flavored and beautifully marbled mutton, for which the Southdown are so justly celebrated. This object was also successfully attained. The mothers of this cross were the delight of the epicure, while the value of the fleece was not diminished, as much being gained in thickening the fibres of the wool as was lost in their length.

The next cross was made by a buck which possessed, in combination, many of the good qualities which it was desired to establish and perpetuate in the flock. He was three-fourths Cotswold and one-fourth Southdown—a large, active, hardy sheep, with a thick and heavy fleece, and his progeny possessed the same qualities in an eminent degree. The two next crosses were made by full blood Cotswolds, and the next by a very fine full blood Oxfordshire of remarkable softness and silkiness of fleece. These were all animals with short necks, round barrels, broad backs,

and full briskets. They added to the flock still more weight of carcass and fleece, while the texture of the latter and the delicate flavor of the former were not perceptibly impaired.

In the fall of 1853, a part of the flock was bred to an imported Cotswold, directly descended from imported stock. Every one of these crosses or breeds is now perceptible in the flock, blended, but yet manifest in the character and habits as well as in the carcass and in the fleece, but in most of the older sheep some particular cross predominates in each individual as yet, which is naturally to be expected from the recentness of the improvement. In order to obliterate these discrepancies, and to produce more uniformity in the flock, the grown ewes were all bred in the fall of 1854 to five select bucks, of my own breeding. The progeny, now two years old this spring, shows a reasonable accomplishment of the object, though there is still more variation in their carcasses and fleeces, and some still show the motley faces of the Southdown, while the faces of others are pure white. Some yearling bucks are the produce of this cross, and they are in all respects beautiful and valuable animals of their kind.

In the fall of 1855, in order to carry out the same design, I bred chiefly to a *composition* buck, whose pedigree shows Cotswold, Oxfordshire, Teeswater and Southdown stock. He was a highly formed and finely finished sheep, of large size, and thick fleece of medium length and fineness of fibre, and his lambs give promise of great beauty and value. Of these crosses the present flock of "Improved Kentucky Ewes," about ninety-six in number, is composed.

#### ADAPTATION TO CLIMATE AND SUBSISTENCE OF THE WEST AND SOUTH.

In a country which is comparatively new and where stock raising is conducted on an extensive scale, the housing of them in inclement weather is necessarily expensive and troublesome, and is, indeed, impracticable, except with those animals which are very valuable and very delicate. Hence the importance that sheep, which are generally regarded as of inferior importance, should be capable of self-protection as far as is possible. Indeed, no breed of sheep which require housing in winter

or summer, can become a generally popular and truly a practicable breed in the West and South. Having to live at all seasons in the open air, their subsistence must be of such a character as that they can gather it at all times for themselves, or which can be given to them with but little expense and trouble. Climate and subsistence are both known to have material influence, even on the fleece of the sheep, and the growth of fine wool in the West must be kept up by the occasional infusion of fresh blood from the more congenial climates of Andalusia; and so much does the character of the food affect the quality of the wool, that the same individual, by a change of food, may be made to produce, at different shearings, wool of widely varied quality and value. Luxuriant and coarse vegetation, grown on limestone soils, is more favorable to the growth of longer and coarser wool; but this tendency may be qualified by judicious crossing, and a superior article of medium quality may thus be produced. The "Improved Kentucky Sheep" have always faced the bleakest winters, and the hottest, wettest, and driest summers, without any protection whatever but what nature has given, and yet they have been almost entirely free from all disease, especially from the coughs which often, in winter, affect sheep of the fine wool breeds, and they have been equally free from the snuffles and foot-rot, which have been so fatal to the long wool breeds, in such wet summers as in 1855, in Kentucky. Clothed to the knees and to the ears in a thick, long and impenetrable fleece, they bid defiance to rain, wind and snow, and seem at all times to be comfortable and sprightly. In summer they are allowed to roam from pasture to pasture, and they devour almost every green weed but mullein and poke. In winter short grass is all which they require, and if that cannot be afforded to them, they will take their corn fodder with the cattle, and do well on it; though at yeaning time, like other sheep they require more succulent diet. The breeding ewes have never been fed with grain at any time; and when, during deep snows, they have been admitted to a hay stack, they have eaten of it very little.

#### THRIFTY AND PROLIFIC CHARACTER.

In the month of August in each year,

any aged, inferior or declining ewes are taken from the flock, and on being separated from their lambs, and put on good grass they soon make excellent mutton. Only the most healthy, thrifty, and finely formed, and good woolled ewes are kept for breeders, and the utmost care has been taken, and no reasonable expense has been spared to secure bucks to breed to them, of similar character, and which would impart some superior qualities to the flock, and no buck has ever been used with the slightest taint of any (even temporary) disease upon him. In this manner, and by frequent crosses with animals which were not (even remotely) related to each other, except in the case above stated, but also by crossing with bucks, even of different breeds, without making violent crosses, a degree of vigor, health and thrift have been infused into this breed which, I feel assured, is not surpassed, if, indeed, it is equalled, in any other.

So great is their tendency to take on flesh and fat, that ewes which lose their lambs not unfrequently become too fat on grass only to breed, and in more than one instance I have seen full three inches deep of fat on the ribs, after being dressed for mutton, though fed on grass only. Notwithstanding the accidents to which they are subject, in the absence of a regular attendant or shepherd, and in despite of the rigors of March, without a shelter, I have often (when the flock was smaller) raised one-third more lambs than there were ewes, and have rarely, if ever, failed to raise as many. On this subject, Mr. M. Blake-more, a successful and observant farmer, who has crossed his flock with my sheep, says, in reply to my inquiry of him: "When that stock of yours have three lambs they are large and strong, and most of them live."

The Rev. Y. R. Pitts, an intelligent and successful farmer of Scott county, who has crossed his stock with the "Kentucky" sheep, in reply to my inquiry of him, says: "I think the ends at which you have aimed in improving your sheep, viz—good size, compactness of fleece, symmetry of form, and good constitution, have been fully attained. The buck which I got of you is of fine size, and very thick fleece. His produce is decidedly superior to any lambs I have ever had dropped on my farm."

Mr. Price, besides saying in his letter, "they are healthy, good feeders," &c., says also; "I find the sheep which I got of you have twins five out of six times." He also writes that they have taken fifteen premiums at the Illinois State and County Fairs against all competition.

#### SIZE AND QUALITY OF MUTTON.

As it is not, for many reasons, desirable that sheep shall have the size of bullocks, other valuable qualities have not been sacrificed in this breed to obtain large carcass alone. Perhaps they are now fully as large as is compatible with that activity of habit which is indispensable to a breed of sheep which shall come into general use in the West and South. Larger and less active animals will also be liable to the depredations of the sheep bot, and their flesh will be less delicate, both to the eye and to the palate.

None of these sheep have ever been fully fatted, and their weights carefully noted, so far as I am informed; but Mr. Price, in his letter, speaking of part bloods of this breed, says: "They are *the* sheep for mutton, arriving at fine size at two years old, and which bring, in the St. Louis market, from six to ten dollars per head."

A few years since I saved sixteen wethers of this breed, of various ages, from two to four years, and sold them, off of grass, to Mr. Wm. Hopkins, a farmer and sheep dealer of Henry county, at fifteen dollars per head. A letter from him informs me as follows: "I sold them, on Christmas, 1853, for twenty-five dollars per head. The person I sold them to did well with them. They took the premium at our (Eminence) Fair, in 1853, over a fine lot of Cotswold wethers. I consider them better than Cotswold for mutton and wool, and think they feed kinder than any sheep I ever saw. They were pronounced by all the best sheep in market."

The following statement of the weights of some of them, taken in June, 1852, is extracted from my sheep register: A yearling buck, 162 pounds; a grown ewe, 146 pounds; a two year old wether, 172 pounds; a three year old wether, 196 pounds. The following are the weights of some taken August, 1856: A yearling buck, 174 pounds; a two year old buck, never shorn, 224 pounds; a grown ewe, 162 pounds; one ewe lamb, 114 pounds.

The sheep were all weighed off of grass, without extra feeding or care of any kind.

In Judge Brown's letter, he says: "The sheep are of very fine size and appearance, yielding a fine fleece of wool, and are fully equal, as to mutton, to any with which I am acquainted."

#### WEIGHT AND CHARACTER OF FLEECE.

The fleeces of these sheep, like those, indeed, of all other breeds, are not entirely uniform as to length, thickness and fineness of fibre, some of them partaking more of one cross, and others of another cross; but still there is a general uniformity, and the diversity is of no practical disadvantage. Their wool is larger than that of any sheep except those of the Cotswold family, and is equal in length to that of many individuals of that family, while it greatly excels the wool of the Cotswold in fineness, softness and thickness. In some individuals it is inclined to be wavy, or curly, but generally it is straight and wooly, and never wiry. Except the face and legs below the knees, the whole body is covered with a close, compact fleece, which leaves no open line on the back, as in the Cotswolds, but gives a perfect protection to the sheep, and causes it to present a smooth, handsome, and portly appearance. Their fleeces have enough of grease or gum to preserve the softness and vitality of the fibres, even to their ends, but not so much as to give the sheep a dark or dirty appearance, as in the Saxons. Their wool receives bark and other domestic dyes without any washing whatever, is easily cleansed on the sheep's back, and when it is washed in soft water with soap it readily becomes very white. For several years it has commanded from three to five cents more per pound than any other wool in this market.—*Tenn. Farmer and Mechanic.*

From the New Jersey Farmer.

#### GIANT ASPARAGUS.

MR. EDITOR:—In your July No. I notice an article on raising "Giant Asparagus." Persons following the directions given in that No. would find themselves most disagreeably disappointed in the results, if applied to beds made in the common way, viz: ground ploughed or dug one spit deep. You might as well give a good, tender beefsteak to a man in a high

fever, as that application to a badly made bed. If a man wants to build him a house, his first and great care is, to have a good foundation. If his foundation is not good, no after building or propping can make him secure in his dwelling; he is constantly in fear of all going. So with an asparagus bed. If you do not prepare your soil properly before planting, you need not expect to raise "Giant Asparagus." Mr. Downing was too much of a horticulturist to neglect this, and I think I can safely say all his vegetable grounds, at Newburgh, his residence, where I have frequently been, are both drained and trenched.

I shall now give the method adopted by me and all others who wish to raise asparagus to perfection, as it should be, to make it a palatable vegetable. If well grown, it is a luxury; if not, it is only fit for the swill-pail. Well grown asparagus is thick, sweet, and luscious; badly grown asparagus is hard, thin, and stringy.

I shall give five full directions how to make, plant, and keep a bed of asparagus that will last, at least, fifteen years, and a plan I have adopted in planting half an acre of that vegetable. I presume I am writing for farmers who are not practically acquainted with market gardening; I therefore give it as plain as possible, so that all may understand it. To a practical gardener this would be superfluous.

In the Fall, select the best piece of ground you have got; if convenient to your stables and house, for convenience sake so much the better; it likes a good, yellow, sandy loam; ground selected and quantity required for market or home use; you next cart on to it good stable manure, spread it on from nine to twelve inches thick; then commence at one end by stretching a line and make a mark with a spade along the line; then have two measures thirty inches long, one on each end; set those at each end of your line; then stretch your line at this distance from your first mark, you then have a space marked of thirty inches wide.

You then dig this out thirty inches deep, wheeling or carting it to the end of wherever you propose ending your beds—this is to fill up your last trench.—You now mark off your ground to the end, as at first, and commence your trenching. You throw your top spit and manure to the

bottom of your first made trench. If you have plenty of manure, add another layer of six inches between your sub-soil and last spit; put it over as rough as you can, that is, without breaking your spits; let the frost perform that operation. If you should have on hand oyster and clam shells, throw them in as you proceed; it will pay you well to haul them six miles. Those that live near the sea side can obtain seaweed, and can save one-half of the above mentioned manure by adding double the quantity of sea-weed. In finishing your trenches let them slope up to a point, so the weather can have better effect upon them. Care must also be taken not to perform your trenching in wet weather, if so it will bake and become lumpy. When your trenching is finished it should have the following appearance—AAAAAAAA.

In this state your ground should lay until April. You must then spread over the whole of it, from four to five inches deep of manure, and dig it in one spade deep. Your ground is then level. You are now ready for planting. Stretch a line two feet from your outside; mark that off lightly, as that is your tally. Stretch your line six inches from this mark, which is for your first row of plants; open this perpendicular with your spade, six inches deep; then lay your plants against this bank, the crown of each plant from one to two inches below the surface, spreading your roots regularly on either side, and drawing, with the hand, a sufficiency of mould against them to keep them in their places until you get to the end. You so proceed, putting your plants in nine inches apart, then draw the earth over them with a rake. You then mark off another drill one foot from the last, and proceed as before; putting in three rows one foot apart and another row six inches from the outside of your bed. This leaves your beds four feet apart, and an alley between each bed of two feet; or you can, before planting, mark off your beds four feet apart and an alley between each bed of two feet.—The advantage of having four beds only four feet wide, is, that when cutting your asparagus you are not obliged to put your feet on the beds, as by so doing you are liable to tread on the young plants, and in wet weather you break the ground. Rather have them under four feet than over it, as you should never step off your alleys in

gathering. When all is finished, rake your bed well over, taking off all lumps and stones, drawing them into your alleys, then breaking them with the back of your spade. Now this is the foundation finished. The after cultivation is not much when that is well done.

In planting, select three year old plants. First, second and third year you can grow in your alleys, cabbage, and on your beds lettuce or onions. The second year I treat my beds as follows:

When the stems are killed by frosts I cut them off and burn or compost them. I then spread over each bed a coating of manure three or four inches thick. I throw out of the alleys, on this manure, a sufficiency of mold to cover the manure, to save the ammonia, letting it lay in this manner until spring. I then dig it into the crowns of the plants with an asparagus fork which is made for that purpose with wide teeth, breaking the ground as fine as possible; if not sufficiently fine I rake it off to the alleys; I then spread on it salt which I generally get from fish barrels at the stores, half an inch thick and let the rain wash it in; this saves more than its price in keeping the weeds down. If any person has sand on hand it will pay them to cover their beds an inch or two thick with it—sea sand of course is preferable to fresh—this draws your plants cleaner to the surface and is a slight forcing. The third year I commence to cut sparingly. You must mind not to cut the first stem in case you should destroy the others, for if there is no stem left, the plant is killed in cutting. Run your knife down close to the stem, perpendicularly in a sloping direction. Fourth year you can cut all they will grow until the latter end of June, at which time it should be discontinued to allow the plants to grow for the following seasons. If cut after that, mind and leave one stem to each stool.

By treating your beds every spring and fall as above, you can have asparagus that will do you credit, and which any epicure in the land would pronounce delicious eating. Ground prepared as above is fit to grow giant rhubarb on and in no other way, omitting the oyster and clam shells, also the annual dressing of salt.

*Newton, N. J.*

GERALD HOWATT.

**DWARF PEAR CONTROVERSY.**

The Country Gentleman publishes a very sensible article on the subject of the cultivation of the dwarf pear, which we transfer to our columns with pleasure. The remarks coincide with our own experience on the subject. It is all important that the proper stock should be used. The Angiers quince is the only variety fit for working. The other varieties are generally of slow growth and short-lived. We would by no means advise the planting of dwarfs instead of standards where *time* and *space* are not material considerations.

“Our readers know that a difference of opinion has existed for many years in relation to the value of dwarf pears. More than ten years ago, a distinguished western pomologist predicted that in ten years, dwarf pears would be among the things that *had been*. At the same time they had many strong advocates, and the trees had been widely disseminated and planted.—With a large number, dwarfs have succeeded, and with probably a still larger number, they have proved at best partial failures. There still remains a great difference of opinion in relation to them, and the controversy has of late rather increased than diminished. The inquiries, consequently, are repeatedly coming from all quarters, “Do you regard dwarf pears a humbug?” “Why do so many fail with them?”—“What is the reason that doctors disagree so much in regard to their merits?”

The answer to these questions are not difficult. One great reason that dwarf pears fail with so many, is founded in a general and erroneous opinion that fruit trees of all sorts, young and old, *will take care of themselves*. They alone, of all cultivated garden or farm crops, are expected to flourish without attention. First of all, perhaps they are planted in a grass soil.—The farmer who would deliberately plant a crop of corn or potatoes among grass, would be looked upon as an idiot. The gardener who would set out his cabbage plants, or sow a crop of beets in the tough sod of a green meadow, might be sent to the lunatic asylum. Yet young fruit trees are often set in the turf of door yards, or in weedy, uncultivated places, although their first cost is fifty times as great as the value of the seed for the farm crop of cabbage planta-

tion. We have seen plowmen destroy valuable young trees, worth a dollar each, by running over them, so as to avoid an adjacent hill of corn or potatoes, worth about seven mills currency. Trees generally have the last of all chances—they stand at the rag end of the list of all objects for cultivation. This is the feeling entertained towards them by most planters. A Rhode Island Greening, a Roxbury Russet apple tree, or a Kentish or Black Heart cherry tree, will withstand a great deal of abuse or neglect, and hence, with all this bad treatment, they succeed tolerably well. But with most other kinds of fruit, such treatment will end in failure, or at least afford a poor return. Until planters come to regard fruit trees as worth at least as much attention as they always expect to bestow upon their fields of corn, we shall hear sad stories about humbugs, and of the hazardous business of attempting to cultivate the finer sorts of fruits. It appears to us really astonishing that some very sagacious and well-informed men on almost everything else, should not see at once that this is the great leading cause why we hear so often that dwarf pears are a failure. Every skillful fruit-raiser knows that nothing is easier than to raise good *strawberries*; yet men may be found by the hundred, who, having planted beds of the most productive sorts, and then wholly neglected them, gravely announce their opinion that, “There is no use in trying to raise strawberries—we never had any luck with them.” A bed of beets or parsnips, similarly treated, would unquestionably lead them to the conclusion, that “beets and parsnips are very tender, difficult and uncertain crops to raise,”—for they will not grow under thick weeds at a foot high, and if treated as fruit trees are, will certainly prove failures.

There is another reason why dwarf pears have in many instances not met the expectations of planters. There are only a comparatively small number of sorts which appear to be perfectly at home on the quince stock, and to which dwarfs should always be confined, unless for experiment. Other sorts make but feeble growth, and do not live long after the first heavy crops, and those should be avoided. This subject has, however, been often before our readers, and we need not enlarge upon it here,

Some *localities* appear unfavorable to the successful growth of dwarfs, and we have known instances where the occupants of such localities, having not succeeded, have coolly decided for all other localities from these limited experiments.

Everything should be kept in its proper place. Nothing should be claimed for any fruit, or any mode of growing fruit, which does not properly belong to it. A strawberry will always be a *strawberry*—needing careful culture and affording certain results—and nothing else can be made of it. It needs *garden culture*—yet this garden culture may be extended over large fields. The same remark will apply to the dwarf pear. Hundred-acre orchards may be planted with it, provided it receives its proper treatment. The man who would set out fifty acres with strawberries, who had not previously become well acquainted with the peculiarities of their management on a smaller scale, might find it a costly experiment. The same result might take place in planting largely of dwarfs. We have known some who have done so, knowing little of their peculiar requirements, and with the supposition that they would grow without care. They of course found ultimately that dwarfs were a “humbug.” The same summary decision would no doubt have been made by one who attempted for the first time, and with no previous knowledge whatever, to raise watermelons or cabbages. It was a hundred years after the introduction of the potato into England, before its cultivation, uses and value were well understood, and it was well that it was not hastily rejected.

We have never yet witnessed the failure of a dwarf pear orchard, where these three requisites had been combined, namely, 1. Good cultivation, or as good as squashes and pumpkins receive in order to flourish well. 2 Selection of those sorts which have proved best for this purpose. 3. A previous trial on a small scale, to prove their adaptedness to the particular soil and locality where planted. One of the best and largest orchards of dwarfs we ever saw, with large thrifty trees, and affording an average of some hundreds of dollars per acre annually, had indeed good enriching treatment; but after all, the cultivation and amount of manure

applied did not exceed that given to good cornfields by our best farmers.

We have sometimes had a strong hope that the introduction and culture of dwarf pears might be the means of a reformation in the treatment of fruit trees, and that by actually *driving* cultivators to give proper attention to the one, from absolute necessity in the case, they might acquire an improved habit in managing trees generally. This good result has undoubtedly taken place already to a considerable extent, and there is no question that the diffusion of intelligence on this subject will extend the improvement already commenced. The discussion and controversy now existing must as a matter of course result in important benefit, by eliciting facts, and developing new truths, and those are what we all earnestly look for and desire.

It is sometimes intimated that self-interest alone prompts the recommendation of dwarf pears. So far as the writer of these remarks is concerned, this cannot be the case, as his self-interest leads in an exactly opposite direction, but the desire of arriving at the truth, respective of any selfish motives, to place these trees precisely where they belong, and to avoid those extremes in deciding questions which many are always prone to fall into have been alone the suggesting motives for these remarks.

*Christian Observer.*

#### Guano and its Consumption.

It is well known to every cultivator of the soil, that no land will continue productive if some equivalent for its produce be not returned to it. If the land is always yielding and never receiving, it must sooner or later become sterile. However, there are particular soils, like those of Egypt, and the low meadows of Deerfield, Mass., which, being annually overflowed, derive a valuable manure from the hand of nature, and therefore do not become barren by annual cropping. But such soils receive as well as give. There are also some soils which are not easily exhausted, in consequence (as some suppose,) of their finely comminuted particles, which attract and retain the food of plants. Such are the soils of the Scioto and Miami bottom lands of Ohio. Some of these have been annually cropped with Indian corn for sixty years, and still continue to yield heavy

crops. But such soils are exceptions to almost all others.

If all the manure derived from the produce of a given field for a series of years, could be annually returned to it, possibly its fertility would be kept up. But such a contingency, even under the most careful management, is out of the question. We know of numerous instances, where the hay, straw and corn fodder derived from 30 to 40 acres of land, only furnish manure annually for about two acres of hoed crops. Such facts show there is a lack of skill, and want of economy and enterprise on the part of such farmers, and every few years find their crops less, and less, and the number of their farm stock smaller and smaller, and without a radical improvement in these matters, this diminishing process will go on till thousands of farms will be occupied as pasture land, and poor at that. Under the most skillful management now practiced, there is but a small proportion of the farms in New England that can retain their fertility, from the manurial resources of the farm alone. The farm management in England is vastly superior to that of this country, yet with all their skill in the management and application of their farm yard manures, the British farmers find it necessary to purchase annually millions of dollars worth of foreign manures—such of guano, bones, nitrates, rape and linseed cake, &c., &c., in order to obtain remunerating crops.

The importation of guano commenced in 1840—in 1841 there were but 1,733 tons imported. In 1845, there were imported 220,934 tons, employing a fleet of 683 vessels, and 11,486 men. This quantity must have sufficed to manure between two and three millions of acres. The price of guano there, was £10 10s, or about \$52 per ton. The importation and price have both been largely increased since 1845. Messrs. Gibbs & Sons have the monopoly of the commodity, and can raise or lower the price of the article as they see fit; they have advanced the price. Recently they have added £2 per ton—being £13 a ton for thirty tons and upwards, and £14 5s. for all quantities under that amount. At this price in quantities less than thirty tons, it will cost the English farmer about \$75 per ton at the place of purchase; over that amount, about \$66. In 1855 the importation of guano into the

United Kingdom, amounted to 305,061 tons. This, at \$70 per ton, makes the grand sum of \$21,354,270 paid out by the British farmers for this one kind of manure.

On the 24th of December, 1856, the Messrs. Gibbs, by a circular, notified that the prices of Peruvian guano had advanced £2 per ton; supposing their imports for the year are the same as those of 1855, the increased charge would amount to over £600,000, or over \$3,000,000. How this movement is to effect the "bread and beef eaters" of England, is yet to be seen.

From July 1st, 1854, to June 30th, 1856, there were imported into the United States, 230,707 tons of guano of all kinds; exported, 60,583 tons, leaving for home use, 170,124 tons. This at \$50 per ton would amount to \$8,606,200. But as a large portion of the guano was other than Peruvian, and sells for much less price, perhaps the American farmers have not actually paid out more than from five to six million in the two past years for guano; whether the increased products of the land have been equivalent to the cost of the guano is a question that admits of some doubt. With us we have been satisfied that good Peruvian guano has paid a fair profit on the wheat and potato crop—on many others, it has been of little value, apparently.

*Country Gentleman.*

#### Plan for Cooking a Beef Steak.

Hunt up all the pickle jars, and take from each kind of pickle a little of the vinegar, say a teacup full of onion, cauliflower, cabbage, and French bean pickle—home made of course, with plenty of spicy flavors.

Lay the steak in a deep dish, and pour over it the whole of the vinegar. Let it lay an hour. Then take a clean frying pan; throw in three ounces of butter, and pour into it some of the vinegar from the dish, sufficient just to stew the steak in the refreshing compound. Lay the steak in it; let it stew; turn it as judgment dictates; and if you manage it right as to the quantity of liquor, it will, when done, be found imbedded in a thickened gravy formed of its own juicy essence and the dried up pickle. Put the steak into a very hot dish before the fire, and into the pan throw an ounce more butter, one chopped up clove of garlic, and two table spoonfuls of ketchup, and a spoonful of raw mustard. Fry up the gravy, butter, ketchup, &c., in the pan till it boils, and pour it over the steak.—*Prairie Farmer.*



From the Cotton Planter and Soil.

### Maxims for Young Farmers and Overseers.

Dr. CLOUD—*Dear Sir:* The following ten maxims are respectfully dedicated to young planters and overseers, in the hope that in this day of agricultural progress they may effect some good.

#### FOR YOUNG FARMERS.

1. As soon as you have planted your crop, be sure and make a calculation how much you will make. If you have made liberal allowances for bad seasons, sickness, and such like subtractions, you will probably be not more than two-thirds over the mark; but then, you will have had all the pleasure of anticipation, and you can easily convince yourself that your arithmetic was right, if something else was wrong.

2. Be sure not to plough deep. Geologists say the earth is a hollow globe, and you might get through the crust. Besides, if the current philosophy be true, that the interior is liquid fire, you might get your feet burnt.

3. The old adage, that "*time is money*," may do well for the face of a Yankee clock, but is altogether beneath the philosophy of *Young America*. Therefore, lie in bed till your breakfast is ready, and be sure to go a fishing every Saturday evening. Your corn and cotton will grow as well while you sleep, as when you are awake; and if the grass grows too, who cares for grass?

4. Scientific agriculturists make a great noise about *rotation of crops*. Don't believe a word they say. "*Rotation of crops*," indeed! Wonder if the rotation of the wagon wheel don't land in a mud hole at last? *Bug who?*—Every body knows that good land makes more cotton than poor land—so continue to plant your best fields in cotton as long as you please. If it wears out you can go to Texas.

5. As you value your future prospects in life, and your reputation as a physiologist, never suffer a curry-comb to scratch the sides of your mules. It wears them out, (*the curry-combs*) and curry-combs cost money. If the pores of their skin should be clogged up with dust, they can rub themselves against a tree or the corner of the fence; and everybody knows there is a glorious luxury in scratching!

#### FOR OVERSEERS.

6. If you are an overseer, and a young one at that, look sour at your negroes the first day, and kick up a general row the second. Africans are nothing but brutes, and they will love you the better for whipping, whether they deserve it or not. Besides, by this manly course you will show your spunk. To be sure, a half dozen of them may take to the woods, but that is no loss to you.

7. Be sure to make your office a sinecure.—Congressmen, Judges, and civil officers generally, do so, and why may not overseers? To

this end, ride once in the forenoon to where you can see your hands, and then gallop off to some store, blacksmith's shop, or wherever you can find a crowd to listen to your interesting conversation. This is the only way "to magnify your office."

N. B.—Whatever also you may neglect, never forget to put yourself in the *possessive case* in regard to your employer's property—say "*my negroes, my mules, my cotton*," &c. Your employer is a lazy skunk, and has no right to any thing.

8. Swear like "*our army in Flanders*," yourself; but whip every negro on the plantation who dares to use profane language—the *ebony scamps*, what right have they to *imitate* their overseer?

9. If your horse becomes lame, or from any other cause cannot carry you, as in No. 7, seek some "*boundless contiguity of shade*," where you can enjoy a comfortable snooze—nothing like "*otium cum dignitate*."

10. If your employer desires you to plant his cotton or corn in a manner different from that which you think best, be sure to spoil every thing, in its cultivation. You will then prove to him that *his* plans are wrong, and *yours* right.

CLOD THUMPER.

January, 1857.

### Building in Frosty Weather.

The bond which unites brick to brick and stone to stone, to form a close and adhesive connection between them, is a cement (mortar) formed of the oxyd of calcium (lime), silica or sand, and water. The water intimately diffused through mortar, is the vehicle which plays the most important office—chemically speaking—in conferring those qualities upon mortar which render it capable of fulfilling the objects for which it is used. And yet most builders, architects, and those who have buildings erected during the winter season, appear to be entirely ignorant of this fact in chemical science.

The water in mortar holds lime in solution, and gradually attracts carbonic acid from the atmosphere, whereby its particles acquire powerful cohesive and adhesive properties, and in the course of time it becomes a stone itself, firmly adhering to the surfaces which it unites. If we dissolve some quicklime in water, in a vessel, and allow it to stand exposed for some hours, it will attract carbonic acid from the atmosphere, and a thin hard scale like ice will form on its surface; this is a pelicle of marble; it is composed of lime, water and carbonic acid. The scale formed on the surface of the lime solution in the vessel, prevents carbonic acid penetrating under it, otherwise a thick solution of lime would soon become a solid block of marble. But in common mortar the conditions for the absorbing of carbonic acid throughout all its parts, are very perfect, be-

cause the particles of sand render it sufficiently porous to allow the air, which contains carbonic acid, to penetrate to its inmost parts; therefore, mortar ultimately become a stone. If we take quicklime and sand, mixed together in proper proportions to form good cement, but use no water to make them into mortar, exposure of them to the atmosphere for centuries would not form them into a hard stone, because the water of crystallization, which is positively necessary to promote cohesion among their particles, is wanting. Water, then, is the great vehicle which chiefly imparts cohesive properties to common mortar.

Hard water, in freezing, parts with the mineral and earthly matters which it holds in solution, and the ice, when melted by heat, forms soft water; the action of freezing separates the pure water from the substances with which it was previously intimately united. The very same effect is produced by the action of freezing mortar in the walls of buildings; the mortar that is frozen in walls never afterwards acquire strong cohesive properties.

It is customary to suspend operations on buildings of brick and stone, during very severe frosts, when mortar freezes rapidly, but this is only because of the mechanical difficulties of applying the mortar before it freezes; the chemical science involved in the act of freezing its water being either unknown or ignored. Mortar should never be allowed to freeze in the walls of buildings; to allow it to do so, is unwise and unscientific.—*Scientific American*.

### What is a Good Cow?

Every man likes to own a good cow, but people do not always agree in what really constitutes a good cow. Some cows will give a great flow of milk a little while during the year, and then fall off greatly, while others will be more uniform in their yield of milk, and hold that uniformity a greater part of the year. It is evident that the latter is the most profitable and therefore the better cow.

A writer in an exchange paper (and we are sorry that the name of the paper has escaped us.) gives the following definite rules or figures as constituting a good cow.

"A cow that will average five quarts of milk a day through the year, making 1,825 quarts, is an extraordinary good cow. One that will yield five quarts a day for ten months is a good cow, and one that will average four quarts during that time is more than an average quality. That would make 1,200 quarts a year, which at three cents a quart, is \$36. We believe the Orange county milk dairies average about \$40 per cow and the quality of the cows is considerably above the average of the country.

"It is as important to keep a cow good as it is to get her good. This can never be done by a careless lazy milker. Always milk your cow quick, perfectly clean, and never try to coun-

teract nature by taking away her calf. Let it suck, and don't be afraid 'it will butt her to death.' It will distend the udder and make room for the secretion of milk. Be gentle with your cow and you will have a gentle cow. Select well, feed well, house well, milk well, and your cow will yield well."—*Maine Farmer*.

### Sweeping Carpets.

Hard work always to sweep a carpet well, and an art too seldom acquired by the house-keeper. A cotemporary makes the following announcement, which, if "right," will be desirable: "A machine for sweeping carpets thoroughly removing from them every particle of dust, which when ground in by the foot, cuts and wears woolen floor cloths out in a few months, has been invented. The machine is described as a small box, in which there is a revolving fan that sucks up all the dust and carries it into a small compartment containing water. The woolen fibres and larger particles are deposited in a drawer. The sweeping is done by pushing the box along over the surface of the carpet by handles. The whole apparatus is said to be light and simple. In its use no dust is created, and it does its work well."—*Prairie Farmer*.

### A Water-Proof Mixture for Leather.

Take one pint of tanner's oil, half pound tallow, a lump of good resin the size of a common shell-bark, burgundy pitch size of a hen's egg, lamp black, three cents worth—mix together, and melt gradually over a slow fire. When to be applied, the mixture should be made about milk warm, and put on with a clean sponge. The leather may be made a little damp, not wet. The above cement, when applied to boots and shoes, will effectually prevent their soaking water, and keep the leather pliant, and the feet of the wearer warm and dry. Every farmer who regards comfort as a desideratum, should supply himself with this article, and apply it to his boots and shoes.—*Germanatown Tel*.

Testing Eggs is a very simple process. Take them into a dark or partially darkened room, and hold them between the eye and a lighted candle. If good the light will shine through them with a uniform reddish glow. Every one should use this simple test before buying eggs, or breaking them for cooking. A dozen can be examined in two minutes by the merest novice. [*American Agriculturist*].

HENS.—If the legs of hens become broken, they will lay their eggs without shells until the fracture is repaired, all the lime in the circulation being employed for the purpose of reuniting the bones.

From Morton's Cyclopedia of Agriculture.

### Breeding, Principles of.

The surest mode of improving the practice of breeding is by diffusing as much as possible correct principles on the subject. It is more likely to become profitable when the causes which influence its failure or success are well understood; and when certain effects are no longer viewed as matters of chance and beyond the control of man, but as the natural results of certain causes, the practice of breeding in each variety of our domestic animals is likely to become more systematic and more successful. It is not, therefore, without reason that we assert the subject of this article to be one of much importance to farmers.

Agriculture and grazing were once regarded as two distinct branches of the farming business; so much so, that it was thought that the knowledge of the one was necessary for the practice of the other, and the breeding and management of live stock was considered to be almost exclusively the business of the grazer alone.

A considerable change, however, has gradually come over these matters; the increased and still increasing population of this country has long demanded a corresponding enlarged supply of animal food, which has been furnished, not by the greater productiveness of the grazing districts, but by the growth of roots on arable farms, so that, in fact, a greater annual weight of meat is produced by the latter than the former. Whilst more land has thus been devoted to the production of animal food, it has by no means diminished the supply of grain, but, on the contrary, has increased it by means of the larger quantity of manure which, in consequence, is supplied to the land; a fact so well established, that it has already become an adage: "No cattle, no dung; no corn."

The demand for animal food, occasioned by an increasing population, and the want of animal dung experienced by the farmer—a double necessity—tends towards the extension of this system; and it is now no longer denied, that the best and most profitable agriculture is that which is connected with the feeding of the greatest quantity of live stock. The amount of stock kept on arable farms has consequently been doubled within the last thirty years; and we claim for ourselves no exclusive sagacity, when we venture to foretel, that, within a much shorter period of time, the stock on these arable farms will again be doubled. In support of this assertion, we have only to refer to the different practices now pursued on various farms, and to contrast the different systems of high farming and low farming. Many good sheep farms, to our knowledge, keep little more than one sheep to an acre, whilst on a farm of natural indifferent land, which we have lately visited, there were no less than

700 sheep and lambs on little more than 230 acres of land, besides 30 fattening oxen; and on another, 225 cwt. of mutton and lamb are annually raised on 94 acres of arable land. An almost equal difference obtains likewise, between improved and unimproved specimens of our native breeds; this fact is strikingly apparent at the annual country shows of the Royal Agricultural Society of England, when held in a district not famous for its breeds of cattle, where occasionally the best specimens of the local breeds are brought into competition with the stock of those breeders accustomed to bear away the prizes in competition with all England. The poor figure which the former sustain, the striking manner in which their faults stand out, as it were, in bold relief, when subjected to the comparison, although previously hidden from the eyes of their owners and local admirers, the forcible manner in which their owners become convinced that they have a great many stages yet to travel on the high road to perfection before they reach the goal, cannot fail to have been observed. To afford this contrast is, we take it, one of the beneficial objects of the shows of the Society, as emulation is sure to be excited and improvement to follow, from exposure to such comparison. What vast room for improvement does there exist, and how greatly is the farming interest and the country at large injured by the unprofitable feeding of inferior stock? If we only suppose that a good animal will make one-eighth more meat than a bad one, from a given quantity of food, how great is the individual and national loss from the millions of inferior animals that might be replaced by their superiors? Much certainly has been done, particularly with sheep, by improving the native breeds, and still more by supplanting inferior flocks by superior animals. Within the last thirty years, the weight of mutton has, by these means, we fully believe, been doubled in proportion to the number of sheep kept.

Though much, however, has thus been done, much yet remains to do. It becomes us well to understand the principles of the matter; to acquaint ourselves, as far as we can become acquainted, with the laws of nature which govern the perpetuation of the breeds of our domestic animals, so that we may be enabled to persevere and considerably extend the improvements which have been made.

The simple object the breeder has to consider, is to produce an animal that will yield him the greatest pecuniary return; a principle which may be applied to each race of animals, but which involves in it a knowledge of those qualities which are really the most esteemed.

The qualities desirable to obtain are pretty nearly alike in the greater number of domestic animals, that is, in those intended for animal food. They are the capability of convert-

ing a given quantity of food into the utmost amount of flesh and fat, and the development of this meat on those parts of the body most esteemed for food; thus, small heads, short legs, and small bone altogether, are essential qualifications, and early maturity is equally desirable. Connected with these points, we invariably find a peculiarly quiet and indolent disposition—what physiologists would term a lymphatic temperament—which is denoted by a fineness of the skin—a certain resilience to the touch, so to speak, caused by the development of those membranes immediately under the skin, which serve for the deposition of fat in common with other objects. In cows kept for the purpose of the dairy, where butter and cheese are the sources of profit, the considerations just mentioned, though not altogether to be lost sight of, are yet secondary to others, such as the development of the lactic system.

With regard to the horse, the qualities we have mentioned are still less essential. Muscular activity and vigour of constitution are necessary in all horses. A large bone and a certain degree of weight as well as quietness, is requisite in the cart-horse; and a light frame, with great muscular and nervous energy, is demanded in the thorough-bred. Between such extremes a blending of these rival qualifications is called for in the various specimens afforded by other breeds of horses. "Like begets like," is an axiom in breeding which cannot be disputed. It is vain to expect healthy or perfect offspring from unhealthy or imperfect parents. Defects are propagated more easily and more certainly than virtues. They certainly may disappear in the first or second generation, but only to reappear in the third. It is only, therefore, by the most vigilant attention—by weeding and selecting, with the greatest care, that we can approach to perfection, which, however, is like the "mountain of the talisman"—no one has ever reached its summit.

Human physiologists pay considerable attention to the subject of temperament, and though we do not profess to make the same nice distinctions with regard to brutes, yet it is extremely important to keep in mind those general and distinctive varieties of temperament which operate so powerfully in characterizing various animals.

We may, then, broadly divide the temperaments of animals into three kinds, the nervous, the thoracic, and the abdominal. In proportion as the nervous system, the chest, or the abdomen, is strongly developed, may we consider an animal to belong to one class or the other.

In the breeding of sheep and oxen for the purposes of the butcher, the grand object has been to establish the supremacy of the belly, and dethrone the empire of the cranium and the chest; or, in other words, to preserve and to perpetuate that form of abdomen most fa-

vourable to the due performance of the digestive processes, affording the capability of extracting the utmost quantity of nourishment from the food, and at the same time diminishing as much as possible the development of the nervous system, (which would induce too much irritability, and destroy that indolence and quietness so essential for the fattening process,) as well as that of the organs of respiration, which give at once the capability and the disposition for muscular exertion. In the Leicester sheep we have one of the most perfect specimens of the preponderating development of the abdominal or lymphatic temperament, and a striking contrast to the native short-tail breed of the Orkney Islands, which, in form, habits, and disposition, approximate the goat. The Orkney sheep can leap from crag to crag, and, by its muscular activity, secure a scanty but sufficient sustenance for the preservation of health and strength, whilst the Leicester, under the same circumstances, would absolutely die from inanition. Its small lungs would be exhausted by the effort to inhale a sufficiency of air for the purpose of keeping up the animal heat, whilst the muscular system would sink under the fatigue arising from the constant locomotion required to procure the small modicum of food obtainable.

The short-tailed Orkney, if submitted to the same treatment as the Leicester, would be found almost equally unfitted for its new abode. Instead of quietly and unremittingly, hour after hour, converting roots and grasses into mutton, with its mental faculties scarcely extending beyond the boundaries of the fold, its mind would be perpetually engaged in devising schemes for escaping from the imprisonment, and its active limbs would very soon put to the test the strength or height of the hurdles which formed its fold. Between these breeds we observe, in this country, a great variety, ranging from the one extreme to the other. The more improved breeds, however, have greatly encroached, and in many cases altogether supplanted the hardy though unprofitable natives. Thus the Leicester has either driven out of the field, or greatly mingled with and modified, nearly all the long-wooled breeds of this country, whilst the South-down has exercised an almost equal influence on the short-wools. The Norfolk, the Wiltshire, the old Hampshire, and many others, may now be almost regarded as obsolete. The South-down and the Cheviot, though decidedly inferior to the Leicester in the fleshing and fattening powers, possess peculiar excellencies, which are likely to extend the culture of these breeds: the former in the superior flavour of the mutton; both in their greater hardihood; and the latter, more particularly in its adaptation for mountain pastures.

We have alluded to the Leicester sheep as being the most perfect specimen of meat-producing animal we are acquainted with, and,

perhaps, no other in the creation possesses in so high a degree the power of converting vegetable substances into the utmost quantity of animal food. It possesses, in fact, the most perfect, and, in proportion to the size of the animal, the most capacious digestive organs, whilst its nervous and thoracic systems are altogether secondary. In the South-down and the Cheviot these systems are brought into great play, activity being more required, but the brain and the chest are still subservient to the belly.

The ox, on the other hand, is naturally adapted for, and, indeed, often employed in, laborious exertions. The locomotive organs are, therefore, more developed; there is greater intelligence, and the body is longer in coming to maturity than in the sheep, and the muscles are more interlaced with sinew. The chest and the nervous system are consequently more developed, though the belly is still supreme. The Devon cattle have long been regarded as the best workers, and possess greater activity in their locomotive powers: their lungs and brain are, consequently, more developed, but their feeding properties were, as might be anticipated, somewhat inferior to the short-horn and the Hereford; though, of late years, horse labour having been found, on the whole, more advantageous than ox labour, the disuse of the latter has caused more attention to be paid to the feeding, and less to the working, qualities of the Devon cattle, so that they have become formidable rivals of the other leading breeds.

In the horse, the brain and chest are far more highly developed than in the ox, but there is a great variety in this respect in different breeds. Whilst the heavy cart-horse approaches the ox in the sluggishness of its temperament, and the preponderance and power of its digestive organs, the thorough-bred animal is distinguished by opposite qualifications; the chest and the brain are more highly developed, and the belly no longer has the preponderance. Although the cart-horse is an unprofitable feeder compared with the ox, yet he is highly profitable as compared with the thorough-bred horse. A hundred weight of hay, or a bushel of oats, will make less flesh in the latter than in the former, but the muscular vigour produced by it will be in a superior and more concentrated form. A cart-colt will thrive on keep that will starve a thorough-bred, but the former will sink exhausted from exertions that will not tire the latter.

What is called *breed* in horses, consists in the superior organization of the nervous and thoracic organs, as compared with the abdominal; the chest is deeper and more capacious, and the brain and nerves more highly developed. More air is respired, more blood purified, more nervous energy expended. Whilst the heavy cart-horse may be considered to possess the lymphatic temperament, the blood horse may

be regarded as the emblem of the nervous and sanguine temperament combined; the latter, however, predominating. When the nervous temperament has the ascendance, the animal will carry but little flesh, but will go till he drops, never seeming to tire. He will, however, take too much out of himself, become thinner, and is what is called a hot horse. When the sanguine temperament greatly prevails, the horse will have great muscular powers, but not much inclination to put them to the stretch. When the lymphatic temperament has superior influence, the animal, though looking fresh and fat, and starting well at first, will soon flag and knock-up, and will rather endure the lash than make an extra exertion. It is the happy combination of the three temperaments that makes a perfect horse, when severe exertion is demanded. The full development of the abdominal organs is essential, inasmuch as it is through the food that both the muscular system and the nervous energy is furnished. If the digestion is weak, the other powers will be inefficiently supplied. The sanguineous organs are needed to furnish the muscular powers, and the nervous system is demanded to furnish the muscles with the requisite energy, and the capability for endurance. What is called *bottom* in the horse, is neither more nor less than the abundant supply of nervous energy, the muscles being at the same time well developed.

We have dwelt at some length on the subject of temperament, for it is important as elucidating our subject, and preventing that obscurity which often creeps in when speaking of the subject of breeding. A well-bred sheep and a well-bred horse refer to totally different qualities: and, in aiming at improvement, we endeavour to foster in the one animal that which we would fain suppress in the other.

There are few subjects connected with breeding more interesting to physiologists than the *relative influence of the male and female parent*. Whilst some ascribe the principle influence to the male, others consider that it is chiefly due to the female, and there are not wanting illustrations that appear to support either theory. The freaks of nature in these respects are certainly very curious; and people are often more struck by a remarkable exception than even by the rule, and are disposed to form their theories accordingly. The Arabs of the desert, so celebrated for their scrupulous attention to the purity of their breed of horses, who can trace a pedigree through a hundred generations, are comparatively indifferent as to the stallion, but prize and preserve their mares with the most rigorous care. They will part with the former for an equivalent remuneration, but scarcely anything will induce them to dispose of their mares if they belong to the true *Kocklani* breed. From this well-known fact it has been naturally inferred, that they consider the influence of the female as pre-em-

inent; and the supporters of this theory adduce the fact just mentioned as a strong argument in its favour. Indeed, at first sight it would appear, when we consider the more intimate connection of the female with the offspring, kept up during the long space which elapses between conception and birth, that the influence of the dam must be greater than the sire.

Facts, however, appear rather to support an opposite doctrine. The offspring of the male ass and the female horse resembles the former more than the latter. The long ears, spare, muscular development, narrow feet, and sluggish action, are almost equal peculiarities of the mule and the ass, and strongly attest the former's plebian origin. The size, too, approximates to the ass; for the large Spanish mules we sometimes meet with, are begotten by asses of great size. It is surprising, too, what large colts small mares will breed when begotten by horses of great size. Pony mares will thus rear stout cobs and Galloways; and well-bred mares, about fifteen hands high, will throw good size carriage-horses, if put to a powerful stallion. The improvement that can be effected by means of a Short-horned or Hereford bull, in a herd of ordinary cows, is strikingly shown; indeed, the much greater weight of the calves, when sent to the butcher, is sufficient proof of the fact. In sheep, the influence of the male is, if possible, still more strongly illustrated. The cross between the South-down ewe and the improved Cotswold ram, produces a large, long-wooled sheep, closely resembling the sire; so, likewise, the progeny of the Leicester ram and the Cheviot ewe greatly resembles the male parent in size, appearance, and fattening qualities.

We may, therefore, from these and other similar facts, which could readily be adduced, be justified in concluding that, so far as regards the size, general appearance, external form, and muscular development, the influence of the male is superior to that of the female. But, although in obedience to this principle, we believe that it is principally by means of the male that various improved breeds will be rendered more perfect, yet we by no means wish it to be inferred that we consider the qualities of the female a matter of indifference. So far from this being the case, we would censure, in the strongest terms, that utter neglect of the qualifications of the female, which is so frequently displayed, particularly with horses, and which we regard as the most grievous error which appertains to breeding. It is of equal importance to study the qualification of the female as the male, though the respective excellencies may not be the same. Hereditary disease, and weakness of constitution, are much more likely to be communicated to the offspring by the mother than the father, which is in keeping with the long and intimate connection maintained between the dam and the

offspring, both before and after birth, till weaning takes place. As the same blood nourishes both, both are likely to become affected by any unhealthy change in this fluid. Soundness of constitution is, therefore, an indispensable requisite in the female.

In the human being it has been noticed that mental development is more frequently influenced by the mother; and the clever women generally become the mothers of talented children, even when the fathers are not remarkable for mental superiority. In animals, of course, it is very difficult to ascertain whether this principle obtains, as sagacity is not sought for; but we think that temper, disposition, and nervous development more frequently follow the female than the male.

We offer these remarks as general rules, but by no means as rules without exception; and we do not wish it to be inferred that the female has no influence in those qualifications in which the male is pre-eminent; for it sometimes happens that the female has greater influence in these respects than the male, and in all cases some degree is possessed. Thus, when a handsome, well-bred mare is covered by a large, coarse stallion, the defects of the latter are generally considerably softened down; the head is finer; and, though the frame of the offspring is larger than the dam, it is handsomer than that of the sire. The result of this cross is generally superior to an opposite assortment, where the sire is thoroughbred, and the dam a coarse, heavy animal. The progeny, in this case, is often unequal and ill-arranged, possessing, perhaps, the fine legs of the sire, and the coarse body of the dam. We may, therefore, with much propriety, endeavour to modify the defects of one parent by opposite qualities in the other, and, though we may not always be able to establish a *juste milieu*, we shall succeed, to a certain extent, in the accomplishment of our wishes. We shall succeed the more perfectly by attending to those qualities in which the respective influence of the male and the female is most likely to be exercised; that is, the size and external conformation, we should seek to govern by means of the male; and the constitution and nervous system, through that of the female. The fact, however, of the male animal begetting fifty to a hundred offspring in the course of a year, whilst the female seldom produces more than one or two, must, and always will, cause improvements to be effected in breeds of animals principally by means of the male.

Mr. A. Walker, in a recent work on intermarriage, has endeavoured, with some success to reduce the facts connected with the subject to a system, which had not before been attempted. He contends that organization is propagated in halves; that the voluntary locomotive systems are produced by one parent and the vital and sensitive systems by the

other. The former is generally induced by the male, and the latter by the female; though occasionally we observe an opposite result, which is owing to the female being sometimes more vigorous than the male. This theory is certainly in keeping with the observations we had made previous to seeing Mr. Walker's book. The greater part of the work in question relates to mankind, and many facts are adduced to show that when the forehead and face of the offspring corresponds to the one parent, the back, head, and general form resembles the other; that the former, and with it the vital and sensitive systems, are derived generally from the mother, and the latter from the father. In animals we do not notice so accurately the features of the face, but are attracted far more by the resemblance offered by the configuration of the body, and thus we are more impressed with the greater likeness the offspring bears to the sire. So far as our own observations go, however, the face more frequently resembles the dam; which also corresponds with the author's theory. Mr. Walker condemns the attempt at enlarging any breed of animals by means of a larger sire, and says that the progeny is likely to become, in consequence, ungainly and coarse. He adduces in support of his opinion, the vast improvement that has been effected in the breed of horses, by means of the small Arabian stallion, the increased size of our blood horses being owing, in his opinion, to the original native mares; and he adds, that it is vain to attempt to enlarge a breed of animals beyond the capabilities of the soil.

These opinions, however, must be received with some reservation. We freely admit that, when a large frame and the principle of growth have been imprinted on the offspring by a large-sized male, this progeny must receive a sufficient quantity of nourishment to insure the full development of the offspring, or otherwise an ill-formed animal will be the consequence. We should, therefore, never attempt to improve the size by means of the male, unless we possess the means of supplying a corresponding amount of food. In the case of sheep, we have abundant evidence that the form may be improved and the weight of mutton increased at the same time. The Orkney, the black-faced sheep, and the mountain breeds of Wales and Ireland, have all been thus enlarged, and greatly improved, by means of the Cheviot, the South-down, or the Leicester ram. It has been the subject of surprise, that the cross-bred and improved progeny should become so well adapted for the native pastures; a fact, however, which can be well explained by the theory of Mr. Walker, that the vital system, (the constitution, in fact,) generally follows the dam. With regard to our thoroughbred horses, we do not think Mr. Walker is correct in assuming that the size of the animal to be attributed to the native mares. We

consider that our thorough-bred horses are either entirely descended from the Arabians and Barbs of the East; or, if any of the native blood were retained, it cannot be more than one part in a hundred. Eastern horses were brought into this country at a very early period, and the native breed had been so far improved that, in the reign of James the First, an Eastern horse, imported by his sovereign, and costing £500, was beaten by native horses. The fact, no doubt, testifies the badness of the Arabian, as well as the goodness of the natives. Cromwell, who was a lover of the horse, imported some Arabian mares, as well as stallions; so likewise did his successor, Charles the Second. One of these royal mares, as they were termed, was the dam of *Dodsworth*; which has been considered by many people as the first English thorough-bred racer. We have, then, abundance of evidence to show that the English thorough-bred might have entirely descended, in unmixed purity, from the Eastern breeds, without any admixture of native blood. The increased size, power, and speed possessed by this horse, as shown when placed in competition with the original breeds, can be readily explained by the great care that has been exercised in breeding; and more particularly, in the abundance of nutritious food, such as oats, wherewith the young animal is so freely supplied as soon as the teeth are able to masticate.

By the combined effects of our climate, soil, and granivorous food, the size of our thoroughbred horses has been considerably enlarged, and earlier maturity has been attained, which is evident to any person who contemplates the finished forms of our choice three year old horses as they start for the Derby or the Oaks. Another cause which operates in preserving and increasing the size of thoroughbred horses, is to be found in the fact, that the winners of the great races are, in nine cases out of ten, large horses, (not the largest horses of the year, but still of a large size,) standing upwards of fifteen and a half hands. These are the horses that are afterwards used as stallions, and to which nearly all thoroughbred mares are put, the inferior thoroughbred horses being used for inferior mares. It must be evident that, if a large horse possesses equal bottom and power of endurance to a smaller animal, he must be able to beat the latter, in consequence of the more extended strides he is capable of taking. It is, however, generally the case, that horses of a medium size run most races, and last longest on the turf; their fore-limbs are not so likely to give way.

In the breeding of race horses, it is well-known that it is absolutely imperative to breed from animals of pure descent. If any stain or admixture of inferior blood has entered into the composition of either parent, though introduced several generations back, its effects will be almost sure to appear in the offspring,

even of the third generation, not only as it affects the form of the animal, but also as it relates to his powers of endurance when put to a severe test. It is not in actual speed that the stain will be shewn, but rather in bottom; for many a *cocktail* can race for a quarter of a mile with a thorough-bred, though in a four mile heat the latter will be first, and the former *nowhere*.

The effect of this stain, as it is termed, even after several generations, it would be impossible to explain on the principle of fluids, as then, after a few generations, the stain must gradually become washed out; but, on Mr. Walker's principle of resemblances being propagated in halves, it is less difficult to account for; as, according to his theory, the peculiarities of a particular parent may be as strong in the fourth generation as in the first, though it is equally or still more likely that they will be entirely erased. This explains the well-known fact, of a race of animals being produced by an original accidental peculiarity in one of the first parents; as, for instance, in the *Ancon* sheep, where an actual deformity was introduced, and afterwards engendered in the breed.

There is, however, a difficulty in Mr. Walker's theory when applied to animals. He says the locomotive system is caused by one parent, and the vital sensitive systems by the other. Now, if he includes under the term vital system, the disposition of the animal to firm flesh and fat, we may thus have an animal with a full and powerful locomotive system, and yet with a vital system utterly incapable of maintaining it; but though it is possible that this very anomalous case may occur, it is very unusual amongst animals. So far as our own observations go, the locomotive system and the disposition to form flesh and fat go together; and these are generally propagated by the male parent; as, for instance, when a short-horned or Hereford bull is used with an ordinary herd of cows, or a Leicester ram with an inferior breed of sheep. The almost invariable effect of this latter cross is to produce an animal whose feeding and fatting qualities very closely approximate to those of the sire, and are beyond all comparison superior to the dam.

The respective influence of the parents in determining the sex of the offspring is involved in very considerable mystery. Nature seems to have provided that the sexes shall be pretty evenly balanced, but has refused to develop the causes which decide them. Physiologists differ much in opinion as to whether the sex is determined by the mother or the sire; some supposing the former, and others the latter. Sir Everard Home, a distinguished physiologist, was of opinion that the *ovum*, or germ, previous to impregnation, is of no sex, but is so formed as to be equally fitted to become male or female, and that it is the process of

impregnation which marks the sex, and forms either male or female generative organs; that before the fourth month the sex cannot be said to be confirmed, but that the parts previously are so blended, that either the one or the other may be formed therefrom, as the tendency towards the paternal or maternal type may preponderate. This would account for the disposition which some animals have to beget a greater number of one sex or the other.

Mr. Knight, a celebrated naturalist, was inclined to the opinion, that the female is principally concerned in the development of the sex. He says, "In several species of domesticated animals, (I believe in all,) particularly females, are found to produce a majority of offspring of the same sex; and I have proved repeatedly, that by dividing a herd of thirty cows into three equal parts, I could calculate on a large majority of females from one part, males from another, and upon nearly an equal number of males and females from the remainder. I frequently endeavoured to change the habits by changing the male, but without success."

M. Buzareugues, a Frenchman, instituted some experiments with sheep, with a view to determine the capability of arbitrarily producing a larger number of either sex, and his results went to prove that, if the male be very young, there will be produced more females than males, and *vice versa*: thus, in order to produce a male sheep, a ram of four or five years old should be used as the parent. In opposition to this doctrine we may observe that it is well known that some stallions beget a much larger proportion of colts than others, and this quality is sometimes enumerated as one of their recommendations.

In the "Philosophy Transactions" for the year 1787, mention is made of a gentleman who was the youngest of forty sons, all produced in succession from three different wives, by one father, in Ireland. An instance also is recorded of seven successive daughters born to a man by his first wife, and of seven sons by his second wife.

The only conclusion that we can draw from these contradictory opinions and statements is, that both male and female possess a certain degree of influence in determining the sex; that sometimes the one operates and sometimes the other. There is also some degree of weight to be attached to the opinion that, when the male is older than the female, the majority of the offspring are likely to be males.

*In-and-in breeding* is a subject which has given rise to great difference and contrariety of opinion; it possesses some strong advocates, but more warm opponents. The practice certainly possesses both advantages and disadvantages. It offers the readiest and most certain method of preserving the perfections of an improved breed, but, on the other hand, it endangers this breed, by perpetuating and strengthening those hereditary faults and predispositions to which



nearly all breeds are liable. Intermariages amongst near relations, such as cousins, are strongly objected to by human physiologists, who regard it as the fertile source of many diseases, and more particularly of those affecting the mind. Insanity, consumption, and even barrenness, are considered to be the consequences of these two close alliances; and the extinction of some royal, and many noble families, is assigned to this cause. Man, from his more perfect and complex organization, is liable to many more diseases than affect the brute creation, and particularly those of an hereditary character; thus, in his case, the danger from breeding from too near consanguinities is greatly increased. It is, however, an interesting and a very important question to determine, whether these undoubtedly dangerous sequels arise merely from the increased predisposition to particular diseases, kept up and multiplied by the idiosyncracies of both parents, or whether it be owing to some unknown and mysterious causes peculiar to *in-and-in* breeding, and which cannot be separated therefrom.

It is, however, necessary to understand what is really meant by *in-and-in* breeding, as its good and bad effects depend very much on the extent to which it is carried. If we consider that every animal possesses the organization of both its parents, such as the locomotive system of the sire, and the sensitive system of the dam, the male and female progeny of these parents may both possess the same organization, such as the external form of the sire, and the internal structure of the dam; or otherwise, one may possess the locomotive system of the mother, and the sensitive system of the father. In the former instance, supposing these animals unite, the effects of *in-and-in* breeding are much stronger than in the latter; for both the locomotive and the sensitive system of the original male parent may be developed in the grandson, and with it all the faults which the grandsire possessed, without any modification or alleviation. If, on the other hand, this brother and sister, which are thus paired, possess opposite systems, then their progeny are likely to possess the peculiarities of both grand parents, and then no ill effect may arise. A much stronger example of *in-and-in* breeding is when the sire first copulates with the daughter, and then with the issue of this union, as then the chances are three to one that the offspring of the latter union will possess both the internal and external systems of the sire, weakened instead of strengthened by this successive interunion. The dangers of this extremely close breeding are certainly very great, and it is a practice by no means to be recommended. It is not natural to either men or animals to desire a being the counterpart, as it were, of itself; and the progeny is consequently likely to be weakly, and particularly deficient in the reproductive faculties.

In those instances where *in-and-in* breeding has been successfully adopted, (and it must be confessed that it has been practised by many eminent breeders with great success,) it has rarely been carried so far as the cases we have just supposed; while their extensive herds and flocks have afforded them a much wider range than the first remove. They have also exercised a rigorous selection, never breeding from unhealthy or faulty parents. By this careful weeding, the very evils which *in-and-in* breeding is calculated to produce, are successfully avoided.

The celebrated Bakewell, though he established the new Leicester breed of sheep by means of successful and careful crossing, yet, when he had reached a certain degree of excellence, and had attained most of the points aimed at, he maintained and still further improved his sheep by careful selection and *in-and-in* breeding; he did so on the principle that as his own sheep were much superior to any others, he could not employ any foreign rams without danger of deteriorating his flock. There are some Leicester breeders of the present day who still continue the system, and by rigorously culling every faulty and defective animal, have been enabled to steer clear of the dangers of the practice, and to preserve an uniformity of character and appearance amongst their stock, which they could not otherwise obtain. There are also many advocates of the system amongst breeders for the turf; and it is certainly the fact, that many of our most celebrated horses were the offspring of very near affinities.

The practical conclusions which we feel justified in drawing, are,

1st. That *in-and-in* breeding is not attended with equally unfavourable results amongst animals as with man, which is to be attributed to the absence of various mental diseases in the former, and to the greater selection which is almost invariably adopted.

2d. That the evils which often follow *in-and-in* breeding can, to a great extent, be avoided by judicious selection and careful weeding; but that when a male of equal qualifications in every respect can be obtained from another herd or flock, it is desirable to avail ourselves of the opportunity, in preference to using a male of the same family.

The system of Crossing is generally understood to refer to the alliance of animals of different breeds, such as between a thorough-bred and a half-bred amongst horses, or a South-down and Leicester among sheep. Now, the advantages or disadvantages of this system depend entirely on the object we have in view, whether merely to beget an animal for the butcher, or for the purpose of again perpetuating the species. If the latter is the object, then crossing should be adopted gradually and with care, and by no means between animals possessing distant or antagonistic qualities;

as, for example, a thorough-bred and a cart-horse. The result of the latter connection is generally an ill-assorted, and unfavourable animal, too heavy perhaps for one purpose, and too light for another. If we wish to instil more activity into the cart-breed, it is better to do so by means of some half-bred animal, whilst the latter can be improved by means of the three-parts-bred horse, and this again by the thorough-bred. There is a remarkable tendency, in breeding, for both good qualities and bad to disappear for one or two generations, and to re-appear in the second or third; thus an animal often resembles the grand-dam more than the dam. This peculiarity is itself an objection to the practice of crossing, as it tends to prevent uniformity and to encourage contrarieties; and thus we find in many flocks and herds that the hopes of the breeders have been entirely baffled, and a race of mongrels established.

The first cross is generally successful,—a tolerable degree of uniformity is produced, resembling in external conformation the sire, which is usually of a superior breed; and thus the offspring are superior to the dams. These cross-bred animals are now paired amongst each other, and what is the consequence? Uniformity at once disappears; some of the offspring resemble the grand-sire, and others the grand-dams, and some possess the disposition and constitution of the one and some of the other; and consequently a race of mongrels is perpetuated. If, however, the cross is really a good and desirable one, then, by means of rigorous and continued selection, pursued for several generations, that is, by casting aside, as regards breeding purposes, every animal that does not exhibit uniformity, or possess the qualifications we are desirous of perpetuating, a valuable breed of animals may in the course of time be established. By this system many varieties of sheep have been so far improved as to become almost new breeds; as, for instance, the Devon notts, the Kentish sheep, and particularly the New Oxfordshire, which so frequently gains prizes at the great Agricultural Meetings, as being the best long-wooled sheep.

To cross, however, merely for crossing sake—to do so without that care and vigilance which we have deemed so essential—is a practice which cannot be too much condemned. It is, in fact, a national evil and a sin against society, that is, if carried beyond the first cross, or if the cross-bred animals are used for breeding. A useful breed of animals may thus be lost, and a generation of mongrels established in their place, a result which has followed in numerous instances amongst every breed of animals.

The principal use of crossing, however, is to raise animals for the butcher. In this respect it has not been adopted to half the extent it might be advantageously followed. The male,

being generally an animal of a superior breed and of a vigorous nature, almost invariably stamps his external form, size, and muscular development on the offspring, which thus bear a strong resemblance to him, whilst their internal nature, derived from the dam, well adapts them to the locality as well as to the treatment to which their dams have been accustomed. With regard to cattle, the system cannot be so advantageously pursued, (except for the purpose of improving the size and qualities of the calf, where veal is the object,) inasmuch as every required qualification for feeding purposes can be attained by using animals of the pure breeds. But with sheep, where the peculiarities of the soil as respects the goodness of feed, and exposure to the severities of the weather, often prevent the introduction of an improved breed, the value of using a new and superior ram is often very considerable, and the weight of mutton is materially increased, without its quality being to any extent impaired, while earlier maturity is at the same time attained. At the present moment, when mutton commands a good price, which it is perhaps likely to retain for some time, the advantages of this system of crossing would be very considerable. It involves, however, more systematic attention than farmers usually like to bestow, for it is necessary to employ a different ram for each purpose; that is, a native ram for a portion of the ewes to keep up the purity of the breed, and a foreign ram to raise the improved cross-bred animals for fattening either as lambs or sheep. This plan is adopted by many breeders of Leicester sheep, who thus employ South-down rams to improve the quality of the mutton, and suit the taste of the London consumers. With at least equal advantage might the Leicester ram be employed amongst many flocks of South-down sheep, so as to increase the weight and fatten qualities, and hasten the maturity; and still more might this be done with other breeds. One inconvenience attending this plan, and which probably has tended to limit the practice, is the necessity of fattening the maiden ewes as well as the wethers, which is probably not done so advantageously; they may, however, be disposed of as fat lambs, or the practice of spaying might be adopted, so as to increase the fattening disposition of the animal. Crossing, therefore, should be adopted with great caution and care when the object is to improve a breed of animals: it should never be practised carelessly or capriciously; but it may be very advantageously pursued with a view of raising superior and more profitable animals for the butcher.

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GARDEN SEEDS.—Beans, Peas, Cress, Carrot, Leek, Nasturtium, Okra, Onion, Peppers, Salsify, Scorzonera, and herb seeds generally, will keep from two to three years.

### Pears on the Haw\* Stock.

EDITORS SOUTHERN CULTIVATOR.—Attention having been much attracted of late to this delicious fruit, too long neglected at the South, I would suggest to those who wish to enjoy it without waiting too long, the use of the common red fruited Haw, so abundant in our woods and old fields as stock, to graft upon. From an experience of several years, I give it decided preference over the Quince or the Pear stock, for the following reasons:

1st. It throws out no troublesome suckers or runners, which we all know to be a serious inconvenience to say the least.

2d. A Pear grafted on the Haw will bear the third or fourth year, and often the second year from the graft.

3d. The Haw will derive nourishment and brive, as we all know, on any of our poor sandy soils, where the Quince or Pear would tarve and dwindle away, as they require rich oil to grow and produce as they should.

4th. The Haw grows from the seed, which is easily procured, if planted as soon as ripe, or any number of healthy young trees can be taken up from the woods, grafted and set out.

Lastly. It is a much stronger stock than the Quince.

I have for several years enjoyed delicious Pears grown on the Haw, while the original imported parents on Quince have scarcely proved themselves, indeed some of them have not yet borne.

Some Pears will not do on Quince; whether this will also be the case on the Haw, experience alone can teach. So far, all that I have tried have done well.

I do not advise, of course, to reject either the Quince or the Pear; on the contrary, I make use of both, and only propose the Haw as a powerful auxiliary in rearing an orchard.

A very dwarfish species of Haw, not more than two or three feet, will give true dwarf Pears, which will answer for a small garden, or probably for a large box or jar. In the same way will a peach budded on a small double-flowering Almond, so common in every lower garden, never attain more than three or four feet in height, and sometimes much less, forming a perfect little tree, and bearing large and beautiful fruit. I have tried it and succeeded perfectly.

A. C.

[Our correspondent is an experienced Fruit grower, and his testimony should induce a further trial of the Haw as a stock for the Pear. We have, already, the Italian Dwarf Peach, which is very small, and worthy of a place as a curiosity. The double-flowering Almond can be made available as "A. C." sug-

gests, when it is desirable to dwarf particular varieties.—Eds.]—*Southern Cultivator.*

### Source of Fat.

During the course of the past year, experiments have been made in France on a number of ducks to prove that the fat may exceed the quantity which could be referred to the food they were supplied with. Some were fed on rice, a substance which contains only a few parts of fat in a thousand. Others fed on rice with a certain amount of butter added. At the end of the experiment, the first were as lean as when first placed upon the diet; the latter, in a few days, became positively balls of fat. Other experiments were made on pigs. It was found as the result of several trials, that there was sometimes more fat produced than was contained in the food on which they were fed. Food which, given alone, has not the properties of fattening, when mixed with a fatty matter acquires the property to an astonishing degree; and fattening articles of food, which do not contain much fat, always abound with its chemical constituents, the principal of which is azote, and from whence the fat acquired is certainly derived.—*Scientific American.*

### Greasing Leathers.

To the Editors of the *American Farmer* :—

GENTLEMEN.—In the farmer of this month, among other matters, you call the attention of my agricultural friends to the care of their gear.

Having a practical knowledge of the subject, I write you a few lines. All leather should be washed with tepid water and soap, free of dirt, scraped of all gummy matter, and well saturated with water; then apply the grease, and hang up in a house where it is warm enough to keep it soft. When thoroughly dry, rub off the residuum with a rag, else it will catch the dust, and cause the leather to break. The best oil for the purpose is neat's foot, next cod liver, but the most easily got at, and possibly the cheapest, is fresh butter, (without salt.) Greasing in the usual way with whale oil, is absolutely injurious. If the farmer would buy two pair of boots, instead of one, and wear them alternate weeks, using the following compound both for uppers and soles; washing off the mud, and dampening the leather before the application, he will have dry feet, and find his two pairs equal to four in durability:—Take 1 pound fresh butter,  $\frac{1}{4}$  lb. of tallow,  $\frac{1}{2}$  pint of tar, and warm them over the fire till thoroughly mixed. Set it by for use, and apply it cold. In moderate weather hang up the boots to dry. If he desires to polish them for church (where every farmer ought to be a regular attendant) let him first put on a thin coating of his wife's starch, and applying the blacking on that he will have a polish.

FARMER.

Baltimore, Feb. 10, 1857.

\* Can any of our readers inform us what the red Haw is?—ED. SO. PLANTER.

**NORTH CAROLINA STATE FAIR.**—The fifth annual exhibition of the North Carolina State Agricultural Society will commence in the city of Raleigh on the 29th of October next, and will continue four days. The officers of the Society are as follows:

Hon. Thos. Ruffin, of Alamance, President; Richard H. Smith, of Halifax, 1st Vice President; John S. Dancy, of Edgecombe, 2d do. Dr. W. R. Holt, of Davidson, 3d do.; Hon. Wm. A. Graham, of Orange, 4th do.; J. E. Hutchins, Treasurer; T. J. Lemay, Secretary. *Executive Committee.*—W. R. Pool, of Wake; C. H. Hinton, of Wake; W. N. Edwards, of Warren; Richard H. Smith, of Halifax; John S. Dancy, of Edgecombe; P. C. Cameron, of Orange; W. H. Jones, Wake; W. A. Faton, of Granville; and W. A. Whitaker, of Wake.

The abundant productions of all kinds for the present year give unusual promise of a well attended and successful exhibition.

From the British Farmers' Magazine.

### The Babraham Ram Letting.

The name of Mr. Jonas Webb in connection with the Babraham rams has attained, of late years, not only an English, but also an European and Transatlantic reputation. The annual letting of his rams by public competition is, therefore, an event of considerable interest in the agricultural world; for although the example Mr. Webb has set has been followed by other eminent and painstaking breeders, he still maintains an honorable pre-eminence. With the constantly increasing recognition of the principle that the best stock must be obtained at almost any cost, by those who wish to occupy a prominent position as breeders, there has also come an increased amount of competition among the proprietors of rams; and several gentlemen who formerly hired animals from Mr. Webb, are now rivals with him in the market he may be said to have created.—It is honorable to be foiled with one's own weapons; but it is more pleasant to retain one's superiority; and acting on this principle, Mr. Webb has not contented himself with his first triumphs, but has constantly endeavored to advance in the path of improvement, and to maintain a respectable distance between himself and all competitors. That he has succeeded in doing so may be seen in the numerous and influential visitors to the smiling plains of Cambridgeshire, the higher prices he has ob-

tained as compared with those realized several years back, and the favorable verdict of public opinion and repute which is generally accorded to him.

But Mr. Webb's merits are too well known to need further comment. Thursday, July 16, witnessed his thirty-first annual gathering; and the railway trains brought visitors from all the adjoining counties, and also from more remote parts of the country. Whittlesford is the nearest station to Babraham, but is between two and three miles distant from it; and the conveyances which plied on the hot and dusty road were eagerly besieged and rapidly filled. Mr. Webb's neighbors also visited him in considerable numbers; and every one was received by him with the urbanity and hospitality which have contributed considerably to the success of his meetings. Luncheon over, the visitors strolled over the farm, and inspected some splendid shorthorns, one of which is understood to have been sold during the day for 150 guineas, Mr. Webb, having of late devoted considerable attention to cattle as well as sheep. The rams, the great attraction of Babraham, were in the usual fields near the house. There were in the list exposed on the ground, one five-year-old, ten four-year-olds, sixteen three-year-olds, fifty-three two-year olds, and sixty yearlings, or 140 in all. The following table supplies some interesting particulars of each animal. It should be premised that the numbers are those with which the sheep are marked:

#### FIVE YEAR OLDS.

No. 2 put up at 13 guineas; weight of wool, 8 lbs.

#### FOUR YEAR OLDS.

No.	Put up at Guineas.	Weight. lbs. oz.	No.	Put up at Guineas.	Weight. lbs. oz.
4	20	10 0	11	10	8 0
5	6	7 8	12	10	10 0
8	10	7 4	13	50	8 4
9	11	6 8	14	70	8 8
10	25	9 4	15	8	7 0

#### THREE YEAR OLDS.

No.	Put up at Guineas.	Weight. lbs. oz.	No.	Put up at Guineas.	Weight. lbs. oz.
19	11	7 8	29	23	9 8
20	18	11 8	30	35	9 0
22	8	9 0	32	10	9 4
23	12	10 0	35	20	9 0
24	50	12 0	36	16	6 4
25	5	9 8	37	11	8 0
26	6	9 12	41	20	7 8
28	6	9 0	42	15	10 12

TWO YEAR OLDS.

No.	Put up at Guineas.		Weight.		No.	Put up at Guineas.		Weight.	
	lbs.	oz.	lbs.	oz.		lbs.	oz.		
43	10	9	0	78	8	9	8	8	
44	8	10	8	30	8	8	0	8	
46	45	10	0	81	8	8	8	8	
48	8	10	8	82	6	9	4	4	
49	9	8	0	83	10	9	0	0	
50	7	11	0	84	15	9	8	8	
51	8	8	0	86	11	10	0	0	
52	18	8	8	83	35	8	0	0	
54	13	8	12	89	9	9	12	12	
55	18	10	0	92	11	10	0	0	
57	10	9	8	95	9	8	8	8	
58	7	8	0	96	14	9	8	8	
59	11	7	8	97	15	8	0	0	
61	12	7	12	99	40	9	0	0	
62	14	11	0	100	20	8	0	0	
63	11	9	12	101	55	10	0	0	
65	13	8	0	102	19	10	8	8	
66	6	8	12	103	15	8	12	12	
67	6	8	0	105	16	9	12	12	
68	8	7	12	109	20	9	12	12	
69	8	8	8	112	40	10	0	0	
72	13	8	0	114	35	8	4	4	
73	7	7	12	115	130	9	4	4	
75	6	8	8	116	20	9	8	8	
76	8	9	4	117	40	8	8	8	
77	7	10	4	118	16	9	0	0	

YEARLINGS.

No.	Put up at Guineas.		Weight.		No.	Put up at Guineas.		Weight.	
	lbs.	oz.	lbs.	oz.		lbs.	oz.		
119	15	8	8	168	18	8	4	4	
120	8	8	0	169	7	8	0	0	
121	13	8	0	171	13	9	0	0	
123	6	7	8	173	8	8	4	4	
124	9	7	0	176	8	7	0	0	
126	12	9	0	177	20	8	0	0	
127	10	8	0	178	8	6	8	8	
128	10	8	0	179	7	7	0	0	
129	10	7	8	180	9	6	12	12	
131	35	8	8	181	10	8	0	0	
132	15	7	8	184	9	8	4	4	
136	9	6	12	186	10	8	4	4	
137	8	7	4	187	15	10	8	8	
138	11	10	0	189	9	8	4	4	
140	16	7	4	192	8	8	4	4	
141	8	9	0	193	40	8	0	0	
142	10	7	8	194	8	7	8	8	
143	15	7	8	196	7	7	12	12	
144	9	7	4	197	23	7	8	8	
146	9	11	8	198	23	7	8	8	
148	14	9	4	219	30	8	4	4	
149	11	9	0	220	40	7	12	12	
153	5	7	8	221	40	9	8	8	
154	7	6	8	222	70	9	0	0	
155	16	7	4	224	70	10	0	0	
156	13	9	4	226	60	10	0	0	
160	6	7	0	228	65	8	4	4	
161	12	8	4	230	30	8	8	8	
163	11	7	12	231	30	8	8	8	
164	10	9	0	234	45	9	0	0	
167	13	6	8						

started at the prices affixed to them above, and if no advance was made the party calling any sheep in was adjudged the hirer; the highest bidder, of course, taking any ram, in regard to which competition ensued. The results of the letting will be probably best shown in a tabular form:

No.	Put up at Gs.	Realized.	No.	Put up at Gs.	Realized.
119	15	13	50	50	52
228	65	70	121	13	13
113	40	50	50	7	7
78	8	14	15	8	10
168	18	25	4	20	20
221	40	71	20	18	18
222	70	100	92	11	11
72	13	20	128	10	10
133	11	11	197	23	21
177	20	21	69	8	8
2	18	19	184	9	12
57	10	21	76	8	8
81	8	14	189	9	9
12	10	16	140	16	16
32	10	15	231	30	40
46	45	45	30	35	36
10	25	31	142	10	10
29	23	25	42	15	17
24	50	50	113	16	16
114	35	35	193	40	40
54	13	14	117	40	44
36	16	23	187	15	15
83	35	41	96	14	14
8	10	21	41	20	20
115	130	197	55	18	18
5	6	10	136	9	9
22	8	8	84	15	15
23	12	15	35	20	21
109	20	20	37	11	11
141	8	8	100	20	20
102	19	23	77	7	11
43	10	10	105	16	16
14	70	70			

These were all the rams hired at the public letting. The gross amount at which they were put up was £1,524 12s., and the gross amount they realized was £1,812 6s., which, divided by 65 (the number let) gives an average of £27 17s. 7½d. per head, or upwards of £2 in excess of any year since 1852, with the exception of last year, which was an unusually good one. The competition was rather languid towards the close of the letting, and the circle round the ring thinned considerably. It will be observed however, that in the early part of the proceedings there was a good deal of activity in the bidding, more particularly with regard to Nos. 113, 221, 222, 57, 8, 231 and 130. The bids for the last mounted up rapidly, the advance being frequently three or four guineas at once. Eventually the ram, which was a very splendid one, was hired by Mr. Sabine of Newmarket,

The letting commenced shortly after 2 o'clock, Mr. King, of the firm of Nock-olds and King, of Saffron Walden, Essex, acting as auctioneer. The sheep called into the ring in front of the rostrum were

on behalf of an American gentleman, Mr. Lindsey, of New York; and it was reported that it would probably be purchased, and remain in the United States. It was also stated that 197 guineas is the largest sum ever obtained by Mr. Webb for the hire of a single ram.

#### Ever-Bearing Autumnal Raspberries.

Varieties of this class of Raspberries are rapidly accumulating; but a few years ago the "Ohio Ever-bearing" was the only sort known; now there are enumerated in nurserymen's collections some half a dozen or more.

We are not yet in possession of sufficient experience to say whether any of them are adapted to extensive cultivation for market purposes, but we have no hesitation whatever in directing the attention of amateur and experimental cultivators to them as a means of prolonging greatly the season of one of the most healthy and delicious of all our small fruits. We have heard it remarked that inasmuch as every season brings with it its peculiar fruits, it is hardly worth while to produce any fruit out of its natural season. There is some force in this we admit, yet we cannot see why it is not as desirable to produce fine raspberries in the month of September, as it is to ripen grapes in winter or early spring. Indeed there can be no question but that the advancement of Horticulture will produce in time not merely fruits of superior character, but skilful and ingenious hybridization and other scientific processes, will originate varieties of many of our garden fruits that will ripen out of what is now called the natural season, and greatly increase the value of others and the enjoyment to be derived from them.

To us it appears as if this were a field for the most interesting experiment, and from this point of view we regard these Ever-bearing Raspberries as an important acquisition. We hope cultivators will not be backward in testing their value and let us know the result.

1. The *Ohio Ever-bearing* is simply an ever-bearing or autumnal-bearing variety of our native black sort, known as the Black Cap, a roundish flat berry, quite black, covered with a whitish bloom or down.—It is now in full bearing, and it often, not always, bears a full crop in September and beginning of October. To our taste it is

not to be compared to the delicious Antwerps and others of that family, but many express a preference for its sprightly, peculiar aroma. It has one great advantage—it is hardy, standing well where others are killed.

2. The *Catawissa* is a more recent discovery, picked up in a wild state in Pennsylvania. It has been very favorably spoken of by some who are competent to judge, but we have not seen it sufficiently to speak with much confidence. It is a berry of medium size, purplish red, good flavor, tender, and we notice fruit in all stages of growth now upon the canes.

3. The *Large Fruited Monthly of Rivers* was imported from England to this country several years ago. This is a red, roundish fruit, somewhat of the character of the Fastoff, but not so large, it bears an abundant crop in July, and if the weather be favorable, another in the fall on the canes of the current season. This crop, however is not reliable, as it depends much on the weather and the treatment. Where a fall crop is desired, only the strongest canes should be left, and these should be well treated by good culture of the soil, and if need be, supplied with water. This remark will apply, indeed, to all this class.

4. The *Merveille de Four Seasons* is another red variety, from France, of good size and great excellence; it bears well in July, and if the canes for fall bearing are well managed, a good crop in September.—Last season, in the latter part of September and beginning of October, we saw it loaded with superb fruit in a situation where it received no particular care. We place this at the head of this class without any scruple, and believe it well worthy of cultivation.

5. *Belle de Fontenay*.—This is another French variety of the largest size, dark crimson color, and remarkably firm—well suited in this respect to carry to market.—The flavor is sweet, and sprightly, quite peculiar to this sort. The canes, too, are so distinct as not to be confounded with any other; very stout, with short, dark spines; foliage dark green, heavy and much crippled. They are also produced in great abundance. It does not bear as well as the preceding, many of the blossoms being abortive, but the fruits that do mature fill out well and make a superb show.

There is a white ever-bearing sort on the lists, but we have not seen enough of it to give an opinion of its merits or make any description of it. We shall take particular notice of this class of Raspberries in the autumn, and report upon their fruitfulness.—*Rural New Yorker.*

### Points of a Good Horse.

The New York Spirit of the Times gives the following directions for examining the condition of a horse :

In purchasing a good horse, sight, wind, feet and limbs must be the uppermost objects of enquiry; for nine horses out of ten are defective in one of these particulars. First, then examine his eyes, and do this before he comes out of the stable; see that they are perfectly clear and transparent, and that the pupils or apples of the eye are exactly alike in size and color. Next examine his pipes; if good and sound on being napped in the gullet, he will utter a sound like that from a bellows; but if his lungs are touched, and he is broken winded, he will give vent to a dry, husky, short cough; look to his limbs also, and in passing your hand down his legs, if you find any unnatural protuberance, or puffiness, or if feeling first one leg then the other, you discover any difference between them, disease more or less is present; he may not be lame, but he is not clean upon his legs. If he is broad and full between the eyes, he may be depended on as a horse of good sense, and capable of being trained to almost anything. If you want a gentle horse, get one with more or less white upon him; many suppose that the parti-colored horses belonging to circuses, shows, &c., are selected for their oddity; but it is on account of their docility and gentleness; in fact, the more kindly you treat horses, the better you will be treated by them in return.

**PUMPKINS.**—The most effectual method of preserving pumpkins during the winter, is to select the largest and most perfectly matured, and having deposited a stratum of dry straw on a close floor, place them thereon—not so near as touch each other, and cover them carefully with straw and taking especial care to fill in the interstices or spaces between the pumpkins, till the receptacle is filled, or until you have laid by as large a quantity as your inclinations or necessities require.—*Ex.*

From the Rome Courier.

### A short Chapter on Keeping Sweet Potatoes.

MR. EDITOR:—There being nearly a total failure, of the keeping the valuable esculent heading this article, this season, by cold weather, I am requested by a friend in your vicinity to give you for publication, the *modus operandi* of my keeping.

I have now orders from all quarters, to send sweet potatoes and yams, for seed; offering any price I should please to ask, from one to five dollars a bushel.

If our good people would take the *Southern Cultivator*, or some other good agricultural paper, and read it, and remembering what they read, would see what I have said on this subject years ago, not only what has been said on keeping sweet potatoes, but they can get the combined and condensed views of others on many such useful matters by practicing which, they would save *ten times* over the price of these useful journals. Then as the last season has fairly tested, my plan over all others; as mine remained safe and sound. I suppose I had not a dozen roots rotted, while all others I can hear from, have rotted or badly injured by the cold; therefore at a special call for my simple plan, here it is—Take out of the ground not too soon after the frost kills the vines; and don't wait too long, so as to get them frost-bitten. Dig in dry weather; have some *out-house*; some garret, or some such house, not fit for any thing else, it makes no odds if it is a little open, if dry. Have a good strong plank floor, laid close, sprinkle a bed of cotton seed, a few inches thick; on this put your potatoes, piled up, as much as possible, without rolling down. Let them lay here and dry a few days, then cover the whole over with the same, (cotton seed,) some eight or ten inches, and your potatoes will keep sound all the winter. How much more convenient and safe this plan. When you want to get to your *eating roots*, go to them carefully; open the seed; take out what you want, and put the seed back and all will be safe.

When you first cover leave no *air-hole*, as some think they ought to have, you want to exclude the air entirely from them.

If this be of any service, it is at your command.

JOHN CUNNINGHAM.

*Greensboro', Ga., March 24th, 1856.*

N. B.—The roof slope of an out-building, even so low as you can but stand up in the centre will do, and you can make your pile the same shape as the roofing, and if it is forty or fifty feet, all the same, if you have the potatoes put in a long continuous pile. Or if you have room in your gin-house, on any floor, very good, put them here but avoid putting in *basement* or *damp low rooms*, where most people seek to keep them.

J. C.

From the Massachusetts Ploughman.

### Labor-Saving Machines.

MESSRS. EDITORS.—Knowing your general practice of devoting portions of your valuable paper to the notice of useful improvements—for the benefit of your readers, and being well aware that any invention, the practical use of which ameliorates in any degree the condition of our fellow-men, lessens their burdens or lightens their troubles, always receives the sanction of and a kindly motion from yourself, I have taken the liberty of troubling you with a few lines upon an important subject, having a direct bearing upon the welfare of thousands of the friends to whom you talk so agreeable each week, which I should be pleased to see in print.

Some weeks ago, while in the enjoyment of reading your advertisements, (and do you know, sir, that I have always maintained that portion of a *good* newspaper, as well as any other, should always be carefully studied,) my eye fell upon one, the commencement of which, in fact the very heading, interested me, and I perused it to the close; having finished it, I carefully folded my paper and drawing my chair to a good cool comfortable place on the piazza, for the day was warm, I fell, as is sometimes my custom, into a train of thought which extended over many years.

I have been, Mr. Editor, a married man for over a quarter of a century, and have reared a large family of children; as the years of my partner and myself advanced, the cares of a constantly increasing family grew rather than diminished.

I am afraid, my dear sir, that, as a general thing, we men are not apt to give so much attention to *home* affairs, as it appears to me we should. The business pursuits of men call them away from home rather than to it; and in the toiling, ever stirring, calculating strife of daily life, we are, I fear, too apt to sink all, or nearly all, thoughts of her whose province is *not* "in the busy mart, where gold is worshipped"—but who presides where her duties and affections call her, where a wife and mother's heart is always at *Home*.

But of that class, I am happy to say, I am not one; I have endeavored always to lessen the amount of labor to be done at home in several ways; and I have by the use of various inventions, &c., made my wife's tasks comparatively light; but there remained one great thing which I must confess, I had entirely overlooked.

How many nights, when the active business of the day was over, have I watched my wife, and sometimes my daughters, as they sat by the comparatively dull light, straining their eyes and bending their tired forms over their work, stitch, stitch, stich, as for their very lives; how many times have I heard each remark at "be-

ing all behind-hand with the sewing"—"have no idea when" such and such pieces of sewing will "be done"—and others of a similar character, and I had never even conceived that from the eternal drudgery there could be an abatement.

Well, as I have said, I read the advertisement, and revolving those things in my mind made it up to one thing. I would go and see *for myself* if *Sewing Machines* were really brought to such perfection as to perform the sewing of a family; to do work fast that was really strong, neat and serviceable—and I went. The musical clicking that I hear now while I write reminds me that I returned successful.

As it appeared to me I was in duty bound, I applied for the information which I sought at the store of the advertisers whose card had been the means of arousing me in this matter. I saw and was astonished at the machine, so small, so compact, with such a "never-tired set me to work, I'm ready, look." I heard the favorable answers to my many questions, subjected a piece of the sewing to every test that ingenuity could suggest, and could find no loop-hole for an argument against the little wonder. I had understood there were others made by several manufacturers, upon a different principle it was true, but still "Sewing Machines." To the establishments where each were sold I went, examined all, and returned to my first friend, who, without further delay, was purchased, packed, and on its way with me for home.

It would be useless to speak of the surprise, the remarks made, or the joy manifested, when this "little stranger" was exposed to view; without giving it time even to get acquainted with its "new place," it was set to work, (I do not know but that I should have written play,) and since its appearance I have seen no sewing after candle-light—have heard of no work in the sewing or dressmaking line, and never "behind-hand," but I *have* heard that several times wife has found time to take a nap after dinner, and I know that my girls go twice as often to the library and have more time for their studies than before. I know, too, that had this invention been made and brought to its present perfection years ago, strained eyes and crooked spines would scarcely have been known among us.

And then the little seamstress is so neat, so tidy, quick and faultless in her movements, like a frugal housewife, never requiring to be removed from the handsome box in which she is fastened; and when her work is over, quietly submitting to our bringing down the cover and locking her up, seeming to rather like it, for when the box is opened upon the next occasion she will look as bright as ever. The dread of having the dressmaker in *our* family, at least, is over; the operation of sewing is here regarded with pleasure and satisfaction, and I can truly say with Messrs. Grover & Baker, that a *good*



sewing machine lightens the labors and promotes the health and happiness of those at Home.

Truly yours,

B—N.

### A New Reaper—Grain Delivered, Bound and Stacked.

The Ottoway (Illinois) Free Trader, gives the following account of a Harvesting Machine, which, if it accomplishes all that is expected of it, will, indeed, "make a noise in the world"—so Messrs. Murray & Van Doren may go ahead, and they will be sure to "win the race," or else "kill the horse." The editor says:—

"Our main purpose at present, is to speak of a new Reaper that we saw in operation on the farm of Messrs. Murray & Van Doren, in the town of Farm Ridge. Hitherto our Reaper inventors and manufacturers have at best been able to produce a machine that could cut and rake the ground ready for the binders. While the machines have thus enabled the farmer to overcome the crushing labor of the cradle, and to dispense with a large number of hands (always at this season of the year next to impossible to procure) the Harvester has been of no further advantage to him. In point of expense, a Reaper with two men and four horses, cutting 12 to 14 acres a day, is no cheaper than half a dozen of cradlers would be, who could cut down the same amount of grain in the same time.

"The Reaper of Messrs. Murray & Van Doren, whose first start in the great race for pre-eminence and public favor we witnessed on Tuesday, takes, therefore an immense stride ahead of any Reaper now in use; it not only aims to cut and rake the grain for the farmer, but it delivers it over to him also bound and stacked. Thus the labor of at least eight men, which is required to bind and place in shocks the wheat cut by an ordinary Harvester, is entirely dispensed with, and the farmer saves the cost of just so many hands.

"We shall not attempt a description of this machine. Suffice it to say, the main driving wheel, the mode of giving motion to the sickle, and of propelling all the machinery about it, is entirely different in principle from any other machine we have witnessed. An advantage about its peculiar construction also is, that all the weight of its gearing is in the centre, so that it is evenly balanced, and there is no side draught, although the horses go in front.

All the essential parts of the machine, we believe, have already been patented. Two or three experimental ones have been made, in a rough way, merely for present trial. As the machine goes into the field, the inventors follow its motions, noting every irregularity or imperfection, and devising means to overcome every difficulty. In this way they are quite confident they will, by the end of the present harvest, have brought their Reaper to such

perfection, that by the next season they can challenge the world to an open competition.

"The machine we saw in use was placed in a ten acre lot of poor winter wheat, although it had worked well the day before in stout spring. It was in company and competition with one of the Haynes & Hawley's headers, keeping even pace with it handsomely, cutting about the same width, (between six and seven feet,) and while the header tumbled the grain into an awkward and ungainly wagon box or tender that must be kept at its side to catch the grain and then carry it off and stack it, the Murray and Van Doren machine, (dispensing with the two extra teams and a half dozen of hands required by the former,) as carefully and rapidly cut the grain, bound it, and placed it in stacks. The stacking apparatus being placed on the opposite side of the machine from the sickle, balances the weight and draught so perfectly that it requires no extra power to propel it. The stacks are small, amounting to about as much as half a dozen of ordinary shocks, but are so proportioned and symmetrically shaped as not only to allow the grain to season perfectly, but also to be secure from the weather without any further handling or even care.

"The honor of the first conception of the rough outlines of this machine belongs, we believe, conjointly to Messrs. Murray & Van Doren, although they have not refused to accept many useful hints from others. The simpleness and originality of the conception, however, is such, that if it succeeds, as they anticipate, no McCormick, Haynes or Hussey, we imagine, will have the hardihood to claim that their patents have been infringed.

"We confess, from what we have seen of it, we have confidence in the success of this Reaper; and in that event, we are equally confident, it will make a noise in the world. Messrs. Murray & Van Doren are men of intelligence and abundant means, and when they enter the lists, will either 'win the race or kill the horse.'"

From the Country Gentleman.

### Ice-Ponds.

Messrs. Editors.—Surrounded by snow-drifts, and out-door sights purely, and for this latitude unusually hyperborean, the topic named above seems not inappropriate to the season. As our winters here are commonly much milder than at Albany, portions of my remarks will perhaps be more applicable to districts lying a little south of your parallel. You never fail to gather an abundant ice-crop, whilst here we not unfrequently, in some localities, fail to collect any, or at best, ice of a very inferior quality; and some years our reliance is mainly upon a supply from the north.

If we allow the occasion of the first solid freezing to pass by without securing at least a fair proportion of the ice we intend to preserve, the chances are against a future supply sufficient to make up for the deficiency. Hence the importance of constructing ponds in such a manner as to secure, especially to the farmer, a sufficiency of ice when the deeper and often wind-stirred waters of rivers, small streams and large mill-ponds do not freeze hard enough to yield an adequate supply.

There are two mistakes almost universally made in constructing ice-ponds; and it has not yet been my fortune to meet with an instance in which they have not been committed. One error is to make the pond too deep; and the other to take no means to prevent the flow of water, whether from the inlet or from the surface of the surrounding land, into the pond after it has once been filled. To give a more precise idea of the proper mode in which in my opinion an ice-pond should be constructed, I will give a description of one from personal experience, and which was made under the immediate direction and supervision of your correspondent. Being upon a visit at a friend's farm upon the eastern shore of this State, I undertook to construct as a mode of passing away the time, an ice-pond such as I am about to describe.

The ice-house to be filled was not a large one—sufficient however for a small family—and of course the pond to be made needed not to be very extensive. Furnished with three or four farm hands and two horses and carts, I proceeded to the spot selected as the scene of operations.—The place chosen was where a small rivulet had formed its bed, (dry in summer,) and flowed with a very gentle descent between two slightly elevated undulations or unusual ridges of land—for there are no hills (strictly speaking) upon the farm, and all is “rolling” land. Taking advantage of the interval of a little more than seventy yards between these ridges, I proceeded to throw up a dam, where, by a previous trial with an ordinary levelling instrument, I found such an obstacle would arrest the largest quantity of water and at the same time the greatest amount of ground would be flooded. The dam was commenced at each of its extremities and not in the middle. The slope observed

in constructing it was the same as the prescribed by engineers for the embankment of canals. The height of the dam at the point most elevated above the bottom of the proposed pond was made a little more than four and a half feet. The object of commencing the dam at the end and not at the center, was to leave the flow of water unimpeded until the last.—The embankment was protected by sods laid on as fast as the earth was put in position and the required slope given. After the embankment was completed, except the gap left in the center for the passage of the water, I proceeded to plow a ditch about three feet wide and eighteen inches deep, on each side of the pond beginning at the extremities of the dam turning the furrows towards the pond, and following the countour of the land as indicated by the levels already run, until I reached the point where the ditches met at the inlet. At this spot I erected a small flood-gate and shutting down the gate turned the water into the ditches, and prevented for the time its flow in the accustomed channel. This gave me complete control of the area designed to be overflowed and the boundaries of which were comprised within the lines of the embankments of the ditch and that of the dam.—Next, finding the course of the rivulet had been winding, and that sundry ugly holes had been worn by it, I filled them up; and drawing a straight line from the flood-gate of entrance to the center of the dam, I established a center line for the bottom of the pond, and a uniform, gradually ascending grade on that line, just enough to secure a sufficient fall for perfect drainage when it should be desirable to let all the water out the pond. From this central line I established lines of very slightly ascending grade, at right angles, continued until they reached the base of the embankment of the protecting ditches.

In this way I secured a smooth and even surface for the bottom of my pond, and a drainage so perfect that I could remove every drop of water. Having procured a cast-iron pipe in Baltimore at a foundry where it had been made for the city water-works,—its length eight feet and diameter three inches,—it was placed at the bottom of the gap left open for the purpose in the center of the dam. Moist clay, properly “puddled,” was rammed tightly around

the pipe, the gap filled up and sodded, and stout piece of plank with a circular notch sawed out on one side, adjusted as a collar around the neck of the iron pipe, inside the pond. This plank was held in a perpendicular position on one side by the pressure of the earth of the embankment against it, and on the other by strong locust stakes driven close against it on either side of the pipe. The pipe was then closed by a wooden plug of pine, not very tightly driven in from inside the pond, to allow for swelling, and all was now ready for the admission of the water. The little flood-gate was lifted; the pond filled slowly; and as soon as full the flood-gate was closed and securely fastened. No more water was allowed to enter, and the water became perfectly still, deposited all foreign matter, and clear as crystal and thoroughly chilled, was in the best possible condition for being converted into ice. The deepest part of this pond is three feet and the shallowest two feet; and the area of the water surface such that one cutting will fill the ice-house—a consideration never to be lost sight of. The capacity of the house to be filled in cubic feet being known, it is easy to calculate what area of ice of a given thickness will be required to fill it, and the pond should be constructed accordingly; for not only is it more advantageous and economical to fill an ice-house at one cutting, but there is often a risk of not completely filling it at all where it is necessary to wait for the same pond to freeze a second time. Better have two small ponds, if it is impossible to have one large one, to secure the requisite area.

The design of the ditch around the pond just spoken of was to carry off the rivulet and prevent the constant accession of water of a temperature so much above the freezing point that the body of the pond would be kept too warm, and a longer time than desirable be required to chill it sufficiently for congelation. Besides effecting this object the ditch prevents the flow of any surface water from the surrounding fields into the pond, and thus keeps its contents free from pollution; and being of good width it carries off the flood that accumulates after a heavy rain without risk to the integrity of the dam or subjecting the pond to the dangers of an overflow. The earth for the dam was taken from the bottom of the pond. As soon as the ice is secured

the water is all let off by a pole through the pipe against the pine plug from the outside, the bottom of the pond becomes perfectly dry, and a crop of grass is cut from it during the summer.

I had purposed some remarks upon ice-houses, but this article has already so far exceeded the limits I had designed for it, that I must defer them for another occasion.

E. L. R.

Baltimore, Md.

## Horticultural Department.

E. G. EGGELING, Contributor.

### THE APPLE.

*Its uses—how propagated—new varieties—what soil is suitable—planting—pruning—cultivation—varieties suited to Virginia, &c., &c.\**

The Apple has, from the most remote ages, been universally esteemed the fruit of temperate climates. All of the apples common in this country are from Crabs, which grow wild throughout Europe, and there are two or three kinds of Crabs indigenous to this country. Our apples, however, have not been derived from these native Crabs, but from the seeds of apples brought to this country by emigrants from Europe. The tree is, however, completely naturalized in the United States; and that the soil and climate of the country are admirably adapted to the growth of this fruit, is evidenced by the fact, that some of the best varieties in the world have originated here, as for example, American, or Newtown Pippin, Baldwin, Spitzenburg, Swaar, Pryor's Red, and Berkley Red apples, which, for beauty of appearance and deliciousness of flavour, cannot be surpassed.

The Apple tree, is, in general, a slow-growing and hardy tree, with a low, spreading, rather irregular head, and bears an abundance of white blossoms, tinged with red. The wild apple is very long lived; in cultivation, the finer varieties live from fifty to eighty years, but when properly cared for, they will live much longer. It is ordinarily not of more than medium height, but sometimes attains an enormous size. Thus Downing mentions three trees, two in Rhode Island, measuring 13 feet 2 inches, and 12 feet 2 inches, one foot from the ground, and bearing each one hundred and

one bushels of fruit; and the third tree in Massachusetts, measuring 12 feet 5 inches, and yielding in one season 121½ bushels of fruit. These, it will be understood, are extraordinary figures.

The wide-spread popularity of the apple will not seem strange, if we consider its uses. It is the most wholesome of fruits, and is cooling, laxative, and useful in all inflammatory diseases. The finer kinds are much used for desert; it requires but little cultivation—it produces abundantly in all temperate climates; and as the earlier varieties ripen in June, and the later can easily be kept until that period, it is a fruit that may be said to be always in season, it finds a place in sauces, tarts, preserves, jellies—it is roasted, fried, and boiled, pared, sliced, and stewed with new cider; it makes the delicious apple butter—the juice unfermented, is, in some places, boiled down until it becomes molasses; the juice fermented forms cider, and this distilled forms brandy,—a wine scarcely inferior to famed Champagne is made from cider—the best vinegar for the use of housewives is made from apple cider—apples cut and dried, and packed in bags or barrels, are used at home, in ship stores, and are largely exported—the pulp, mixed with lard forms pomatum, a substance well known to the perfumers—the wood is fashioned into Lasts for the shoe-maker; and being fine grained and compact is stained black and used as ebony by the cabinet-makers. These are some of the uses to which the apple has been put, and well justifies the high estimation in which it is held by all people, in addition to which we have now to add, that it is very common at the North and West to fatten hogs on apples, a very sweet apple being used for that purpose, and so excellent has the saccharine matter of the apple been found, that whole orchards of sweet apples are frequently planted for the purpose alone of fattening swine and cattle, which are allowed to run at large in them.

The finer varieties of the apples which are now known, have been raised within the last twenty or thirty years, and are, therefore, rarely met with in old orchards, with the exception, perhaps, of the Albemarle Pippin. The leading apples have been introduced into this State from the Northern States, chiefly; and they do not thrive well in lower or tide-

water Virginia proper, but they suit all of Piedmont, Valley and Trans-Alleghany Virginia, very well. Our friends in tide-water must content themselves with native apples, and some public spirited fruit grower in that section of the State would do well to experiment for the production of some new varieties, suited to the climate and soil. The Wine-Sap, Father Abram, Pryor's Red, Holliday's Seedling, Juneating, are some varieties which can be successfully cultivated in tide-water Virginia, and there are others which we need not stop to mention.

The Apple is propagated from seed and by budding and grafting, and we have in former articles on the Pear, Peach, and Rose, fully described all these methods, and to those articles the reader of this is referred for fuller information. There is a peculiarity about the apple, which will enable one by the mere inspection of the foliage and stem of the young scion, to determine whether it will be utterly worthless, or whether there is a probability that it will produce some good fruit. If you go among a thousand scions, raised from seed, you may see here and there one which has fine, large leaves, a strong and vigorous stalk, devoid of thorns, and without side branches, and wherever such an one is seen, it is well to preserve it until it bears fruit. Occasionally such an one will prove to be some new choice apple, but where these conditions are not observed, the scion is only fit to be used as a stalk upon which some well known, fine variety, may be budded or grafted.

It is perhaps, to be regretted, that we have not a larger list of native varieties of the apple, varieties originated in Virginia, and therefore peculiarly adapted to the soil and climate of the State. Nearly all our finer apples, as before intimated, have been originated in the Northern States, and have been afterwards introduced into Virginia by Nurserymen and others. At the North the fruit growers are stimulated to the production of new varieties by the large premiums which are offered for fine, new fruits, and it is this which has conduced to such splendid results there, and the absence of such stimulus will partially account for the non-production of new fruits in this and other Southern States. But even more, perhaps, is this due to the fact that the cata-

logue of fine apples is already quite large, and these have been so extensively propagated by buds and grafts, and can be procured so cheaply, that persons generally are content to obtain them without the trouble of originating new varieties. To the mere utilitarian it is idle to speak of the benefit to be derived from a list of native fruits, and all appeals to his pride would be worse than useless, yet we cannot doubt but that there are many who will think with us, that it would be creditable to the State, and highly honorable to those who were the active participants in bringing about such a result, to have the finest collection of native apples known in the country or the world. And it may well be doubted whether a man could ask a higher honour than to connect his name with some choice apple, which through his efforts had been given to his countrymen. In our own grounds we have some twenty young trees growing, which we selected because of their affording superior indications, and among which we are hoping to find one or more choice apples; and even should all prove worthless, we shall not be deterred from attempting again and again, if haply we may at last secure a new fruit, which shall be worthy of propagation; and we should esteem it fortunate, if, by anything we have written, or may hereafter write, we shall induce others to do likewise.

The favourite soil for the apple in all countries, is a strong loam of a calcareous or limestone nature: and a deep, strong, gravelly, marly, or clayey loam, or strong sandy loam, on a gravelly subsoil, produces the greatest crops and the most highly flavoured fruit. The tree flourishes, however, in a great variety of soils, but it rarely does well on very dry, sandy soil, or soil saturated with moisture. Each of these is to be avoided, and a soil rather moist than dry, is the most favourable condition for this fruit. Soils that are too moist can be rendered suitable by proper drainage, and those that are too dry, may by deep subsoil ploughing or trenching, be brought into proper condition, and a writer of high authority alleges, that apples with good cultivation and high manuring, will always remunerate the orchardist, except the trees be planted in a quick-sand or cold clay.

As to the situation of the orchard, we apprehend that it makes but little difference in

this State whether the orchard have a Northern or Southern exposure, but if there be a preference it is for the latter. We would advise the location of the orchard always near the residence, and that for many reasons which will occur to the least reflection. Among these we mention the facility with which the orchard products may be guarded and gathered, and the likelihood that the trees will obtain more attention from the farmer, be better pruned and better tended. But whether located near the house or farther from it, let your orchard be an orchard, and not a pasture for cattle, unless it has been planted for the mere purpose of fattening cattle. If destined for any better purpose, keep all cattle out of the orchard, and if any stock must be turned in, let it be swine, which can consume the fruit without injuring the trees. The presence of swine, indeed, may prove beneficial in several ways, but in none more than this, in eating the apples, the hogs will destroy much vermin, which would otherwise shelter in the earth during the winter, and re-appear the ensuing season to infest the trees again and destroy or injure the fruit.

The preparation of the soil for planting the young orchard is a subject of some importance, and the chief thing to be insisted on in this connection is, that the ground be ploughed very deep and subsoiled, and that before this ploughing takes place that the ground be covered with manure to a depth of not less than four inches. It may be borne in mind always, that the soil cannot be made too rich for the apple, the tree being a gross feeder, and more exhaustive perhaps than any other fruit tree whatsoever, a fact which may explain why apple orchards sometimes become unfruitful after long years of fruitfulness. In addition to these directions, all that need be added in respect to the preparation of the soil for planting is, to make it fine, light, and friable as possible, preparing it with as much care as you would for any crop upon your farm.

The distance at which the trees are to be planted, depends upon the treatment which the orchard is to receive. Where the orchard is to be kept as an orchard, forty feet between the trees is the usual and proper distance, but if the farmer intends to keep the land between the trees in grass or grain, fifty feet apart is a better distance.

The trees for the orchard should be carefully selected, and none but healthy, vigorous, thrifty, well-shaped trees should be taken, and then in setting them in the orchard, plant all of the same variety in rows together or near each other, which will facilitate the culture and gathering of the fruit, and add to the neat and orderly appearance of the orchard. Dig the holes, in which the trees are to be planted, four feet square, so that in planting them you can give the roots their natural position and direction, instead of bundling them altogether in a mass, as is much too commonly done. A little extra pains with the planting will be amply compensated by the thriftiness and vigour of the trees. When the trees show a disposition to grow crooked, a stake put down by them to which they are secured will aid to correct the defect.

Upon the treatment which the young orchard receives for four or five years after it is planted, its success very much depends. The great desideratum is to keep the ground loose and mellow by cultivation, and also to give it an occasional dressing of manure, and if the cultivator must raise grass or any other crop in the young orchard, let him be sure to keep a circle of six feet immediately around each tree loose by digging it every season. The effect of such treatment will be to clothe the young trees with rich, dark, luxuriant foliage, to give them smooth, clean stems, and to hasten their growth and speed the advent of the fruit-bearing period. Extensive experiments have shown that trees thus treated, will nearly or quite treble in size, in five years, those which are denied this liberal and generous cultivation.

Fallow crops are best suited to the apple orchard, when any crop is cultivated there, though we would advise that none be raised there, provided the trees will be cultivated. The difficulty with us in this State however is, that unless some crop is planted in the orchard, we neglect it altogether and certainly if that result must ensue it were better to cultivate—it were better to plant corn, peas, potatoes, buckwheat and the like in the orchard, and occasionally to take from it a crop of grain or grass. But however this may be, we must urge all who have orchards or are making them, to remember that the apple will not thrive without plentiful supplies of manure to enrich the soil and feed the tree, and we therefore earnestly

advise all to adopt the rule of manuring the orchard every year, just as you do your cornfields, and wheat fields and oat fields and tobacco lots. If you fail in this, you must not be surprised, if in a few years your fruitful trees become barren, just as your fields would cease to grow grain if you did not constantly renew the elements upon which the plant feeds.

And here it may be useful to remind the reader, that if he has a barren, unproductive apple tree, or orchard of trees, that probably he may restore its fruitfulness, by simply digging about the roots, giving it a good supply of manure, scraping the stems and washing them with diluted soft soap.

The apple if properly cultivated bears every year, though with the common culture bestowed upon it, it usually bears in alternate years. It will bear annually either where the fruit is thinned, or where the soil is kept highly manured, but where neither precaution is taken, the excessive crop of one season consumes all organizable matter laid up by the tree, and it requires a rest season to recuperate its energies. Where it is kept highly nurtured, this result does not ensue and the orchard will yield its fruit year by year. And it is noticeable, that while all other fruit trees have failed more or less frequently in this State, during some years past, there is always a fair crop of apples, an additional reason why those who pretend to cultivate fruit at all, should plant large orchards of apples.

The trees of the apple orchard require but little pruning, if while they are young, they are carefully inspected every year, and all crossing branches taken out while they are small. This course pursued systematically will obviate the necessity of much pruning when the trees grow older, if it does not render the knife totally unnecessary. When a limb or branch is removed, however, be careful to cut close up to the tree, and smooth the surface of the cut, so that the wound may speedily be closed up, by the juices of the tree.

The insects which attack the apple orchards, are the borer, the caterpillar, canker worm the bark louse, and the apple worm, besides which, they are subject to what has been termed the woolly aphid, or American blight. The latter, which makes its appearance in the crotches and crevices of the branches, is composed of a multitude of very minute woolly lice,

which increase with a fearful rapidity, and soon produce disease in every part of the tree. This has but rarely appeared in this country, but has proved most destructive in England. The remedy for it is to wash the parts with diluted sulphuric acid. The apple worm was introduced from Europe and appears in early worm-eaten apples, which fall prematurely from the tree. The perfect insect is a moth, which deposits its eggs early in June, in the bud or blossom end of the young fruit, which soon hatch, and the worm eats its way to the core. The worm then leaves the apple and secretes itself about the loose bark of the tree; spins its cocoon and so remains until the ensuing spring. The easiest way to destroy them is to allow fowls and swine to run in the orchard, or the premature fruit may be picked up daily and placed where the worms can be killed, or if an old cloth be placed in the crotch of the tree, the worms will make that a retiring place. If the loose bark be kept scraped from the tree, they will have no winter shelter, and by kindling fires in the orchard at the proper season, myriads of the moths will be destroyed. The bark louse is a dull, white, oval scale-like insect, which can be destroyed by a wash of soap and water or solution of potash. The canker worm is very injurious to trees in New England, but so far as we are advised, has not troubled the apple in this State. The caterpillar, which is well known to everybody, injures the trees by eating the leaves, and as they are the lungs through which the tree seeks essential elements from the surrounding atmosphere, the importance of preserving them must be apparent to all. It can hardly be worth while to give directions for destroying this pest, as everybody knows how to get rid of them, but we may mention that they remain quietly in their nests, usually until 9 o'clock in the morning, and go forth to their depredations, so that to destroy them you must follow the old proverb, "it is the early bird that catches the worm." The borer is a kindred of that to which we referred in treating of the insects which infest peach trees, and in like manner its attacks may be avoided by simply placing ashes or lime around the tree, and it is always well to bear in mind that "an ounce of prevention is worth a pound of cure."

Apples which it is desired to keep, should always be carefully plucked with the hand,

without bruising them, leaving the later varieties to the latest period consistent with preserving them from frost; and the most experienced orchardists place the fruit immediately in barrels, gently shaking the barrels as the fruit is put in.

To keep the fruit, the apples thus packed in flour barrels are placed under a shed open to the air, protected by a covering of boards over the top, in which situation they remain about two weeks, when the barrels are carefully transferred to a cool, dry cellar, to which air is occasionally admitted in brisk weather. A cellar for this purpose should be dug in dry, gravelly or sandy soil, with openings on the north side for the occasional admission of air in weather not excessively cold, and here the barrels should be piled in tiers on their sides, and the cellar at all times kept as dark as possible. Some persons place a layer of clean, dry straw between every layer of apples when packing them in barrels. The English apple growers put their fruit in heaps in cool, dry cellars, and cover it with clean dry straw. Apples are kept sometimes as potatoes, in pits or ridges in the earth, covered with straw and a layer of earth, but the other methods are better for many reasons.

The varieties of the apple are very numerous, there being in the garden of the London Horticultural Society nine hundred, and six hundred more have been tested there. All of these are not superior, however, be it understood, and indeed most of the European apples are inferior in this country, and all inferior to some of our native varieties. All fine apples even are not so well adapted to all situations and climates, and hence the need in this and other Southern States of a list of native apples adapted to the peculiarities of our soil and climate. The following may be taken as a list of fine apples which do well in Virginia: White June-ating, Summer Rose, Red Astrachan, Maiden's Blush, Herbertston's New Sueh, Gravenstein, English Russet, Rambo, Fall Pippin, Michael Henry Pippin, Killam Hill, Newtown or Albe-marle Pippin, Esopus Spitzenburgh, Baldwin, Northern Spy, Swaar, Rhode Island Greening, Yellow Belleflower, Lady Apple, Peeks Pleasant, Herefordshire Pearmain, Horse Apple, Wine Sap, Mountain Pippin, Limber Twig, Pryor's Red, Father Abram, Berkley Red, Winter Cheese, Holliday's Seedling, Albe-

marle Annette, Monstrous Pippin, and Vandevere. This list comprises the best apples for cooking and eating purposes, but it must be extended to include cider apples proper. Of such, we mention Hewe's Virginia Crab, Harrison and Carthouse. These are used only for cider, but other varieties yield excellent cider, especially the Wine Sap.

All these apples, it will be remembered, are not equally adapted to every part of this State, a part doing well in tide-water proper, and others doing well only in Piedmont, Valley and Trans-Alleghany. By which we do not mean that they will not grow and produce in any part of the State, but that they will not do equally well in all parts. Besides those which we have mentioned, there are, likely, others of which we have not thought, or with which we are not acquainted; and we should be pleased to receive communications from any gentleman, either calling attention to well known varieties, or introducing into wider notice, new apples which are known only in a limited sphere. In relation to these last particularly, we take occasion to repeat here our earnest invitation that where persons know of the existence of new and valuable varieties of fruit and especially of apples, that they will forward us an account of such fruit, and when convenient, specimens of such fruit.

The farmers of Virginia, in general, have cultivated the apple only for making cider, vinegar and brandy, and as a consequence, there are but few orchards of good apples in the State, and those planted at a comparatively recent period. Although ninety-nine in a hundred of our people love good apples, eat them with a decided relish, and are not insensible to the pleasure which they afford to children and guests of the family, are not wholly ignorant of the medicinal virtues of this fruit, still they have neglected the culture of the finer varieties of the apple; and you may visit farm after farm without finding an orchard of trees bearing fruit which would tempt the palate of a well fed porker. It is a false idea which some of our people entertain, that orchards are not profitable. Doubtless it is unprofitable to plant an orchard and then neglect its cultivation, as it would be unprofitable to plant a corn or tobacco crop and neglect its cultivation, but we doubt if anything will yield a richer

return to the cultivator than a well stocked, properly cared for apple orchard. Just consider that apples are now selling in this market, *i. e.*, in the city of Richmond, at from five to six dollars the barrel, the barrel containing about two and a half bushels, and that at all seasons the fruit commands from three to five dollars the barrel, not usually commanding less than three nor more than five dollars. At these prices the cultivation of the apple for market must pay, and pay better than any crop which our farmers can cultivate. It is, on record, proven by facts which cannot be gainsayed, and which settle the matter beyond all peradventure, that at much lower prices than these which we have mentioned, the apple orchard pays better than the wheat or corn field, and our friends have only to try the experiment to be convinced that we speak the words of truth and soberness.

It is not in our power at this time to approximate the value of the apples sold annually in this and other cities of Virginia; but the aggregate is startling to one who has not considered the subject. Until recently, all the apples displayed for sale in our family groceries, and confectioners' shops, were imported from the Northern States, and still it remains true that the most are purchased without the State. Now why should this be the case? Does any one in his sober senses believe that Virginia cannot produce apples enough to supply her home markets? Not one, we dare affirm, will avow such an opinion. Indeed we question if there are not, at this time, enough apples raised in the State for this purpose, only it so happens that the most are unfit for sale in the market. They are not suited either for the table or kitchen, and are intended only to be crushed in the cider mill for the sake of their juices.

It is not our purpose to deny that apples raised solely with the view of manufacturing cider, vinegar and brandy, pay the cultivator, but we shall take occasion at another time to prove that it will pay better to raise finer apples, such as can be packed in barrels and sold in the markets, and while we would by no means discourage the growth of such as are specially suited for the cider mill, we are extremely anxious to promote the cultivation of the better varieties in Virginia. We have



again and again proved our belief that we ought, in this State, to be foremost in everything which can be obtained from the soil. Our broad and fertile acres present soil adapted to the cultivation of every crop, certainly of every species of fruit, and we hold it to be sound policy to buy nothing abroad which we can raise as cheaply at home. Every farmer can raise a few apples for market. All buy flour and use it, and the barrels when emptied of their original contents, might be filled with apples and returned to the merchant of whom the flour was purchased, and every such barrel of Virginia reared apples would be from three to five dollars added to the profits of Virginia agriculture, and by so much would the value of Yankee farms be diminished.

Formerly there was some excuse for the neglect of our farmers to cultivate apples, in the known fact that they could not obtain trees except from Northern nurseries; but this difficulty no longer exists. There are trees enough in the nurseries in Richmond, Petersburg, Fredericksburg, Lynchburg, Alexandria, Norfolk and Wheeling, to supply the largest demands of the agricultural public. And we take occasion here to say that such trees, raised in nurseries here, are far better suited to the wants of our people than any grown in nurseries out of the State, even when the varieties are the same. Besides which consideration, we hold that no farmer should pass by a Virginia nursery to seek for trees in another. Give home productions the preference, other things being equal, and you will do much to encourage the rearing of choice fruit trees in your midst. To all which, we add, that fruit trees are now furnished at a price so low, in comparison with prices charged for them not many years ago, that the poorest is left without excuse, if he be found without a small number of choice trees.

To conclude, plant apple orchards, large ones if your means will justify, small ones if you can do no more, but plant orchards and let them be composed of the choicest varieties to be found growing in the nurseries in Virginia, and let those who have the land and the leisure, plant apple seeds and try to originate new varieties of the apple, specially adapted to the climate and soil of this State, and each section of the State.

### The Culture of Celery.

A correspondent requests some directions concerning the culture of Celery, and although we have once or twice given hints on the proper treatment, we propose now a full and thorough discussion of the subject.

There are two kinds of Celery raised hereabouts, one being called white solid, and the other red solid, the former being much more liable to rust than the latter, and for that reason we have always preferred the red. It is easily distinguished by the fact that the ribs and glands are tinged with a slight pink, and it is far more robust than the white. The main reason why we esteem it more than the white, is because it stands the sun better.

The seed of either kind should be sown as soon as the frost disappears in spring, on a moist and shady border, where the ground has been well pulverized by spading to the depth of from twelve to sixteen inches. The plants will appear above ground in a fortnight or three weeks, and are at this period very tender. They must be kept constantly clear of weeds, and if they stand too thick, should be thinned. They are allowed to remain thus, only kept clear of weeds and grass, until the last of July or the first of August, which is the proper season for transplanting them.

The number of plants required to supply a family, will vary from five hundred to one thousand, according to the size of the family and some regard must be had to this in the formation of the bed.

There are two modes of preparing Celery beds, both of which we will give. The first is to plant in single rows, which is the most troublesome, but gives the finer Celery. The other is to plant in beds of six or seven rows in a bed, which is the most economical, so far as it concerns ground and labour.

According to the first method, the ground is laid off, one foot wide for the row, and two feet wide for the alley. The row is dug out to the depth of six inches, placing the earth on the alleys, half on each side of the row, and making the bottom of the trench or row perfectly level. Then take good old manure of any kind, and place it in the rows to the depth of four inches, and spade it in deep, incorporating it thoroughly with the soil and making the soil as fine as possible. Rake it over now, until it

is gotten very fine and perfectly level, and the ground is ready for planting. The first rainy season draw the plants carefully from the border where they were raised, and after drawing them shorten the roots, and remove all the top leaves, leaving only the stalk. Then plant them from ten to twelve inches apart in these drills, and if the season is not very wet or it does not rain soon thereafter, give the plants water, copiously, which will close the earth round the roots and establish them at once. If the sun is very hot at that time, it will be well to cover the rows with bushes, boards, sticks, or anything that will shelter the plants for a few days, until they show that they have taken root and are growing. The rows must now be kept clean of weeds; and should any of the plants die, replace them with others from the plant beds. We have stated July or August as the proper season for planting, but they may be planted until the middle of September, and persons who plant earlier than the time we have indicated, give themselves much needless trouble, as the plants rarely grow much until the heavy dews begin to fall.

About the middle or last of September, begin to earth or hill up the plants in the following manner. Work up the earth in the alleys with the spade, &c., making it fine, and take the plants, gathering the leaves all closely together in the hand, being careful not to bruise them, draw a little earth about them to keep the leaves in this upright position, and then put two or three inches of the fine soil round the plant. This hilling should only be done during the middle of the day or at least after the dew is off the plant, and be very careful not to get any earth inside of the leaves to the bud, as that would retard and prevent the growth of the bud. It becomes necessary now to watch the growth of the bud, and as it is developed to continue this hilling process, and every time that this hilling is needed, the outer leaves must be drawn together, and earth drawn to them with the hand as before directed before throwing the earth to them with the spade. In favourable seasons it will be necessary to repeat this process every ten or fifteen days, until the last of October, by which time the trenches will not only have been filled up, but have been considerably raised by earth taken from the alleys. Sometime about the first of Novem-

ber, before any killing frost comes, this process of earthing should be finished, by earthing up in the same manner all of the stalks above ground, leaving only two or three inches of the leaves uncovered to indicate where the plant is.

In making the ridge, be careful not to make it in a pyramidal form, as in that event the frost would be likely to penetrate the earth and injure the plant. So pile the earth about the plant, as to make the ridge square, giving a thickness of several inches on either side of the plant, which will effectually screen it from the cold of winter. As an additional security against the frosts, cover these ridges with corn stalks, vines, wheat straw, pine tags, leaves or anything of the sort, to the depth of several inches, so as to prevent if possible the freezing of the ground. Where this precaution is neglected, the ground in severe weather sometimes freezes so hard, that it is impossible to get at the Celery.

The Celery is in its prime season about Christmas and so on through the winter, until it begins to grow the ensuing spring. Dig it out of the ridge carefully, taking care not to break the stalks, break off the outside leaves which are not bleached, wash in clean water, until perfectly clean, peel off the outside bark from the root and place in clear water until wanted at the table.

The next spring, when the growing season arrives, remove the earth slightly, so as to allow the bud to grow. This will soon send up the seed stalk, and thus the cultivator can raise his own seed for the next sowing and also for seasoning for pickle, etc.

We have described only the process, where the Celery is raised in single rows, and this is the method which we would advise all to adopt who wish to have superior Celery.

The other method, which is that usually adopted by gardeners, and all who raise it for market in large quantities, differs chiefly in the size of the beds, which are of course much larger. The beds are laid off five feet wide, and the alleys five feet wide. They are dug out and manured as before described, and the plants are set across the bed, instead of lengthwise, and six or seven plants put in a row, and the rows ten to twelve inches apart, and in all other respects the treatment is as before described.

### Directions for Making Pickles.

In a former number of the Planter we advised that our lady friends put up pickles for sale in the markets, and gave such data as we could gather, tending to show that it could be profitably done. Shortly afterwards we received several letters requesting directions for making pickles. We addressed the enquiry to several ladies, and now have the pleasure of laying before our readers the following recipes, which have been kindly furnished by Mrs. Cox, of Henrico county, whose pickles have, on several occasions, taken the premium at the exhibitions of the State Agricultural Society. The delay in furnishing this information to our correspondents has been owing solely to the fact, that our letter of inquiry did not reach its destination until lately, and we were unwilling to publish any recipe which did not have the stamp of high merit, such as those which we now present to our readers. While acknowledging the kindness of our correspondent in furnishing this information, we take occasion to say that we shall be highly gratified if other ladies to whom this may come, will furnish us with other recipes for making either the same kind, or other kinds of pickles, and at the same time desire to avow our readiness to answer any inquiry which may be addressed to us concerning any of the topics discussed by us in the Planter, or cognate topics, and where the proper answer lies not within our knowledge, will procure the information desired from those better informed than ourselves. With these remarks we submit the several recipes for pickles:

#### TO PICKLE DAMSONS.

To 3 lbs. of Damsons add 2 lbs. of sugar, 1 pint of good strong apple vinegar, a tea spoonful of mace, a table spoonful of beaten cinnamon, 2 doz. Allspice, and 1 doz. cloves.

The sugar, vinegar, mace, cinnamon, allspice and cloves, are to be boiled together and poured over the Damsons while hot. The syrup, thus made, is to be poured off from the Damsons every morning, for nine mornings, boiled and poured back over them, while hot.

#### TO PICKLE PEACHES.

Peel the Peaches, and then to 14 lbs. of them add 7 lbs. of sugar, 2 oz. of cinnamon, 1 oz. of mace, 1 table spoonful of Allspice, 2 doz. cloves, and a heaping tea spoonful of salt.

Put them all in a jar together and pour over them strong apple vinegar, enough to cover

them. The next morning pour it off, boil it and while hot pour it back over the Peaches. This do for nine successive mornings.

#### TO PICKLE GREEN TOMATOES.

Cut the Tomatoes in slices about  $\frac{1}{4}$  of an inch thick, and to 16 lbs. of them add 7 pints of strong apple vinegar, 6 lbs. of brown sugar,  $\frac{1}{2}$  lb. of white mustard seed, a tea cup full of flour of mustard, 1 $\frac{1}{2}$  lbs. of onions, cut up fine,  $\frac{1}{2}$  oz. of mace, 2 oz. of cinnamon,  $\frac{1}{4}$  lb. of beaten black pepper, 1 oz. of allspice,  $\frac{1}{2}$  oz. of cloves, and 5 oz. of salt. All of the materials are to be put in a porcelain skillet, and boiled for an hour and a half.

#### TO PICKLE WALNUTS.

The Walnuts are to be gathered about the 15th of June, and all the outer bark peeled off, dropping them in cold water as they are peeled. Take them out of the cold water, put them in a jar, and pour over them strong, boiling salt water, sufficient to cover them. At the expiration of three days pour this off, and add fresh boiling salt water, repeat this for four times. Three days after it has been done the fourth time, pour off the salt water and put the walnuts in plain cold vinegar, where they are to remain for two weeks. Then pour the vinegar off and throw it away, and to every 5 gallons of walnuts add 15 lbs. of sugar, 12 oz. of beaten cinnamon, 3 oz. of beaten mace,  $\frac{1}{2}$  lb. of beaten black pepper, 4 oz. of beaten ginger, 2 oz. of allspice, 1 oz. of cloves, and 2 table spoonful of salt. The sugar, spices and salt, are to be put in a porcelain skillet, have 4 pints of strong apple vinegar added and boiled for half an hour. When cold add 6 pints more of strong apple vinegar, stir them well together, and pour over the walnuts.

#### TO MAKE GREEN PICKLES.

The Cucumbers are to be put in brine strong enough to bear an egg, and remain there until they become yellow. They are then to be put in strong solution of alum water in a brass skillet, covered with grape leaves and scalded until they become green. After they are thus greened put them in cold vinegar, where they are to remain for two weeks, when the vinegar is to be poured off and thrown away. To every 5 gallons of the Cucumbers the same seasoning as that directed for the walnuts, with the addition of 2 oz. of celery seed is to be added, and proceed in the same way as directed for the walnuts, except only half of the seasoning should be added the first time, and the remainder in about ten days or a fortnight afterwards.

In making pickles of every description care should be taken to get vinegar of the best

quality, and after the pickles are made they should be kept in jars well secured.

#### TO PICKLE MARTINAS.

Put them in strong brine and let them remain one week; then wash them in clean water and put them in plain vinegar, in which they may be kept until you are ready to pickle them. When thus ready, lay them out to drain; scald in a gallon of vinegar, a large handful of horse radish, a tea-cupfull of alspice, half a tea-cupfull of black pepper, half tea-cupfull black mustard seed, two table-spoonfull of cloves, two pounds of brown sugar, four onions, and a pod of red pepper; fill the jar with cold vinegar. The spices to be beaten, but not fine, the horse radish and onions to be sliced. This receipt is for two gallons of martinias.

### The Currant—Two of the Newer Varieties.

The currant needs no eulogy. Its hardness, productiveness, ease of culture, time of maturity, its many uses by way of jellies, jams and tarts, and its refreshing qualities eaten fresh on the table, place it above any other summer fruit, for universal cultivation. Yet very few ever see the currant in perfection. No fruit is more generally neglected in culture. Grown in thick grass sod, never pruned, never manured, and the bushes allowed to assume the character of a mass of stunted brush, the berries are not more than one-fifth the size, (as we have found by actual measurement,) which they attain when well cultivated, the old wood cut away, and the vigorous young shoots only allowed to bear. The old red and white currant, by such treatment, may be made larger than the new mammoth sorts will grow without it. This improved management is very simple and easy, and does not require more labor annually than every good farmer gives to a row of potatoes of equal length.

The old varieties will be wonderfully improved by this course—but there are some new sorts which, so far as size is concerned, may be made greatly to exceed them. Nothing of the kind could grace a tea-table better, than a mixture of the Cherry and White Grape currants, new varieties, which, with good culture, will average in the berries, the latter nearly, and the former fully half an inch in diameter.

The *White Grape* is the largest white currant, being distinctly larger than the *White Dutch*, and fully equal to it in flavor. The bush is rather a slow grower, and spreading and somewhat irregular in form. The figure accompanying this article gives the exact dimensions of bunches grown on bushes with moderate cultivation in a clean, garden soil; the larger berries being nearly or quite half an inch in diameter. We have cultivated it many years, and found it uniformly productive, hav-

ing procured it originally of Ellwanger & Barry, of Rochester, who have now, in their immense nursery, nearly an acre of saleable plants, of this variety alone.

The *Cherry currant* is the largest known red currant, the berries, with high culture, measuring five-eighths of an inch in diameter, half an inch being very common. The bush is a strong grower, with the shoots short and thick, and easily distinguished in appearance from other varieties. Its flavor is not equal to that of the *Red Dutch*, being rather acid, and it is not generally so productive as some others, although heavy crops are sometimes seen.

Those who procure these large varieties, and give them no attention, will be disappointed to find them but little larger than older sorts.—*Country Gentleman.*

### Fall Management of Sheep.

BY JAS. D. LADD.

As soon as the pastures are injured by frost, place a few troughs in your fields; which may be made by setting a board, six inches wide, upon edge; lay one seven inches in width upon it, in such position as to form a right-angle; nail the edges together; lay them on a level surface, with the base of the angle down; take two pieces of two inch stuff, eighteen inches long and twelve or fourteen inches wide; place them against the ends, which are represented thus  $\Delta$ , with one edge upon the level on which the boards rest, and mark the outer edges of the angle. This, you will perceive, will describe a right-angle triangle, which saw out. Now turn the whole structure over; let the trough rest in the spaces cut out, placing the supports eighteen inches or two feet from the end, and drive three nine-penny nails through into them on each side; place the triangular pieces cut out in the ends, and secure them in the same way, and you have a cheap, convenient trough, that, with some care in handling, will last a long time. Have enough of these in each field to allow twenty sheep to eat out of twelve feet in length; and give them every morning half a bushel of oats, or three gallons of corn, to the hundred head, and it will fully supply the failure of the grass for one month; then, as the weather becomes more inclement, increase the amount of grain until you get equal to half bushel of corn per hundred head. In the meantime, during the second month of this feeding (which in this latitude, will probably be from the 15th of the 11th mo. to the 15th of the 12th mo.), when a cold rain or snow squall is approaching, put them in shelter, and gave them a little hay; let them remain until the storm is over. If you have to choose either horn of a dilemma, keep them from drinking forty-eight hours, rather than let them get soaked in a cold rain—the chilling wet will injure them much more than the suffering from thirst.—*Ohio Cultivator.*

Receipts of Tobacco for 1856.

The annexed table of the receipts of Tobacco, at Richmond, during the past twelve months, by canal and railroads, was prepared from the monthly statements published in the *Whig*, and was intended to be embraced in the recent Annual Statement; but as it conflicted with the more reliable exhibits of the inspec-

tions of the year, we determined to present it independently, with explanatory remarks. The difficulties under which we labour in procuring information from the depots, in this city, are understood by our readers; but the results given in the table below, were mostly derived from official sources, and therefore carry the presumption of accuracy:

	Canal.	R. & P.	R. & D.	Va. Cen.	R. F. & P.	Total.
Oct. 1856, . . . . .	431	193	234	27	15	900
Nov. . . . .	94	178	131	44	17	464
Dec. . . . .	313	185	161	104	39	802
Jan. 1857, . . . . .	(closed)	310	88	90	5	493
Feb. . . . .	731	838	906	1,626	236	4,337
March, . . . . .	1,475	653	616	826	110	3,680
April, . . . . .	1,189	826	730	670	141	3,556
May, . . . . .	1,713	2,308	3,428	900	415	8,764
June, . . . . .	2,063	2,132	2,175	240	137	6,747
July, . . . . .	522	1,471	1,393	113	56	3,565
August, . . . . .	1,308	933	1,259	171	41	3,712
Sept. . . . .	578	315	613	120	22	1,708
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Last Season, . . . . .	10,417	10,402	11,734	4,931	1,234	38,718
	14,954	8,276	12,494	5,100	1,326	42,150
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Increase, . . . . .		2,126				
Decrease, . . . . .	4,537		760	169	92	3,432

By comparing the results thus ascertained, with the inspections for the same periods, the following differences are found to exist:

	Inspections.	Receipts.
1855-'6, . . . . .	36,696	42,150
1856-'7, . . . . .	30,534	38,718
Difference, . . . . .	6,162	3,432

From this comparison it would appear that the receipts exceeded the inspections. The supposition is legitimate that the difference should be the other way, as a considerable quantity is inspected which is received by wagons, and much loose Tobacco is prized in this city, and re-inspected in hhds. The uninspected stock, on 1st October, 1856, was only 56 hhds. It may be, however, that some of the Tobacco brought to the city in hhds., is sold to the manufacturers without inspection, as is the case at other points. At Danville, for instance, a great deal of Tobacco, mostly loose, is sold, yet, last year, only *three hhds.* were inspected. In this way, we can readily account for the disparity between receipts and inspections.

Presuming that the table is correct, it presents several interesting facts. Firstly, that more Tobacco was brought to the city last year, by the Richmond and Danville road, than by the Canal, or either of the other railroads. Secondly, that the only line on which the transportation of Tobacco this year exceeded that of the previous year, was the Richmond and Petersburg road. These *two* facts are *partly* explainable by the further fact, that in

July, the navigation of the Canal was suspended for some time, and the Tobacco which would have been forwarded to this market by the water line, was sent by the South Side road to the Junction, or to Petersburg, and thence to Richmond. In support of this view, we may state that the receipts by Canal, last July, were only 522 hhds.; same month in 1856, 1,903 hhds.—*Richmond Whig.*

Influence of Agricultural Pursuits on Health.

BY PROF. CLEVELAND.

While much has been written and published in Agricultural periodicals, in regard to the best means of preserving the strength of the soil, the preservation of the health of domestic animals, and of the various fruit trees and plants that the farmer cultivates; and while very beneficial results have followed these efforts, there has not, apparently, been as much attention paid to the health of *man*,—of the farmer himself, and his family, and those in his employ,—by conductors of and writers for Agricultural periodicals, as the subject demands.

It is not to be supposed that this want of attention to the subject of the health of human animality is owing in any degree to want of interest, or want of thought, on the part of the conductors of, or contributors to the periodicals devoted to the interests of those engaged in these pursuits: but it is doubtless mainly owing to the fact, that *physicians* seldom write on

these subjects except for journals specially devoted to the interests of their profession.

If a farmer cannot reasonably expect either profit or pleasure from unhealthy domestic animals, much less can he anticipate that disease either in his own person, or in the members of his household, can be conducive to his or their happiness, or to the advancement of their interests; and it may be well, from time to time, to ask attention to these matters. All those who are engaged in agricultural pursuits, are subject to certain influences unfavourable to health, and those who are active labourers, are particularly exposed to the vicissitudes of the weather—more so, probably, than any other class of people who reside in the country, except perhaps the physician. The farmers are under the necessity of caring for their cattle, their fences, and their crops, without regard to the state of the weather, and they are therefore particularly liable to suffer from colds, coughs, fever, rheumatism, ague, &c.; and they are likewise liable to exhaust their system by over-exertion, either from too severe labour continued for a few hours, or from that which is too long continued, as in the hot days, and exhausting labour, of the haying and the harvest season, when many persons become completely exhausted.

In matters of *food*, every intelligent farmer knows that on it the animal depends for all his vital powers: and he is therefore careful to supply the horse, or the ox that works, food suitable in quantity and quality, and properly prepared, to meet the wants of the system: but in regard to himself, and the "rest of mankind" in his household, he often betrays a degree of thoughtlessness that is truly wonderful. The farmer's food has not variety enough, is generally composed of too great a proportion of salted meat, especially of salt pork, and even that is often improperly cooked. Many suppose that little art is required to cook a piece of salt beef or salt pork, or to boil vegetables, and as the severe labour and pure atmosphere of the farmer produces a vigorous appetite, he is inclined to content himself with but little variety in his food, and he is not over particular as to the manner it has been cooked.

It has been said that "bread is the staff of life;" but if that which often goes by the name of bread, is the staff referred to, it may be doubted if such a staff does not aid in the road to death rather than to continued life. There are many persons who have never enjoyed the luxury of *good* bread; and until they do know what that is, they will continue to partake of too large a proportion of animal food. As a general thing, as little attention is usually paid to supplying the table of the farmer with a proper amount and variety of vegetables, as there is to *good* bread.

In regard to the location of their dwelling and out-buildings, too many farmers display as

little care and taste as in the culinary department. If it be more convenient, the farmyard is immediately adjoining the parlour, the cook room; and sometimes the swine are permitted to refresh themselves in a pond mud from the drainage of the sink, so that the whole house becomes perfumed therefrom; all the wash and slops from the kitchen are allowed to accumulate and ferment near the windows of the bed-rooms, where, surrounded by a rank growth of poisonous weeds, they continue undisturbed to distill disease and death. This, and the odor and malaria arising from the accumulations of matter about the premises, are allowed to assail the nostrils all, and to poison their systems, without restraint and without thought.

Yet, with all these sources of disease, and others not enumerated, which press with greater force on the vital powers of the farmer, and which we might suppose would make him more liable to disease and death than almost any other person having a different employment, we find that in reality such is not the case, and it is a well-established fact, that as a class, farmers are amongst the most healthy and longest lived people in the community.

We find by the "*Report of Births, Marriages, and Deaths*," in Massachusetts, that during the twenty months preceding the 1st of January, 1850, there were reported in the State the death of 4,974 farmers, and they died at the average age of 63.83 years. Of men classed as *labourers*, 2,283 were reported to have died during the same period of time. These were, in good part, men who were engaged on farms as house-servants, and in an chance employment where they could earn day's wages: and doubtless they had less healthy habitations and food than the farmers. They died at the average age of 45.39 years or nearly 18½ less than the average for farmers.

In the report for 1850, there were recorded the deaths of 886 *agriculturists*, who had attained the average age of 65.13 years, or about 1½ more than those reported the previous year. In this report are also recorded the deaths of 707 *labourers*, at an average of 44.14 years, or over a year less than that attained by the same class as recorded in the previous report. As each of these classes was equally exposed to the same *general* causes of disease, these reports prove that the *comparative* relative condition of these two classes of people had undergone quite a change in that short space of time.

As a contrast between the salubrity of different occupations, or to show the influence *occupation* has upon the health and life of those engaged therein, it may be well to present other results gathered from the above reports. During the year 1850, there were reported the deaths of 263 *shoemakers*, whose lives averaged 44.37 years, and 26 *tailors*, who averaged only 41.33 years, showing that they who follow

These occupations, although labouring under shelter, unexposed to the inclemencies of the weather, and as a general thing, with less hours of labour for a day, are nevertheless obnoxious to other causes, which tend to reduce their lives to more than 20 years less than that attained on an average by farmers.

The reports that have been made since that year have fully sustained the conclusions drawn from them; and the comparison might be extended to all classes of occupations, and without any exception, they will be found to produce results favourable to those engaged in agricultural pursuits.

To present the matter in different form, it may be proper to consider that individuals do not usually enter upon the active duties of any occupation, so as to be entitled to be *classed* with those who follow that occupation for a livelihood, before they arrive at 18 years of age; and we find that the farmers live *as farmers* after this period 47 years, while shoemakers and tailors do not, on an average, survive but about 25 years after commencing their occupation.

It is true these estimates are based on the reports of a New England State; but there can be no doubt similar results would obtain in regard to the West, had we any reports as a basis for our calculations.

As I have pointed out many sources of disease to which the farmer is exposed,—some of which, however, he can readily remove,—it might be doubted if these tables of mortality, which show that they are remarkably long-lived, could be correct.

One of the most prominent causes of this exemption from disease is the fact, that farm labour is performed where the lungs are well supplied with pure air, and the whole body is allowed to enjoy the direct rays of the sun. With a pure air for the lungs during labour, when the inspirations are deepest and most frequent, and with the blessed sunshine to warm and vitalize the whole frame-work and all the fluids of the body, a man becomes prepared to resist the ordinary injurious impressions that would otherwise produce sickness or death.

The farmer's labour is of that character which gives play to all his muscles, and not to a few only, as is the case with other occupations, and therefore he is less liable to have impurities collect in his system as a source and centre for disease. His mind is free from anxiety, turmoil, and trouble attendant on trade, or in a profession. He is not obliged, like many mechanics, to dispose of the products of his labour, as soon as produced, to procure bread for his family; his food is mainly obtained from the land, and is not subject to the changes in the money market. Neither is he subject to the pangs of *conscience*, which must at times harass those whose "business it is to cheat each other for a living;" consequently

his appetite and digestion are good, and his sleep undisturbed and refreshing.

But there are other causes of no small potency in producing the farmer's great exemption from disease. Almost all who follow farming for a livelihood are the offspring of parents of the same class of people, and their parents have been too busily occupied during their childhood to spend time in dosing them with *Tincture of Rhubarb, Paregoric, Godfrey's Cordial, Hot Drops, Soothing Syrup, &c., &c.*, after they have crammed their stomachs with cakes and confectionary, or half-decayed fruit, which forms so large a part of the aliment and *ailment* of the children of the cities.

Being exempt from these influences, their systems have become well developed, and they are therefore able to endure fatigue and exposure, which would destroy persons of a less hardy constitution; and if they would but remove the other sources of disease, they would become the most healthy, and happy, and independent people on the earth.—*Ohio Valley Farmer.*

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### The Laundry.

BY HETTIE HAYFIELD.

Perfection in this branch of housewifery does not contribute so much to sensual enjoyment, as skill in the management of culinary concerns. Granting that the vulnerable point of good will lies in the stomach, it follows that the censorious will be less severe if the table linen is not snowy white and smooth, than if the same qualities were wanting in the breakfast rolls and cakes. Yet the fame and gratitude springing from our contributions to appetite, are circumscribed to the circle of our intimate friends, while the merits or demerits of our laundry are carried as an advertisement on our husband's bosoms, flaunted in every crowd wherein our daughter spreads her crinoline, and flutters out of every window of our houses like an auction flag, challenging notice.

#### WASH HOUSE.

Even in the smallest establishment this house cannot be comfortably dispensed with, and we verily believe that one half of the dirt and discontent that mars the happiness of our homes, is traceable to the custom of washing in our kitchens. It is too much for woman-nature to look upon heaps of foul linen, sloppy floors and all the abominations of wash day, and not feel disgusted, at its close associations with her table preliminaries. And yet she is thrice blessed if the finale is not in her own particular chamber. If her own sanctum is not turned into a pandemonium of rough, dry clothes, sweating maids, thermometer at blood-heat and momentary danger of making a rueful wreck of your matchless baby face, by coming in contact with a hot iron.

We think that there are few wives, after a

little experience, who would not convert one of the double parlors and its rose-wood furniture into a snug wash house.

Husbands would probably demur, for they know little of the discomforts of wash day, save the cold dinner and wife's vinegar aspect, that scandal associates with it, and we are sorry to add, pride is stronger in our land than a rational love of home comforts—ergo—well furnished parlors are had at any cost, and a wash house now and then as a special concession to a very dear, capricious wife. Our limits do not allow us to specify plans but we suggest that a well ventilated room, capable of *summer warmth in winter*, with a capacious closet for the furniture necessary for washing and ironing will do. There should be a wide fire place, or furnace, for at least two large kettles. In or near the house there should be a full supply of good water, and a pipe for leading off the dirty water. In the slave States, where extensive beef, hog, and wool crops have to be handled, the wash house is convenient to use for such purposes, in which cases the drying and ironing should be provided for in a separate room, appropriated solely to such uses. If the floor, wood work, and outside of the vessels are painted, it will be much easier to keep them clean.

#### FURNITURE.

There should be one or more large kettles. Copper is best, as it precludes the possibility of iron mould. Buckets and tubs, with wooden handles, are best, as careless washers often let clothes be ruined by contact with iron hoops and handles. A stout bench, on which to set the tubs, saves from the fatigue of stooping. Each washer should have a grooved wash-board and a cup of soap. There should be clothes horses for hanging clothes in bad weather, or rings on opposite sides of the wall, from which lines can be stretched. (There should also be posts in some sunny, grassy spot, for the same use in fair weather.) There should be clothes pins, starch canisters, barrels of soap, a kettle for making starch, clothes baskets, ironing table, skirt and bosom board, irons of several sizes, stout blankets and sheets, iron stands and holders, not omitting soft old towels for wiping the irons. There must always be on hand first rate soap, starch, ox gall, gum arabic, salt, spermaceti, bees wax and indigo and materials for any washing fluid you use. All these things should be kept on hand and locked up to prevent waste or misplacing.

#### WASHING.

The evening previous to washing, all the clothes should be gathered up and assorted. Woolens, colored clothes, unbleached cottons and linens, and fine clothes, each into their respective baskets. Except woolens and colored clothes, all other kinds should be put to soak, the night previous to washing, the very dirty parts having soap rubbed in them. If you use

no washing fluid, the next morning wring out the clothes, and proceed with soap and warm water to wash them carefully, through two waters, then boil them in a clean lather briskly no more than a half hour. Wash them out or boil, and then rinse in two waters. The last rinsing water should have a delicate tinge of blue and a small quantity of starch for all kinds of cottons or linens; reserve those which should be stiffer for the last, and mix more starch in the water. Skirts, shirt bosoms, collars and so on should be dipped in stiff starch when dry. Muslins and laces are dried, then dipped in starch and clapped with the hand until dry enough to iron. White groundsel lawns and calicoes are washed like any white material, omitting boiling, until the yellow tinge they acquire makes it absolutely necessary. Unbleached cottons and linens, follow the fine white clothes through the same waters but in no case must be washed or boiled with them, as they continually discharge a portion of their color and so discolor the white clothes. In directing the preparation for washing fluid we give the process employed with them, but colored clothes, in our experience, can be washed with none of them without injury to the color.

Calicoes, colored lawns and colored cottons and linens generally, are washed through two suds and two rinsing waters, starch being used in the last, as all clothes look better and keep clean longer if a little stiffened. Many calicoes will spot if soap is rubbed on them. A spoonful of ox gall to a gallon of water, will set the colors of any goods if soaked in it previous to washing.

A tea cup of ley, in a bucket of water, will improve the color of black goods. Nankeer should lay in ley a while before being washed to set the color. A strong tea of common hay will preserve the color of the French linens so much used in summer, by both sexes. If the water in which potatoes are cooked be saved and boiled down, it stiffens black calicoes as well as starch and saves them from the dusty, smeared look they often have. Vinegar in the rinsing water for pink and green calicoes will brighten them. Pearl ash for purples and blues.

Flannels should be washed through two suds and one rinsing water. Each water should be as hot as the hand can bear, unless you wish to thicken the flannel. Flannels washed in cold water, or luke warm, soon become like fulled cloth. The white and colored flannels must be washed separately, and by no means be washed after cotton or linen goods. There should be a little blue in the rinsing water. Allow your flannels to freeze after washing in winter; it bleaches them. Broad cloths, cassimers, &c., should be spread out on a table and cleaned with a brush. Ammonia mixed in water will clean pretty well. Camphene will clear, but leaves a disagreeable odor. A beef's gall and a



quarter of a pound of salaratus, dissolved in two gallons of water, will do it more thoroughly. Scour the garment with a brush dipped in this liquid; if this does not cleanse it, wash it in the liquid and hang out to dry without wringing, after rinsing in fair water.

*Silks* should have spots extracted before washing. Wash them in a luke warm lather, rinse in luke warm water and hang up without wringing. Making the rinsing water slightly sour with sulphuric acid if you have yellow or red in wash.

*Laces.* Ordinary laces are done up like fine muslins. Fine thread lace should be wrapped round a bottle filled with water. Saturate the lace with the best sweet oil, then stand it in a kettle of clean, cold lather, heat it gradually. When it has boiled a half hour, drain off the suds, stretch the lace with your hands, and pin it on a clean pillow to dry. Or it may be washed in the usual way and dipped in rather weak coffee to give it the peculiar color desired.

*Blonde Lace.* Is fastened around a bottle and laid in a vessel of cold lather, which should be changed every morning for a week. Rub your hand around the lace tenderly every morning before changing the water. The vessel should be kept in the sun.

Black lace is washed in warm water with ox gall and rinsed in fair water. Laces, crape, gauze and silk goods, should be stiffened in a solution of transparent ising glass or fine gum arabic.

Silk gloves and stockings should be washed in clean lather and rinsed in water slightly colored with blue, or carmine, if the pinkish tint is preferred, and stretched on frames to dry. If pressed, it should be on the wrong side, but stretching and rubbing with a roll of linen is best.

#### IRONING.

All clothes iron best if taken from the line when just sufficiently dry to smooth easily. If too dry they should be sprinkled and rolled into tight bundles and laid in a basket. Colored clothes should not be sprinkled until ready to iron; it injures the colors to lie damp. There should be a large table, covered with a thick blanket doubled, and a stout clean sheet. The skirt board and bosom board should have two or three layers of soft woolen cloth tacked on them smooth, then be covered with a close fitting case of stout, white cotton. Silks, worked muslins, tucked skirts, and all raised figured goods should be pressed on the wrong side—likewise black cotton goods, if possible. Most other clothes are ironed on the right side. The most particular parts of a garment should be ironed last. Pantaloon should have the fold up front of the leg. Dress skirts at the sides. Bed and table linen should be mangled or ironed in great perfection. Velvet should be damped and have the wrong side run over the face of the iron. Clothes should be perfectly dried before putting away.

#### MATERIALS FOR WASHING.

We proceed to give, as concisely as possible, directions for manufacturing these at home. We have not space to describe the ash hopper, but there should be straw at the bottom for a filter, and clean, strong ashes should be packed in and well damped as they are being put up. After standing some days you should begin tending the hopper with boiling water, one bucket of water an hour. After the hopper becomes exhausted let one bucket each day be of strong lime water. Soap grease may be used up as gathered, and is best kept in a covered tub of ley, but soap is far nicer, if you will boil the soap grease in moderate ley, until it floats clear on top—when cold it can be cut off, and the bones, dirt, lean flesh and so on will be a sediment, good for your compost heap.

*Cold Soaps.*—Boil your ley until it will strip a feather of all down; pour it into kettles or a strong hooped barrel that stands fairly in the sun; to six buckets of ley allow one of soft grease. Stir it every day, and after a week, if too thin, stir in grease, a little at a time. It will make in about a month.

*Soft Brown Soap.*—When the boiling ley will strip a feather, put one and a half pounds of soft grease to a gallon of ley. When incorporated thoroughly, try it with a feather again, and if it barely eats, there is enough grease; boil until it is as thick as you like it when cold.

*Hard Soap.*—When the boiling ley will strip a feather, put in three-fourths of a pound of soft grease to two gallons of ley. Boil it, (trying whether it has enough grease with the feather) until it becomes very thick, then throw in a pint of salt for every four gallons of soap. Boil it a while longer; set it off, and when cool cut it in bars, scrape off the sediments, and put it on a shelf to drain. The ley, &c., in the bottom of the kettle is good for scouring.

*To Refine Soaps.*—Make a kettle of brine—1 pint of salt to 1 gallon of water. In 5 gallons of water boil 15 pounds of hard soap for an hour. When cold cut in bars and scrape from sediment; put on a sloping shelf to drain, exposed to the sun for a week or two.

*Toilet Soap.*—Strain your ley; use clarified tallow in making hard soap—refine the soap with care, and after it has bleached, melt and perfume with any oil you like and color it with paint. Mould it to your fancy.

*Washing Fluids.*—One-half pound of sal soda, two pounds hard soap, boiled 20 minutes in two gallons of soft water. Mix this in as much water as will cover 10 dozen clothes, soak the clothes a night; pour in warm water and wash them out; boil in suds and rinse as usual.

*English Receipt.*—One pound of soda, one pound of brown soap, six ounces unslacked lime, boiled in one gallon of soft water. Having soaked the clothes over night, wring

them out and throw them into a kettle of 12 gallons of soft water into which the above compound has been mixed. Boil and rinse through two waters.

*Harvest Wash.*—Four table spoons full of alcohol, four spirits turpentine, one pound brown soap scraped up into one quart of hot water. Proceed as directed in the English Receipt. This is first rate for the clothes of harvest laborers, but injures the fabric too much for constant use.

#### STARCH.

The raw material may be made of wheat bran. Mix a gallon of flour in a half-tub of bran, fill the tub with water. When it shows signs of fermentation, strain it through a sieve pressing the bran very dry. Strain the liquid next through a stout linen cloth, then through a close flannel cloth, repeating it until not a particle of bran is left in it. The starch will then settle to the bottom. Next morning drain off the water, pour on some fresh, and wash off gently the scum from the starch cake, drain off again and pour on some fresh water, stir up the starch thoroughly and leave it to settle—repeat this every morning until the starch is faultlessly white. The last water used should have a slight tinge of blue infused. When you take out the cake crumble it up in trays and expose to the sun until perfectly dry.

*Potato Starch.*—Potatoes being peeled and grated, you proceed as with wheat bran, only the pulp need stand a few hours before straining. It is exquisite for fine muslins and laces, and also for puddings and nice cakes.

Stains, mildew or iron rust may be removed by dipping in acid water, covering with salt and exposing to the sun. We use citric acid, and have to repeat the process several times.

[Valley Farmer.]

### The Great Seaboard Retreat of the South.

We transfer from the *National Intelligencer* the following letter from the pen of the Hon. A. Dudley Mann, who passed the summer at Old Point. He has had extensive experience at the most celebrated watering places in Europe, as well as in this country; and being a gentleman of accomplishments, intelligence and taste, his opinion of Old Point is entitled to consideration.—*Enquirer*.

OLD POINT COMFORT, Sept. 14, 1857.

To the Editors of the *National Intelligencer*:

Gentlemen—Having just enjoyed the invigorating bath at this favorite resort for the sixty-first and last time during the present season, I shall proceed homeward this afternoon in as perfect health as ever mortal enjoyed.

I have been for the last fifteen years an occasional visitor at the more distinguished watering places in Europe, and prior to my going abroad I repeatedly sojourned for a week or two in mid-summer at Newport, Nahant and Saratoga, but never quitted the sea-side on the mineral spring so reluctantly as I quit this time-honored histori-

cal spot—the virtues of whose baths and genial atmosphere have endeared it to me by new indissoluble bonds. Willingly would I prolong my stay till the middle of October, if my engagements did not command my presence at home. I can well imagine how delightful September must be in such a climate, with such a gentle invigorating sea-breeze as generally prevails.—Of the ordinary tropical diseases there are none, while there is a total absence of the bleak winds of the North, which drive the health and pleasure seeking world in that quarter from the sea-shore at the latest by this time.

Old Point Comfort assuredly has a brilliant future. I believe that it is destined, and at no distant day, to become the most attractive resort for searchers after health and pleasure in the Union. The home-leaving Southerners will repair to it by thousands in summer and early autumn, as also many Northerners, when they become familiar with the excellence of its properties. May it be careful not to depart from the refined, elegant simplicity of manner by which its social intercourse is distinguished.

Since my arrival here in June, I understand that the number of visitors has amounted to about five thousand. Nearly all of them are now in the mountains. In regard to the time of visiting our watering places, we differ materially from the inhabitants of other countries. The season of recreation in Europe terminates at Ostende or Boulogne instead of at Baden Baden or Hamburg. This is the better habit, as it tends to secure a sufficient amount of health to carry the visitor safely to another summer. Medical men will generally recommend that the system be purified by the medicinal properties of the mineral fountain first, and then fortified by the salt bath and bracing breeze from the broad Atlantic. If this recommendation were adopted, Old Point Comfort would not be abandoned at the very period its atmosphere becomes most delightful and its salt water delicacies have attained perfection.

The region around the Point is as healthy as any in America, and even Norfolk is remarkable for its freedom from disease. If good quarantine regulations had existed her terrible afflictions of 1855 had doubtless never been experienced. It was the infectious malaria conveyed by the Franklin which caused her temporary devastation. Philadelphia or New York would have suffered similarly under like influences.

The "Hygeia" Hotel is excellently kept. The fare is everything that could be reasonably desired. An abundance of the finest fish and oysters grace the table at every meal, fresh from the Bay. In short, the living is of the rarest kind. The proprietor, Jos. Segar, Esq., is a gentleman of the most enlarged and liberal views. He has been for many years a distinguished member of the Legislature of Virginia, and is the father of the internal improvement system which is destined to give this State that place in the scale of the Union which she so conspicuously enjoyed in by-gone days. From his singleness of purpose in this respect he has won for himself an enviable fame. He commenced his labors as far back as 1836. Success to such noble spirits, whatever the enterprise in which they engage! 1t

# Mr. Lefebvre's School,

Corner of Grace and Foushee Streets, RICHMOND, VA.

The next Session of this INSTITUTION will open on the FIRST DAY OF OCTOBER, 1857, and close on the First Day of July, 1858.

## TERMS FOR THE SCHOLASTIC YEAR,

For Board, - - - - -	\$200	For two lessons (of an hour) a week, - - -	\$ 80
For Washing, - - - - -	20	For three lessons (of an hour) a week, - - -	120
For Lights, - - - - -	6	For four lessons (of an hour) a week, - - -	160
For English Tuition, - - - - -	40	For the use of Piano, - - - - -	6
For Modern Languages, (each,) - - - - -	20	For Drawing, from Models, - - - - -	20
For French, when studied exclusively of the English branches, - - - - -	40	For Drawing, from Nature, - - - - -	40
For Latin, - - - - -	20	For Painting in Water Colors, - - - - -	40
For Music on Piano, Harp, Guitar, Or- gan or Singing: - - - - -	40	For Oil Painting, - - - - -	50
For one lesson (of an hour) a week, - - -	40	Primary Department—for Children un- der 11 years of age, - - - - -	30

## REFERENCES:

*The Patrons of the School.*—Right Rev. Bishop Meade, Right Rev. Bishop Johns, Right Rev. Bishop Elliott of Georgia, Right Rev. Bishop Cobbs of Alabama, Rev. Moses D. Hoge, D. D., Rev. Charles H. Read, D. D., Rev. T. V. Moore, D. D., Rev. B. Gildersleve. The Clergy of the Episcopal Church in Virginia.

## FACTS.

HUBERT P. LEFEBVRE, A. M., Principal.

REV. H. S. KEPPLER,  
WILLIAM G. WILLIAMS, A. M.  
JOHN P. LITTLE, M. D.  
R. A. LEWIS, M. D.  
ELIODORO CAMPS,

JOHN A. CALYO,  
C. W. THILOW,  
W. F. GRABAU,  
MRS. A. E. J. GIBSON,  
MISS MARY GORDON,

MISS E. BARTLETT,  
MRS. M. TAYLOR,  
MAD'ME M. ESTVAN,  
MAD'ELLE LACY,  
CHARLES H. ROSEEN,

MAD'ELLE L. VILLEMET, FRENCH GOVERNESS.

All letters to be directed to HUBERT P. LEFEBVRE, *Richmond, Va.*

[July '57—1y]

## A MEDICAL REVOLUTION! THE WORLD UNANIMOUS.



## HOLLOWAY'S OINTMENT.

### THE GREAT COUNTER IRRITANT!!

The virus of disease often makes its way to the internal organs through the pores of the skin. This penetrating Ointment, melting under the hand as it is rubbed in, is absorbed through the same channels, and, reaching the seat of inflammation, promptly and invariably subdues it,—whether located in the kidneys, the liver, the lungs, or any other important organ. It penetrates the surface to the interior, through the countless tubes that communicate with the skin, as summer rain passes into the fevered earth, diffusing its cool and regenerating influence.

### Skin Diseases and Glandular Swelling.

Every species of exterior irritation is quickly

reduced by the anti-inflammatory action of this Ointment. Angry Eruptions, such as Salt Rheum, Erysipelas, Tetter, Ringworm, Scald Head, Nettle Rash, Scabies, (or Itch) &c., die out to return no more, under its application. Hospital experience in all parts of the world proves its infallibility in diseases of the skin, the muscles, the joints and the glands.

### Wounds, Bruises, Burns and Scalds.

In cases of the fracture of the bones, injuries caused by steam explosions, Bruises, Burns, Scalds, Rheumatism, Stiffness of the Joints, and contraction of the sinews, it is employed and warmly recommended by the faculty. This marvellous remedy has been introduced by its inventor, in person, to all the leading Hospitals of Europe, and no private household should be without it.

### CAUTION!

None are genuine unless the words "*Holloway, New York and London,*" are discernible as a *Water-mark* in every leaf the book of directions around each pot or box; the same may be plainly seen by holding the leaf to the light. A handsome reward will be given to any one rendering such information as may lead to the detection of any party or parties counterfeiting the medicines or vending the same, knowing them to be spurious.

Sold at the Manufactory of Prof. HOLLOWAY, 80 Maiden Lane, New York, and by all respectable Druggists and Dealers in Medicine throughout the U. States and the civilized world, in boxes at 25 cents, 62½ cents, and \$1 each.

There is a considerable saving by taking the larger size.

N. B.—Directions for the guidance of patients in every disorder are affixed to each box. Nov 57

## SOUTHERN FEMALE INSTITUTE, RICHMOND, VA.

The Principals of the Southern Female Institute, with this announcement of its 8th Session, tender their thanks to the public for the liberal and increasing patronage they have received at its hands. As this Institution had its origin in individual enterprise, and has been fostered neither by aid from the State nor by denominational influence, it is with pride that they point to the appended list of patrons, believing as they do that it evinces the estimation in which their labours in the cause of female education are held by men of eminence and high character.

The Principals are Virginians, and were educated in Virginia. They selected teaching as a Profession, and have devoted themselves earnestly to it for a number of years in their native State. Relying upon the support of the Southern people, they established, six years ago, this Institution, Southern in every feature, and in all its teachings. No expense has been spared to make it worthy of patronage, and they hope to be supported in the effort to make the South independent of Northern schools and teachers.

The Boarding Department will hereafter be under the immediate and sole control of D. Lee Powell who has taken a large new house on the south-east corner of 1st and Franklin Streets, for the purpose of accommodating a number of young ladies as Boarders.

The Principals are determined that the opportunities offered for acquiring a thorough knowledge of the French and other Modern Languages in their School, shall be equal to those of any institution in the country. One or more Parisian ladies will reside in the family of Mr. Powell, who will be required to converse habitually in French with the Boarders.

The most experienced and accomplished teachers of music, vocal and instrumental, in the city will be employed, and every effort will be made to secure improvement in this valuable accomplishment. It will be the duty of one of the teachers to see that the music scholars practice regularly and *properly*.

### T E R M S .

Board for 9 mos., washing and lights extra,	\$200	Preparatory Department,	-	\$40
Music on Piano, Harp or Guitar at Professors' charges, Tuition in English,	50	Modern Languages in classes, each,	-	20
Use of Piano per month.		Drawing and Painting, each, from		\$20 to 50

We beg leave to refer to the following list of patrons who have now or have had daughters in the Institution. His Excellency, Henry A. Wise, Governor of Virginia. Lieut. M. F. Maury, Nat. Observatory, N. Beverley Tucker, Thomas Green, Rev. D. S. Doggett, *Washington, D. C.* Dr. Beverley R. Welford, A. A. Morson, Esq., Conway Robinson, James Lyons, Joseph R. Anderson, P. R. Grattan, Rev. Charles H. Read, Rev. Geo. Woodbridge, Hon. A. R. Holladay, Col. Geo. W. Munford, Charles Ellett, Jr., Charles Gen. nett, Lewis D. Crenshaw, Wm. R. Hill, Capt. Charles Dimmock, S. J. Rutherford, *Richmond, Va.* Col. H. B. Powell, *Loudoun co. Va.* Rev. P. Slaughter, *Warrenton.* R. E. Scott, Esq., P. St. George Cocke, *Pohatan co. Va.* Richard Baylor, *Essex.* Wm. H. Clark, J. R. Edmunds, *Halifax.* Mrs. I. R. Harrison, *Lower Brandon, Va.* Hon. Geo. H. Lee, *Clarksburg, Va.* Thomas B. Barton, Esq., Thomas F. Knox, Wm. H. White, *Fredericksburg, Va.* Dr. A. Mason, *Falmouth.* Dr. Wm. Cochrane, *Middleburg, Loudoun, Va.* Dr. H. A. Bultolph, *Trenton, New Jersey.*

For further information, apply to the Principals:

D. LEE POWELL.

*Richmond, Aug. 1857.—tf*

R. J. MORRISON.

## THIRD ANNUAL EXHIBITION

OF THE

## SEABOARD AGRICULTURAL SOCIETY,

Will be held at the Fair Grounds, near the City of Norfolk, on the 10th, 11th, 12th & 13th November next.

Extensive preparations are being made to render this exhibition one of the most attractive and interesting ever held south of the Potomac.

The various Railroad and Steamboat lines leading to this City will convey stock and articles for exhibition free of charge, and ample accommodations will be provided for the comfortable entertainment of visitors to the Fair.

Oct 57—1t

By order of the Executive Committee.

G. F. ANDERSON, *Sec'y.*

### TRY THE PIANO FIRST!

### PAY FOR IT AFTERWARDS! :

No one can object to the above, as it affords to the purchaser an opportunity of deciding for himself in place of depending upon the statements of the seller, for whilst we can truly say that we would not knowingly make any misrepresentations respecting the quality of our Pianos, yet, in view of the fact, that every dealer is an interested party, nothing that he can say will have the same effect that actual trial of the instrument would do.

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Book and Piano Seller,  
Petersburg, Va.

R. H. MEADE.)

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### MEADE & BAKER,

**Apothecaries, Chemists & Pharmacutists,**

186, N. W. Corner of Main and 10th Sts.

Diagonally opposite the Farmers and Virginia Banks  
and just above the new Custom House.

RICHMOND, VIRGINIA.

Offer to Farmers, Physicians and Families, a new  
and *perfectly fresh* stock of Pure Drugs, Chemicals  
and Medicines; Surgical Instruments; Spices; Im-  
ported Cigars; Chewing and Smoking Tobacco;  
Fancy Articles, Perfumery, Soaps, Brushes, &c.; on  
as good terms as any other House in the Country.

Sept. 1857—ly