Col. C. C. Cocke

VOL. XVIII. [MAY.] No. 5.

PUBLISHED MONTHLY. RUFFIN & AUGUST, PROPRIETORS.

FRANK: G. RUFFIN, EDITOR.

THE SOUTHERN PLANTER.

DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND THE

HOUSEHOLD ARTS.

PRINTED AT RICHMOND, VA.,
BY MACFARLANE & FERGUSSON.
1858.

CONTENTS.

THE SOUTHERN PLANTER

Is published monthly, in sixty-four octavo pages, upon the following

TERMS:

TWO DOLLARS AND FIFTY CENTS per annum, unless paid in *advance*.

Advance payments as follows:

One copy, one year, - - -	$2
Six copies, do - - -	10
Thirteen copies, one year, - - -	20
Twenty do do - - -	30
One copy, three years, - - -	5

And one copy free to persons sending us the NAMES and MONEY for thirteen or more new subscribers.

All money remitted to us will be considered at our risk *only*, when the letter containing the same shall have been *registered*. This rule is adopted not for our protection, but for the protection of our correspondents, and we wish it distinctly understood that we take the risk only when this condition is complied with.

THE SOUTHERN PLANTER

Devoted to Agriculture, Horticulture, and the Household Arts.

Agriculture is the nursing mother of the Arts. —*Xenophon.*

Tillage and Pasturage are the two breasts of the State.—*Sully.*

FRANK. G. RUFFIN, Editor. F. G. RUFFIN & N. AUGUST, Prop'rs

Vol. XVIII. RICHMOND, VA., MAY, 1858. NO. 5.

For the Southern Planter.

Franklin and Gypsum Again.

An article in your February number, "Franklin and Gypsum," induced me to write to a friend near Philadelphia on that subject—the answer is enclosed, and though not offered as satisfactory, it contains matter of interest worthy of publication. Its use is there traced back to about 1770; and the earliest notice I can find of it is, that it was first used in Germany, by Mr. Mayer. a clergyman, *about* 1768. Now in –'66 and –'67, Dr. Franklin travelled over Germany, France and Holland, and its being so soon brought into his own State, and used so extensively there, is most probably due to him.

The absurd particulars in the French account are well criticised in the article referred to; and yet it seems most probable that Dr. Franklin did first introduce this invaluable agent into this country. The English were clearly behind us, and refer largely to American authorities on this subject. M.

—

Copy of a Letter from Dr. Elwyn, Dated Philadelphia, Feb. 23d, 1858.

My Dear Sir:

The question you put to me concerning the introduction of gypsum I have asked of others often, but with no satisfactory reply. It probably came in so gradually, and with so little notice, that people were not aware of the exact period of its being used for the first time. I will give you all I know. One fact is unquestionable that plaster was used in this State for the first time that it was ever employed on this Continent. In Deane's Farmers' Dictionary, published in Mass., in 1797, he speaks of its use in Pennsylvania, but as not known in New England. Lorrain speaks of it as having been known to the farmers of this State for many years, but specifies no time for its first introduction. Bordely, whose work was published in 1799, gives the question sent to farmers, as to the time when they began the use of plaster, and eleven men reply to the question "how long have you used plaster?"

West, William of Upper Darby, brother of Benjamin: Reply, years

- - - - -	11
Aannum, - - - - - -	12
Philip Price, - - - - -	6
Hand, - - - - - -	10
Curmen, - - - - - -	10
Sellers, - - - - - -	8
Duffield, - - - - - -	13
Roberts, - - - - - -	7
Richard Peters, - - - - -	25

Chancellor Livingston introduced plaster to New York Agriculture in 1790.

The last answer would carry its use very near to 1770. But these were only experiments, and indicate that its use was, by no means, general, though of course, its benefits being known, the use of it soon became general in *this quarter*. Philip Price was, he says,

in his communication to the Agricultural Society in 1796, I think, the first who employed it in the County of Chester, and upon the field on the right, as you enter my gate, then a wide gullied ravine.

This is all I know, or could ever learn, and the question you put to me remains unanswered.

The anecdote of Franklin I have heard, and it looks like him, but he was in Europe when Peters' experiment was made, and if he ever wrote upon the ground in the way mentioned, it must have been many years before P.'s experiment or many years after. Another fact is settled, or seems to be—that the first plaster ever known here, came from France. May we not suppose the following chain of events. Franklin was in France in 1766 or 1767, and in Europe till 1773; he had a practical mind—he saw the great advantage of plaster in that country—he sent some to a friend here—this friend sowed it in the way you give—and thus it was made known. These things being taken for granted, Franklin would have a claim to be considered its introducer.

I remember Dr. Mease telling me, that some one, I forget who, sowed it on a grass plot in front of his house in Chesnut Street before the Revolution, and attracted attention by some words in grass. This is probably the story of Franklin. But where the person got the plaster is an important point. From France I always understood; if so, the chances are much in favor of Franklin having sent it. It is a strong argument in Franklin's favor, that no one else has ever had the first use ascribed to him, and there would have been a host of claimants if the thing *had* not been settled at the time.

With respect and esteem,
A. L. ELWYN.

[Dr. Elwyn is one of the officers of the Pennsylvania Agricultural Society.]

Whether Dr. Franklin introduced plaster, we cannot conclude from the above testimony; but, as we learn from a late number of the Massachusetts Ploughman, he certainly had a small farm, in New Jersey, if we remember rightly, not far from Philadelphia, where, among other experiments, it is most likely he used plaster.—Ed. Southern Planter.

Reply to Mr. Yardley Taylor on Soil Analysis.

Dear Sir:

In the Southern Planter for March, Mr. Yardly Taylor criticises an article of mine which appeared in the *Genesee Farmer* for September, 1856, on "Fertilizers for Fruit Trees," and which you did me the honor to copy into the *Southern Planter*. In the paragraph relating to the value of soil analysis, there was a serious error in the figures, made either by myself or the printer. *There is one cypher too many in every case.* Instead of saying "a soil ten inches deep would weigh about 10,000 tons, gross, per acre," it should be 1,000 tons; and instead of 40 lbs. of phosphoric acid being "one part in 560,000," it should be one part in 56,000; and instead of an analysis being properly made "when duplicate analyses of the same soil agree within one-ten thousandth," it should be one-thousandth.

My argument in regard to the inutility of soil analysis was based on the correct figures, and it is not at all affected by the mistake, though I am not surprised that Mr. Taylor pronounces it a "most glaring error."

The same argument is more fully illustrated in an article on the "practical utility of soil analysis" in the *Genesee Farmer* for 1857, and which is copied into the *Southern Planter* of December last. I think Mr. Taylor will find most of his objections anticipated in that article, and in others which have appeared on the same subject in the November (1857) and February (1858) numbers of the *Genesee Farmer*. I would send Mr. Taylor these articles if I knew his post-office address.

Mr. Taylor asks: "If no analysis can determine the point," whether there is enough of one element for one plant and not enough of the same element for another plant, how can an analysis tell whether that element is missing or not in a soil that will produce no plant," as I had stated. In other words, if he can ascertain the presence or absence of any particular substance in a soil, cannot he tell the *precise quantity?* In many cases, *most certainly not.* In "*quantitative*" analyses chemists often state, that they find such and such ingredients in mere "traces;" thus admitting that they can detect their *presence* without being able to determine the amount.

I have not now time to examine the other questions raised by Mr. Taylor. They appear to me to have little bearing on the point at issue.

Yours, respectfully,
JOSEPH HARRIS.

For the Planter.

Experiments in Mixing Guano with Unleached Ashes and with Lime.

We give the following experiments a place now because they may be tried on corn.—Ed. So. Planter.

Dear Planter:

It is generally believed that lime or ashes and guano should not be mixed together, as suitable manure for wheat, or indeed anything else. They are certainly incompatible, according to chemical theories of the present day. Guano derives its chief excellence from the amount of "ammonia" it contains—mixed with lime, the ammonia is "given off" or ex-

pelled. This result is certain: but there can not be a certain loss of the ammonia *to the farmer always* from mixing them as I propose to prove, by detailing two experiments which have fallen under my observation. The first was a mixture of strong, "unleached" ashes of oak and hickory wood with guano (Peruvian). It was used for wheat, and *ploughed in*. When I heard of it I expected the crop would prove an entire failure, thinking the ammonia would be lost. But the crop was a fine one, *and the land was evidently improved.* The crop of corn after the wheat, showed, by its superior height and color, the exact line up to which the mixture extended. I could only account for the result of this experiment by supposing the ammonia was "fixed" by the clay as soon as it escaped—hence its escape "under ground" was no loss.

The success of this experiment emboldened me to make another, on my own hook, which was also a violation of the laws of chemistry. I had a field which had yielded a fine crop of *straw*, the harvest before last—having had 175 pounds of guano per acre sowed on it with the wheat the preceeding fall. As soon after harvest as practicable, I had peas sowed on the stubble and turned in with a *single* plough. The peas were much injured by drought and army worm, and I am very sure would not have averaged more than 8 inches in height. In lieu of applying guano alone, to this field for wheat, I made up the following mixture, and sowed it on the peas with the wheat, and ploughed them in with a single plough. The bulk of the mixture applied to an acre was supposed to be equal to 175 pounds of guano.

Nitrate of Soda } of each
Guano (Peruvian and Mexican mixed) } 1 part
Lime from the "Gas Works," 5 parts.

The lime was previously sifted, so as to make the mixture as easy to sow with the hand as guano. This kind of lime is said to be, by several chemists a "Hydro Sulphuret" with a portion of it *uncombined.* As I expected, as soon as I mixed these "incompatibles" together, the smell of ammonia was very strong. I had it put in thick bags, and tied up tightly, and ploughed it in as speedily as was possible.

The wheat on this field last harvest was of very fine quality, and handling the sheaves produced a "soapy" feeling about the fingers, such as every one is accustomed to observe after holding soap-stone, or French chalk in the hand. This was not the case with the wheat on any other field, and I believe it is unusual. As to the *quantity* it was *estimated* by several persons at from 20 to 25 bushels to the acre. My father says it was the best crop ever made on that field. My idea in making this compound for wheat was: 1st. That the ammonia would be absorbed by the clay as soon as expelled, and push the young wheat forward, giving it a "good start."

2d. That nitrate of soda having a strong affinity for moisture, would with the lime (Hydro-Sulphuret) be speedily dissolved, and thus enter more readily into the circulation of the plant, supplying the necessary alkaline pabulum for the grain. It was what Professor Wood would call "a bomb-shell prescription," and I give you my theory for what it is worth.

I am sorry I did not have the yield of an acre measured; but I did not know you would want this account of the experiment. I intended to try it again last fall; but the price of the nitrate of soda deterred me. That I used cost me 5 cents a pound.

Yours, truly,
J. E. WILLIAMS.

For the Planter.

"Gearing Horses," in Reply to P.

In the March number of the Planter an article appears over the signature of "P." in which he says that "Observer's views" on the proper mode of gearing horses, (*in the January number of the Planter,*) do not exactly coincide with his experience. I rather think "P." did not clearly comprehend "Observer's" ideas; which may be very natural, as "Observer" does not *often* write for public journals, and therefore may not have been as plain in his statements and explanations as he ought to have been. I think, however, "P." will observe by a more careful reading of "Observer's" article on the subject in question, that "Observer" in the 1st place shows, or attempts to show, how the horse should be geared in order to apply, both his weight and power to the work to be done, in the best manner, which, of course, will be the easiest to the horse performing a given amount of labour.

The objections urged by "P." to "Observer's" views, apply not to the gearing of the team, but to the arrangement of the plow *exclusively;* for "P." does not, in his remedy of the evil of which he complains, make any change in the gearing of the *team;* but he clearly makes an alteration in the arrangement of the *plow* and the fifth-chain, which in its effect in the hands of the plowman, is a removal of the *hinge* connection of beam and fifth-chain from the end of the beam, back to his "*hook*, over the point of the plow;" the effect of which gave the *plowman more* control over the plow, and the *team* less control, by reducing in the beam of the plow the leverage against the plowman, which, on level land would not be needed, and would cause the plow to run more unsteadily than the attachment of the chain to the end of the beam—on the principle that the shorter the beam of the plow the greater is the power of the plowman to control it, and the more unsteady is the running of the plow, especially on level land.

"P." is correct in saying there are two lines of draft in working four horses to a plow; two before two: and that principle is set forth in

an article from the editor of the Planter in the January number, 1858, page 45.

The change that "P." made was to control the plow regardless of the position of the *team* in respect to the plow; and in making that change, "P." may have placed his "hook" sufficiently low down to have caused the fifth-chain to be exactly in the centre draft-line of the front horses, and if so, he thereby lessened the draft; but "P." does not say he *did* put the hook in said position, and it is altogether questionable if he did lessen the draft on the team in that way. "P." speaks of making the "hook 6 or 8 inches long to raise or lower it as you may desire," but "P." previously says, "The hook must touch the beam when screwed up;" well, the idea of the long hook, *winks* strongly at a means of getting the centre draft-line for the fifth-chain—but screwing the hook up to the beam destroys this idea entirely; and therefore no gain could have accrued to the team in lessening the draft of the center-draft pull. It therefore follows that the plowman got a benefit by the change which enabled him to govern the plow, and by that means helped the team in keeping the plow at a regular depth on uneven lands—but on level lands there would have been no benefit whatever to team or plowman by said change.

"P." asks the editor to explain what "Observer" means by "hitching a horse in a straight line from the hame." "*Observer's* language is this: "The traces should run back from the hames exactly at *right angles* until they reach the back-band, &c.," "*then* if the traces be hitched any higher than the straight line of its (instead of there is used) direction from the hame to the back and belly-bands, the animal will be enabled to exert his power to the best "advantage under the circumstances, &c." This correction will, perhaps, answer "P.'s" question better than I can do it in any other way.

I would go further into this subject if it were not a trespass on *valuable pages*, which should command not only the perusal, but the aid of every friend to the farming interest in the State. OBSERVER.

For the Southern Planter.

De Burg Excelsior---A Libel Refuted.

F. G. Ruffin, Esq:

SIR:—The communication in your last number, over the signature of "N," from Geo. C. Gilmer, Esq., Carter's Bridge, Albemarle Co., Va., is calculated to mislead and deceive many if not refuted and explained.

This gentleman published an article of the same character in the American Farmer, July 1857. As we keep the address of every one who purchases of us, we at once referred to our list, and not finding his name there, mailed him one of our circulars, containing testimonials from all parts of the country, "*to open his eyes*," that he might see at a glance he had made a great mistake. Shortly thereafter, we received a letter from him, stating "that he had procured in Richmond and used one ton of De Burg on his tobacco, and one on his wheat, and it did not tell one cent's worth that he could see, but would buy 5 tons more of us if we would furnish him with it, to be paid for if it succeeded," &c., &c. At that time, as was the case several times last fall, we had not a pound on hand, and a great many orders on our books. We wrote him on the 28th of August, as our letter book shows, informing him of our inability to comply with his proposition in consequence of short supply and great demand, also that he was very much mistaken, That he had never used the *genuine* "*De Burg*," the article he got in Richmond was not the same, and we knew he was mistaken when we read his article denouncing it, in the American Farmer a short time before.

We now reiterate that assertion, for he furnished us with the most positive proof of its correctness. The genuine De Burg is made only for us, by our own formula, sold only by us and our agent. We *never* had any agent in Richmond, "*and none is sold there.*"

We are not answerable for the quality of any article sold there, as De Burg's superphosphate of lime, to which he refers. The compound of De Burg is manufactured for us, and guaranteed by written contract to contain 5 per cent of pure ammonia, 45 per cent of bone phosphate of lime, 5 to 7 per cent of potash and soda, and other equally as valuable fertilizing properties, and is subjected by Dr. David Stewart, chemist to the Maryland State Agricultural Society, to the most rigid inspection by analysis, of samples drawn from all parts of the cargoes on arrival here, and if of standard quality it is marked so; if not, it is rejected by us and thrown on the maker's hands. Now we would ask Mr. Gilmer and the farmers of Virginia if it would be to our interest to receive and sell a single pound under that standard. Of course not; we are indebted to the farmer for his custom, not the manufacturer. We know that the better the article the more we will sell, and every ton sold this year will sell ten tons the next. This is our experience, and is a very strong inducement indeed for us to adhere strictly to the letter of our contract with the manufacturer, between whom and the farmer we stand as a third party as deeply interested in the quality as the farmer can possibly be, of which we will give one very strong proof.

Last fall an article was shipped to this city from Richmond, Va., branded De Burg's superphosphate of Lime. It was offered for sale, and some sold as De Burg by the consigner. We cautioned him against so doing, as by the analysis made here it was much below our standard. We could only prevent its sale by buying it ourselves, and adding to every ton 400 pounds of No. 1 Peruvian Guano, besides

chemically prepared flesh and blood (heterogenous matter) at an expense and loss to us of $10 per ton, to make it of standard quality.

Had we not have done so, it would have been sold and have injured the reputation of our article, none of which was then in market, and the demand much larger than the supply—hundreds of orders could not be filled.

For the information of Mr. Gilmer and the farmers of Virginia, we will state one or two *facts*. "De Burg" is better known in Maryland than elsewhere, and with the exception of Peruvian and Mexican Guanos, more of it is used by the farmers of Maryland than any two other guanos or artificial manures, and having heard from nearly every pound sold last spring to Pennsylvania, Delaware, Maryland, Virginia, North and South Carolina, have received testimonials enough to fill every page of the Southern Planter, and have only received some 3 or 4 unsatisfactory accounts out of over 400—beat that who can.

Mr. Gilmer reminds us of the Dutchman that went to New York and got Peter Funk'd and then said, "He pleev't all te gold watches vas prass," as he denounces De Burg as a worthless manure, because he was "stuck" with an inferior article—an imitation.

We answer with pleasure the question propounded in the last number of your paper.

Geo. C. Gilmer, Esq:

Sir:—We have received 8 or 10 cargoes from the manufacturer, which proved, upon inspection below our standard. We refused and rejected all of them—we never shipped a pound to Richmond or elsewhere below our standard, as it was not to our interest to do so. Such has been the case, we believe, but we had nothing to do with it.

We have cautioned the farmers of Maryland and Virginia time and time again, against imitation of De Burg, and now repeat it, "buy from a reliable person, and see that every barrel has the Baltimore inspection mark on the head, in red letters" that

Standard quality, Inspected,
Baltimore, 1858.

None other genuine.

J. J. & F. TURNER,
43 Pratt Street, Baltimore.

Hog Raising.

Oxford, N. Carolina, March 23, 1858.

Editor of the Southern Planter:

Dear Sir:—It seems from the inquiry of J. M. C. in your last number, that on the subject of hog raising, I failed to mention how often I give the turpentine to my hogs. In answer to the same, I give it once a week in the spring and fall, and once a fortnight in summer and winter. A teaspoonfull to the hog, being the usual quantity given.

WILLIS LEWIS.

The following article on the use of salt as a preventive of fire in tobacco is by an experienced planter, and its suggestions are well worthy the consideration of tobacco growers. The quantity of salt is little enough to make it a cheap experiment, which all can try who choose. We beg those that do to contribute the result to us for the use of their fellow-planters. Even more salt might be safely used, and if it shall not be applied in such quantities as to check the growth of the plant, which is one of the characteristic effects of salt on wheat, it may do other benefit besides checking the rot. About six bushels per acre is found to be the proper quantity when used for the above purpose on wheat. Ed. So. Pl.

For the Southern Planter.

Salt as a Preventive of Black Fire, or Rot, in Tobacco.

Mr. Editor—Doubtless most, if not all, who have cultivated tobacco, have observed, formed on the stems of the leaf, a salt, closely resembling saltpetre, and generally so called. From frequent observation the writer came to the conclusion that the ripest and richest leaves were most disposed to throw out this salt—conceiving this idea, he sought to ascertain its truth as far as practicable, by inquiring of experienced planters. The result has been a full conviction of its truth. This, again, suggested the idea that the elimination of the salt might be immediately connected with the maturation of the plant, and that, as a consequence, whatever would furnish material for the formation of this salt would encourage the ripening and enrich the plant. Farther investigation led to the conception, that the black fire, or rot, the disease so often disappointing the sanguine expectations of the planter, was the result of the condition of the plant directly antagonistic to maturation, and if so, that whatever would encourage and hasten the process of ripening, would prevent the disease. Inquiries as to the truth of this supposition have confirmed the hypothesis and fixed the conclusion, that a want of the material to form this salt constitutes the cause of the disease, and that furnishing the material or elements, would be a safeguard against its ravages. Since arriving at this conclusion, and before he had made experiments to test the truth of the theory, by the suggestion of a friend, he was induced to use ground alum salt, with Peruvian guano, as a preparation for tobacco, merely to cheapen the manure, two parts of the guano with one of the salt being regarded as equal to all guano as a fertilizer, which he has found to be true. Since using this mixture he has found that he has had no black fire. The last season, which was very favorable to produce this disease, he

saw but one or two plants fired in his whole crop. This led to inquiries of his neighboring planters, which resulted as follows:

Mr. M. crop 150,000—land peculiarly liable to fire—whole crop salted except about 30,000 new land—no fire on the old land to attract notice—part of the new fired badly. Mr. C. crop about 250,000—land much less liable to fire than Mr. M.'s—used no salt—fired very badly and forced to cut prematurely to save from fire. Col. G., about 200,000—no salt—fired badly. Capt. B., about 200,000—no salt—last cutting began to fire rapidly. Mr. H., about 250,000—200,000 salted—no fire—45,-000—guano without salt—fired considerably—5,000 new land—no manure—fired very badly. Mr. B., the friend at whose suggestion the writer was first induced to use salt, says he had not thought of its being a preventive of the fire, but upon reflection recollects that whereas he occasionally had the fire before using the salt, he has had none since. In view of these facts, the writer regards the conclusion legitimate, that ground alum salt is a preventive against the black fire, or rot.

Perhaps the maximum to the acre should not exceed a bushel. This seems to be the opinion of most who have used it, fearing that a more liberal dose may render it more difficult to secure a good stand. Without question it may be advantageously applied during the cultivation, alone or mixed with guano or the phosphates, and possibly with even better effect. A.

Cub Creek, Charlotte.

For the Southern Planter.

Manuring Apple Trees and Cutting their Roots.

"One mend fault, is worth two find-faults."

F. G. RUFFIN:

The writer of this does not intend to step in between "Tyro" and the "Horticultural Editor" of the Planter, the latter can take care of himself, but he wishes to hint to "Tyro," that if he had not been more disposed to "find fault" than to "mend fault," he would have seen that he himself furnishes all the information necessary to a decision of the question whether his "favorite apple tree" needs a "heavy dressing of manure," or a sharp chisel to "the roots," to make it productive every year.

I pass by the comparison of "Tyro" about the "two grains of wheat hid in two bushels of chaff," and of the supposed "complacent mood" of the "Contributor," induced by the utter unconsciousness that there is "anything about plants he does not know," simply remarking that such insinuations never strengthen an argument, and should not be resorted to by those in search of information.

He "re-states the point in which he conceives the articles referred to come in conflict, the one with the other," and concludes "it may be that these diverse modes of reasoning and treatment entirely harmonize and agree;" but I confess I am too much of a simpleton to perceive it? If "Tyro" will consult the writers on pomological science, he will find that they all recommend root-pruning as a remedy, where there is a tendency to over luxuriance, or "the prodigious formation of wood," in order to compel fruit-bearing. This, as a general thing, is only necessary while the tree is young; as when the tree is large, with a heavy amount of foliage and fruit, it is hardly possible for any soil, in its natural state, to make so much growth of wood as to interfere with the formation of fruit buds at the same time. The want of sufficient strength of soil is the reason why so many trees are fruitless every other year. These writers all recommend manuring orchards in order to keep up their fruit bearing. If the "Contributor" is in error, he certainly has respectable company, a company supported by experience in opposition to theory.

"Tyro" states a case of his "apple tree, a favorite, that, like most of its kind, rarely bears more than each alternate year." He admits "it is a healthy and vigorous tree, but not remarkably luxuriant, and gives no evidence of the prodigious formation of wood." Stop here a bit: put on a studying cap. Pomological instructions, like laws, are given in general terms, and each individual must examine for himself into the conditions about him, and judge of their adaptation to the case. Has any writer ever urged root-pruning where trees gave "no evidence of the prodigious formation of wood, and were not *remarkably luxuriant*," and particularly of trees as large as his favorite tree. If not, how can he say he "don't know which remedy to make use of." Again, suppose a farmer should take his land that would "produce twelve or fifteen barrels of corn to the acre," and cultivate it in corn every year for fifteen, twenty, thirty or forty years without manure, would not "Tyro" have good reason to charge him with being a "simpleton" in reality? Just think a little of the amount of matters taken from the soil by a middling sized fruit tree, in fruit and leaves, for a series of years, and this all taken from 25 to 35 feet square, say the fortieth part of an acre, so much more than can be taken from the same space in grain; and yet many a man that would resent the charge of being a "simpleton," pretends he don't know whether to root-prune or to manure his trees to make them bear more regularly. Pshaw! men, put off your coats and go to work in earnest; don't wait to be told what to do: go at it; and you will soon be at no loss to know what to do. This thing of waiting for others to do for us, has been the great draw-back to Virginia improvement; and if ever she is to shine as she

ought, it must be by her citizens going to work themselves, and not wanting to be told what to do. Look about you and see if you cannot see some experiment that would look reasonable and suit your case, and profit by it. R. Pell, proprietor of the Pellham farm on the Hudson river, who cultivates the Newtown pippin to such perfection, says, in his experience he found it inconvenient to wait for the the fruit-bearing year, and he compelled his trees to bear every year in this way: he at one time would put a peck of oyster-shell lime around the trees in the Fall, and next Spring had it spread out as far as the roots extended; perhaps the next year he would give them a dressing of good manure; the third year, probably a supply of bone-dust, perhaps next a compost. He cultivated his orchard in Summer crops, never in winter grain, and as he manured his crops well the trees got their share, and bore, every year, fine crops, and his apples have a celebrity in England that any man might be proud of.

And now, in this day of general information and pomological science, and while pomological conventions and writers are diffusing information on fruit culture and the management of orchards, for any man to intimate there are "many other things in these horticultural articles that might well be commented upon;" to be able to do this, and yet not be able to "know which remedy to make use of," shows a disposition more to "find fault" than to "mend fault." MENTOR.

For the Planter.

Experience in Application of Manures to the Surface.

Mr. Editor—In the Planter for February I was pleased to find your article on the application of manures by "top-dressing," and as confirmatory of your views as therein expressed, permit me to submit the results of my own practice in the premises. Some five years since, when entering on my career as a farmer, I knew nothing of the merits of the several modes of applying manures; but just then I met with some suggestions of your own in the Planter and resolved to adopt them. And now I state in the general, that after five years' reading, reflection and experience, I am satisfied of the correctness of your views. My practice is this—whenever there is manure to be carried out, I take it directly to the field or lot where it will be needed, and spread it *from the wagon or cart*, and I care not whether it be in the cold of winter or the heat of summer—sun-shine, snow or rain. I pile manure neither at the stable, farm-pen, *nor in the field.*

This day (the 6th of April) I have been carting manure to the tobacco lot—there to remain in its present condition, till I go to prepare the land for hilling.

Now to specify some of my experiments in this regard: In 1853 I cut the pines from an old field, which had been given up as exhausted of what little native fertility it had. During the winter of '53 and '54, I spread such manure as I could get on this field, throwing over the broomsedge, weeds, &c. At one time the ground was covered with snow four inches deep, and over the snow the manure was spread. In the spring of '54 this field was fallowed for corn. Not intending to report the results of the experiment, I was not careful to measure the corn that grew on the manured ground—any estimate, therefore, must be simply conjectural. My opinion is, that the yield was about five barrels per acre—whereas, without the manure, perhaps a single barrel would have been the outside.

Again: In '53 I cut the pines from another piece of exhausted land that was thickly covered with broomsedge. In August 1854, on one of the hottest days of the season, having leisure for my horses, and my stables needing cleaning out, I had the manure carried to the aforesaid piece of ground and spread—some of it lodging, I well remember, on the pine brush and some kept from the ground by the broomsedge. This land has been cultivated, and with the following results: In '55 it was fallowed and put in corn, bringing a fine heavy crop. In '56 I sowed it in peas, preparatory to wheat. The peas came so rank that Watt's cuff and brace plough, No. 7, could not cover them. In '57 I cut fine heavy wheat from the land, and it now ('58) stands well-set in thrifty looking clover. On all the growths on the land, you could distinctly see where the boy threw the last load of manure.

I state farther—on a part of this field, and near where the above manure was put, and of precisely the same soil, I spread, after fallowing and harrowing in stable manure just from the stable, and on another part, a compost of stable manure, I am decidedly of the opinion that on neither of the last mentioned spots have the crops of corn, wheat and peas been as good as on the first mentioned; nor is the clover as good at present.

Now, sir, not having seen Prof. Voelcker's article to which you refer, I do not know what explanation he attempts of these and similar phenomena—but I have no doubt that science will ere long, if it has not already, come square up to these facts. By the way, do you recollect the pleasant and ingenious theories of the late James M. Garnett on this subject, as well as the facts he brings forward to illustrate and confirm his theories? I think his article is in the second volume of the *Farmers' Register.*—I hope you will publish Professor Voelcker's article in the Planter at your earliest convenience. Your friend, &c.

R. P. ATKINSON.

Brook Dale, Dinwiddie.

Mr. Franklin Minor's Hogs.

The following letter calls for information which more than one farmer are anxious to obtain, and which will be valuable to all. We therefore call upon Mr. Franklin Minor to "come up to the book."

MR. FRANK G. RUFFIN,

Dear Sir—In the March No. of the Planter there is an extract from the Charlottesville *Advocate*, giving an account of the weight of Mr. Frank Minor's hogs, which, as an average, is certainly ahead of anything that I have heard of for sometime.

Will Mr. Minor please be so kind as to give to the public, through the Planter, the breed of his hogs and the manner in which they were raised. I have no doubt but that such a communication from Mr. Minor would be highly interesting to the farmers of Virginia; and if his plan for raising hogs was adopted generally, that it would add considerably to the wealth of Virginia. I know Mr. Minor, and believe that anything that he may say upon the subject may be relied upon as being strictly true.

Yours with respect,
JOHN H. JONES.

Cumberland, April 3, 1858.

For the Planter.

Rhodes' Superphosphate of Lime.

WASHINGTON, March 23, 1858.

Mr. Editor—In the March No. of your valuable periodical, I notice a criticism on a paragraph from one of my letters to the Missouri *Republican*, in which I say: "Rhodes' Superphosphate of Lime is not designed to supersede the use of Peruvian guano, but to aid, economise and improve it; the guano by the excess of ammonia *stimulates* the soil, but at the same time impoverishes it, acting like strong drinks upon the human system." Your correspondent "B." excepts to the expression "stimulates the soil"—but admits that had I said "stimulates the plant" there would have been a "likeness in the *modus operandi* of the two characters of agents." This admission, I conceive, yields everything, and renders the criticism rather far-fetched. I was writing to a Western paper, and used the expression which I supposed would "convey an idea" to western farmers. It might have been more critically correct. "B." admits the idea I *desired* to convey was correct, so far as the "likeness in the *modus operandi* of the two characters of agents" was concerned, and that "strong drink" furnished but "little nutriment" to the human system.—This was all I contended for in my letter to the Republican. The ammonia of the guano furnishing an excess of nitrogen to the plant caused it to make greater draft upon the soil for the carbon necessary for its support. This must "impoverish the soil unless counteracted," and hence I said Rhodes' Superphosphate of Lime was designed to aid, improve and economise the use of Peruvian guano.

In his sixth agricultural report, Dr. Higgins, State Chemist of Maryland, says: "Phosphatic guanos should be applied to crops which have a broad leavy development, as this class of plants can more readily obtain nutriment from the air of the kind furnished by Peruvian guano, than those which have narrow leaves. The same rules apply with equal force to the "Superphosphate of Lime," of which large quantities are being used, especially for corn and *tobacco.*" Here is an endorsement of the views I expressed in my correspondence, which I never contemplated being subjected to a scientific criticism by your evidently intelligent correspondent "B."

X,
of the Republican.

Hogs Fed on Bitter Mast.

A friend told us last fall that hogs which had run on the mast of red, black and Spanish oak, would be subject to kidney worm the following year. Our own had that kind of range last fall, and are quite thrifty this spring. But the following from the North Carolina *Planter*, endorsed by its Editor, may meet the case of others whose hogs have not fared so well.

[ED. SO. PLANTER.

The following letter, in reply to "Franklin's" interrogatories in the February number, concerning Hogs and bitter mast, is from an extensive hog raiser in Johnston county, and may be relied on:

EDITORS OF PLANTER:

Gentlemen—I see in your February number, a communication signed "Franklin," asking what shall be done to counteract the effects of the bitter acorn, which the hogs have been luxuriating upon during fall and winter. I will try in my feeble and disconnected way to give "Franklin" my plan, by which I think, if properly attended to, he will not lose a single hog from the bitter mast, and but few by any cause. In the first place I will state how hogs should be managed generally: At every feeding place there should be at least three pens; one for your small pigs, another for your shoats, and one for your breeders. Each one should be fed separately. By thus arranging your pens you can feed to better advantage, for frequently one hog requires more than another. Each pen should have a good trough in it, for giving medicine. The trough should always have a half bushel or more of strong ashes in it, well mixed with salt—which hogs will eat freely—and occasionally mix a small portion of copperas.

This cleanses the hogs of worms and stops nearly every disease the hog is liable to. In spring and summer you should give small quantities of sulphur once a week, also rub on tar mixed with lard. The sulphur and tar will keep them clear of ticks, which are more dangerous than bitter mast. The salt, ashes, and copperas should be given the year round. Hogs which have fattened during fall and winter, upon bitter mast, or peas, or anything else, should be kept as near the same order after the mast is gone as before, by feeding with corn, giving close attention, and using the medicine before mentioned; and I will assure "Franklin" that he will find the bitter mast worth a great deal to him in the future. But should he be short of corn, and fail to keep his hogs in good order after having been once fat on any thing, I care not what—corn, peas or bitter mast, and leave them to sustain themselves on grass, worms, and roots during spring and summer, more than half will die; and if all were to live, they would not make half the pork, as if kept well and were well attended to. If you think these remarks will be any advantage to "Franklin," you are at liberty to publish them. Yours, truly,

JOHNSTON.

From the Valley Farmer.

House Cleaning.

BY HETTIE MAYFIELD.

It is Washington Irving, I believe, who has associated inseparably, the charming month of May with house cleaning, by his graphic description of the bustling, busy, turmoil of a day the good city of Gotham has dedicated from time immemorial to the deity of change—that being the general season when renters change homes. We do not know what are the necessities of the case in that latitude, but we have adopted the latest of our fine fall weather for our most general house cleaning; for of course Spring will bring with it some necessary changes in bedding, curtains, carpets, and the putting of hearths and grates in summer order, when fires have become useless. Our reasons for adopting Fall for this business are,—First, that there is more leisure, and the long, calm days render it more agreeable. Secondly, there is much pleasure in enjoying the fruits of your labor as long as possible. The pleasure of seeing everything around you pure, is greatly prolonged by adopting fall for such portions of house cleaning as whitewashing, painting, &c. In spring, you scarcely get through the job, before the flies and dust are making visible marks; but in winter, these annoyances have been laid to rest, and your eyes may look with satisfaction on the works of your hands all winter, and spring will find all as fresh as if newly done. Meanwhile, all painting, especially that exposed to the weather, lasts much longer when done in the fall, the oil not drying so quickly is not absorbed by the wood, but combines with the paint, and thus preserves it longer. We make an exception in favor of whitewashing in spring, i, e., out buildings and fences. The driving rains of winter will wash it off, unless the very best preparation is used.

When you have house cleaning on hand and have not enough help to do it without interrupting the regular work of your family, it is well to make every arrangement so as to go it "with a will," as the sailors say. To save yourself from a waste of sympathy with the rueful feelings a man's visage always indicates on such times, persuade your husband off to the State Fair, detail your trustiest help to rule in the nursery, and, having baked and brewed as if a succession of Sabbaths were coming wherein no kettle could sing; arm and equip your household with brooms, brushes, &c., and let the early dawn and dewy eye see the work of purification going on. "The harder the storm the sooner it is over," is a good saying then. Where there is a supernumerary in the family, who is competent and reliable, let her take a room at a time, leisurely, and you will never know the ludicrous trouble masculine humor has so revelled in depicting. Be sure that you have everything on hand that you need, soap, sand, brushes, tacks, paint, oil, glue, &c. It makes woeful waste of time to wait for a "messenger to town" for half a day. When ready, have your pictures, mantle ornaments, in short all easily moved articles taken to a room to be cleaned, while the room itself is undergoing a similar process, covering over the articles necessarily left in the apartment. Clean out and arrange the closets. The carpets having been removed, sweep off the floors perfectly; then with a long handled straw broom, sweep the ceilings clean and also the walls. If the ceiling is to be whitened proceed with a whitewash brush (and the mixture in receipts appended,) by lay-

ing on one coat, making the strokes all the time in one direction; when dry lay on the second coat, crossing the first all the time. This repeat until the desired color is had. If any spots drop on the paper, when dry rub them off with a stiff brush. Next proceed to clean the windows, then the wood work generally, with brushes and cloths. If the paint is white, mix a teacup of whiting in a pail of warm water and wash with it. If the paint is colored, soap suds of hard soap, of water softened with sal soda will have to be used. After the windows have been washed and are dry, rub the glass bright with soft papers. Whiting spread on glass and rubbed off after drying with a clean cloth will make the glass clean. A mixture of whiskey and water will also clean glass. If the floors have no grease on them, they need but to be washed perfectly clean, giving particular attention to any parts the carpets do not cover. The room is now ready for the carpet again, provided there is no papering or painting to be done. Papering may be, and is well put on by many persons for themselves, and plain painting is extremely simple work, such as the manager of no plain country house should require professional assistance for, if she has the training of her own servants, and can command their services. The heavy furniture left in the room should of course be put in perfectly neat order before the floor is washed, then carefully covered. Carpets should be well and straightly stretched and secured with tacks or hooks as some late patents suggest.

We take it for granted your grates were put in order the first thing, if they had been removed, and that if you use wood, your hearths had been put in perfect repair and painted in your spring cleaning. As the same general directions apply from cellar to garret, we proceed to a few practical hints about Paint, Paper, White Wash, Cleaning, Furniture, &c., &c.

PAINTING.

Oil is better for being boiled, skimmed and strained, and some painters boil in it a few cents worth litherage to the gallon to facilitate drying. Most colors desired can be had ground in oil in which case they need but to be thinned to the consistence of cream, with oil or turpentine.—The last professional painter we employed used turpentine chiefly for all indoor paintings, except hearths, which, like out-doors work is exposed to water and must be of oil. As we have said, primitive colors are to be had chiefly ready ground, and are mixed in white paint to the shade wanted. Ivory Black or common lamp black, mixed in oil and strained through coarse muslin is commonly used to paint base boards or common mantles well. Black mixed in white makes a lead color, and yellow mixed in lead gives an olive. We cannot extend an article with particulars, but say, have a large brush for large surfaces, a small one for crevices and cracks, and dipping your brushes lightly into the paint, rub well, always making your strokes the *same way and that with the grain of the wood.*

A piece of oil cloth laid beside where you are painting is perfect protection against accidents. Black paint is usually varnished after drying. Hearths require several coats of paint with full time to dry.

WHITE-WASH,

For ceilings or rooms should be of Paris white, or very pure lime. One-half bushel of unslacked lime, slacked with boiling water and covered during the process. When strained add to it one bucket of thin paste of ground rice, one peck of clean salt, three pounds of spanish whiting and one pound of clean glue, dissolved in boiling water. It must stand 24 hours, then be put on hot with a brush. Common white wash as above, substituting flour for rice, and omitting the whiting and glue. White wash may be made any colors by stirring in coloring matters. When large surfaces are to be painted or have a colored wash keep a plank and try every bucket you mix, else you may make a shocking pied picture.

PAPERING.

If you must do this yourself, brush over your wall with a solution of one pound of glue to four gallons of water. Make a smooth flour paste, one pound of alum dissolved in three gallons of the paste. Trim one side of your paper neatly and cut it in lengths of the ceilings height. Have a long table, lay the right side of the paper down and spread the wrong side smoothly with paste. Take the two ends of the paper together, (the right side fol-

ded together inside.) Step up on your platform and begin at the top pressing down the paper smooth with a clean towel. The second length will cover the edge of the first and so on. The figures must be matched exactly as in a carpet, and you should begin in the least conspicious corner of the room, putting on the first piece by a plumb line. The border will have to be cut in pieces that you can easily handle and put together accurately. Common paper is easiest hung.

CARPETS

Should be whipped with slender tapening rods, shaken and well swept on both sides. If they should have been discolored by acids, ammonia rubbed on will often restore the colors. Ink spots may be removed with citric acid or good vinegar. Lamp oil may be removed by continuous applications of pipe clay or magnesia, but any good colors may be washed in suds having been previously well wet with water in which beef gall is strongly mixed. Green is the most unsafe color to risk in water.

Bedsteds should be scalded if necessary, and if there be a remote apprehension of bugs, fill every crevice with strong brown soap, or corrosive sublimate dissolved in alcohol, or mercury mixed in beaten white of an egg. The polished part of the bedstead like the rest of fine furniture, having been wiped clean with a towel dipped in soft water, may be rubbed over carefully with fine sweet oil; if your common furniture needs varnishing you can get suitable brushes and cabinet maker's varnish and do it yourself, but if you have fine furniture, procure the services of a professional man. If spermaceti has dropped on your furniture, cover the spot with magnesia or chalk. Lay several folds of blotting paper over it and set an iron, not warm enough to fade the colors on it. Heat marks may be removed from a table by rubbing hard on it some oil of vitriol and afterwards Alcohol.

Ink.—By rubbing on it quickly oil of vitriol, with two parts of soft water.

Oil cloths should be wiped over with lukewarm or cold water, without soap, or milk and water.

Matting should be swept clean and washed with clean salt water.

Chintz Curtains should be shaken and brushed free from dust and they may be worn out without washing.

Brocatelle curtains and wall paper may both be cleaned by being wiped carefully with a soft slice of stale bread, or by having perfectly dry wheat bran rubbed over them.

Stoves should be cleaned perfectly, then have a black lustre which is prepared for the purpose, mixed with milk and put on with a paint brush—when dry polish with a dry brush.

Brases, may be cleaned with oxalic acid of vinegar and salt, but better with fine brick dust—it does not tarnish so soon as when acids are used.

Silver plate, Brittania, &c., should be washed over with whiting, mixed with water. When dry, this should be rubbed off with a soft flannel and afterwards polished by rubbing with a buckskin. It is an error to wash these articles over when avoidable, with soap.

We regret our space should be filled and so many items of useful knowledge excluded. We shall some day furnish a chapter of miscellanies.

Dairy Management.

BY J. S. HOUGHTON, M. D., PHILADELPHIA.

A new and most important scientific and practical fact has recently been developed in England in regard to the economy of the dairy, where butter is the main object, by the experiments of Dr. R. D. Thomson, lecturer on chemistry in the University of Glasgow, which were undertaken, it appears, by order of the British Government, to ascertain the relative butter-producing qualities of barley, malt, molasses, linseed meal and bean-meal, employed in various combinations, with the addition of any good hay to furnish bulk of food for the stomach of the cow, as well as nutritive and fat-forming elements.

In these experiments, which were very carefully conducted, bean-meal and hay produced more butter than any combination of the other articles of food above named. "These facts," says Dr. Thomson, "are not agreeable to the common opinion that the amount of butter afforded by a cow, is a test of the amount of oil contained in the food; and hence we are not entitled to recommend oily food as preferable, for the production of butter, to

food which experience teaches us will accomplish this object, though less rich in oleaginous matter."

Bean-meal is set down by scientific men as chiefly a nitrogenous or flesh-forming food, closely allied in its nature to the egg, the oyster, lean mutton and beef in animal life, and to cabbage and the cereal grains in vegetable life.

I will not here attempt to give the details of the experiments of Dr. Thomson. Those who wish to inform themselves fully upon the subject will find it useful to consult the entire report "On the Food of Animals," published by C. M. Saxton & Co., New York. I will only add that the work is so strictly scientific it will probably prove interesting only to those readers who are already familiar with the leading principles of physiological chemistry.

The scientific investigations of Doctor Thomson have received interesting confirmation, as to the soundness of the leading principle, from another series of experiments of a practical, though highly intelligent and somewhat scientific nature, made by a member of the Royal Agricultural Society of England. It will be seen from that Report, that a mixed diet is recommended for dairy cows, where the object is to keep the cattle in the best possible condition, consisting of bean straw, oat straw, hay, wheat, bran, bean meal, turnips, cabbage and rape oil cake. In the production of butter, the highest value is given to the bean meal and bean straw, and rape-oil-cake, which last is similar to linseed cake. The superior influence of the bean meal and bean straw, in contrast with linseed cake, is especially worthy of notice.

I come now to the important practical deduction to be made from these new views in reference to feeding dairy cattle. The common idea is, that dairy stock can only be sustained on the richest grass growing and grain-producing land, and that poor, sandy soils are unfit for dairy farms. Science and experience now tell us a different story.

Upon the theory and practice here advanced, common meadow hay or clover, corn fodder, bean straw, (bean vines) bean meal, rye bran, (which last is oily,) turnips, carrots, parsnips, and if you please, a little Indian corn meal, would furnish food for dairy cattle capable of producing the greatest possible quantity of butter, and keeping the cows in the best possible condition as respects flesh and fat.

All the substances here presented, as food for dairy stock, can be grown upon sandy soils, such as we find in New Jersey, Delaware, Maryland, Virginia, &c.—And upon worn-out farms, where there is usually some low land, or meadow, or even without soil containing much vegetable matter, by the use of small quantities of artificial manure.

There are no soils so poor, (even the worst blowing sands of New Jersey), that they will not produce beans, or their equivalent, the cow pea, or field pea, now so much employed in the South as a renovator of exhausted soils. Beans or field peas can be produced on such soils in profitable abundance without manure, but still better by the aid of lime. The field pea, (which is in reality a bean) gathers much of its vegetable matter and probably nitrogen from the atmosphere, (especially when aided by plaster) and its various inorganic salts, (mineral substances) from the sub-soil, being a vigorous grower, and sending its roots far and wide and deep into the earth in search of food. It rarely suffers from long continued dry weather, and will remain green and healthy at a time when corn leaves are curled up as if burnt with fire. In ninety days it will make more fodder per acre, than a first rate crop of clover of the second year's growth. Its grain, as will be seen from the experiment alluded to, is equal if not superior as food for dairy cattle to any oily food, and of course far cheaper than corn meal, rape or linseed. It may be proper to state that I have tested the Southern field pea in New Jersey, for three years, and speak of its qualities in this climate, from positive experience. It is said that on rich clay soils, it will make an excess of vine and will not mature its seed. It should be planted as early as Indian corn, sown broadcast for fodder, and in drills for seed. Seed may be obtained from a broadcast crop. It requires about two bushels of seed per acre broadcast, less for drills.

If meadow hay cannot be obtained on a sandy soil, clover can, after turnips or field peas. Rye also grows profitably on sandy soils, especially after a green crop of peas turned under. Few soils are so poor as

not to produce corn fodder, or they may be made to do so by the aid of a green crop, or a little guano, or nitrogenized super-phosphate of lime. Turnips, carrots and parsnips are readily produced, in immense abundance on sandy soils, by the use of super-phosphate of lime alone, or even ground bones. These root crops, indeed, with the field pea, form the basis of good dairy food for a sandy soil; and with their use, clover, timothy, herd grass, orchard grass, and corn fodder will speedily be produced, if the manure of the cattle be carefully and properly saved and judiciously applied. Indian corn and wheat even, may soon be produced, at a profit, by such management.

The bean straw or vines, it will be observed, were steamed before being fed to the cows, in the experiments of the Royal Society; and much of other food was also steamed or cooked. Dr. Thomson, it is presumed, fed the bean meal in the raw state. Bean straw is a harsh, dry food, unless steamed or soaked in hot water.

If the dairyman on a sandy soil, have no pasture at first, it will follow under the system of management here suggested, that he will be compelled to keep his cattle constantly in the stable, after the method called "soiling," feeding them in the Spring partly upon dry hay, and partly upon green oat or rye straw, green corn fodder, &c., (or dry fodder if we have it,) until such times as pasture could be produced upon restored land. This, it is presumed, could not profitably be done, except near large cities, where milk and butter were easily marketed, and sold at retail prices; but in such instances it could be done with profit, if the solid and liquid manure were all properly saved and mixed with muck or leaves, or only sprinkled freely with plaster of Paris, as the rapid improvement of the land would pay the extra cost of stall feeding over the economy of pasturing with the loss of manure consequent upon the latter method of feeding. To say the least, the article here referred to, and the views which I have presented, afford many valuable suggestions to the dairyman, which he may improve to much advantage, whether located upon a sandy barren soil, or upon one more favorable to the production of grasses and Indian corn.

In the above remarks, nothing is said of hay, clover, rye or wheat bran, because the object was to show how butter could be produced, with the least variety of food, upon a sandy or poor soil. The more varied the food, and the more frequently, (within reasonable limits,) appropriate changes are made in the food of dairy cattle, especially when stall feeding alone is practised, the better is the result, as every dairyman probably knows. After a special food has been given for two or four weeks, any proper change of food will immediately increase the quantity of milk and butter.

Another advantage of the bean fodder and bean meal diet as compared with a food largely oily, is this, that while the cows will be kept in good general condition they will not become too fat to yield milk freely.

The whole subject is one of great interest to the cultivators of poor soils, who wish to keep stock and make manure and avoid being ruined by the guano dealers.

[*Farm Journal.*

Spring Chickens.

Spring chickens are always in active demand from May to September, in the vicinity of all our cities, and the larger towns. Of course they are profitable to the farmers, and small landholders and cottagers, who breed them. This is a good month to set the hens, and hatch them out. For this purpose, a warm hen-house, and coops in sunny places are required.—Let the eggs be kept in a proper temperature, till the hen is ready to sit on them. Thirteen is the proper number for a clutch of chickens. When hatched, if milk curds can be had, this is their best food. If not, soaked bread for the first few days, and after that Indian meal, well cooked, like mush for your own table. Raw meat, wet up in the usual way, is harsh and scouring for their delicate stomachs. When a few weeks old, chopped cabbage, "sives," and other tender vegetables, are to be added, and sour milk is the very best drink they can have.

We would by all means entrust the early chickens to *woman's* care. She seems to possess the necessary instincts—worth all the boys and men in the country. We have known a Scotch, Dutch or Irish washerwoman's cottage, surrounded by a close wall, alive with early chickens, when the

gentleman's and farmer's premises would scarce supply a fowl for the table before September.

Don't keep the 'big' breeds for 'Spring chickens' either. A close, compact, early matured fowl is the thing for this purpose. In most large towns a plump, fat chick, the size of a quail, will sell for as much in May or June, as a full grown one will in October; and if they only know you have them, the tavern keepers and pedlars will be after them every day in the week. To the habit these latter people have of confining them in a close, filthy coops, for days together, we enter our protest. It is cruel to the chickens. It poisons and defiles the taste of the flesh. It makes them poor. Exercise, good air, and plenty of good food they should have till wanted for the table; and every one who keeps them on hand for immediate use, should be well provided with yards and roosting accommodation. To make chickens edibly perfect they should come upon the table plump, juicy, and full of their own natural gravy. "Plump as a partridge," is the term which should always be truthfully applied to the early chicken; and if they be not so, half their excellence is lost, while, if in perfection of flesh, they are a positive luxury.—*Agriculturist.*

From the Germantown Telegraph.

Butter-Workers.

Mr. Editor—Among the multiplicity of labor-saving machines, invented for the use of the farmer, but few of them are intended to lighten the burden of the farmer's wife.

Among the latter, however, is the *Butter Worker;* there are several that have been patented, but in my opinion, the one invented by Lettie Smith, of Bucks county, is the most simple, answers the purpose best, is less likely to get out of order, and much easier cleansed, than any one I have seen.

I have no interest in the sale of this machine whatever; I merely wish to call the attention of my brother farmers, or rather their wives, to it. After having one in use for a year, I would not do without it if they cost double what they do.

Every farmer who has a half dozen cows, and makes butter, should have one; it is a great improvement over the old way of ladle and keeler. It can be procured, I believe, at all the agricultural stores in Philadelphia, advertising in your paper.

SIMON.

Copperas as a Deodorizer.

One pound of green copperas, costing seven cents, dissolved in one quart of water, and poured down a privy, will effectually concentrate and destroy the foulest smells! For water closets, ships and steamboats, about hotels and other public places, there is nothing so nice to cleanse places as simple green copperas dissolved; and for sick rooms, it may be placed under the bed in anything that will hold water, and thus render a hospital or other places for the sick, from unpleasant smells. For butcher stalls, fish markets, slaughter-houses, sinks, and wherever there are offensive or putrid gases, dissolve copperas, and sprinkle it about, and in a few days the smell will pass away. If a cat, rat or mouse dies about the house, and sends forth an offensive gas, place some dissolved copperas in an open vessel near the place where the nuisance is, and it will soon purify the atmosphere.

From the Genesee Farmer:

Making and Preserving Feather Beds.

When feathers are picked from the geese, they should immediately be put into sacks made of common sheeting, of sufficient dimensions to allow them room to dry if they are not entirely ripe, and aired occasionally between pickings by being laid out in warm sun. When about twenty pounds are collected, which will make a very good bed when the feathers are new,) make a tick of the best ticking that can be obtained. If it is very thick, so as to exclude the air too much, a goose-quill an inch and a half long and open at each end may be sewed in each corner to let in more air; then put the feathers in and sew it up.

If the bed is designed for immediate and constant use it should be well shook and aired every day; if for an "extra" or "spare bed," it should be slept upon occasionally and aired frequently, until that "goosy odor" which always arises from new feathers has entirely evaporated. Feather beds should never be suffered to lie any length of time under heavy clothing when not in use, as they will exclude the air from the feathers, which is as ne-

cessary to their life as it is to the lungs of the fowl that produced them. A pair of sheets and a thin spread or counterpaine, (always of cotton or linen,) or enough to secure the tick from being soiled by dust is all that should be used as a constant covering. They should always be kept in dry rooms, and have the windows frequently opened on dry windy days.

When feather beds are laid aside for the summer as is usual in many families, they should never be stowed away, one upon another, in some dark closet or back chamber, there to lie uncared for and unaired until cold weather calls them again into use. If you have good beds, *nice* and *clean*, as every good farmer should have, you had far better suffer the inconvenience of having them lie *singly* upon the carpet in the *front chamber*, where you can air and turn them over occasionally, and have them improving in condition instead of growing worse.

Beds that are partly worn and are becoming lank, may be restored to nearly their first value, or be made to answer to the name of full beds by the addition of a few pounds of new feathers. What we call full beds are those weighing from twenty-five to thirty pound.

Feather beds made and taken care of in this way will be *nice* and *new* for many years. A FARMER'S DAUGHTER.

Madison, Lake Co., O., Jan'y, 1858.

Food Prospects.

The almost continuous decline in the price of wheat, and flour, since last September, has been the means of arousing the attention not only of agriculturists, but of many political economists, to the value of these articles, as it is now lower than it has been since 1852.

For this decline many causes have been operating, the chief one being the panic in the money market, which commenced in the beginning of October, continuing with increasing severity for nearly three months, and from the effect of which the commerce of the Kingdom cannot recover for many months to come. Added to this primary cause, no doubt, must be added that of the last wheat harvest being above an average, both in yield and quality, all over Europe, and though last not least, the rescinding of the French decrees against the exportation of grain. With regard to this latter, the *Mark Lane Express* says:

"That this decree has had a material and very natural effect upon the price of wheat and flour is evident from the course prices have taken from the very day it was promulgated on the corn market, and *that* effect is easily accounted for."

If *any* produce market is amply supplied, a small excess in permanent operation will tend to lower prices, as a small permanent dificiency would have the contrary effect. Now, the quantity of French wheat and flour imported, and in process of being imported, into the United Kingdom is trifling compared with the consumption; but it is *in excess of the demand*, and consequently takes the place of so much native wheat, also being *fresh* and of so good quality. Whether the French will be able to continue exporting, even to the present small extent, is a question that remains to be solved. Certain it is, however, that their own production and consumption will not leave room for such an export trade as to make up to us the loss of the American supplies; and if we may judge the future by the past, we should say that even *this season*, they cannot continue to export, without leaving themselves bare of wheat. The following statement will bear us out in this opinion:—

By a reference to the French official returns of exports and imports of grain the last 25 years, we find the quantity of wheat reduced to English measure, to have been respectively, as follows:

	Qrs.	Qrs.	
Imports.....	18,485.387	or 739,415	₰ ann.
Exports.....	10,564,913	or 422.996	"
Excess of Imports,	7,920,474	or 316,419	"

The whole of these statistics are a bagatelle, compared with those of the United Kingdom; but they are important to us, as proving that at present, at least, France cannot grow wheat permanently for exportation. Even if we take the last eleven years, which are considered by the French writers on the subject to have been seasons of great agricultural prosperity, we find the excess of imports to average still more than for the above 25 years, being 337,764 qrs. per annum. Either, therefore the quantity grown is smaller by a contraction of the area of cultivation, or the consumption of wheaten bread has increased in France. We believe that the former has

been the case, for the following reasons:

First. The continued subdivision of the land, under the present law of inheritance, has a manifest tendency to withdraw cultivation from cerals, and multiply the kinds of produce. This is, by some of the French economists, considered the glory of the system, as affording subsistence to a much larger population. But, on the other hand, the most far-seeing men in that country deprecate the system, as forming a direct barrier to all agricultural as well as social improvement, whilst it keeps the whole agricultural population in a normal state of poverty, incompatible with the well being of the state. Under present circumstances, therefore, it is quite evident that there is nothing to fear from the competition of the French farmer. Both countries were blessed last year with a good harvest, and low prices are the consequence, aggravated by other temporary circumstances, which can hardly occur again in a simultaneous combination.

Mark-lane has now become the emporium of Europe for all descriptions of grain; and the average prices of that market will, in a great measure, govern the average prices of the Continent, subject to the additional expenses of freight, insurance, and profit. This centralization of the corn markets of Europe, as exhibited in Mark-lane, is, by means of the telegraph wires, instantly transmitted to all parts of Europe; and, consequently, *value*, as defined by the cost of production, has now no relation whatever to it in the result, as was the case in the former days of protection and tedious communication.

In the year 1846, we find that prices ran from a low range suddenly to a high one, the extremes being fully 100 per cent. In the following year they again fell in like ratio, continuing, with slight fluctuations, until war commenced with Russia in 1854, and then gradually rising until 1857. Thus they remained until the last autumn; since when they have been gradually declining.

The fluctuations during the present century have amounted to 400 per cent. and upwards. Wheat has reached 10*l.* per qr., and has fallen below 2*l.* per qr., and other produce in nearly equal proportion. 'What has happened may happen again,' if not to the same extent, still sufficiently to require us to guard against the contingency. It is now quite certain that the price of grain must depend upon the quantity imported; and that the prices of English grain cannot, in future, under the most favorable circumstances, far exceed those of the Continent of Europe.

On comparing the importations of the last three years into the United Kingdom, we are struck with the great decrease in the supply of foreign grain. The Board of Trade returns, just published, which we analysed in our last, show that the imports of grain, with the exception of oats and barley, have materially fallen off. They contrast as follows:

	Wheat.	Flour.	Indian corn.
	Qrs.	Cwts.	Qrs.
1855.....	2,667,702	1,904,224	1,215,333
1856.....	4,072,833	3,970,100	1,777,813
1857.....	3,437,957	2,178,148	1,150,783

	Oats.	Barley.
	Qrs.	Qrs.
1855.....	1,033,727	349,110
1856.....	1,146,844	731,412
1857.....	1,710,299	1,701,470

Combined with these diminished supplies, we find small stocks to exist throughout the kingdom in the hands of merchants, millers, and dealers, with prospects of supply from abroad not at all equal to the same period last year, owing to the prices now ruling not holding out sufficient inducement to importers. For so far, the exports of Indian corn, wheat, and flour, from the United States, show a great deficiency, as compared with previous years, and unless prices advance on this side, the exports from that quarter are not likely to be heavy this season.

Taking all these circumstances into consideration, with the fact that the consumption has enormously increased, owing to fine bread having been selling for some time at less than *three half pence per pound*, a price more moderate than it has been for years, and which makes it the cheapest description of wholesome food for the working population, there is every reason to believe that bread stuffs have already touched their lowest point, and that, even with a favorable season for the crops, there is little prospect of permanently lower rates; while, on the other hand, any untoward weather, or diminution in our foreign supplies, would cause breadstuffs to run up rapidly, especially as the low price of money will promote speculation.

Belfast Mercantile Journal.

Hints to Housewives.

BY HETTIE HAYFIELD.

A CHAPTER ON WOOL.

We will not risk an opinion on the mooted question of the profits of sheep-husbandry in this our great Western Valley, but we will say we know it is a convenient thing for a farmer's wife, with her great hearty family around her and subject to company every day, to have a joint always at command. The necessity for a fine saddle on state occasions, is indisputable.

We will not say in this day of horse and steam power, that it is always advisable to manufacture at home; but in a climate where woolens should be used for two-thirds of the year, they should for health's sake be abundant, and we have always noticed that they are more so when home-made than when bought. On frontier farms the manufacture of woolen is almost a necessity, and in slave-holding, agricultural districts, wheels and looms afford regular if not profitable employment for supernumerary women that cannot be very properly employed in out-door labour.

The whole process of wool-work is dirty and disagreeable and very undesirable, unless the housewife can appropriate a room for the express purpose,—but if this room can be had, the business has one redeeming feature. It gives servants excellent habits of steady industry without requiring the oversight of the mistress. It is so easy to weigh out a reasonable amount of wool or rolls to be spun, and to receive it at night, that it can scarcely be called a care on the mind. When, however, the work has to be *hired*, it is best for the young housewife to make a close calculation, in order to find whether her raw wool will not purchase, at some factory or store, the cloth needed, as cheap as she can produce it. In an experience of fifteen years we have found fine jeans and fine plaid linseys decidedly of less profit (leaving trouble out of the calculation) than brown or grey negro jeans. This quality of cloth used to remunerate well when clean wool was 25 cents per pound and jeans from 50 to 75 cents per yard. Of late years all qualities of wool have advanced in price without a corresponding rise in the value of woollen domestics, in our country towns at least, and consequently the profit to the home manufacturer is smaller.

The most economical method of home manufacture is, to have, through your shepherd's agency, a good proportion of your sheep black. This cuts off the most expensive and troublesome branch of the wool business, viz: colouring. Turn your wool all into grey jeans, which can be made of qualities to suit your labourers or rollicking school boys, and be comfortable and respectable for both. Exchange the surplus for the plaids your less calculating neighbours have bartered to the stores, and you have your family provided for without staining a kettle. The wool factories make excellent cloths, but objectionable because their deficiency in width causes them to cut disadvantageously, and because the yarn being woven up in the grease makes it catch and retain dirt easily; besides, the cloth has a disagreeable, greasy, sheepish odour. You may have your yarn spun at the factory, and then having reeled and washed it, have it woven at home, and so procure a web of equal strength and superior smoothness to any wholly home made fabric.

SHEEP SHEARING.

The process being properly out of the housewife's province, we will not intermeddle with it, but only hope it has been done in as clean and humane a way as possible, and that each fleece has been rolled up into a snug bundle.

If the wool is to be sold in the grease and is all of one quality, there is nothing to be done but to pack it as tightly as possible into clean, stout sacks. If to be manufactured at home, the first duty of the housewife will be to have the wool assorted—separating the black and white and picking out the fine fleeces for stocking yarn and fine cloths. Coarse, heavy wool, clean washed and carded into bats, without grease, makes excellent mattrasses; it likewise makes respectable carpets.

WASHING WOOL.

This is generally done up summarily and in too much haste for good work. We have seen the wool washed in a

clean running stream, on the sheep's back indifferently. We have seen the baskets lightly filled, dipped into running water until the wool was tolerably clean. But we think it best to have it beside an abundant supply of water, and wash what we wish to use white or colour finely, in hot soap-suds, until perfectly clean. That which we intend to colour black or with walnut dyes, we wash in cold water until free from dirt, leaving the natural grease in the fleece, because the wool seems in that state to have a greater affinity for those colours than when clean. Merino, or other wool that is very tenacious of the gum that is natural to it, can be easily washed free of it after soaking a few days in cow urin.

PICKING WOOL.

The amount of this labour that can be done in a day, depends on the condition of the wool and the perfection of the machinery through which it is to be passed. The wool of sheep kept in clean pastures and to be managed in a factory furnished with a picker, requires but nominal picking. Sticks, burs, or hard substances only need be removed. But ill kept sheep and old-time machinery, throw a labour upon the picker alike tedious and painful, as the wool must be pulled so open that every particle of foreign substance must be removed. Such wool will lose full half its weight in washing and picking. A steady hand can pick from five to fifteen pounds a day, according to quality.

CARDING.

The wool should be sent to the factory in strong sheets. Allow one pound of grease to twelve pounds of wool. If your rolls are to be mixed, put up the colours in the same sheet in the proportion you wish them used. For solid cloths it is best to colour the wool, as a quantity of skein yarn can hardly ever be so uniformly coloured as not to show different shades in the web. Mixed rolls should be passed through the cards twice to insure a uniform colour.

SPINNING.

This should be done in a warm place, free from currents of air. The rolls should be kept warm by the sun and fire. The wheels should be first rate; the axel not much above the level of the elbow, and ready to turn at the slightest touch. Each spinner should be furnished with a spinning stick and a supply of well twisted cord for wheel bands. Every two or three spinners should have a reel, that they need not wait on each other. The practice of spinning brooches on papers or corn husks is not good. The brooches are too liable to tangle and require much time to reel them. Let each wheel spindle have a circular piece of stiff leather passed over it to the head of the wheel, the hooch can then be formed against this on the naked spindle, and when large enough, the reel being placed before the spindle, the yarn can be reeled off very easily and rapidly. Every cut of reeled yarn should be tied separately, and when you have as many as you wish in your hank or skein, a stout cord should be tied around the hank in three or four places, —these are called wash bands, and prevent the yarn from tangling. The amount of spinning a person can do in a day depends on her natural activity. We have never required of others what we could not do ourself, accordingly we have usually obtained one cut of good linsey or carpet yarn for every hour of uninterrupted labour. All yarn should be well washed from grease or colouring matter before it is woven.

WEAVING.

Not much instruction in this business can be conveyed in writing; it is far more profitable than spinning. Few women can earn more than one shilling by spinning—few less than fifty cents by weaving, and largely more with a flying shuttle. If you are going for the first time into the weaving business, and your weaver has to learn, if possible get the most improved fixtures. It is not worth while to worry over an old-time heavy machine, while an improved one can be had that with half the labour will accomplish double the work. Your best plan is to get a competent person to come and teach some capable and reliable servant the whole process; or better still, learn yourself, and teach and direct as emergencies make it necessary.

WARP

For woollen cloths is usually of cotton yarn. Each hank should have several

wash bands tied around it. If coloured it must be washed clean; if to be used white, it must be well boil in soap-suds. All warp should be stiffened by dipping into a thin corn gruel; this is called sizing, and is, together with spooling, generally done by the weaver, if you put out your work.

Cottons are numbered. No. 500 is the usual warp for coarse jeans or linsey, the yarn for which is drawn eight cuts to the pound. One doz. will warp two and a half yards. No. 7 is the warp for cloth of ten cuts to the pound, and the fineness of the warp and filling are thus relatively increased. For carpets, there is an excellent warp made in the factories, but good can be prepared at home by doubling and twisting coarse cotton, flax or hemp thread together. Coarse jeans is sometimes woven on white warp, but looks better on coloured, (one lb. extract of logwood and one lb. of alum will colour the warp of 100 yards.) The colours for linsey should be all fast, both for the warp and filling.

Flannels are of woollen, both warp and filling. The warp is best spun with a cross band. It can be spun like other cloth from eight to twenty cuts to the pound, according to the quality of the cloth desired. It makes the best cloth for fulling, and if desired for that purpose should be at least a quarter of a yard wider than the cloth is desired to be when fulled; a quarter should likewise be allowed to each yard in length for shrinkage. The fulling is done at mills for the purpose. This cloth makes excellent overcoats.

Blankets are best made all of wool. They are sometimes woven on cotton chain and as plain flannel, but usually on woollen warp and in what is called blanket twill. This yarn should be very coarse and soft, especially the filling. The yarn should be bleached before weaving. A broad stripe of precisely the same width can be woven in at equal intervals and so form a border for the two ends of the blanket. If two widths are desired, they should be joined with a flat seam. Then being washed perfectly white, the blanket should be stretched tight over a clean table and combed with a clean card until it looks like a light bat of snowy wool. This service being rendered both sides and a ribbon binding put on as a finish, you have an article ready for the fair or the best guest chamber.

For Venetian or striped carpet, the yarn should be spun ten to twelve cuts to the pound, allowing at least one pound to the yard, doubled three times, twisted and dyed in good colours. The yarn is the warp and four threads in the reed will hide the filling (which is usually dark cotton carpet warp entirely.) It is woven like girting, and makes a servicable and handsome carpet, especially for halls and stairs. We have seen one used daily for thirty years.—*Expensive.*

Chene Carpet—The warp may be plain, dark or striped, of cotton carpet chain. The filling is of wool, spun about eight cuts to the pound. The yarn should be divided into three parts and dyed of any three colours, then twisted together and woven as plain linsey. A careful weaver may stripe this in the filling, so as to have as almost an unbroken stripe as in the Venetian. Any way, this is a pretty servicable, and cheap carpet, costing very little trouble.

A good carpet may be made of wool flyings in this same fashion.

Stocking yarn should be made of the best wool, spun with a crossed band, if to be knit single, eight cuts to the pound for coarse hose, twelve for servicable wear for active farmers and school boys, sixteen to twenty-four for ladies' and little children's chess hosiery. Mixed and black hose look nicest for family use. Children's gay colours may be spotted by tying around the skeins (before dying) a cord, very tightly, or wrapping several thicknesses of corn husks around the skeins while wet and binding them on very closely.

Bleeching yarn is done by soaking it several days in some whey from buttermilk, then smoking it over a fire of embers strewn over with brimstone. The yarn must be dampened and carried through this process several times.

COLOURING.

A clear day, good dyestuffs, large kettles of copper or brass, and an ample stock of patience, will generally in this branch of manufacturing insure success.

Black.—Dissolve 2 lbs. of copperas in as much water as will cover well 20 lbs. of wool, while scalding it an hour. Then dissolve 2 lbs. of extract of logwood in the same quantity of water used for the

copperas. Drain the wool dry, put it into the dye kettle and boil it for an hour. If not coloured to suit, add more extract and boil again. A piece of blue stone large as an almond, will give the wool a fine bluish cast.

A good purple may be died as above, substituting alum for copperas, and omitting the blue stone.

Brown.—Cold brown dye is done by putting alternate layers of wool and green walnut bark in a close vessel. Fill the vessel with rain water. Every few days the wool must be taken out and dried and replaced occasionally with fresh bark, using the same water. This is tedious and troublesome, and we think the end easier gained by boiling the bark or green walnut hulls, straining the liquid and then boiling the wool in it until the colour suits.

Yellow.—For pale yellow, make a strong dye boiling green peach leaves in water. For light yellow, boil tanners' oak bark. For orange, use hickory bark and one pound of Nicaragua chips for the ooze. Then having scalded the yarn for an hour in which one pound of alum was allowed for three pounds of yarn, drop it into your dye and boil until the colour suits you.

Green.—Alum your yarn as for yellow. Prepare a strong ooze of yellow oak bark, then having ten days before mixed oil vitriol 1 lb. to 1-2 oz. of best indigo, pour of it into your dye until the colour pleases you. Boil the yarn in it an hour or more, airing it at intervals.

For a green that will wash, dye your yarn yellow; wash clean and dip into a good fast coloured blue dye.

Blue.—For 1 ounce of indigo allow 1 lb. of madder. Mix the madder to a soft mass with water which has stood on wheat bran some hours. Set your dye tub in a warm corner, put in it a bucket of weak ley. Have your indigo in a bag and rub it out into the ley until deep as you wish your colour. Mix your madder sponge in the dye, then procure from some person who has dye ready for use, at least one quart of their dye (this is called yeast) and stir it in your dye. When your dye assumes a greenish cast and looks frothy it is ready for use. Dip your cotton or yarn without any preparation but washing in soapsuds.

Red.—The day before colouring, in a tub one-third filled with bran, pour on water enough to fill the vessel. Likewise mix with bran water one pound of madder for every three pounds of wool intended for colouring. Alum your yarn as directed for yellow; then having strained your bran water into your kettle, mix the madder sponge in it and boil your yarn in it from one to three hours, according to the colour desired. When dry, dip the yarn in good ley—dry and wash clean. One pound of Nicaragua ground and soaked in soft water two or three days, will dye yarn previously alumed, crimsom, by boiling in it three hours; common red, two hours; lilac one hour; crimson and lilac to be dipped in ley—weak for the lilac—one pound chips to three of wool.

In no dye crowd your yarn in the kettle. Stir all colours continually.

Wool.

The following article on wool and the wool trade will give those who have wool to sell the most accurate information we have been able to obtain as to the prospects of the market for that staple. It was prepared by Mr. Kettell at our request. By the way, why do not more farmers take his admirable weekly? It is, in our judgment, the most reliable commercial paper in the Union. And whilst we are "puffing," we must not forget to recommend our friends, Crenshaw & Co., to sell the wool.

The merchants who know us will not think us disposed to do any of them injustice by this recommendation. Our object is to call attention to the fact that there is a wool depot in Richmond which ought to be sustained.

[Ed. So. Pl.

The production of raw materials of late years has been very large, and their conversion into textile fabrics has been greatly accelerated by the expansion of credits, which have chiefly operated to place materials for human clothing in great abundance all over the world. In the last few years the effect of the Russian war was manifest in the enhanced demand for machine goods in regions where formerly the demand was not large. As England is the great centre whence "foreign goods" are sent forth to almost all nations, we may indicate the growing supply by the quantities of raw materials which she has purchased, as follows:

RAW MATERIALS IMPORTED INTO GREAT BRITAIN.

	Cotton.	Wool.	Silk.	Flax.
	lb.	lb.	lb.	cwts.
1830	225,426,476	32,213,059	4,318,181	944,771
1840	437,099,631	52,862,020	4,756,121	1,338,515
1850	666,223,760	72,654,483	4,942,417	1,821,635
1851	760,762,230	81,063,679	4,608,336	1,194,410
1853	898,555,500	117,248,182	7,328,210	1,856,440
1854	891,120,102	104,854,482	7,576,718	1,282,301
1855	895,731,100	99,300,446	8,759,359	1,135,475
1856	1,032,417,400	116,213,920	8,293,668	1,354,342
1857	973,661,912	129,689,903	15,270,367	1,866,250

The weight of cotton, wool and silk in 1856 was together 1,149,634,888 lb, against 743,820,660, lb in 1850, an increase in weight of over 400 million lb, or nearly 60 per cent. in the consumption of materials for human clothing in 6 years; and in 1857 it has been 1,118,622,182 lb, owing to the reduction of the cotton crop. The high prices which all these materials had attained caused them to flow towards England with increasing currents. Silk has shown a prodigious increase, but wool has reached a very high figure. The British wool trade for the last 2 yrs. was as follows:

	Import	
	1856.	1857.
From Europe	23,168,309	30,272,704
South Africa	14,305,188	14,287,828
East Indies	15,386,348	19,370,741
Australia	52,051,139	49,209,655
Elsewhere	8,324,915	14,249,957
Total	113,236,899	127,390,885
Alpaca	2,974,483	2,259,018

	Export Foreign.		Export. British Colonial Wool.	
	1856.	1857.	1856.	1857.
To Hanse Towns	552,133	496,904	3,101,626	3,234,711
Belgium	1,243,021	626,614	6,579,087	8,822,039
France	4,364,343	1,354,591	7,857,899	14,717,854
Elsewhere	652,228	2,421,339	2,265,472	4,682,296
Total	6,793,725	4,899,448	19,804,084	31,456,900
Alpaca	81,984	130,871		
British Wool			14,376,774	15,142,881

The results have been thus:

	1856.		1857.	
Import		116,213,920		129,689,903
Export—Colonial	19,804,084		31,456,900	
Foreign	6,793,725		4,899,448	
		26,597,809		36,356,348
Total retained		89,616,111		93,333,555

Thus the quantity retained, owing to the large exports of the last few months, was rather more than in the previous year, but the supply of British home-grown wool was greater, and the export of those descriptions increased but little. The export of British wool to France increased, but the imports into that country have been as follows:

WOOL IN FRANCE.

	1855.	1856.	1857.
Import	lb 84,617,400	85,716,520	83,304,760

In England wool is free, and in France the protective duty was 20 per cent. until last Spring, when it was reduced to a low point and a bounty on exported goods allowed, making wool practically free.—France is not a wool-consuming country,

however. The great impetus given everywhere to manufactures has drawn largely on the wool stock, while it has impelled production in all wool countries, as well as in the British Colonies, and the quantities are very large, while the sudden check given to the conversion into cloth, and the consumption of goods, will possibly affect the value of wool for another year. The Ohio wool clip of 1857 is estimated to exceed that of 1856 by at least 3,000,000 pounds. The counties in the centre of that State are now as famous for their fine wool as they formerly were for their great crops of wheat. The estimated value is $6,000,000. And in all the wool sections of the United States the product seems to be considerable, while the large consumers, like the Bay State Mills and others, are by no means in a condition to take their usual quantities. Under these circumstances the rates for the coming clip do not promise to be speculative, notwithstanding that the whole product of wool was for a few years supposed to be under the consumption. The wool duty was not removed in the United States until July, and shortly after that event came the money pressure. We may take a table of prices in New York at this time last year, in July, during the panic, and now, as follows:

	1857.			1858.
	March.	July.	Nov.	Mar 10
	cents.	cents.	cents.	cents.
American—Saxony fleece..... Per lb	56@67	50@55	45@50	—@45
Full blood Merino.....	54@58	45@48	40@45	38@40
½ and ¾ Merino.....	48@53	40@43	35@40	30@35
Native and ¼ Merino.....	42@48	36@38	30@35	27@32
Extra pulled.....	52@55	44@47	35@40	27@32
Superfine pulled.....	40@43	38@40	30@32	24@27
No. 1 do	33@36	33@36	25@28	20@22
California—fine, unwashed.....	25@45	28@32	28@32	18@21
Common, unwashed.....	18@23	12@17	12@17	10@15
Peruvian—washed.....	32@37	30@36	30@36	23@28
Valparaiso—unwashed.....	24@29	14@16	14@16	10@13
South American—common, washed.....	15@22	13@15	13@15	10@13
Entre Rios, washed.....	17@23	16@18	17@20	15@18

The fall is nearly 24c. since last year on the finer descriptions, and the general aspect of the market is, as we have pointed out, a large production all over the world, under the stimulus of the high prices that have prevailed, with a sudden cutting off through the panic of the demand from manufacturers, while it is understood that the supplies of goods are equal to the diminished demand for consumption. The six months of idleness which all mills have presented—while work is far from being generally resumed—would go to show that a quantity of wool equal to one-half the whole annual clip has been, so to speak, added to the supply, and this is of a permanent nature, because goods have been economized by the consumer. Thus, although money may continue very abundant, there is little prospect of a great improvement in prices. Yet it must be remembered that some 12,500 bales foreign wool have been in the last three months shipped to England and sold for money.—The imports of foreign wools into Boston since January have been 21,616 bales against 5,419 same time last year, and into New York 2,841 bales against 2,597 same time last year.

Philosophy of Sheep-Washing.

The "philosophy" of a thing is the reason why it is so. One who understood *why* a thing is so, will be likely to do the work connected with it better than if he were ignorant of its theory. Now in regard to washing sheep, many persons doubtless suppose that the water acts simply to dissolve the dirt in the fleece and by its *mechanical* action to separate it from the fibre. This it does, to be sure, and this would be a sufficient reason for washing the sheep, if the water did nothing else. But this is really the smallest part of what good sheep-washing does. You have perhaps noticed, on the finer-wooled sheep especially, a yellow exudation near the skin. You will see it nearly *all over* good sheep, but most on the breast and shoulders. Now this is a secretion from the glands of the skin, and serves, it is

supposed, an important purpose, in refining the fibre, and in protecting the animal. But the fact about it which has most to do with sheep-washing is the following; "This yellow gum called "Yolk," from its resemblance to the white of an egg, is largely composed of potash and oil. It is in short, a sort of naturally formed soap, which, when the sheep is plunged in the water, is dissolved, and acts as a powerful cleanser of the whole fleece. It is as if fine soft soap had been intimately mixed with the fleece down to the very skin, just before washing the sheep. The owner of the sheep who keeps this fact in mind, will see the importance of several things, which we will mention. 1. He will do well to wet the sheep and let them stand a little while before he washes them thoroughly. This will allow the soap of the yolk to act freely. 2. If he can wash his sheep in clear soft water, this will be better than hard water. 3. He will find it good, for this, as well as for other reasons, to wait till the weather and water are mild, for the soap acts better thus than if the water is very cold. 4. He will see the importance of sheltering the flock from long and severe rains. These dissolve the yolk and lower the quality of the wool, besides chilling and weakening the sheep themselves.—*Ohio Farmer.*

Steam Power Threshing Machines.

The venerable and intelligent E. D. Mansfield, of the *Cincinnati Gazette*, has been ruralizing about Chillicothe, and writes the following highly instructive letter, of the Steam Power Thresher and other machines:

"Yesterday I visited the beautiful farm of Dr. Watts, to see the performance of a *Steam* Threshing Machine. The idea was new to me, and is equally new to the public; for, I believe, it is only three years since the *first* one was made by Mr. Welsh of this place—I mean the engine, not the thresher. As I think the idea of steam machinery applied to agriculture, is one of great importance, I shall describe this in detail.

"In the Agricultural Report for 1855, General Worthington, President of the Board, says: 'During the present year, a portable steam engine has been employed with profit to the owner, in threshing and separating grain, being the *first ever used*, so far as I know.' This engine was built by Wm. Welsh, of Chillicothe. At present there are only six or eight of these engines made, and one has just been sent to Illinois; so that State will be indebted to Ohio for the first Steam Thresher, as it was for the first Mower. The farm of Dr. Watts was a very extensive one, and he has been one of the most efficient and enterprising men of the State in encouraging, and introducing fine stock, and improved modes of agriculture. His wheat fields cover, this year, 387 acres, which have produced some eight or ten thousand bushels of grain. This is an immense quantity to thresh at one place, and hence he employs a steam engine. I found the threshing ground very much like a village of straw ricks, in the midst of which was a puffing engine, making the wheels of a machine fly, while men, horses, oxen, and wagons, were kept busy supplying their wants. To give a practical idea of this performance, I will give the details of the force employed.

"*First.*—The engine does the work of *ten* horses at least; the engine cost $930, and the thresher cost $300. Ten horses would have cost rather more, so that the *capital* to start on is just about the same.

"*Second.*—The men and animals employed were as follows: but recollect that only a part of them were attendant on the machine; but I give the whole force as it was in action.

"One engineer, two men for water and wood, four men taking sheaves from the wagon, cutting bands, placing and feeding, seven men and four wagons hauling wheat, three men measuring and bagging, two men, with horses and horse-rakes, taking away straw, six men stacking straw, and three men, horses and wagons, to haul away wheat. In all, twenty-eight men, eight horses, two oxen, and five wagons.

"You will observe that the largest part of this force must have been employed in any mode of threshing. The machine, and three men to attend it, are furnished for 5 cents a bushel threshed. The consumption of wood is about 1¼ cord per day, at $2 50 per cord. The price of farm labor now is one dollar per day and board.

"I timed the work of the machine, and found that it threshed *two bushels per minute* when in active operation, but as there are necessarily many delays and stoppages, a day's work does not equal this. Between 8 and 11 A. M., the machine threshed three hundred and six bushels, which is the work of *sixty men* for the same time. I think this machine will thresh, on an average, seven hundred bushels per day. This is the work of *seventy men* in the old way of threshing by flail. There is here, then, the saving of *forty-two men*, deducting the number now employed. But this is not the most important point of view. To thresh this wheat at once and be ready for the market, is the general point for the owner.

"I asked the proprietor of the machine if he had work enough. He said much more than he could do. He was to go next to Col. Allen's, who had 170 acres of wheat, and then he mentioned two others of two hundred acres each, and then another of 500 acres. Here we

have nearly 1500 acres of wheat in the hands of five proprietors! This is *not* one of the great wheat counties, but you will see how it counts up this year. If the corn crop be (as it now promises) a heavy crop, the two counties of Ross and Pickaway will produce over eight millions of bushels of grain; and that cannot be paralleled by any other two counties adjacent, in the United States.

"Having described the effect of the Steam Thresher, I wish, for a moment, to consider the effects of Agricultural Machinery, in correcting some of the tendencies of population. The tendency of modern civilization is most unquestionably to accumulate population in towns—engaged in the arts. Arts have increased in variety and use. At the same time the *activities* of mind have increased. Hence, for the double purpose of engaging in art, or commercial enterprise, and of hunting fortune by their wits, men rush into towns. The towns increase *doubly* as fast as the rural population. At this double ratio it is plain there must come a time when food would be insufficient. At this point, the introduction of *agricultural machinery* becomes of extreme interest, for it is precisely *the* element which is necessary to sustain this flow of population towards the cities. I said the Steam Thresher saved the labor of *forty men*. I find it is really *sixty*, for only about ten were connected with the Machine. Suppose, then, the Steam Thresher to save the labor of 50 men, and each Mower and Reaper to save the labor of 20 men, which I suppose, to be about the fact. Let us now estimate the *effect* of this kind of machinery. The county of Pickaway has about 360 Mowers and Reapers; suppose Ross to have the same. It will take about 30 Steam Threshers to thresh an average crop. The result, then, will be this:

"Thirty Steam Threshers save 1500 men; 700 Mowers and Reapers save 7,000; 8,500 men give a population of 40,000.

"But, this is only at *harvest* time, and hence, we cannot calculate the year round, at this rate. By the *interchange* of labor and the delay of work, half that number of men would accomplish the business in the ordinary way. I shall, however, be within bounds, in saying that agricultural machinery will do the work of 20,000 additional inhabitants, in the counties of Ross and Pickaway. Hence it follows, that they may spare ultimately a large population to the towns, and yet raise the same crops. There is another element, however. These people going to towns not only cease to produce, but they become consumers, without production. This would reduce the number that can be spared. Still, it is probable this introduction of machinery will go far to correct the inequality produced by the rapid increase of towns. The problem is a curious one, and I leave it for the consideration of philosophical thinkers. But I would carry your mind far beyond the present point. Most of the present agricultural machinery is adapted to harvesting; because there is the pressure of labor. But, we shall have the machinery adapted to planting, and cultivating; and eventually *steam* will be applied there. Ever since we harnessed fire, all the elements of physical civilization are changed. We had to cultivate food for animals, but food for fire is furnished by nature. It lies in the woods, and when they are exhausted, it lies under the surface even of cultivated fields."—*Ohio Cultivator*, for 1857.

The Par of Exchange.

The principle on which American merchants and bankers calculate exchange on England is thus clearly set forth by a correspondent of the New York Mirror:

"The par of exchange is determined by the relative proportion of pure metal in the coined pieces which form the unit of price in the different commercial countries of the world. The alloy is reckoned of no value.

"To simplify the matter as much as possible, we will waive all consideration of the different standards of fineness, and state that our American dollar contains 23.22-100 grains of pure gold, and the British sovereign 113 grains of the same. Every reader may not know that the sovereign is the coined piece of which the pound sterling is the money of account. A simple calculation in the rule of three, therefore, determines that the equivalent of the pound sterling is $4.86, 65.100 of our currency."

"Thus as 23.22-100 is to one so is 113 to $4.86, 65-100. But the English, through all the variations of the mint laws, here and elsewhere—indeed for ages—have been accustomed to value their pound sterling by the old Spanish carolus pillar dollars, now entirely out of circulation in Europe and America, having all been sent to China or gone into the melting pot. Of these $4.44 4-100 were equivalent to the pound sterling. It will be seen that it requires the addition of 9½ per cent., with a scarcely appreciable fraction, to make the present value of the pound sterling in our currency.

Thus - - - - - -	$4.44 44-100
Add 9½ per cent. premium of exchange - - - -	42 22-100
	$4.86 66-188

"It may be well to explain that, when nothing is said to the contrary, the questions of sterling exchange are by custom for bills of 60 days' sight; which, at the legal rate of interest here, involves a loss of one per cent., besides the time of transmission. But on the other hand, at the most favorable rate of shipping specie, one per cent. is the cost, including in-

surance, of laying it down in Liverpool, the time lost in transmission being the same in either case. Thus, as one of these items balances the other, the true par of exchange is 9½ per cent on England, at which rate generally it is as well to remit good 60 day bills as specie."

Agriculture in China.

The best way to see the agriculture of a country is to shoot over it. A landlord who shoots over his estate knows the rotation of every field, and his tenant will not wisely be too persistent in his straw crops. With a view to this same sort of minute acquaintance with the agriculture of the Flowery Land, I employed some of my enforced leisure at the north in little expeditions after the China pheasants. I used to take a Soochau boat and go away up the rivers and creeks some twenty or thirty miles, and anchor off some likely spot for the night. Next morning my servant went to the nearest village, and hired three peasants with long Bamboos, and we went forth scouring the country. The ground round the Bamboo plantations, which are always attached to houses, is cultivated in lands, like allotment grounds in England—a land of Cotton, another of Peas, a third of Indigo, a fourth of White Turnips, and so on. Altogether, the October shooting in China is not quite worth following for itself alone. But for the exercise, and as an excuse for exploring the country, it is greatly to be cultivated.

After investigation, I am convinced that England has nothing to learn from China in the art of agriculture. It is true the Chinese have no summer fallows; but then they have no stiff clays. They have no Couch Grass, no Thistles contending for the full possession of the land, as we see in Wales; no uninvited Poppies, no straggling stalky crops, the poverty-stricken covering of an exhausted soil. At rare intervals we see a large, rich-colored coxcomb flaunting himself among the Cotton; but generally speaking, there is not a leaf above the ground which does not appertain to the crop to which the field is appropriated. Rice and Cotton are the staples of the great district of which I am now speaking. These crops often extend in unbroken breadth over tracts of thousands of acres. The Peas, and Wheat, and Indigo, and Turnips, and Bringalls, lie in patches round the villages. The ground is not only clean, but the soil is so exquisitely pulverized, that after a week's rain I have sometimes looked about in vain for a clod to throw into a pond to startle the water-fowl.

We may be accustomed to mark the course of agriculture throughout the breadth of our own land—the light loams of our Lincolnshire wolds, the Turnip and Barley lands of Norfolk, the strong flats of Suffolk; then westward to the rich pastures of Leicester, the mixed dairy and arable farms of Derbyshire, across the coalfields to the successive and attenuating Oat crops on the shores of Bala, and down the valley of the Tivey—yet we shall see nothing like the cultivation of this great plain of China.

The art is exercised under different conditions. The Chinese cultivator is not asked for milk, or butter, or cheese, or mutton, or beef. The Chinaman does not object to a little buffalo or a goat's milk with his rice, and if some curious accident should have brought buffalo flesh into his basin he will eat it. But he rarely or never buys it. In his recent voyage of discovery up the "Great Junk," or "Great Western River," Commander Elliott and Captain Edgell saw droves of buffalo upon the uplands to the north of Canton, and we know that milk and mutton are common food in Tartary; but I am speaking of those parts of China where agriculture is supposed to reach perfection, not of the mountain pastures. Pork, poultry and vegetables, and the creatures that swim or crawl about his rivers and canals, are the Chinaman's natural dainties. Stall feeding, therefore, would not pay even so moderately (taking sale of stock only into consideration) as it does with us, and Grass is only seen growing rank on graves. One or two buffalo to turn the irrigating wheel and plough the Paddy fields, two or three goats, a breeding sow, a quantity of those ugly, long-legged fowls so ignorantly called Cochin Chinas in England, and a flock of ducks and geese—such is the live stock of a Chinese farm which maintains a hundred laborers.

Stable-yard manure, therefore, is scant. Nor is it much coveted. Human ordure, is, in a Chinaman's opinion, the only perfect fertilizer. This is collected with the most oppressive care. In the cities and

in the neighborhood of cities, enormous dark, open earthenware pans offend the senses at every turn. The privilege of collections is sold for a large price, and the Cantonese have a proverb that a fortune every day passes in that form out of their gates. In the suburbs every cottage has its open earthenware cesspool. In the country every house has its public latrine, ostentatiously placed with its open doorless entrance to the public path. The numbers and suffocative effluvia of these opposition manure-traps are to Englishman a never-ceasing horror. They constitute his first and his last impression of the country.

These details of the "*sordida rura*" are not pleasant to write; at times "*difficile est proprie communia dicere*," but if the object be to depict or to comprehend China, they must be written and read. The manure is sprinkled over the plant. It is too precious to be worked into the ground. The straw and the burnt halm of the Cotton plant are returned to the soil—that is all. The Chinese transplant every root of Rice by hand, just as we should transplant young trees, and each has its little blessing of liquid manure as it is sown. This homœopathic system would not do, I apprehend, with our hungry lands.

The art of agriculture is, I repeat, exercised under different conditions in China to what it is in England. Give an English farmer a thousand acres of vegetable loam of an unexplored depth,—a reticulation of water ways, which enable him to flood at pleasure every acre of his soil—an unfailing supply of manual labor at 4d. a day–and cheap communication by tidal creeks with large markets; give him also periodical rains, perfect drainage, and abundance of quickly ripening sunshine, and see what crops of Corn and Pulse and Potherbs he would produce! I say nothing of Tea and Cotton and Mulberry leaves; for our friend would have to scratch his head a little before he could start on a race to overtake these Chinamen, who are 4,000 years of practice ahead of him.

But then, *per contra*, it must be recollected that this park of Ceres is infested by poachers. These happy fields are overrun by extortionate mandarins, pillaging soldiers, marauders who, in small bands are called robbers, and in large bands aspire to be rebels and to be led by kings, river pirates who levy blackmail, and occasional swarms of locust which darken the sun.

Pickled Fodder.

Messrs. Editors:

Not having seen in any agricultural journal of the United States, the method of making hay, or rather preserving grass without sunshine, as practiced in East Prussia, I communicate the same, in hope that some of the readers of your valuable paper may test the experiment, and publish the result in the *Homestead*.

The process is as follows: "Pits are dug in the earth twelve feet square, and as many deep: these are lined with wood, and puddled below with clay. They may be made of any other size, and lined with brick. Into this pit the green crop of grass or clove is put, soon as cut. Four or five hundred weight (cwt.) are introduced at a time, and sprinkled with salt, at the rate of one pound to each cwt. and if the weather and grass be dry, two or three quarts of water should be sprinkled on to each cwt., as it is laid down in successive layers.

It is only when rain or heavy dew has fallen, that this watering is considered unnecessary. Much however must depend upon the succulency of the crop. Each layer of four or five cwts. is spread evenly over the bottom, is well trodden down by five or six men, and is especially rammed as close as possible at the sides, by wooden rammers. Each layer is thus salted, watered and trodden in succession till the pit is full. Much depends upon the perfect treading of the grass to the exclusion of the air. Between each layer of four or five cwts., a thin layer of straw may be sprinkled in order to show the quantity consumed when feeding out to the stock. When the pit is full, the topmast layer is well salted. The whole is then covered with a well fitting lid or follower of boards or planks, and then a foot and a half of earth shovelled thereon, similar to the covering of a coal pit. This is to exclude the air. The grass thus covered speedily ferments, and in about a week sinks to one half of its original bulk. During fermentation the covering should be examined daily to see if there are any crevices or openings, if so, they should be carefully filled. When the first fermentation has ceased, the pit may be opened and filled up again in the same manner as at first. A pit ten feet square, filled in this way, will contain nearly ten tons of this salted grass, which has the appearance of having been boiled, has a sharp acid taste, and is greedily eaten by the cattle. After a lapse of six or eight weeks, the pits may be, as needed, opened, and their contents fed to the cattle. After once opened, they may be left open without injury. One experimenter says, that only giving twenty pounds per

lay of this feed with cut straw, kept his cows in excellent condition all winter."

FORREST SHEPHERD.

New Haven, Nov. 2d, 1857.

REMARKS.—We are much obliged to Professor Shepherd for the above, it recalls some of our own observations in Germany. In Thuringia, and other parts of the country, we noticed similar pits to those described, which, however, in many cases were not filled exclusively with grass, but a variety of other plants were used; weeds, such as are not acrid or poisonous, leaves of vegetables, such as beets, turnips, ruta bagas, carrots, etc., corn stalks, straw, cucumber vines, etc. These all were salted and put down in the way described, and thus an immense quantity of fodder was compacted in a very small space. The cows and cattle intended for beef or mutton were fed upon that pickled fodder, which consisted chiefly of grass, while goats, young cattle, and sheep not intended for slaughter were kept on olla-podria. It was always eaten with avidity, and in many cases constituted with a little straw, the chief, if not the only food of the animals in winter.

In the Bavarian and Tyrolean mountains, the peasants have a way of curing hay, which has some similarity to this process, especially as it induces a thorough fermentation. The cured hay is known as "brown hay," and is of a dark brown color, very hard and caked, so as to make it necessary to cut it with hay knives or hatchets. They gather the hay, let it wilt, and then pack it in their barns, which are built of logs, and which have pretty free ventilation on all sides. It is well salted, trampled down as compactly as possible, and left to itself. Shortly there comes a fermentation, accompanied by great heat. The building steams and smokes at a great rate, and occasionally if not guarded from too great draughts, takes fire, but this is very seldom, as the requisite care is almost always taken. After this steaming and heating begins to subside, persons enter, and throwing more fresh grass on, tread it down again. It settles very much, becoming a very nutritious good fodder, preferred by the cattle to hay cured in the ordinary way.—*The Homestead.*

Pure Air.

Whatever renders the blood impure tends to originate consumption. Whatever makes the air impure, makes the blood impurer. It is the air we breathe which purifies the blood. And as, if the water we use to wash our clothing is dirty, it is impossible to wash the clothing clean, so if the air we breathe is impure, it is impossible for it to abstract the impurities from the blood. What, then, are some of the most prominent things which render the air impure? It is the nature of still water to become impure. Running water purifies itself. Air in motion, draughts of air, are self-purifiers. Thus it is that close rooms bring consumption to countless thousands. Hence all rooms should be so constructed as to have a constant draught of air passing through them. A man of ordinary size renders a hogshead of air unfit for breathing, and consumes its blood-purifying qualities every hour. Hence, sleeping in close rooms, even though alone, or sitting for a very short time in a crowded vehicle, among a large assembly, is perfectly corrupting to the blood. Close bedrooms make the graves of multitudes.—*Hall's Book of Consumption.*

A CHEAP PAINT.—A very cheap and substantial paint, of a drab color, without lustre, can be made by mixing water, lime and skimmed milk, to a proper thickness to apply with a brush, and it is ready to use. It is too cheap almost to estimate, and any one can put it on who can use a paint brush or whitewash brush. It will adhere well to the wood, whether smooth or rough—to brick, stone, or mortar, where oil paint has not been used, in which case it will cleave to some extent, and form a very hard substance, as durable as the best oil paint. This is nothing more than wash made of lime and milk instead of lime and water.—*Tennessee Farmer and Mechanic.*

Sulphurized Oil Paint.

At a meeting of the Society of British Architects, J. B. Baines stated that by subjecting 8 parts (by weight) of linseed oil and 1 part sulphur to a temperature of 278 degrees, in an iron vessel, he obtained a species of paint possessing singular preservative properties. Applied to the surface of a building with a brush it effectually keeps out air and moisture, prevents deposits of soot and dirt, and preserves the beauty of the stone, wood or brickwork to which it is applied.

It has long been known that a portion of sulpur can be dissolved in oil, but until recently such a composition, as a paint or varnish has attracted no notice; in fact, its preservative and impervious qualities when dry were unknown. It is well known to chemists that sulphur (the substance employed to give body to the oil) is unalterable in the air, and is not acted upon by moisture; hence its quality as a preservative for coating the outside of structures exposed to the weather. It is capable of preserving plaster of Paris figures exposed to the air; also monuments and buildings of the brown freestone, which are liable to detrition from the action of the weather. It is stated that it improves the color of the stone to which it is applied, as well as preserves it; therefore it is a most useful paint, and deserves to be very generally employed.

Guano Trade.

This important branch of the commerce of Baltimore has, in its extent, fallen very considerably below that of former years. This may be attributed to the further advance in the price of Peruvian Guano, and the low prices obtained for grain during the present session. The imports of this valuable commodity are, we regret to observe, very much diminished, the total number of tons being less than in any year since 1850.

Imported direct—Peruvian	15,098	tons.
Do. coastwise, do	6,984	"
Total Peruvian	22,082	"
Imported direct—Colombian and other Phosphatic Guanos.	5,800	"
Imported direct—Patagonian.	350	"
Total all varieties,	28,232	"

The price of Peruvian Guano from the commencement of the year until the 10th of August was $60 per ton, less one per cent discount for cash for quantities of 1,100 tons and upwards. On the 10th of August the Agent of the Peruvian Government advanced the price to $65, which is the price at the present time. The supply of this description of Guano became entirely exhausted during the season of sale, and the dealers were compelled as in 1856, to secure supplies from New York and Philadelphia, as is shown by the tables of the inspector.

The stock of all kinds of Phosphatic Guano is very limited. With the continued increase in the use of these Guanos by our farmers it is apprehended that the supply will not be equal to the spring demand.

Imports of Peruvian Guano into Baltimore for the past nine years.

	tons.		*tons.*		*tons.*
1849,	2,700	1852,	25,500	1855,	30,695
1850,	6,800	1853,	32,152	1856,	30,527
1851,	25,000	1854,	58,927	1857,	22,082

Baltimore American.

From the Boston Cultivator.

The Gait of the Horse.

Messrs. Editors:

I perceive a most important improvement in the award of premiums the present year for horses, and that the gait or carriage of the animal is to be taken into account; a feature that from the first ought to have been most prominent. And this gait or character will be found to arise from the setting on of the head to the neck, and that again to the body giving a jaunty appearance, and the freedom to look abroad upon things. The charasteristic does not always depend on the small head and light neck, or the admirable arch of the latter, for it is met with in those of very inferior pretensions in the stable. "See him out before you form a judgment," is a rule in horseology.

I once owned a horse which I bought for six pounds, or forty dollars, and on account of his gait or carriage, he was admitted by all who saw him to be the best ladies' horse in the country, being valued by a London dealer at a hunpounds; and yet his appearance in the stable, and even out of it before mounting, was "nothing particular;" besides which, he was not striking in beauty in any part; but mount him and let him have the rain, and the first question from a crowd would be, "What d'ye ax for that oss?" I was once at a fair in Wales, and having to leave my horse in the hands of a lad for a few minutes, I found on my return, that a London jockey had taken him by force from the holder, and was gone "down the road," when I never expected to see him again, but presently he came up, with the rein loosely lying on the neck of the horse; and it was with difficulty that I got possession of him; the fellow keeping his seat, and urging me to name a price. "Twas just the oss he wanted!" but as that was just the case with myself, there was no trade. He may be said, to be a horse packed up in two parcels, for before mounting, he might be termed convex with head and tail down; but a foot in the stirrup, and he became concave, and the rider was seen sitting between the head and tail! while the gentlest motion in the lifting up of the rein, was answered by a corresponding rise in the thermometer of the animal.

Horses may be screwed up to any pitch, and be tuned to any key, especially in duetts, as we saw at the first meeting of the National Agricultural Society at Boston; but the gait must be natural to be beautiful, and ought to be sought after in the dam as well as the sire, as of more importance than any other point or feature. What matters it, if a horse is all over good in general frame-work, if he be heavy or awkward in his gait? And even in the choice of a plow team this doctrine will be found to work aright. How often do we find in a pair-horse plough, one of the animals tied back, because he is too quick for his fellow; thus losing about a quarter part of the labor of the team daily! Better shoot than keep such a slow horse! I am glad to hear of the important movement in the award of premium to the horse, and hope to witness many instances of its wise application the coming season, which appears likely to be a busy and very agreeable one.

A. Z.

P. S.—In a "Mark Lane Express" now before me, mention is made of a horse exhibited at the Royal Agricultural Society's meeting in Salisbury in the following terms:—"The 'Knight of Gwynne'—the property of W. Groves of Plompton Hall, near Kanesborough, the owner of 'Hobbie Noble,' to whom was awarded the first premium for thorough-breds,

drew general attention; a sprightly animal! do but notice his shoulders and *splendid set of the neck;* the eye most expressive, and the head exceedingly noble!"—*Boston Cultivator.*

Twins---Free Martins---Enquiry.

To the Editor of the Canadian Agriculturist:

TORONTO, 17th February, 1857.

DEAR SIR:—A brood mare of mine had twins last spring, a colt and a filly; and the question has lately been discussed amongst my friends, whether either of them will ever be of any service for breeding purposes? Some people maintain that the filly will never breed; others, again, say that *neither* of them will be of any use for that purpose. In Mr. Stephen's Book of the Farm, I find the following observation in respect to twin calves; but whether the same rule applies to twin colts, I am not aware. Mr. Stephen says—"A heifer calf of twins of bull and heifer calves is *free martin,* and never produces young, but exhibits no marks of a hybrid or mule.

Now, Sir, will you be so good as to give me your views on this interesting subject. As these colts are remarkably fine, and it being my present intention to raise the colt as he is, in consequence of his showing so many excellent points every day, I feel more interested in the solution of this question than perhaps I otherwise would. I am, dear sir, &c.,

S. B. S.

REMARKS.—We mentioned the subject of the above enquiry at a recent meeting of the Central Agricultural and Horticultural Club, and asked the opinion of the members on the point. There were several gentlemen experienced in breeding, &c., present, but no case of barrenness, from the cause mentioned, could be cited as to horses. In the case of cattle, opinion was divided. Instances were mentioned where twins, male and female had both proved prolific. But *generally,* the statement of Mr. Stephens was confirmed. We cannot speak from our own knowledge, except in the case of the genus *homo,* where, so far as our experience goes, there appears to be no impediment. Perhaps some of our correspondents may be able to answer the enquiry of S. B. S. from their own observation.

From the Vermont Stock Journal.

To Break Vicious Horses to Ride.

CORNWALL, Vt., Dec. 1857.

D. C. Linsley, Esq:

Permit me to give you my experience in breaking a vicious horse to ride. In my younger days I was importuned by a friend to take a seven years old mare to break to ride, which several had tried to do but had failed, as she had thrown every one who had mounted her. I consented to give her a trial. Before mounting I took a stout cord and passed it around her body just back of her fore legs, drawing it pretty snug and making it fast. I then put a cord in like manner around her neck, and tied the cord together between her fore legs, and also on her withers. The coupling of the cords on the withers makes an excellent place to hold on to with one hand, and very much assists the rider to retain his seat. Thus equipped, I mounted her. She made two or three attempts to part company with me, but not succeeding gave up completely subdued. The philosophy of the thing is this: no animal can exert itself in rearing and pitching without expanding the body, which causes the cords to cut into the flesh, and hurt so badly that they will not make more than two or three trials before they give it up.

ABRAM FOOT.

About Horses Running a Mile in a Minute.

Porter's Spirit of last week says to a correspondent:

"Bell's life, The London Era, and other established English turf authorities, have all repudiated the vulgar tradition that Flying Childers, Eclipse, or any other horse, ever ran a mile in a minute. The error grew out of the measurement of a few of the strides of Childers and Eclipse, in certain races, when they were under a momentary burst of speed. It was then remarked, that could the rate of speed indicated by those enormous bounds have been kept up, the horse would have made a mile in a minute. Every one acquainted with turf matters, knows, however, that the utmost speed of a horse can only be maintained for a short distance, and he must be slackened and eased, or he will be brought to a stand still. The probability is, that the speed of Childers and Eclipse, whatever it was, has been beaten by horses of the present day, the 'American Encyclopedia' and 'Youatt' to the contrary notwithstanding."

The Editor of Bell's Life in London, in reply to a letter from an American gentleman, some month's since, write as follows:

"The Editor of Bell's Life in London begs to inform Mr. H., that the best authentic time on record of a mile in England, is 1:48. It was run by War Eagle and Cossack, carrying 8 st. 7 lb. (119 lbs.) each, for the New Market stakes, over the Ditch mile (7 furlongs and 201 yards,) in

the spring of 1847. The Ditch mile, with the exception of the first 100 yards, which is up hill, is almost flat. It is absurd to suppose that Eclipse, Childers, or any other horse, ran a mile in a minute. The time of the present day is undoubtedly the best. The average or general time of mile races in England is 1 min. 54 sec., but in heat races, the following may be pronounced good time :—One mile, 1:57; two miles, 3:55; three miles, 5:53; four miles, 7:51."

P. S.—The editor begs to add that he considers the time test a *perfect fallacy—it is no criterion or test of a horse's powers or merits.*

Porter's Spirit adds:

"Against the fast time given above, in the letter of the editor of Bell's Life, we mark the *best* time of the horses in this country: One mile in 1:42½; two miles, 3:34½; three miles, 5:35; four miles, 7:19½.

Carrying Weights.

The old rule of racing is, that between equal horses, in a four mile race, seven pounds imposed upon either would lose him the race by a distance of 260 yards; and, although this estimate has been recently questioned, we have the authority of the late John C. Stevens, than whom there were few better judges of such matters, for saying that he had a mare so closely equal to Black Maria, for a single dash of four miles, that he never knew which would win, as the least shade of difference in condition would win or lose the dash to either; and that, in order to prove the truth of the old dogma to his own satisfaction, he had tried the two mares many times, interchanging the weights, when he invariably found that the carrier of the seven extra pounds was beaten by the other a distance, more or less, the variation being small.

Cure for the Garget.

Some two or three years since we published the following recipe for curing garget, and from actual experiment in this vicinity, we *know* it to be a good one. Mr. Lowell Greenleaf writes to one of our agricultural exchanges, (we have lost the credit,) giving an account of his trials of the recipe and its results, as follows:

"Having had a cow that was almost worthless on account of bunches in the udder which rendered the milk bloody, and stringy, and not fit for the hogs, I was on the eve of giving her up for lost, when I used the following recipe, which in three weeks restored her to perfection, and not the slightest symptom of garget has appeared since. I could cite numerous cases of perfect cure. And not only doubling the quantity, but also improving the quality of the milk and butter. Since I applied this remedy, my cow has, in two years, risen in value from $20 to $75:

"*Recipe.*—An ounce and a half of hydriodate of potash, at 440 grains to the oz. will contain 660 grains. Put the whole into a glass bottle of sufficient capacity, with fifty-five table spoonsful of cold water. Shake briskly, and it will be thoroughly dissolved in a few minutes; one table spoonful will contain a dose, the requisite quantity of 12 grains. Wet a little Indian meal or shorts and thoroughly stir in the dose. Give two or three doses a day. Keep the bottle corked tight."

[*Exchange.*

From the Louisville Journal.

Hog Cholera—(*Pestis Bovina.*)

The immense amount of pork, bacon, and lard that constitutes so large a portion of human food and amounts to so large an item in the commerce of our country renders the successful rearing and preservation of the pig a matter of paramount importance, not only to the farmers and producers of the article, but to the packers, shippers or dealers, and consumers of all classes. It becomes, therefore, a matter of concern that the swine should be carefully looked after, and, if possible, protected and disinfected from that loathsome and fatal malady which has spread such havoc and devastation among them in the last twelve months in various parts of the United States.

The disease which has proved so fatal to stock recently in various localities, and particularly to hogs, has been denominated hog cholera.

Its first development among hogs was in the vicinity of large distilleries, and its cause has been attributed to the influence of strychnine said to have been used in the manufacture of liquors. The subsequent development of the disease, however, in regions remote from such influences, and where, by the very nature of circumstances, no such cause could have operated, has pretty effectually dispelled a delusion that the well known therapeutic and toxicological effects of strychnine might never

have been able to have done, and we are again left upon the broad sea of conjecture to guess at random at the cause of this fatal malady.

As much of the prophylactic treatment of all diseases, whether in man or in the inferior animals, must depend upon a knowledge of their cause, it is obvious that any deficiency in this department of knowledge must forever be fatal to success. It is unnecessary that I should encumber this article with the many vague theories and speculations that have from time to time been advanced in relation to the cause of this disease, many or all of which are perhaps as groundless as the one already referred to.

But I will briefly allude to one cause to which the disease has been ascribed, which seems to me to be more plausible than any theory I have heard advanced, and should it, upon further investigation, turn out to be well founded, it will afford at least a certain prophylactic remedy.

I allude to the ingesta of unsound grain upon which the stock may have been fed, and this cause, if it exists, is abundantly sufficient to produce all the disastrous results which we have witnessed, as is well known to toxicologists.

Speaking of the effects of the secale cornutum, Mr. Taylor, on poisons, page 433, says: "The chronic effects of this poison have been witnessed occasionally on the continent in an epidemic form. In one set of cases the nervous system appears to be especially affected, indicated by vertigo, loss of sensation, tendency to sleep, rigidity of the muscular system, tremulous gait, and convulsions. After death the chief appearance consists of congestion of the brain, liver, and heart."

In another set of cases the blood appears to undergo some change, hemorrhages ensue, black spots and boils appear in various parts of the body, and there is mortification of the extremities. After death the blood is found black and very fluid throughout the body. Mr. Taylor says "that ergot is a disease that is not confined to rye, but affects many kinds of grasses." And may not unlikely affect other kinds of grain.

It may not be improper to revert to the fact that a great deal of the late corn of the last year's crop was materially injured by the early frost, which destroyed vegetation several weeks earlier than usual, and impaired the late crops of corn, and, without presuming to attribute the disease to the above cause, I would remark that I have witnessed the violence of the epidemic among hogs that were fed on grain that was injured by frost, while others in the same locality, which we fed on well matured grain, were comparatively exempt from the disease; while it is equally true that many droves of hogs that were fed entirely on mature grain were almost annihilated; but it is believed by many, and scarcely admits of a doubt, that the disease is contagious, and this fact may account for its development in hogs that were fed on mature grain. Without intending to be tedious upon this subject, it is proper to remark that epizootic diseases among stock, beasts, and birds of various kinds, have not unfrequently prevailed in an epidemic form during, shortly after, or just before an epidemic of influenza and other epidemics in the human species, supposed to be produced by some peculiar electrical condition of the atmosphere.

Mr. Watson, in treating on the epidemic of influenza, says: "It has been observed also that, shortly before, or during, or soon after prevalence of these epidemic catarrhs, epizootic diseases have raged; various species of brutes and of birds have been extensively affected with sickness, while on some occasions prodigious swarms of insects have made their appearance. In fact, a great variety of facts concur to render it probable that some peculiar condition of the air existed which, though it might be favourable to the multiplication of some species of living creatures, such as the insects just referred to, operated as a poison upon the human body and upon the bodies of many of the brute creation." After alluding to the reasoning in reference to the cause alluded to, he says:

"The facts in support of their views are of this kind: Meat sent up by means of a kite high into the atmosphere, during the prevalence of the disease, has returned putrid."

Watson's Practice, page 542.

It is scarcely necessary to mention the fact that a similar epidemic of catarrhal disease and ulcerations of the throat to the one referred to by Mr. Watson, is now prevalent here and has for some time been in various parts of the United States.

I will just remark that accounts are current of the prevalence of epizootic diseases among cattle at this time in Indiana and some parts of Tennessee. With regard to the symptoms which mark the disease called hog cholera, they are too well known to require minute description; all are not however affected alike, and may die without any manifestation of disease at all. Puking and purging, although frequently accompanying symptoms, are by no means universal. Indeed, I can refer to no one symptom that is. But the most remarkable feature of the external phenomena which has attracted my attention is the fœtid odor emanating from the hog while he yet seems vigorous; in many instances the smell is so offensive as to attract the attention of buzzards, while the animal is still able to run about. In such cases I have observed a black sordes upon the teeth, and the breath seemed as a warm vapor from a putrid mass of carrion. It is not unfrequent that blood is mixed with the urine and feces, and lumps of coagulum thrown from the nose in the respiratory process, toward the fatal termination of the disease.

There is a remarkable tendency to bleed from the slightest injuries about the mouth or tender parts, and the blood seems to gravitate and settle to the most dependant parts of the animal in patches of petchiæ, or minute extravasations of blood beneath the cuticle, and in some instances one or more of the legs are in a state of gangrene. There are other symptoms, such as stiffness and seeming rigidity of the muscles and a disposition to walk one-sided, as if the spine or kidneys were affected, but these, like all the rest of the symptoms, are by no means universal.

The post mortem appearances are matters of the greatest importance, as these, if anything, would be most likely to furnish an indication to the cure; but unfortunately, like the symptoms, there is little or no uniformity even in them, and this is what might have been foreseen, for a want of uniformity in the symptoms will always, in every disease, produce a corresponding variety in the post mortem appearances.

My own experience in autopsies has not been so extensive as could have been desired, nor have I prosecuted them to that extent that might have been done, for I have most generally limited my examinations to the thoracic and abdominal viscera where I have never failed to find sufficient cause in these regions to account for the death. I have, on some few occasions, prosecuted my researches to the cerebro spinal substance, without, however, discovering any pathological condition varying from a healthy state.

In some that I have examined, I have found the lungs and heart preternaturally engorged with venous blood and large extravasations in the thoracic cavity, while they were, together with the liver, spleen, mesentary glands, kidneys, stomach, and bowels, entirely free from any traces of inflammation; but these were such as the disease had prayed upon for considerable time and had been considerably purged.

The most striking pathological condition that attracted my attention during the few post mortem examinations which I made, were manifested in those which died suddenly and before they were even discovered to be sick from any external symptoms that was manifest. In such as these I have found the stomach literally impacted with masticated corn, while the bowels are comparatively empty of either digested or undigested aliment. In one case, which I particularly noted, I found the stomach, or part of it, in a most intense state of inflammation; the inflammation commencing opposite the lesser curvature and extending to the piloric orifice. As the inflammation approached the piloric orifice it was increased in intensity until it assumed a gangrenous appearance, and the mucous membrane would cease to adhere to the muscular coat as if death had been produced by the agency of corrosive poison. Indeed, the inflammation extended throughout the duodenum and to more than half the whole extent of the ileum. I learn also from Dr. Barbour that he had witnessed similar pathological conditions of the stomach and duodenum of several that he had post mortemized.

In the above case the stomach had ceased before death to secrete its gastric juice, and its contents were almost entirely dry. It seemed that the lacteal system was pouring out the blood of the animal into the bowels, and the small amount of dark matter that was found in the lower part of the ileum seemed to have been extravasated blood, which had undergone a chemical change after it reached the alimentary canal. I have no doubt that the purging that sometimes attends this disease is a colliquative diarrhea, and dependent upon a waste of the tissues. But purging had not commenced in the case referred to. In other cases where the purging had lasted for a number of days, and where I was unable to detect any traces of inflammation, I have found the stomach to contain a dark, thin matter, which imparted an alkaline reaction to litmus paper, and would become almost transparent by the addition of a small amount of hydro-chloric acid.

In regard to that class which exhibited such violent inflammation of the stomach and bowels, I am of opinion that under the most favourable circumstances any treatment would prove unavailing. I will not enter into a discussion of the merits or demerits of the numerous remedies that have been proposed, most or all of which are empirical to the last extreme, and none of which can be said to have ever done any good. Suffice to say that there are great difficulties attending the treatment of the diseases of hogs if even the most appropriate remedies were known beyond the shadow of doubt. The hog is a very refractory and obstinate patient to manage; you can learn nothing from the pulse; he will not put out his tongue to be examined; he cannot talk to tell the seat of pain, and he will squeal vociferously if you make pressure upon him, as well where there is no inflammation as where there is; he refuses to take such medicines as are unpalatable, and is perfectly indifferent as to whether he is killed or cured.

Now, when we look at the fact that, with all the accumulations of scientific research, it cannot be said that we have one specific remedy for any of the ills that flesh is heir to, it is not to be wondered at that we should be slow in finding a remedy for this disease of the pig. Yet it is a well known fact that most persons expect to cure even this most malignant disease with one dose of physic; and should they chance to give a dose that does not kill, and the hog afterwards recovers, they immediately publish it as an infallible remedy. Medicines produce their curative effects very frequently

indirectly and by slow degrees. Thus bloodletting may become an expectorant, and antimony a subduer of inflammation.

But the difficulty of prescribing remedial agencies to the inferior animals is enhanced when we reflect that medicines by no means always produce the same therapeutic or toxicological effects upon the inferior animal that they are known to produce upon the human species. Arsenic is known to be fatal in large doses when administered to the human species, but may be given in almost any size dose to a dog with impunity; and again, jalap is fatal to a dog, or even ammonia; but either may be taken with impunity by the human subject in pretty large dose. So far as my experience of the use of remedies has extended in the treatment of hog cholera, I believe I have seen the most satisfactory results from the following prescription: R. pulv. chlorate potasse zl (1 drachm), aq. font (spring water) zl (1 ounce); hydrochloric acid (muriatic acid) zl (1 ounce); mix; to be kept in a dark place, excluded from the light in a tight corked bottle. Two drachms or two teaspoonfulls of this mixture added to a pint of water constitutes the famous chlorine mixture which has been so highly extrolled in the treatment of putrid diseases in Europe and in America, and may be administered at frequent intervals, in two or three ounce doses without danger. The only danger in giving it to the hog, is that of failing to give enough and sufficiently frequent.*

It is believed that this medicine will succeed better than any that has been tried in curable cases; but in such violent cases of inflammation (as has been described) of vital organs, it is absolutely certain that nothing would succeed. I think, however, I have seen this medicine successfully employed in prostrated cases. It may be administered in slops or milk, and a hog will not refuse to take it that way, when he will eat at all. But about a disease so difficult to cure and affecting an animal so difficult to treat, I have perhaps said enough without discussing the properties of the medicine or the *modus operandi* of its cure.

There is one subject, however, to which I will refer at the risk of being tedious. I mean the danger to be apprehended from eating the flesh of animals that have been afflicted with epizootic diseases.

I give a reported case of an eminent English toxicologist upon this subject. The author goes on to say: "In some instances the poisonous quality of the food is clearly referable to the disease with which the animal was affected when killed. This is especially the case in the epizootic disease called carbuncle, frequently prevailing to a great extent among cattle on the continent.

"The following case appeared about a year since in the Annali Universali di Medicina, and has since been published in the Edinburg Medical and Surgical Journal. A heifer which had two carbuncles on the buttock was killed and its flesh sold. It appears that about sixty persons partook of this food, and all were seized with the following symptoms: giddiness, trembling, shivering, violent cramps in the obdomen and limbs, vomiting and purging of a green, bitter matter, intense thirst, sinking of the countenance and delirium. The tongue was observed to be red at the tip and furred at the base.

"These symptoms were severe in proportion to the quantity of flesh of which each person had partaken. With one exception, all the patients recovered under the use of very simple remedies. In the solitary case that proved fatal, the symptoms were not different in character from those above described, but they were much more severe. The prostration of strength increased rapidly; there was loss of voice, and a sophorific state ensued. This patient died on the second day after admission into the hospital. On a post mortem examination the body was found to be much emaciated, and there were livid spots scattered over the skin, especially over the lower extremities. The veins of the dura matter were filled with blood, and the spinal marrow was somewhat softened. In the abdomen, the liver had a tendency to softening and the spleen was diminished in size.* There was submucous ecchymosis occupying about two-thirds of the greater curvature of the stomach, a similar ecchymosis near the cardiac orifice, and spots of the same character were found at intervals over the whole surface of the intestines.

"In this disease it is said the flesh of the

* Uniformly the case 7 hours after eating. [Ross.

[* We published this prescription in the last No. of the *Farmer* in anticipation of the publication of the entire article of Dr. Ross. We have subsequently received the following correction of several important errors as printed in the Louisville Journal.—*Ed. Am. Far.*]

To the Editors of the Louisville Journal:

ERRATTA—CORRECTION.

GENTLEMEN: In an article written by myself and published in the Journal of the 16th inst., on hog cholera and pestis bovino, which I regard as identical, and long known among stock raisers as murrain, I observed several typographical mistakes, the most important of which is an entire missatement of my formula. In each of the articles employed I am made to say one drachm, whereas my prescription was one drachm pulv. chlorate of potash, 1 ounce of muriatic acid, and 1 ounce of water, to be put into tight corked bottles and kept in a dark place. Two drachms or two teaspoonfulls of this mixture was to be put into a pint of water and administered in two or three ounce doses at frequent intervals, &c. Again I am made to say prostrated for protracted, and tilmus for litmus, and sundry other small though unimportant typographical mistakes.

W. W. ROSS, M. D.

animal is rendered so poisonous that the mere handling is liable to occasion formidable symptoms. Both the solids and the liquids, of the animal appear to become poisoned under its influence."—[*Taylor on Poisons, pages* 451 *and* 452.

There are many more cases on record of the poisonous effects of flesh of animals which had been diseased previous to their having been killed, but I do not desire to encumber these remarks with the repetition of cases more or less similar in their results. I have selected this case because it contained the most overwhelming evidence that the sickness of so large a number, all of whom had partaken of the same meat at the same time, could have originated from no other cause. I close the remarks which I designed to make upon the Pestis Bovina. I am aware that I have omitted many things which might have been of interest to the professional man, but it is hoped that the discussion is sufficiently elaborate for the general reader and stock-raiser.

W. W. ROSS, M. D.

Telegraph Springs, Ky., Dec., 1857.

From the Rural New Yorker.

Cultivation of the Sun-Flower,

AS A PREVENTATIVE OF DISEASE.

FOUR years ago, in an article in the Michigan *Farmers' Companion*, I advocated the more extensive cultivation of the Sun-Flower, on account of numerous good qualities which it possesses, but I was not aware, at that time, that it was a valuable preserver of health, and as Lieut. MAURY has clearly demonstrated that such is the fact, *I can now give my testimony in support of the opinion.*

A few years ago, I lived on a farm in this State, which was not very well cleared, and being intersected by a creek, it was subject to periodic floods, and was not considered favorable to health. Being an advocate for the cultivation of the Sun-Flower, I wished to practice what I preached, and, in order to do so, sowed Sun-Flower seed in every vacant nook and corner around the homestead. A stately crop of noble sun-flowers awarded my toil, and ornamented the garden and door-yard. The spring and summer were wet; ague and fever, and other bilious disorders, made their appearance in almost every family around me; but my family enjoyed perfect health, so much so, indeed, that the neighbors frequently expressed their astonishment that some of us were not afflicted like the rest of the inhabitants of the locality.

I have since heard of the virtues of the Sun-Flower as a preventive of disease, and do not hesitate to attribute our safety in this case to its influence in counteracting the effect of miasma which arises when stagnant water is evaporated by the heat of the sun. When its useful properties are all taken into consideration, it must be admitted that the sun-flower is a most valuable plant: its seeds are greedily devoured by all kinds of poultry, and contribute, in a remarkable degree, to their laying and fattening qualities, which under other feeding, are usually incompatible with each other, while the stalks and leaves are excellent food for cattle. In many parts of Europe, horses and cattle are fed for a considerable portion of the year, on its leaves; an excellent oil is obtained from the seed, whilst the refuse which remains at the oil mill, after the oil is expressed, is good and fattening food for hogs. It is said that the stems make very good paper; the ashes of the stems are much valued for manure.

The sun-flower has been cultivated extensively in England as an oil plant, but from the coldness and humidity of the climate, the seed had to be sown in hot-beds, from whence the plants were transplanted into the field and placed in drills three feet wide—with spaces of eighteen inches between the plants in the rows.

The sun-flower produces a greater quantity of seed than any other plant; it is easily propagated, and, as it contributes to the health of the human race and the sustenance of the domestic animals, it should be cultivated extensively by every farmer. EDWARD MASON.

Detroit, Mich., 1858.

Too True.

The Wilmington *Herald* says:

It is said that newspaper subscriptions are infallible indications of a man's moral honesty. They sooner or later discover the man. If he is inclined to be dishonest, it will eke out in some way—say he had paid, when he had not—declare the money *was* sent, and the receipt mislaid in some way—or, perhaps, as soon as the bill is sent in, although he has enjoyed the paper for several years, he suddenly finds an excellent excuse to discontinue the paper—or, he makes up his mind to move away, forgetting that the printer is not paid.

THE SOUTHERN PLANTER.

RICHMOND, VIRGINIA.

Plantation Roads---Work for "the Long Season in May."

In old times, when "the wheat patch" was merely intended to supply flour to the family, and corn was raised only to feed many negroes, a few hogs, and still fewer horses, the main use of a public road was to roll the tobacco to market, or transport the planter's family in the four horse coach, himself meanwhile riding, as every gentleman should now do, on horse-back, regardless of the state of the highway. So having but little use for good roads we had them not; and, as with many other things—the fence law, for instance, which, though well adapted to a new and sparsely settled country, is an injury and a nuisance in more populous or worse wooded regions—custom has sanctioned bad roads in Virginia. Even if our conservatism surrendering to the demagogue nearly everything of political value, but holding tenaciously to its economical errors, did not forbid the hope of relief from such a burden, the prejudices of proprietors, who insist that the road shall "run along the line," even though the line be vertical, assure us, in a long observation, that it is wasting powder and shot to try and "bring down" the grade of roads.

But if men act like blockheads about public matters, it does not follow of course that they shall refuse to mend or amend their private ways; and we propose a rainy day's job of that nature for the long season in May, when manure cannot be hauled out, nor corn planted, nor anything else of special value be done. Good roads may then be commenced, and finished from time to time, or roads already well laid out may be put in repair. A farmer does a vast deal more hauling on his own farm than he does on the public road, and is therefore really much more interested in his own than the public roads. If, *e. g.*, he live three miles from a depot, or other means of public transportation, and have two thousand bushels of wheat for sale, he can make three loads per day of sixty bushels each; which is eleven days for the time of delivery. If he shall have manured only twelve acres of the land that grew the crop, and that at the moderate rate of ten wagon loads per acre, making ten loads per day, it will take him ten days to do it—about as long as it took him to deliver the product of, say, one hundred and thirty-two acres. If he manured the whole field, of course it would take eleven times as much hauling to manure the land as to market the crop. If we estimate the hauling the wheat to the barn, the hauling of all sorts for other crops, the hauling for fuel and fencing, we may safely say that he does a good deal more than ten times as much of that sort of labour on his own roads as he does on the highway; and is, therefore, more than ten times as much interested to have his own roads good. We appeal to observing farmers, even though they may never have thought of it before, to say if the bad condition of plough teams be not more frequently due to heavy straining on bad roads than to scanty feed or neglect in the stable.

But it is not only in the order of the team that the loss is sustained. The amount of the load is so much less, that it is within bounds to say that not less than fifty per cent. of our labour in hauling is wasted. We once asked a very intelligent gentleman, a farmer from the best farmed district of New York—the Genessee country—to say candidly, the object being to profit by the answer, in what particulars the farming of Albemarle, as he had seen it, was inferior to the practice of his own State; and he replied unhesitatingly, that it was better in Albemarle so far as tillage was concerned, and only worse in that we "drew," as he phrased it, about half as much at a load as they did; two of their horses pulling as much as four of ours.

Nor have we yet stated the whole loss; for a horse under strain requires more food than one at more moderate labour. To get at this in a tangible form, let us attempt an approximation, necessarily imperfect but yet illustrative, of the cost, in feeding, of the present system, putting the feed at two gallons of meal to each horse

per day. To supply the fuel of an ordinary plantation in winter, requires, on an average, the services of one wagon for two and a half days of every week for four months. It will take not less than thirty days to put the rails for fencing in place, the same to haul the manure, and the same to haul the corn, hay and stalks, and nearly the same (say 20 days) to haul the wheat to the machine. Here we have an aggregate of one hundred and fifty days' full work for a farm that works nine or ten horses and mules. At two gallons of meal daily, to the horse at work, this will amount to thirty barrels of corn. But if the team shall have done the same amount of work with half the exertion, then at least one-third of the feed will have been saved. This, supposing the team to be worth $125 each, or $500 in the aggregate, will just pay the interest on the whole team every year.

But whilst we save 50 per cent. of the work, and the interest on the cost of team, we probably prolong the last of the team and their actual working capacity at least one-third. No one who has not tried it can form an idea of the difference in durability of over-worked and under-worked horses. For ten years, in Albemarle, we kept ten horses, equal to one hundred horses for one year—and in that time we lost only one horse, or 1 per cent. of the whole. At the end of that time we took a heavy wood contract, the wood to be hauled to the University, five miles distant; and though we had a larger number of horses, none of them got any rest. The consequence was, that the proportion of deaths began at once to increase.

On the above data any one can calculate for himself what he will gain if he can effect the saving by having good roads.

But will the roads effect all this if they are good? We reply unhesitatingly, that we believe they will. "Dr. Lardner estimates that on a well Macadamized level road, when in good order, the resistance due to friction, &c., amounts to only 1-40 of the load. This being the case, a horse drawing a load of 400 lbs. need exert but a force of 10 lbs. If, however, the road is inclined 5°, he must exert a force of 40 lbs. to move the same load. So that he does no more work in pulling a cart weighing 400 lbs. over four miles of a well Macadamized level road, than he would in drawing the same load one mile over a road whose ascent is 5°, even though the latter should be equally well Macadamized."

Again, it has been stated, in a table now before us, "which exhibits the ratios of the length of the road at various angles, corresponding to the vertical rise, and the resistances of the various slopes, and the equivalents in length of level roads, that with a slope of one in one hundred, one mile of road is equivalent to a mile and a half of level road; or, to state it differently, a horse, by the same exertion of power, could draw over a level road a load one half greater than he could draw up the incline."

"Every animal," says the same authority, "can furnish a certain amount of work for a certain time without exhaustion; and there may be exacted from it, for a brief period, an excess of labour over that amount. This excess has not been definitively ascertained; but it is generally estimated at twice the amount which can be furnished habitually. In order that an animal may be equal to all the accidents of a route, it is evident that such excess of exertions should only be extracted from it at rare intervals and for short periods. If the steepness of the gradient is limited on these considerations, it appears that it should never exceed a rise of one in fifty, at which slope the amount of traction is twice as great as on the level."

We know that on many farms such grades are not attainable; but on many others they can be attained without difficulty: and on all they can be approximately reached.

The grade of one in fifty is just about three inches in 12 feet; and with a span level, such as we use, and such as any one can make, there need be no trouble nor expense in running off such a grade. In regions where the practice of hill-side ditches attains it will be an easy matter, because the prescribed gradient, or one still lower, (2 in. in 12 ft.), is most commonly adopted. On such farms—and we here beg leave to recall our objections to hill-side ditches and humbly retract our error in that regard—it will be the easiest matter in the world to construct such roads at appropriate points, by making the lower bank a fifteen or twenty foot bed, gathered up by the plough; in some cases arranged as a permanent road, in others as a temporary gangway for the transportation of

crops or manure. It may not be practicable always to preserve the selected grade: but it is certainly so by taking a little trouble to reduce the sum of the heights to a minimum, and to avoid the sudden pitches which pull the life out of so many horses. If it is necessary to cross a ravine which it is inconvenient to head, then some amount of cutting may be necessary; but a little judgment and reflection and *patience*, will enable most men to "balance the materials," so that the dirt from the cutting shall preserve the grade across the ravine: and the water that gathers there, if it is not desirable to lead it away by the side drain, may be led off by a cheap culvert under the fill.

Most farmers have a fancy for squares and straight lines. But though squares are the most economical form of enclosure, there is no reason why they should not be crossed at any angle necessary for the transport of heavy loads; and a gate had better intervene than have a hill to surmount. As to a straight line, it is by no means true, except in pure mathematics, that it is always the shortest distance between two points. Even if it were, it is not always handsome or convenient. In a landscape a road of reversed curves, of wide radius, is always the handsomest, and is just what would be secured by running a span level, at a given grade, on an undulating field.

In some circumstances, of course, these directions do not apply. But such cases are left to the discretion of the farmer, who can easily ascertain for himself where they are applicable, and where they are even approximately attainable. We are very sure they will prove of the greatest benefit if wisely pondered.

We have treated this subject just now because the month of May, if a rainy spell shall chance to come, is the best season for working roads. Later, we are all too busy; and in the winter and early spring a freshly made road works up into mud, or cuts up into deep ruts. But in May the warm sun soon dries it, and it will wear smooth by the summer's use.

The best implements for working or making roads are the plough, the harrow, the scraper and the Clod Crusher. Do as little hoe work as possible. Last May we took a road one mile long and twenty feet wide, of hard clay that had been tramped for forty years, and probably never worked in all that time. With the exception of two hills descending to a brook, it was nearly a dead level. We ploughed it over twice with a three-horse plough; we pulled up the furrows from the side drains with weeding hoes, the scraper not being necessary, and we then went over it twice with a heavy three-horse harrow. This took two days' time of seven common hands, and not a day's work of a plough and harrow, though they were on the ground all the time. But the ground was so rough, with enormous clods, it could not be pulled over. But in two hours and a half of a third afternoon we have worked the clod crusher over it, and then it was equal to a race track. The road will never be a first rate one, because it is a clay flat. But it cannot become, as it was before, absolutely impassable. It was the result of only two days' work at a time when but little else could be done; and it is only a fraction of what other persons can do a great deal better.

Transactions of the New York State Agricultural Society.

We are much obliged to B. P. Johnson, Esq., the Corresponding Secretary of the Society, for a copy of the Transactions of the New York State Agricultural Society for the year 1858. Though this volume is not quite equal to some that have preceded it, it is still a valuable work. and its short-comings are not due in any measure to the indefatigable Secretary, who is the best officer of the kind in the United States. and a very civil and obliging gentlemen, as we have had more than one occasion to know. and as all will know who have business with him or favours to ask of him.

South Down Sheep.

We have annually, for a year or two past, advertised part breed South Down Buck Lambs for sale. We have them still; and if they are wanted, can furnish them at the next weaning season at $15 for the half breed, and $20 for the three quarter breed, the remaining cross being of Cotswold and Bakewell.

We have uniformly advised breeders who might fancy this breed, to get the pure breed Bucks, at from $40 to $60, either from R. H. Dulaney, Esq., of Upperville, Fauquier Co., who has the best, or from Raleigh Colston, Esq., of Ivy Depot Albemarle, who has the

next best, both of whom are gentlemen every way reliable, and are of our own people. But we have also said that a half of a loaf was a good deal better than no bread in this matter, and if persons did not choose to purchase the pure bred, they had better get ours than breed from commom rams.

It is said of this breed in the standard English work on THE SHEEP: "The South Down is adapted to almost any situation in the Midland part of England; it has a patience of occasional short keep, and an endurance of hard stocking equal to any other sheep; an early maturity, scarcely inferior to that of the Leicester's, (Bakewell's,) and the flesh finely grained, and of peculiarly good flavor;" "and the wool of the most useful quality."—THE SHEEP, pp. 111, 233.

They also make particularly fine lambs for an early market.

The Chinch Bug---Two Remedies.

These destructive insects are again upon us, and whether they will do mischief or not depends on the season. But we ought to be prepared for them. We published, last year, several remedies, some of which we tried ineffectually. The following from Mr. Turnbull, late Superintendent of the Model Farm of the Union Agricultural Society, we clipped, last year, from the Southern Farmer, and put away to be brought forward at the proper time. We advise a trial of it not only because of his unqualified testimony, but because our friend, Mr. Wm. W. Tompkins, of Richmond, assures us that he saved his corn by the same plan, last year, at his farm in Chesterfield, on the Appomattox, and made enough good corn-stalk hay from what the chinch bug left to pay for the trouble. Where the land is not good enough to produce the row of broadcast corn with considerable luxuriance, it had better be manured. We have but one suggestion to add to Mr. Turnbull's statement; and that is the propriety of pouring, from the spout of a flower pot divested of the rose, a line of gas tar between the broadcast corn and the field of stalks. It may intercept a good many stragglers, and save some of the expenditure for the higher priced oil. Until the chinch bug can fly the line of gas tar will certainly intercept them.

Another remedy, which may be used in aid of the above, we have from Mr. Jno. A. Selden, of Westover, who has tried it successfully. In sowing his corn-land, wheat strips are left through the field at convenient distances to receive the corn until the wheat is sowed; when it is hauled off, and the strips seeded in oats the following Spring. To these strips of oats the chinch bugs go when the wheat is cut. And when the oats are cut, wheat straw, of the previous crop of course, is spread upon the land, and the stubble thus burned over. The fire destroys enough of them to check the breed, and the corn subsequently sustains but little injury.

From the Southern Farmer

The Chinch Bug---Proposed Remedies.

Messrs. Editors,—The chinch bug seems now to be the plague of this country. They are becoming so numerous throughout the length and breadth of the land, that if something is not done they will lay waste the grain crops of this section of the United States.

Many intelligent farmers have put their wits to work in devising some mode for exterminating this great pest. I have had my feeble powers and energies engaged for some time, trying to conceive a plan whereby the agriculturist may be enabled to baffle the destroyer.

I have tried soap-suds and find it will not do; it stuns the bug only for an hour or two. I applied this remedy in the presence of the Executive Committee, when it seemed to kill the bugs instantly, but in an hour they were themselves again, ready to re-commence their depredations. I gave one lot of chinch bugs four different applications of soap-suds in one day and did not kill them. I used spirits of turpentine, which killed both the bugs and the corn. Train oil injures the stalks of the corn. Lamp oil kills the bugs, and it does not hurt the corn in the least. This is a costly oil, being worth $1 50 per gallon, and it takes one gallon per acre where the bugs are very numerous.

It is applied in the following manner: take a small syringe and squirt the oil on the stalk of corn: as it runs down the stalk it kills every bug it touches instantly. I have a lot that was treated in this manner seven days ago, and as the bugs exhibited no appearance of returning life, I take it for granted they are thoroughly dead.

Killing chinch bugs with fluids is a very tedious business. It tries the patience of man, for nothing is more distressing to the farmer, after all his hard labor and expense, than to see his daily bread destroyed by such insignificant insects. It almost makes me exclaim in despair, what shall we do?

After mature reflection, my friend, Dr. John P. Goodwyn and myself have arrived at the conclusion that chinch bugs must be fed; we must provide something for them until a kind and merciful Providence sees fit to relieve us of their presence. We have both been close observers; we have tried to destroy them with various fluids, snuff, &c.; we have also observed what kind of vegetation they seem to be the fondest of, with an eye to furnish them food. Young corn is their favorite: I have seen them leave green oats and wheat to go to young corn. Corn sowed broadcast is their delight.

We now propose that the best manner of saving the corn crop from their ravages is the following: leave a space or belt of land between the wheat, oat and corn fields, in the months of April, May and June: sow broadcast this strip of land, say in April 1-3d, in May 1-3d, and in June 1-3d. Chinch bugs will not leave the broadcast corn to go to the cultivated field. I have an experiment that will satisfy any one on this subject. Before they can destroy the broadcast corn the cultivated corn will be advanced and they cannot hurt it. If, however, a few should go in the cultivated field, use the lamp oil as soon as you see them, and it will kill all it touches. The chinch bug is an epicure, and is fond of the luxury of young corn. I now have on the Model and Experimental Farm millions upon millions of chinch bugs upon a half acre of broadcast corn. I have the same thing on my own farm.

I offer these suggestions to my brother farmers, hoping they will give their energies to this subject, that we may all try to do something. Yours truly,

WILLIAM TURNBULL.

Model and Experimental Farm,
July 20, 1857.

From the Southern Cultivator.

Cut Worms.

Editors Southern Cultivator,—I perceive, from the article of W. H. Russel, in the January number of the *Cultivator*, that from my observations, he has fallen into error in his conclusions about the manner in which the cut worm is produced. I cannot positively assert that they are oviparous, nor yet that they are altogether viviparous as Mr. Russell, I doubt not, will perceive upon a close investigation of the subject. The excessive quantity of these troublesome worms which preyed upon our vegetables last Spring, induced me to attempt to find out something of their habits and mode of being. In order to this end, I got a glass jar, walked into the garden and, after filling it about half full of dirt, I gathered up some half dozen or more, large, fat, well grown worms, and put in it, and kept them supplied, from day to day, with fresh cabbage leaves, until they ceased entirely to eat them; after which all of them, except one, burrowed in the earth, the position and movements of several of them could be well defined through the glass jar. There came forth from the one which remained out of the earth, after lying in a dull torpid state for some days, the viviparous, living worms; upon this discovery I walked into the garden and, upon investigation, found what Mr. Russell states to be true in reference to many which were opened with a stick.

The mother and brood in the jar soon died, and I waited for the further developments. In the course of some days I had from 30 to 41 eggs deposited in each place in the jar where the female lay, from which I soon had any quantity of flying insects, resembling, somewhat, a musquito in appearance, formed more like a wasp and very tenacious of life. I then remembered, in digging after the worms, to have seen the same kind of eggs all over the garden, but it had not occurred to me that these were the deposits of the cut worm. The female became extinct in every instance, after depositing her brood; while the male, without passing through the chrysalis state, such as the young of the females pass through, was metamorphosed into a fly, larger than the common candle fly, and, in appearance, more like the small tobacco fly. The conclusion to which I arrived, in view of these facts, was that while the living worm, or fly, was within the mother, yet if left to the natural and proper development it would come from her in a chrysalis state, resembling an egg in appearance, out of which, at the proper time, the fly would come forth, leaving the shell behind. Why the male should be privileged to live through more stages or generations than the female, is a question we may not understand?

I have hastily thrown these thoughts together, Messrs. Editors, simply for the sake of truth, without being able yet to see what practical good may result from them.

JOHN A. TAYLOR.

Haywood County, Tenn., January, 1858.

History and Habits of the Army Worm.

A friend who has made etomology a subject of study, furnishes us with some of the results of his investigations into the character, habits and history of the army worm, of which so many complaints have arisen in various parts of the country. The oat patch west of the Smithsonian grounds supplied him with specimens, and an opportunity to observe much concerning these devouring pests. Our friend's first impression, and which indeed, he retains, was, that the worm in question is identical with the grass worm of the South. Present appearances all attest this identity, but it will require the complete round of transformations to be gone through with before it can be considered certain.

This worm destroys corn, clover, grain, and

every kind of grass, and in the South is found very abundant on the grass and weeds between the rows of cotton. Its caterpillar, just before changing into the chrysalis, hides under stones, and where the ground is broken under clods of dirt. Their enemies are formidable, the largest being the toad, which stuffs itself with them almost to bursting. The stomach of a toad taken in the oat patch above referred to, having been cut open, was filled with these worms, mixed with a few wings of beetles. The army worm has another enemy in the black larva of what seems to be a *necrophorous*, which preys upon the caterpillar. Besides these there is a small inchneumon, or at all events a parasitical fly, which deposits its eggs all over the back of the caterpillar, and they, when matured, spin cocoons, which send forth a cloud of other flies to repeat the process.

Specimens of the army worm sent hither from Maryland were entirely destroyed by a fly much like the common house fly, but with a lighter colored series of rings around the abdomen, which is hirsute and tipped with brown, belong to the family of *musiadæ*. It is a merciful provision of nature that, as these worms increase, so do the parasitical foes which feed upon and destroy them. But for this the consequences would be terrible indeed to all the hopes of the agriculturist.—*National Intelligencer.*

Hay Caps.

The concluding article on this subject from the Boston *Cultivator*—the first being from that excellent periodical, the *Country Gentleman*—is in reply to certain questions we propounded to our friend, if we may presume so to call him, Mr. Howard. There can be no doubt that in a catching season, a hay cap, if it answers the purpose, as an experiment of our own satisfies us it will, is worth its cost to each cock of hay it covers, especially if it be clover hay.

Those who do not choose to purchase any of the parties who have them for sale in Boston, may try them on a small scale with any cheap oznaburgs or sheeting. And if they will even take one or two old bags and rip them up they may manufacture enough caps for a satisfactory experiment. They may paint the caps with gas tar, and if they can wash it out by rain, they will have accomplished a good deal more than we have been able to do by repeated applications of soap and water to a pair of summer pantaloons that got spotted with the tar two years ago in heading chinch bug with it.

If this suggestion meets the eye of any member—one or more—of the Hole and Corner Clubs, of Fauquier, of either of those of Albemarle, of Amelia, Nottoway, Dinwiddie and Brunswick, of the Talbot County Maryland Club, or of any other, will such gentlemen do us, if not themselves, the favor to have experiments in the above regard instituted and reported with minute detail?

Hay caps, made of stout cotton cloth, have been extensively introduced into use in many sections of the country, within a few years past, and judging from the best sources of information within our reach, we know they are generally approved of, on the score of economy, by those who have given them a fair trial.

In the autumn of 1856, Mr. Flint, Secretary of the Mass. Board of Agriculture, directed to one or more farmers in every town in the state, a circular containing a series of questions pertaining to the farm. The tenth question was, "Have you used hay caps? and if so, with what result in point of economy? How were they made, and at what cost?"

To the above questions he received numerous replies, and in almost every case the use of the hay caps was highly approved.

A practical farmer of Hampshire county says:

"In reply to your question as to the utility of hay caps, it gives me pleasure to say, that after using them constantly for the last seven years, I consider them of the first importance in the most critical branch of farming.

"I can safely affirm that my hay has been intrinsically worth on an average, one or two dollars a ton more than my neighbors, which has been proved by the remarkable health of my animals. * * Having these covers always at hand, it has been my practice to mow my grass when it was ready, *without consulting the almanac or waiting for a change of the moon*, and the result has been, I have had more than my share of good luck in this important branch of business.

"They are also very useful as a protection against heavy dews, and as a cover for coarse clover and timothy, I consider them *indispensable*."

A Worcester county farmer says:

"I have one hundred, made of cotton sheeting, two yards square; the hundred cost me just forty dollars. I think they

have saved me twenty dollars this year. I had at one time this season, one hundred and thirty cocks standing out in a six days storm. One hundred were covered—not having caps enough, thirty were left uncovered. The uncovered was worth but little, while the covered was passable hay. I stooked some oats, which I capped—they stood a two days rain without injury."

Recently, a New-Hampshire farmer, Mr. W., informed us that he procured one hundred, two yard square caps, at the cost of forty cents each, and he thinks that he more than saved the cost of them in the protection they afforded his hay the last unusually wet season. He cut about 80 tons, a large portion of it clover and herds grass.

We could cite numerous other similar statements in favor of the utility of hay-caps, but think it unnecessary. There are some farmers, however, who object to their use. A farmer of Middlesex county, in a letter to Mr. Flint, says:

"I have never used hay-caps, not having faith enough in them to give them a trial. My objections are that they cannot be of any use as a permanent shelter, but only in a sudden shower, and then we have no time to put them on. We can save more hay by putting it in cocks and *trimming well*,* than by covering with canvass cloth. In fair weather the cap would be decidedly injurious, as it would prevent the escape of vapor or steam. Cocks of hay that are left to stand in the field over the Sabbath, are often dried enough in the upper half. But in case caps were put on for Saturday night, the drying would not advance on Sunday, unless you should make it a business to remove them on Sunday forenoon."

Perhaps if this Middlesex farmer was to make use of hay-caps for one season, especially as *catching* as was the last hay season, he might somewhat modify his opinions in this matter.

Believing that there is frequently a great saving to farmers, that have a supply of hay caps on hand during the busy season of haying and harvesting, we thus early refer to the subject for the purpose of calling the attention of farmers, who are not provided with hay caps, to the consideration of the question at this comparatively leisure season of the year. If any shall determine to provide against "a rainy day," in hay time, by procuring a supply of caps, we will just suggest to them that in this matter it is better to procure them a few weeks before needed for use, than to be a single day too late.

Farmers differ somewhat as to the proper size of hay caps. We have seen them in sizes ranging all the way from one yard to two yards square. We think 4½ feet square is as small as any should be made, but should prefer those two yards square. Several methods have been practiced to secure them upon the cocks of hay; some recommend sewing in each corner a stone weighing one or two pounds each; others have eyelet holes in the corners, through which they thrust small pins of 18 or 20 inches in length into the cocks of hay; others attach to each corner a loop of strong twine 12 or 18 inches long, and make use of ash or other hard wood pins, eighteen inches long. The pins are about one inch square at the top end, near which they have cut into them a "hooked notch" for connecting them to the twine loop. The lower end of the pin is tapered to a point, so as to easily penetrate the ground. With two yards square caps, the corners of them can be spread out beyond the base of the cocks, so as to carry the rain beyond the hay, which would not be the case with the small sized caps. A small canvass bag is very convenient for depositing the pins when the caps are removed from the cocks. Some, however, make use of a nail keg for this purpose.

In a somewhat extensive drive over a farming section of country, last September, we saw hundreds of hay caps on shocks of corn and cornstalks, as also upon stooks of beans. We have also frequently seen them used as a temporary covering for stooks of wheat, oats, and other grain.—*Country Gentleman.*

Hay Caps.—In reference to the inquiry of our friends F. G. R. and B. P. J., we have called on Messrs. Chases & Fay, 14 City Wharf, and obtained some information in regard to hay caps. They make four sizes, of the following dimensions

* It is our impression that it would require less time to cap a cock of hay, than it would to trim it so as to shed rain, in the case of a "sudden shower."—EDS.

and prices: No. 1, 54 by 48 inches, sheeting, 25 cents each. No. 2, 72 by 72 in., sheeting, 37c. No. 3, 53 by 48 in., drilling, 37c. No. 4, 72 by 72 in., drilling, 62c. The material used has passed through the process called Kyanizing, by which it is said to be rendered proof against mildew. The caps are prepared with a loop-hole at each corner, into which a metal thimble is fastened. Strings are tied to the caps through the holes, and pins to hold the caps to the hay are attached to the strings. The strings may be either of wood or iron. Those made of No. 8 wire, fifteen inches long, are furnished with the caps, if desired at one cent each. Caps of the largest size here mentioned, will protect 100 lbs. of the coarsest clover or other hay, and the others will cover a proportionate quantity. It is easy to see from this how many would be required to the acre, the yield being stated. There is no question as to the utility of the article—especially for clover, and in "catching weather," like that of last season. The testimony of all who have used them, so far as we know, is strongly in their favor.—*Boston Cultivator.*

For the Southern Planter.

Ornithological Sketches.—No. IV.

To F. G. Ruffin, Esq.

My Dear Sir—I believe there are four species of Orioles, whose habitat is in North America. Only two of these frequent the Atlantic States—the Baltimore and the orchard Oriole. They are very common birds, and highly interesting, from their lively habits, beautiful plumage, and loud and musical notes. The Baltimore Oriole—*Icterus Baltimore*—is known in King William under the name of Gold Finch. But it is not even one of the numerous and highly respectable family of the Finches; nor is it allied to them in the remotest degree. The American Gold Finch, is our beautiful little Lettuce bird, which may be seen in large flocks in our yards, about the first of May, feeding on the seeds of Leontodon. This continued popular misnomer of birds, and of almost everything else in nature, is rather vexatious, and is a great bar to progress in knowledge. The confusion resulting from it, is that of Babel. It is a great pity that so little attention should be paid to this subject by our people. A young man returns from our colleges, and even the University, covered over with distinctions and degrees—every body speaks of him as a young man of *"finished education,"* and he does not know the name of the commonest bird or plant that he sees every day. He may be able to distinguish between a hawk and a hand-saw, and that is as much. By the way, may not the old saying be a "hawk and an anser," (goose) with the cockney h prefixed—hanser? To be able to tell a hawk from a hanser, is about the extent of our educated young man's ornithological knowledge. Show him a plant that he treads on every day and ask its name: "I don't know—it's a weed, is'nt it?" This should not be so—every gentleman should have his sons and daughters more or less instructed in Ornithology, Entomology, Botany, and Geology. It is not time thrown away; it creates a fund of constant enjoyment through life. Such a one is never alone, in the woods, in the fields, on the road, though no human being is with him. He who communes thus with nature, will look through it up to nature's God. And if he become not a Christian, he will not be dissipated and fond of low company. A boy thus educated, never can become a brawling pot-house politician. But one of the things I dislike is, to pick up one of your Planters and see a communication with a taking title, and to find that one half of it is fault finding with the mismanagement, carelessness, and ignorance of Virginians. I generally pass it by, as written by some Tyro, who knows little of what he is writing about. So I had better return to the Orioles.

So soon as the tender leaves proclaim that Spring has fairly set in, and all danger of our usual April snow is over, the groves around our dwellings resound with the loud calls of the male Orioles. They precede the females by about a week. When they first reach here from their long journey, which is performed singly, they appear fatigued, and are rather quiet. But a day's rest refreshes them, and they may be seen glancing from tree to tree, piping as they go. The bright orange and black and white of their plumage, attracts the dullest and most unobservant eye. It is said they were called the Baltimore bird, after Calvert, the first Lord Baltimore, whose livery was black and orange. When rising from the ground, the orange red of their breasts glows like burnished gold. The males are seen chasing each other with good humored vivacity, darting and plunging about through the overhanging boughs, and along the glades. Again you will see them inspecting the trees, and looking out for suitable twigs, on which to hang their future nests. They search about the hedges and fence corners, for spires of greensward, rags, wool, and hair, as if to find out beforehand where the store of these useful articles are to be had. They will fly from limb to limb, and carefully inspect the bunches of young leaves, and pick out every insect and many of its eggs. The Ash, Locust, and Elm trees seem more particularly to engage their attention. The Sycamore, though, is their fa-

orite tree for building in, and next to that the locust. All birds are attached to particular lasses of trees; and if one desires to have a reat variety of birds about his yard, he must lant a great variety of trees, and have run- ing water near it. There is one tree that I ever saw any bird build in, the Ailanthus; or do insects affect it, except the lightning ug. The Baltimore Orioles are fond of build- g in tall trees, in front of a dwelling house. hey seem to court the society of men. I ever saw the nest of this species in the forest, r over fifty yards from a house. I rather in- line to the opinion, that they will desert a tree ear a dwelling house, if it be left unoccupied. had a house erected to which the little negro hildren were brought by their mothers every ay, to be under the superintendence of one oman. There is a beautiful Red Oak near it; or building in this, the Orioles showed a great ondness for several years, till the children were emoved from it. Then only a negro man lived n it, and it was kept closed all the day. Du- ing that time the Orioles did not build near t. Upon its being re-occupied in the day, the Orioles returned to the Red Oak. Again—my amily lived for many years in a house in one orner of the yard, and in all that time two or hree pair of Orioles built around it, in the nearest trees. A new building was put up in he centre of the yard, and for some years fter it was covered in, it remained unoccupied. There are four tall Sycamores in front of it, exactly suited to the Oriole's taste; and yet none, to my surprise, built in them. But he first Spring after the family removed o the new house, the Orioles removed to the Sycamores near it, and deserted the trees about he old residence. These circumstances may be accidental, but from the known preference which these birds manifest for building in ci- ies, and especially the most crowded parts of hem, if suitable trees are at hand, I am led to hink otherwise. It is true they build on the banks of the Mississippi and Ohio; but so do men. And I suppose that a boat of some sort loaded with human beings, is scarcely ever out of sight of their nests. I am satisfied that these and many other kinds of birds are highly flattered by the notice and attention of man. And why should this disposition not be planted in them by that same Gracious Hand that put them here? Among other useful purposes, who is there that does not believe that to grat- ify the taste of His rational creature—man—these beautiful little creatures are thus gorge- ously arrayed, and fitted with organs to pro- duce the most varied melody, in order to soothe and fascinate him with their songs? And as man is pleased and soothed by their presence, why should it not be instinctive in them to be equally pleased with his attention? What a blank in creation it would be to us, if the birds were struck out of existence! The blank would be equally great to the birds if man were to cease to exist. It is natural for them to seek the countenance and court the society of man. They are *educated* only by sad expe- rience to fear the approaches of him who should be their natural friend and protector. They soon learn to distinguish between friend and foe. Just in the degree that man is brutalized and lost to moral sense, does he persecute and destroy these little enliveners of rural scenery, and endearers of home.

The male orioles do not fight each other the first week of their arrival; however, they are not very friendly at any time. When the fe- males come,—though you may not see them, for they are timid and shy,—you may know it by the change in the conduct of the males to- wards each other. The rather distant polite- ness which they have heretofore exhibited, except when in high glee and frolic, is now laid aside. All is bustle, confusion, clamour, and fight. If, where there are half a dozen "ruffling blades" in fierce quarrel, you will look narrowly, you will see a coy female in very plain attire, seated among the thick leaves. Doubtless she enjoys the contest internally, though she shows no external marks of it. After quarreling and fighting for a length of time, they all fly off, but one, to commence the same system of courtship with another female. In this they resemble their brother beaux of the human species; who go a-courting in crowds—and though they make strong protes- tations, of never being able to *live* without, or to *forget* the fair loved one, yet upon the first repulse have an alacrity at dipping their pierced hearts in the waters of Lethe, and in sweet oblivion of the pain that was to stop their mortal career, one short month finds them engaged in the same cause with another. The male oriole that is left behind by common con- sent, is looked upon as the affianced lover of the plain-looking dame. How this conclusion is arrived at I cannot ascertain; for the victory in this case, as in others, is not always to the strong. Nor does the female seem to manifest any choice by any sign visible to me. It may be, however, that some sly wag of the tail, some knowing nod of the head, or some ten- der look of the eye, is "confirmation strong" of the inclination of her heart.

When left to themselves, with a breast glow- ing with love, the beautiful male approaches, in the tenderest manner, the object of his affec- tion. With coyness she moves off, as if not en- tirely satisfied. He then hops around her, on the nearest limbs, clinging to them sometimes with his head downwards, peeping at her, then changing his position and moving along them with that wonderful agility that character- izes the species, up and down, sidewise and backwards,—not with hops like the wood- pecker, but with an easy, graceful, gliding mo- tion, reaching out first one foot and then the other, as if he could use his feet like a man can his hands. He displays to her from

every point of view the gaudy colouring of his plumage, and in a low, tender tune carries on his courtship,—assuring her, doubtless, of his never-dying passion and his eternal fidelity, till winter doth them part. She flies off to another tree, and he is by her side; she tries him often thus in the course of the day, but he quits her not, and at night roosts close by her side. In the morning he uses that delicate note towards her which he never uses except to his wife or his young. You may imitate it, if you will open your mouth moderately: keep your tongue pressed against your bottom teeth, and pronounce from the windpipe the syllable *ha-e*, with a prolonged stress upon the *a*, and cutting it off rather short on the *e*. When you hear this note, you may swear that they are "man and wife!" In the course of the day she will take him to some sequestered spot, and seal the hymeneal compact. Then it is he sings in all his glory; his notes, which are generally four, are then enlarged to even eight or ten. Now, woe betide the bird that comes near his beloved. Things go on very swimmingly for their honeymoon of a week. The female has now put off all of her shyness, and is, if anything, bolder than the male. She takes the wife's prerogative of scolding him for an idle, worthless fellow, and that he has something else to do than sing, eat and fondle all day, and that he must go to work and provide for his oncoming family. So, at least, I interpret the rather querulous note which she often utters now. And he interprets it so, too, for he takes her to the spot which he has selected before her arrival. This is generally on the South-east side of the tree. Audubon says that in Louisiana, he, foreknowing the great heat of the climate, takes the North side. Three little twigs growing from the same limb and as near the end of it as possible, suit his purpose best. Now, let the ladies, who sometime sit in poarches and bowers, and under trees, be cautious how they leave skeins of silk or spools of cotton, or strong thread of any description, in such exposed places. It is possible that servants have often been suspected of purloining these articles, when the orioles have taken them away. I have seen them flying off with thread trailing behind them several yards long. But if you should publish this in the Planter, I would advise the fair Mrs. Dorothy Dumpling not to read this part of it aloud to her children, in the hearing of any of her servants, else the orioles will take away all of the thread out of her house.

Having secured a piece about two feet long, the male bird will tie one end of it very securely to one of the twigs; he will take the other end in his beek, and gliding off to its length on the limb, he will pull at it as if to test its strength; having ascertained this, he will fasten it by wrapping it several times around the other twig, and then tie it in a hard knot; he then lets the middle part o the string fall down in a bag or curve be tween and below the two twigs. This curv will be from eight to twelve inches long. I he cannot find a suitable piece of thread, h will make it of the seed stalk of the fox-tai grass,—or tie two pieces of that of the green sward together. But it is seldom that he doe not secure a proper string somewhere.

It is curious to witness his manœuvres i adjusting the next thread, which alway crosses the first at right angles. He here ha to overcome, by actual measurement, the un equal distances of the twigs from each other To do this, he clips his thread or grass a grea deal too long, ties one end to the third twig takes the other end in his beak, flies beneath the first hung thread, and brings it up to the limb. Here he draws it up, shortening the curve till he perceives that it has just touched the bottom of the first hung thread, and will bear an equal stress with the other. He wraps the end he holds in his mouth around the limb and ties it fast. He then ties the two hanging strings together at the point of crossing. The female never helps him in this operation. But so soon as his frame-work is completed, she will cut off with him the seed stalks of the greensward or other suitable grass, and assist him in weaving it around the bottom of the nest. From this point the male carries short suspenders of grass to a kind of rim, which he runs all around at the top of the nest. He gathers it up in the right form and size. Like a basket-maker, carrying his splits of white oak over and under the ribs, so they weave in the grass.

As they progress they strengthen the main supports by putting grass along the side of the thread, and often wrapping and tying grass or thread around them. When the nest is finished on the outside, properly hung and shaped, they proceed to line it with wool, cow hair, or such other warm and fine fabrics as they can collect. After every weaving of any piece of grass, the male always gets into the nest, and turns his body round and round, pressing and swelling out in all directions. This gives it its proper shape, roundness and fullness. It takes them about a week to finish a nest. I saw an oriole, in the spring of 1856, take all the material out of a nest of the previous year and work it up in a new one on another tree. He only made use of new hanging threads. The old nest was not more than 15 feet from a porch where I observed him. He took it to pieces very scientifically, without pulling or breaking any thing, nor did he leave a spire of grass behind; I would defy any human hand to accomplish this feat.

The female lays 5 or 6 light brown eggs, waved with dark brown, and dotted with black spots. These are hatched in 14 days. The male assists the female to feed them. Their food consists entirely of insects in their first

eek; as they grow, he occasionally gives them a erry plucked from the fields or gardens. The are, watchfulness and courage of the male, isplayed in defence of his wife and young, annot be exceeded by any bird. He pays reat attention to the cleanliness of the nest, at ach visit he inspects it, and takes away the xcrement which is covered by a glutinous film, nd seldom drops it under a hundred yards' istance. He does not, like men, think these ecessary cares beneath his notice, and devolve all upon his wife. Nor does he break a ingle pledge given to his homely, plain little ate before their union. Their attachment to heir young is exceedingly strong. Miss C. H. f this county, who is an accurate observer, nd a lover of nature, informed me, that at her ouse a limb was broken, to which an oriole's est was attached. The young one's, who were n an unfledged state, fell to the ground. She laced them in a window, where they were fed y the old ones. But not pleased with their ituation, they hastily built a new nest, and re- oved the young ones to it. This is an in- tance of sagacity and affection which but few, f any, of our other birds could show.

In about 12 or 14 days the young ones come ut of the nest and hang on to its sides. They climb back themselves when tired or dis- osed to sleep. In a few days more they leave he nest and settle on trees, where they keep up an endless chirrup through the day. They are fed about a fortnight by the old ones after leaving the nest; they are then left to shift for themselves. The young males are now like the mother in color, and they work their way singly to the South, and return next season with the full plumage of their fathers—so says Audubon—Wilson says in three years the males attain their full plumage. I rather concur with Wilson, without professing to have accurate knowledge on the subject. But I see male orioles every spring with plumage duller than others. This would not be the case if all attained full plumage the first year. The orchard oriole—*Icterus Spurius*, is not so large a bird as the Baltimore, nor so gaudy in his dress. But he sings a sweeter and more varied song—is of a more amiable and social disposition, and upon close inspection, is really prettier. His head, tail, upper back, and upper bill, are of a glossy black. The lower bill and feet blue. All the rest of him, except a por- tion of his wings, are of a bright chesnut color. This bird certainly does not attain his full plumage till the third year. The younger males look like a different species. The food and habits of the orchard oriole resemble those of the Baltimore. His nest is not half as deep, and is generally built of grass hung between the fork of a limb, and tied to it with all of its upper margin. Some years ago a great many pairs of this species built around my house. Sometimes two nests in one tree, as the males are very friendly. But as the trees grew up tall, the Baltimore orioles took possession, and drove them to the upper part of the lawn, where they build in the lindens, and slippery elms, and also in a contiguous orchard. They are highly useful in clearing the trees of all sorts of worms. They make an excellent cage- bird, sing well in confinement, and retain their plumage in winter. Their docility, sense and attachment to their mates, render them highly interesting. I could write a long history of them, but they are well known to every body. On the whole, I do not know if they are not more welcome visitants to me, though more modest and retiring, than are their more noisy and conspicuous kinfolks, the Baltimoreans. I would rather have both though, and hope to see them in great numbers shortly. F.

April 8th, 1858.

For the Southern Planter.

Seed.

Sir,—The many trials and failures I have experienced with seeds of various kinds, have induced me to make some few remarks, or I would rather say enquiries, respecting their nature and durability, for on reflection it will be admitted that within the compass of agri- cultural pursuits, a more important considera- tion does not exist, and one, too, which seems to escape the vigilant scrutiny of our intelli- gent farmers. The few words I am about to say, in this short article, are not to be taken as in- tending to throw any light on the subject; for my object is to elicit information, and if this will serve as a preliminary step to entering the inner temple of nature and unfolding the se- crets connected with the formation of seed and its vital powers, my desires are satisfied. Every body knows that seed is the parent of every thing in the vegetable and floral kingdoms and were the seeds of one season to prove abortive, or cease to replenish the earth, the grandeur of this beautiful planet of ours would fade away; the landscape no longer wearing its mantle of green, nor the vales nor the forests their sparkling foliage, decadence and ruin would follow, carrying in its train of woe every ani- mal, from the Lord and Master of creation, to the most abject thing that flutters in the breeze; but no, this blight will not come, for the eter- nal word has ordained that the earth shall be replenished; every herb bearing seed after its kind, will continue to perpetuate their species, even to the end of time. And indeed so fruit- ful is nature, that a surface one thousand times more extended that this globe, would not be sufficient for the vegetables which the seeds of one year would produce; nor is this prodigious yield to create surprise, while we bear in mind that a single stalk of indian corn produces two thousand seeds, and a capsule of the poppy, some eight thousand; and it is calculated that a thistle, at the second crop, produces five hun- dred and seventy six millions. Thus is the

link in the chain of the vegetable world continued; each kind perpetuating its species. But what happens to all this seed and the length of time each species retains its vitality, is the enquiry I wish to make. The best mode of preserving the vital energy of seed, ought to engage the attention not alone of our farmers, but seed growers and dealers in this article; should be conversant with the laws which govern its action. Let us hope then that a spirit of enquiry will be set on foot, and its relation to soil and climate be ascertained. R. C.

April 19th, 1858.

For the Planter.

Profits on Grazing Cattle Again.

LET LOWER FAUQUIER SPEAK.

Mr. Editor,—I have read with much interest the statements given, and the estimates made, of the profits of graining and grazing of cattle, in the February and March numbers of the "Planter"—it seems that Mr. Loughborough made a nett profit of $27 *per caput* on his cattle, and that Col. Wright of Loudoun County, on cattle costing less, also made a *nett* profit of $28 15¾ cents *per head* on *his* cattle, *but in neither instance did the profit amount to* 100 *per cent on the money invested*—the neighbour of Col. Wright's, mentioned by Mr. Noble S. Braden, whose cattle cost $17 54 per head, and were sold at an average of $37—being a nett profit of 110 per cent on their cost—according to the *usual*, and *only true mode*, of estimating profits, has excelled each of the others, in the per cent received, on the money invested.

Mr. Editor, should *Upper* Fauquier and Loudoun, permit *Lower* Fauquier to enter into this contest, and not deem it too presumptuous, it shall be proven to you that *I am* "sufficiently armed to take up the glove thrown by Mr. Marshall" in behalf of Mr. Loughborough, and also that of Mr. Braden on account of Colonel Wright of Loudoun County, together with that of Col. Wright's neighbour.

I have in my possession the statement of Wm. S. Dulaney, Esq., of "Locust Hill," (near Rapidann Station, in *Lower* Fauquier,) in reference to a lot of cattle grazed by him in 1855, as follows: "I send you a statement of the cattle you purchased of me in 1855—Oct. 15th, 1855, 30 head cattle @ $40 per head. Nov. 12th, 1855, 30 head cattle @ $40, making 60 head of cattle at $40 per head, which cattle cost in September 1854, $16 46 per head—*the cattle had no corn, or meal*, but were strictly grass cattle, and were grazed on 200 acres of grass land. "The inquiry is from Upper Fauquier, to know if any other *County* can do better than Mr. Nathan Loughborough has done, in the grazing line. I think if *Lower* Fauquier were to speak, it would appear too much like boasting,—much less is expected from our region, owing to the disadvantages of procuring good stock, as Upper Fauquier has the choice of Virginia stock cattle," &c., &c. Now you will perceive, Mr. Editor, with all their advantages of procuring the best of stock cattle, that both Upper Fauquier and Loudoun have been left far behind in this contest, since Mr. Dulaney's cattle, costing $16 46 per head, and sold at $40—paid him a nett profit of about 143 *per cent.*

I will here state, that I purchased the above mentioned cattle of Mr. Dulaney, that they were a lot of very superior beef cattle, averaging about 575lbs. nett weight, and were as cheap a lot (quality considered) as was purchased by me during the season.

Mr. Dulaney grazed a lot of spayed heifers last season, (about 70 head) which were sold at $50 per head on his farm, from whence they were driven to Baltimore, and there resold, at a very handsome profit—those paid Mr. Dulaney a larger profit *per head*, than the cattle above-mentioned, but not as large a per cent. If there is another lot, in any county, that has paid a larger profit than 143 per cent, let us hear through the "Planter"—until then, *Lower Fauquier* stands "*Excelsior.*"

AB. P. ROWE.

Fredericksburg, April 19th, 1858.

We are indebted to Mr. Harris, the experimenter, for a copy of the following important and valuable experiments tried by him. We earnestly commend them to the attention of of our readers, and hope they will note particularly the result with superphosphate of lime:

[*Transactions of the New York State Agricultural Society.*]

Experiments on Indian Corn.

B. P. Johnson, Esq:

DEAR SIR:—I send you the results of some experiments with artificial fertilizers on Indian corn. The soil on which the experiments were made, is a light, sandy loam. It has been under cultivation for upwards of twenty years, and so far as I can ascertain, has never been manured. It has been somewhat impoverished by the growth of cereal crops, and it was thought that for this reason, and on account of its light texture and active character which would cause the manures to act immediately, it was well adapted for the purpose of showing the effect of different manurial substances on the corn crop.

The land was a clover sod, two years old, pastured the previous summer. It was plowed early in the spring, and harrowed till in excellent condition. The corn was planted May, 23, in hills 3½ feet apart each way. Each experiment was made on the one tenth of an acre. It would doubtless have been better to

ave had larger plots, but I was unable to get ufficient land of similar character to make the equisite number of experiments on a larger cale. Each experiment consisted of 4 rows vith one row between each plot without any nanure.

The manures were applied in the hill imme- iately before the seed was planted, with su- erphospate of lime, and with plaster (gypsum r *sulphate of lime*). The seed was placed di- ectly on the top of the manure, as it is well nown that these manures do not injure the erminating principle of even the smallest seeds. The ashes were dropped in the hill, and then overed with soil, and the seed planted on the op so that it should not come in contact with he ashes. Guano and sulphate of ammonia were treated in the same way. On the plots where ashes and guano, or ashes and sulphate f ammonia were both used, the ashes were first put in the hill, and covered with soil, and the guano and sulphate of ammonia placed on the top and also covered with soil before the seed was planted. The ashes and superphosphate of lime were also treated in the same way. It is well known that unleached ashes, mixed either with guano, sulphate of ammonia or superphosphate, mutually decompose each other, setting free the ammonia of the guano and sulphate of ammonia, and converting the soluble phosphate of the superphosphate of lime into the insoluble form in which it existed before treatment with sulphuric acid. All the plots were planted on the same day, and the manures weighed and applied under my own immediate supervision. Everything was done that was deemed necessary to secure accuracy.

The following table gives the results of the experiments:

Table showing the results of Experiments on Indian Corn, made in 1857, *near Rochester, N. Y.*

No. of the plots.	Descriptions of manures and quantities applied per acre.	Bushels of ears of sound corn per acre.	Bushels of ears of soft corn per acre.	Total No. of bushels of ears of corn per acre.	Increase per acre of ears of sound corn.	Increase per acre of ears of soft corn.	Total increase per acre of ears of corn.
1	No. manure,	60	7	67			
2	100 lbs. plaster (gypsum or *sulphate of lime*,	70	8	78	10	1	11
3	400 lbs. unleached wood ashes and 100 lbs. plaster (mixed)	68	10	78	8	3	11
4	150 lbs. sulphate of ammonia,	90	15	105	30	8	38
5	300 lbs. superphosphate of lime,	70	8	78	10	1	11
6	150 lbs. sulphate of ammonia and 300 lbs. superphosphate of lime (mixed),	85	5	90	25		23
7	400 lbs. unleached wood ashes (uncertain,)	60	12	72		5	5
8	150 lbs. sulphate of ammonia and 400 lbs. unleached wood ashes (sown separately),	87	10	97	27	3	30
9	300 lbs. superphosphate of lime, 150 lbs. sulphate of ammonia, and 400 lbs. unleached wood ashes,	100	8	108	40	1	41
10	400 lbs. unleached wood ashes,	60	8	68		1	1
11	100 lbs. plaster, 400 lbs. unleached wood ashes, 300 lbs. superphosphate of lime, and 200 lbs. Peruvian guano,	95	10	105	35	3	38
12	75 lbs. sulphate of ammonia,	78	10	88	18	3	21
13	200 lbs. Peruvian guano,	88	13	101	28	6	34
14	400 lbs. unleached wood ashes, 100 lbs. plaster, and 500 lbs. Peruvian guano.	111	14	125	51	7	58

The superphosphate of lime was made on purpose for these experiments, and was a pure mineral manure of superior quality, made from calcined bones; it cost about 2½ cents per pound. The sulphate of ammonia was a good, commercial article, obtained from London, at a cost of about 7 cts. per pound. The ashes were made from beech and hard maple (*acer saccharatum*) wood, and were sifted through a fine sieve before being weighed. The guano was the best Peruvian, costing about 3 cents per pound. It was crushed and sifted before using. In sowing the ashes on plot 7, an error occurred in their application, and for the purpose of checking the result, it was deemed advisable to repeat the experiment on plot 10.

On plot 5, with 300 lbs. of superphosphate of lime per acre, the plants came up first, and exhibited a healthy, dark green appearance, which they retained for some time. This result was not anticipated, though it is well known that superphosphate of lime has the

effect of stimulating the germination of turnip seed and the early growth of the plants to an astonishing degree; yet, as it has no such effect on wheat, it appeared probable that it would not produce this effect on Indian corn, which, in chemical composition, is very similar to wheat. The result shows how uncertain are all speculations in regard to the manurial requirements of plants. The immediate effect of superphosphate of lime on corn was so marked, that the men (who were, at the time of planting, somewhat inclined to be skeptical, in regard to the value of such small doses of manure), declared that "superphosphate beats all creation for corn." The difference in favor of superphosphate, at the time of hoeing, was very perceptical, even at some distance.

Although every precaution was taken that was deemed necessary, to prevent the manures from mixing in the hill, or from injuring the seed, yet it was found, that those plots dressed with ashes and guano, or with ashes and sulphate of ammonia, were injured to some extent. Shortly after the corn was planted, heavy rain set in, and washed the sulphate of ammonia and guano, down into the ashes, and mutual decomposition took place, with more or less loss of ammonia. In addition to this loss of ammonia, these manures came up to the surface of the ground in the form of an excresence, so hard that the plants could with difficulty penetrate through it. This is a fact which should be borne in mind in instituting future experiments. It would have been better, undoubtedly, to have sown these manures broadcast; and I should have done so except for the difficulty of sowing them evenly by hand on so narrow a plot, without risk of having some part of the manures blown on to the adjoining plots.

It will be seen by examining the table, that although the superphospate of lime had a good effect during the early stages of the growth of the plants, yet the increase of ears of corn in the end, did not come up to these early indications. On Plot 5, with 300 lbs. of superphosphate of lime per acre, the yield is precisely the same as on Plot 2, with 100 lbs. of plaster (*sulphate of lime*) per acre. Now, superphosphate of lime, is composed necessarily of soluble phosphate of lime and plaster, or sulphate of lime, formed from a combination of the sulphuric acid, employed in the manufacture of superphosphate, with the lime of the bones. In the 300 lbs. of superphosphate of lime, sown on Plot 5, there would be about 100 lbs. of plaster; and as the effect of this dressing was no greater than was obtained from the 100 lbs. of plaster, sown on Plot 2, it follows, that the good effect of the superphosphate of lime, was due to the plaster it contained.

Again, on Plot 4, with 150 lbs. of sulphate of ammonia per acre, we got 90 bushels of ears of sound corn, and 15 bushels of ears of soft corn ("nubbins"), pere acre; or a total increase over the plot without manure, of 38 bushels. Now, the sulphate of ammonia contains no phosphate of lime, and the fact that such a manure gives a considerable increase of crop, confirms the conclusion we have arrived at, from a comparison of the results on Plots 2 and 5: that the increase from the superphosphate of lime, is not due to the phosphate of lime which it contains, unless we are to conclude that the sulphate of ammonia rendered the phosphate of lime in the soil more readily soluble, and thus furnished an increased quantity in an available form of assimilation by the plants—a conclusion, which the results with superphosphate alone on Plot 5, and with superphosphate and sulphate of ammonia, combined on Plot 6, do not sustain.

On Plot 12, half the quantity of sulphate of ammonia, was used on Plot 4, and the increase is a little more than half what it is where double the quantity was used. Again, on Plot 13, 200 lbs. of Peruvian guano per acre, gives nearly as great an increase of sound corn, as the 150 pounds of sulphate of ammonia. Now, 200 lbs. of Peruvian guano, contains nearly as much ammonia as 150 lbs. sulphate of ammonia, and the increase in both cases is evidently due to the ammonia of the manures. The 200 lbs. of Peruvian guano, contained about 50 lbs. of phosphate of lime; but as the sulphate of ammonia, which contains no phosphate of lime, gives as great an increase as the guano, it follows that the phosphate of lime in the guano, had little if any effect; a result precisely similar to that obtained with superphosphate lime.

We may conclude, therefore, that on this soil, which has never been manured, and which has been cultivated for many years in the *Ceralia*, or in other words, with crops which remove a large quantity of phosphate of lime from the soil—the phosphate of lime, relatively to the ammonia, is not deficient. If such was not the case, an application of soluble phosphate of lime would have given an increase of crop, which we have shown was not the case in any one of the experiments.

Plot 10, with 400 lbs. of unleached wood ashes per acre, produces the same quantity of *sound corn*, with an extra bushel of "nubbins" per acre, as Plot 1, without any manure at all; ashes, therefore, applied alone, may be said to have had no effect whatever. On Plot 3, 400 lbs. of ashes, and 100 lbs. of plaster, give the same total number of bushels per acre, as Plot 2, with 100 lbs. of plaster alone. Plot 8, with 400 lbs. ashes, and 150 lbs. of sulphate of ammonia, yields three bushels of sound corn, and five bushels of "nubbins" per acre, *less* than Plot 4, with 150 lbs. sulphate of ammonia alone. This result may be ascribed to the fact previously alluded to—the ashes dissipated some of the ammonia.

Plot 11, with 100 lbs. of plaster; 400 lbs ashes; 300 lbs. of superphosphate of lime

and 200 lbs. Peruvian guano (which contains about as much ammonia as 150 lbs. sulphate of ammonia,) produced precisely the same number of total bushels per acre, as Plot 4, with 150 lbs. sulphate of ammonia alone, and but 4 bushels more per acre than Plot 13, with 200 lbs. Peruvian guano alone. It is evident from these results, that neither ashes nor phosphates had much effect on Indian corn, on this impoverished soil. Plot 14 received the largest dressing of ammonia (500 lbs. Peruvian guano,) and produced much the largest crop; though the increase is not so great in proportion to the guano, as where similar quantities were used.

The manure which produced the most profitable results, was the 100 lbs. of plaster, on Plot 2. The 200 lbs. of Peruvian guano, on Plot 13, and which cost about $6, gave an increase of 14 bushels of shelled corn, and 6 bushels of "nubbins." This will pay at the present price of corn in Rochester, although the profit is not very great. The superphosphate of lime, although a very superior article, and estimated at cost price, in no case paid for itself. The same is true of the ashes.

But the object of the experiment was not so much to ascertain what manures will pay, but to ascertain, if possible, what constituents of manure are required, in greatest quantity, for the maximum growth of corn. All our agricultural plants are composed of precisely the same elements; the only difference being in the relative proportions in which they exist in the plants. Thus, Wheat and Turnips contain precisely the same elements, but the ash of Wheat contains five times as much phosphoric acid as the ash of Turnips, while the Turnips contain much more potash than Wheat. This fact being ascertained by chemical analysis, it was supposed that Wheat required a manure relatively richer in phosphoric acid than was required for Turnips. This is certainly a plausible deduction; but careful and numerous experiments have incontrovertibly proved that such is not the case—in fact, that an ordinary crop of Turnips requires more phosphoric acid in an available condition in the soil, than an ordinary crop of Wheat. From this fact, and several others of a similar character, the conclusion is irresistible, that the chemical composition of a plant—the relative proportion in which the several elements exist in the plant—is not a certain indication of the manurial requirements of the plant; or in other words, it does not follow, that because a plant contains a relatively larger proportion of any particular element, that the soil or manure best adapted for the growth of this plant must contain a relatively larger proportion of this element. Wheat, Rye, Barley, Oats and Indian corn, all contain a relatively larger quantity of phosphate of lime; but it is not safe to conclude from this, that a soil or manure best adapted for their maximum growth, must also contain a relatively larger quantity of phosphate of lime. We know positively from numerous experiments, that such is not the case with Wheat; and, it is therefore at least doubtful, whether such is true of Indian corn. On the other hand, we know from repeated experiments that Wheat requires a large quantity of ammonia for its maximum growth, and as Indian corn is nearly identical in composition to Wheat, it is somewhat probable that it requires food similar in composition to Wheat. This, however, is merely a deduction, and deduction is never a safe rule in agriculture. We can obtain no positive knowledge in regard to the manurial requirements of plants, except from actual experiments. Hitherto no experiments have been made in this country on Indian corn that afford any certain information on this point. Indeed, we believe no satisfactory experiments have been made on Indian corn, in any country, that throws any definite light on this interesting and important question. A few years ago, Mr. *Lawes* made similar experiments to those given above on his farm at Rothamstead, England; but owing to the coolness of the English climate, the crop did not arrive at maturity. Numerous experiments have been made in this country with guano and superphosphate of lime; but the superphosphates used were commercial articles, containing more or less ammonia, and if they are of any benefit to those crops to which they are applied, it is a matter of uncertainty whether the beneficial effect of the application is due to the soluble phosphate of lime, or to the ammonia. On the other hand, guano contains both ammonia and phosphate; and we are equally at a loss to determine whether the effect is attributable to the ammonia or phosphates, or both. In order, therefore, to determine satisfactorily which of the several ingredients of plants is required in greatest proportion for the maximum growth of any particular crop, we must apply these ingredients separately or in such definite compounds as will enable us to determine to what particular element or compounds the beneficial effect is to be ascribed. It was for this reason that sulphate of ammonia and a purely mineral superphosphate of lime, were used in the above experiments. No one would think of using sulphate of ammonia at its price, as an ordinary manure, for the reason that the same quantity of ammonia can be obtained in other substances, such as barn yard manure, Peruvian guano, &c., at a much cheaper rate. But these manures contain *all* the elements of plants, and we cannot know whether the effect produced by them is due to the ammonia, phosphates or any other ingredient. For the purpose of experiment, therefore, we must use a manure that furnishes ammonia without any admixture of phosphates, potash, soda, lime, magnesia, &c., even though it cost much more than we could obtain the same amount

of ammonia in other manures. I make these remarks in order to correct a very common opinion, that if experiments do not *pay*, they are useless. The ultimate object, indeed, is to ascertain the most profitable method of manuring; but the *means* of obtaining this information, cannot be in all cases profitable.

Similar experiments to those made on Indian corn, were made on soil of a similar character, on about an acre of Chinese sugar cane. I do not propose to give the results in detail at this time, and allude to them merely to mention one very important fact, the superphosphate of lime had a very marked effect. This manure was applied in the hill on one plot (the twentieth of an acre,) at the rate of 400 lbs. per acre, and the plants on this plot came up first, and outgrew all the others from the standard, ultimately attained the height of about ten feet; while on the plot receiving no manure, the plants were not five feet high. This is a result entirely different from what I should have expected. It has been supposed, from the fact that superphosphate of lime had no effect on Wheat, that it would probably have little effect on Corn, or on the Sugar cane, or other *ceralia;* and that as ammonia is so beneficial for wheat, it would probably be beneficial for Corn and Sugar cane. The above experiments indicate that such is the case in regard to Indian corn, so far as the production of grain is concerned, though, as we have stated, it is not true in reference to the early growth of the plants. The superphosphate of lime on Indian corn stimulated the growth of the plants in a very decided manner at first, so much so, that we were led to suppose for sometime that it would give the largest crop; but at harvest it was found that it produced no more Corn than plaster. These results seem to indicate that superphosphate of lime stimulates the growth of stalks and leaves, and has little effect in increasing the production of seed. In raising Indian corn, for fodder or for soiling purposes, superphosphate of lime may be beneficial as well as in growing the sorghum for sugar-making purposes, or for fodder—though, perhaps, not for seed.

In addition to the experiments given above, I also made the same season, on an adjoining field, another set of experiments on Indian corn, the results of which I now send you.

The land on which these experiments were made is of a somewhat firmer texture than that on which the other set of experiments were made. It is situated about a mile from the barnyard, and on this account has seldom if ever been manured. It has been cultivated for many years with ordinary farm crops. It was ploughed early in the spring and it was harrowed until quite mellow. The corn was planted May 30, 1857. Each experiment occupied ONE TENTH of an ACRE, consisting of 4 rows 3½ feet apart, and the same distance between the hills in the rows, with one row without manure between each experimental plot.

The manure was applied in the hill, in the same manner as in the first set of experiments.

The barnyard manure was well rotted, and consisted principally of cow dung with a little horse dung. Twenty two-horse wagon loads of this was applied per acre, and each load would probably weigh about one ton. It was put in the hill and covered with soil and the seed then planted on the top.

The following table gives the results of the experiments:

Table showing the results of Experiments on Indian Corn, made near Rochester, New York, in the year 1857.

No. of plots.	Description of manures, and quantities applied per acre.	No. of bushels of ears sound corn per acre.	No. of bushelf of ears of soft corn per acre.	Total No. of bushels of ears of corn per acre.	Inc. ears sound corn per acre ov. unma. plot.	Inc. ears soft corn per acre ov. unma. plot.	Total increase of ears of corn per acre.
1	No manure,	75	12	87			
2	20 loads barnyard manure,	82½	10	92½	7½	. . . .	5½
3	150 lbs. of sulphate of ammonia,	85	30	115	10	18	28
4	300 lbs. of superphosphate of lime,	88	10	98	13	. . . .	11
5	400 lbs. of Peruvian guano,	90	30	120	15	18	33
6	400 lbs. of "Cancerine," or fish manure,	85	20	105	10	8	18

As before stated, the land was of a stronger nature than that on which the first set of experiments was made, and it was evidently in better condition, as the plot having no manure produced 20 bushels of ears of corn per acre more than the plot without manure in the other field.

On Plot 4, 300 lbs. of superphosphate of limes gives a total increase of 11 bushels of ears of corn per acre over the unmanured plot agreeing exactly with the increase obtained from the same quantity of the same manure on Plot 5, in the first set of experiments.

Plot 3 dressed with 150 lbs. of sulphate of ammonia per acre, gives a total increase of 28 bushels of ears of corn per acre over the unmanured plot; and an increase of 22½ bushels of ears per acre over Plot 2, which received 20 loads of good, well rotted barnyard dung per acre.

Plot 5, with 400 lbs. of Peruvian guano per acre gives the best crop of this series, viz: an increase of 33 bushels of ears of corn per acre over the unmanured plot, and 27½ over the plot manured with 20 loads barnyard dung. The 400 lbs. of "Cancerine"—an artificial manure made in New Jersey from fish—gives a total increase of 18 bushels of ears per acre over the unmanured plot, and 12½ bushels more than that manured with barnyard dung, though 5 bushels of ears of sound corn and 10 bushels of "nubbins" per acre LESS than the same quantity of Peruvian guano.

JOSEPH HARRIS.

ROCHESTER, N. Y., Feb. 8th, 1858.

Cooling Rooms.

The warm weather will shortly be here, and every one will be seeking the refreshing influence of a cool and shady place, whereunto they can retreat from the blazing sun; so we will give our readers a few hints concerning the cooling of their houses. The first necessity is a thorough draft. This can always be obtained by opening every door and window in the basement, the top of every window above, and by throwing each door wide open; but above all, be sure that the trap door in the roof is open, and there is plenty of air room from it down the stairs, so that whichever be the direction of the wind, there will be at least one ascending current of air in the house. Another requisite is shade. Our common slat shutters answer well for the windows, but the most cheap and convenient shelter for the roof is to cover it thickly with straw, dried reeds, or rushes. These will resist the influence of the noonday sun, and keep the garret almost as cool as the basement. One of the most simple methods, and at the same time cheapest means of artificially lowering the temperature of a room is to wet a cloth of any size, the larger the better, and suspend it in the place you want cooling; let the room be well ventilated, and the temperature will sink from ten to twenty degrees in less than half an hour.

The above hints will be useful to many, and as a last suggestion we will inform the reader that, in summer it is well to keep a solution of chloride of lime in the house, and occasionally sprinkle it in the more frequented parts, as the passages and stairs.—*Scientific American.*

Great Yield of Corn in South Carolina.

We are very happy to see by the following authentic report that Dr. J. W. PARKER, of Columbia, S. C., has obtained the premium of the State Agricultural Society, of that State, for the largest yield of corn, per acre, of which we have ever seen any record. Intensely sectional as we admit ourselves to be, it gives us pleasure to make known as far as we can everything which goes to show the capacity of the slave States. We sympathize fully, therefore, in the pride and gratification with which *The Farmer and Planter* announces the success of Dr. Parker.

DR. PARKER AGAINST THE WORLD.

It is with much pride and gratification that we publish Dr. PARKER's report of the extraordinary production of 200 bushels and 12 quarts of corn from one acre. Who does not feel proud of his success in being the largest producer of corn in the whole world? And what true Carolinian does not feel elated at such a glorious triumph in the field of agriculture? It was a proud day for South Carolina and for the successful competitor, when it was publicly announced at the late annual Fair of our State Agricultural Society, that Dr. Parker had produced from one acre of land, 200 bushels and 12 quarts—the largest product on record. We believe that 190 bushels is the largest product heretofore reported, and this, if we mistake not, on some of the rich lands of the valley of Mississippi; but this greater product was made in the neighborhood of the Town of Columbia, a region not remarkable for fertility of soil. His success, therefore, must have been owing, as is seen from his report, to a high system of manuring and a deep and thorough preparation of the land. But to whatever it may have been owing, he is entitled to the credit of being the largest producer of corn in the whole world. If it had been a dis-

covery in science, a new planet or asteroid in the solar system or a new principle in mechanics, or some boasted effort of literary genius, or some great military exploit, such as the seige of Sebastopol, it would have been heralded through the world with all the pomp and parade usually awarded to such achievements. But the trophies of the plough are not wont to be so blazoned; they are usually found in the vale of obscurity, with none to herald their deeds to the world. But who are the real benefactors of mankind? We are told "they who can make two ears of corn or two blades of grass grow where only one grew before." Take the simple proposition, that the productions of the earth can be doubled by good culture, and what an amount of increased supply of human want and comfort would be produced. What an increase to the profits of agricultural capital, of individual and national wealth.

But the experiment of Dr. Parker goes greatly beyond doubling the ordinary productions of our lands. Take the average production of the lands of the State at 20 bushels per acre—his is ten times greater—and as we fall below, as many of us are in the habit of doing on our old lands, the ratio is increased in the same proportion. What a lesson should this teach us, and what a powerful argument does it afford to reform our system of farming. As we heard one of our neighbors, who plants good land, and whose crop was 2000 bushels from 100 acres, say that according to Dr. Parker's production, he ought to have made the same quantity from ten acres. But as this was an extraordinary production, let us double the quantity of land, and say that 20 acres can be made to produce 2000 bushels, or 100 bushels to the acre, and who can doubt this, when it has been so frequently realized. Suppose the extra labor that is spent on the 100 acres, was expended on the 20 acres, would not the result give a vastly increased crop? And this not for a single year, but for a series of years.

REPORT ON CORN.

To the Executive Committee
of the State Agricultural Society:

GENTLEMEN—As a competitor for the premium to be awarded for the largest yield of corn from two acres of ground, I herewith present the certificate of the Committee, and the letter of Mr. Veal, who measured the land; also, the following report on the preparation of the ground and culture of the crop:

The ground selected for my experiment, was sand-hill branch land; after drying it by underground drains, it was broken up with a common tongue plough in November, about 25 two-horse loads of manure from my cow-house, were spread over each acre in December, and well ploughed in with a two-horse iron plough (Glaze), followed with the subsoil plough drawn by two mules. About the first of March, another coat of good stable and cow manure was spread and ploughed in as the first. Early in April, three cart loads of air-slacked lime, and two sacks of salt, were spread over each acre, and lightly ploughed under. On the 14th of May, the ground was thoroughly ploughed with Glaze's large iron plough, harrowed level and laid off thirty inches apart with a shovel plough. Guano and Plaster was sprinkled in the furrows, near 200 lbs. of the former, and 300 lbs. of the latter, to each acre.

The seed selected for planting, was from North Carolina, and designated "Bale Mountain Corn." After soaking it during the night in a strong solution of nitre, it was planted from 8 to 12 inches distance in the row, covered it with hoes, and rolled the ground, leaving it perfectly level. On the 14th, it was ploughed with a long, very narrow plough, and dressed over with hoes. On the 5th and 17th of June, the same work was repeated, each time leaving the ground level. About the first of July, it was necessary to draw a ridge about the roots of the corn to prevent its falling. During a protracted drought, Acre No. 1 was twice irrigated, and Acre No. 2 had the water turned on it once.

As you will learn from the certificate of the Committee, the yield from Acre No. 1 was 200 bushels and 12 quarts; from Acre No. 2, 116 bushels and 6 quarts, making from two acres, three hundred and sixteen bushels and 18 quarts.

All of which is respectfully submitted.

J. W. PARKER.

Columbia, Nov. 9th, 1857.

The undersigned, acting as a Committee, certify that they have, with care, superintended the harvesting and measurement of the product of two acres of ground belonging to, and cultivated by Dr. J. W. Parker, which ground we would denominate sand-hill branch land; and find the yield of corn to be on acre No. 1, two hundred bushels and twelve quarts; and on acre No. 2, one hundred and sixteen bushels and six quarts—making from two acres, (according to Mr. Veal's survey), *three hundred and sixteen bushels and eighteen quarts* of good sound corn, the manner and measurement of which we regard as accurate, and such as would be entirely satisfactory to us, if we were buying.

It is known to a part of the Committee that acre No. 2, or a large portion of it, was ploughed up at a late period, and planted over, which, very probably, was an injury to the crop, and lessened the yield.

JOHN DENT, Jr.
WM. WALLACE,
W. L. GOODWIN,
JOHN GLASS.

"*Dairy Farm*," *Columbia, Oct. 21st*, 1857.

DR. J. W. PARKER—*Dear Sir:*—I measured

on yesterday the corn lot as shown me in the field on the West side of the Main Road, and find it to contain *one acre*, and have measured off and staked *one acre* of corn in the field East side of the road.

Very truly yours,
THOS. C. VEAL, Architect.

Columbia, S. C., Oct. 21st, 1857.

Agricultural Humbug at Washington---II.

PATENT OFFICE SEEDS.

We purposed in this number to continue our remarks, begun on page 40 of last number, in reference to the operations of the Agricultural Department of the Patent Office, but we cheerfully give way to the article below, from the *Philadelphia North American* of Feb. 6th, to which we call especial attention.

After referring to the benefits that may be, and even have been derived from the distribution of seeds, the writer goes on to say:

" • • • Mr. Editor, it is so much more agreeable to praise than to censure, that the writer would willingly close his remarks with an expression of his earnest hope that the future efforts of the Patent Office may be most successful—but sir, that office, and the money which sustains it, *belongs to the people*, and whenever its action requires censure, it should not be withheld through delicacy to the official, who directs its expenditure. It was, beyond question, the object of Congress, when making its several appropriations for the purchase of seeds that the money should be expended in procuring from abroad such varieties of cereals, grasses, esculent vegetables, and, if you please, grafts, &c., as might not speedily be introduced among us through the ordinary course of trade.

The first effort to that end was during the administration of the younger Adams, who caused circulars to be issued to Consuls, Naval Officers on distant stations, and other officers in the service of the government abroad, inviting them to collect and forward to Washington for distribution, seeds of plants which they might deem likely to prove serviceable to their country; but as no appropriation has been made to defray the cost, the result was not attended by much success; nevertheless, the plan was praiseworthy.

The invitation, be it observed, was not to send home the seeds of vegetables we already had in profusion—"coals to Newcastle"—but novelties, some of which, it was hoped, might prove of practical value. The effort of Mr. Adams was doubtless the germ of the "agricultural department" of the Patent Office, and had his well conceived plan been carried out, when at a later day an appropriation was made, we might have seen more than *one* profitable result—*especially, so, when the extraordinary expense had been incurred of two or more trips to Europe of the agricultural clerk in quest of seeds—the whole of whose expenses might have been saved, had the subordinate possessed the knowledge suited to his position*; and the sum squandered in these *pleasure* trips could have been legitimately applied.

The writer has been led to call attention to this subject from recently having found on the tables of our Agricultural Society, a collection of vegetable and flower seeds, labelled 'as imported by the Patent Office,' *most of which were well known among us a quarter of a century ago, and some of them probably introduced by the first English colonists.*

But a still more striking evidence of the *ignorance* of the clerk who, it is understood, directs the importations, was the fact that among the seeds just referred to, *was a variety of turnip, of Pennsylvania origin, which the writer of this communication had himself specifically named. It had found its way to England and been imported by the Patent Office, the subordinate referred to not having knowledge to discriminate.* More than six thousand pounds of this very seed, raised in Pennsylvania, have been distributed since the last harvest by a single Philadelphia house.

There is another view of this subject worthy of notice: seeds of foreign growth are admitted "free." To this the American seed growers make no great objection, the superior quality of the American giving them the preference. But whilst other branches of industry are directly or incidently protected, is it right that our own seeds should not only go unprotected, but the funds of the government be expended in purchasing abroad and scattering broadcast at home, *free of charge*, the identical varieties which our own soil produces. What would be thought of it, if, out of the appropriation for the Congressional library, $10,000 was annually expended in the importation from England of Webster's spelling books, and their distribution, under the pretence of diffusing useful knowledge. Yet, preposterous as that would be, the spelling book of Webster is not more an American production, nor is it more readily obtained in every country store than are many of the variety of seeds distributed by the Patent Office. Mr. Editor, is not some amendment needed?

L.

[*American Agriculturalist.*

Cut Worms.

SECOND ARTICLE.

The March number of your journal contains an article on the above mentioned insect, from the pen of John A. Taylor, Esq., which is so much at variance with the known laws governing their production and transformation that I have concluded to notice it. In the first place, there are no worms, or more properly speaking, caterpillars, which possess the power of procreation, with the exception of the common red earth, or bugle worm; all the others are in an intermediate or imperfect state, and before

they can become a perfect insect must pass through the pupa, or chrysalis state into that of a moth, butterfly, or some other perfect insect, as the case may be.

I will, in a brief manner, attempt to account for the phenomena observed by Mr. Taylor, in a different manner from what he has done. He tells us all the worms enclosed in a glass jar buried themselves in the earth, with the exception of one, which remained upon the surface, from which, after a few days, came forth living worms; what these living worms were I cannot say, with certainty, but it is highly probable that they were produced by the ichneumon fly, which had deposited its eggs in the body of the cut worm, and that these worms assumed the chrysalis form which he supposes were eggs deposited upon the surface of the ground.

I am almost warranted in this conclusion from his own sentiment; for he says: "I soon had any quantity of flying insects, somewhat resembling a mosquito in appearance, formed more like a wasp, and very tenacious of life." This flying insect was, beyond all question, a perfect ichneumon fly, which are eminently useful in checking the increase of certain insects, by depositing their eggs in the bodies of various caterpillars and chrysalids. The worm which remained upon the surface of the earth sickened and died in consequence of the ravages of these minute worms which preyed upon its vitals.

The true history of the cut worm (*Agrotis Devastator*), known as the cabbage worm, &c., is this: The perfect insect or moth lays its eggs in the month of July, on the ground, and particularly under heaps of weeds and decaying vegetable matter, which may inadvertently be left on the ground; they are very partial to heaps of Purslain, *Portulace* (*Oleracea*), probably for the reason that the young larvæ may find suitable sustenance from its succulent nature. These worms, or caterpillars, in the course of a few days, burrow in the earth, where they remain until the succeeding spring, when their depredations on tender vegetation commence; as they increase in size they moult, or cast their skins from time to time, and finally descend a few inches into the earth where they assume the pupa state, of a brown or mahogany color. In this state they remain some four weeks, when a moth emerges of an ashy gray color, with a lustre like satin, with light colored wavy bands crossing their wings. The moths make their appearance about the middle of July and only fly at night, and at this season of the year are seen about the candles in great numbers.

There are a great variety of the agrotis to be found at almost any time during the summer and autumn, the worms of which vary but slightly in appearance. Dr. Harris, in his Treatise on Insects, mentions having enclosed a number at one time, taken, I think, from his garden, which, on passing through their transformations, eventually produced five differently marked moths.

The habits and appearances of this insect are so well known in all its stages that no mistake can occur in detecting it.

Mr. Taylor has, evidently been led astray by the tricks of the ichneumon fly or by some other parasitic insect which have invested the specimens he had captured.

There are few insects of more service in checking the ravages of certain of the Lepidoptera upon the labor of the farmer than these little wasp like flies; were it not for these and the birds who devour vast numbers, it would be almost impossible to cultivate many of the grains and vegetables we now do.

I would suggest to Mr. Taylor, or any one else, to again carry these worms through a course of experiments, examine the worms closely before confining them, so as to see if there are any slight difference in their appearance, either in marks or colors: and then, again, to note the marks on the perfect insect or moth.—*Southern Cultivator.*

To Save Harness.

It is the hairy side of leather that cracks; and if harness is made (if double) so that the fleshy sides are outward, and (if single) so that the hair side is next to the horse, it will not crack. The moisture of the horse will soften the hairy side; and the bend being so that the fleshy side is on the outside of the segment of the circle, no provocation is given to the inside of the circle, to crack. Wagon harness has lasted twenty years uncracked, simply by this means. The harness maker will object to it because he cannot put inferior leather in, as he otherwise could. But stirrup-leathers are made so, and so are shoes, and why not harness?—*Mass. Plowman.*

To Prevent a Horse Catching the Reins Under his Tail.

If a horse catches the reins under his tail, make the crupper bow an inch or an inch and a half wider, and buckle it tolerable tight. This, it is said, will cure the habit.—*Exchange.*

Wheat Prospect.

Maryland, Virginia, South Carolina, Texas and Missouri papers represents the wheat crop as in a very promising condition. If no calamity befals it, the farmers' granaries will be full to overflowing.

Horticultural Department.

E. G. EGGELING, Contributor.

Ornamental Gardening.

In what follows in the present issue of the Planter, and in the articles which shall succeed this, from time to time, we propose to present some views of the subject of Ornamental or Landscape gardening, including there under whatever relates to the proper selection of a location, proper arrangement of the garden or grounds, the proper disposition of flowers, shrubs, trees and evergreens, the cultivation of each object of ornament which is placed in the grounds to embellish them, and in so far as we may be able shall endeavour to discuss at large the whole theory and practice of landscape gardening, with such lights and aids as our experience and observation affords, and as we may be able to gather from the best authorities on the subject. The line of discussion which we have thus proposed, will lead us over a wide space, and will, of necessity, require considerable time and involve no small expenditure of labour; but we are encouraged to adventure the undertaking by the consciousness that we shall be contributing in a measure to the beautification of the homesteads of our State, to the enhancement of the value of property, to the rational and innocent enjoyment of our fellow-citizens, and be strengthening the ties which bind man to home, and check the restlessness and longing for change which is so characteristic of the Americans as a people, and which we of Virginia share in undue measure.

If we have not mistaken the signs of the times, there is a peculiar fitness in commencing this discussion just now. The public mind of the State seems to be awakening to the importance of ornament, as an incident of value and comfort to our homes, and juster ideas of the relations between the useful and beautiful are beginning to grow up among all classes of the people. The notion of some inherent antagonism between the useful and the ornamental is measurably exploded, and the truth that the ornamental rightly applied is always useful, is becoming daily more apparent to intelligent and reflecting men.

Juster ideas on the subject of landscape gardening, too, are becoming paramount with the public. The day of stately terraces, long, broad, straight avenues, with rows of lombardy poplars on either side, grounds laid out in squares with straight lines leading everywhere, evergreens cut into all sorts of fantastic shapes and images, has passed away with the race of gardeners, who, with shears and pruning-hook, tortured nature into a semblance of Adam and Eve, and clipped the hedge which hid the dog kennel or the poultry house from view, with a nicety which would have excited the envy of Hobson, or any other distinguished professor of the art tonsorial. What queer figures they were, to be sure, which greeted the eye about every gentleman's mansion in those days! What hideous mockeries of nature—what caricatures of animated existence! And how proudly the honest gardener regarded these trophies and triumphs of his skill and cunning. But the grave-digger buried the gardener out of sight, and heaped up the earth over his body, and laid the green turf on the mound, and long since the last of the race has mouldered into dust. Peace to their ashes.

And let us award them the praise which is their due. They did well, in that they were the pioneers in the good work of beautifying the homesteads of the land, and according to the light which was in them, did their duty bravely and thoroughly. The traces of their skill are yet with us and the impulse which they imparted is still acting upon the tastes of the people.

Still, it must be admitted that since their day, a great stride has been taken, and that we are now far in advance of their ideas of what constitutes proper, fitting, and appropriate embellishment for our houses and the grounds around them. The grand defect of the system to which they were wedded was this, that art, human skill and ingenuity were too apparent and nature was kept too much in the back-ground. Their effort seemed to be to get as far away from nature as possible, while at all points art stared you full in the face. Were the grounds ever so extensive you could not by possibility forget the presence of human agency, or for the briefest space fancy yourself in one of nature's sacred haunts.

That this was all radically wrong will scarcely now be questioned. It deprived grounds, and trees and flowers of one of their greatest charms, if not indeed their chiefest,—the quality of exciting in us emotions other than those which are excited within us by constant contact and communion with our fellow men. The dullest plodder of us all finds it a delightful relaxation and relief, at seasons, to get away from human faces and human voices, and from all the cares and perplexities of this work-a-day world to commune with nature as she is, and "to look through nature up to nature's God;" and it is only when we behold natural objects that this delicious refuge and solace is afforded us. What wonder, then, that a system which rendered all natural objects unnatural should have speedily fallen into general disrepute.

It has given place to another, and as we hold, a better system, one which has received the emphatic commendation and approval of philosophic and poetic minds. It is that style of ornamental gardening known as the English, and of which the national grounds at Washington, and the grounds about the Smithsonian Institute, are good specimens. It discards straight lines, except where they are introduced for greater convenience, or to add to the variety, eschews the stiff uniformity of mathematical figures, and disposes of trees and shrubs and flowers, as nearly after the models in Nature as is practicable. The general rule of arrangement and disposition of walks, avenues, rills, hillocks, flowers, and everything else which enters into the composition, is, imitate Nature, copy Nature, follow Nature. The beauty in Nature is the highest beauty, and as that painting is most meritorious which most nearly approaches Nature, so that landscape gardening is most praiseworthy which reproduces Nature in all its achievements. Not that the skilful and accomplished artist in this department will blindly and servilely follow Nature in all her moods, and indiscriminately copy deformities and beauties. By no means. He will refine on Nature, as the painter does, and present Nature, not as it is precisely, but as it appears to the human gaze, with all its beauties open and clear to the eye, while the blemishes are hidden out of sight. In the individual objects which compose his group, there will only be the chosen forms which are found in Nature's wide domain, but the general effect of the whole will be precisely that which is observed in Nature by the distant spectator. To him Nature appears not as it really is, when the individual objects comprising the landscape are separately viewed, and the aim of the skilful gardener is so to ply his art that this illusive appearance of the natural landscape may be rigidly and sacredly preserved.

It is thus manifest that the all-pervading idea—the very soul of the system of landscape gardening which we recommend, is a close adherence to Nature, allowing only such departures as will not destroy the naturalness of any single object in the group, or the naturalness of the whole group regarded as an entirety, but which simply discards the unsightly objects which in Nature are only observed upon a close inspection of the several objects which together form the landscape. As to instance, you shall see in Nature a gentle streamlet winding around the base of a hill, fringed with beautiful flowers which bend to the breeze and kiss the silver stream, with the green grass sweeping down to the water's edge, but on a nearer approach you shall find between the water and the sward a narrow strip of unsightly earth, which is by the water kept constantly moist, and which yields to your tread. In reproducing this feature of the landscape, the gardener will copy the tortuous path of the stream, will conduct it by gentle and graceful curves along its way; will give you the green carpet of grass, but discarding the unhandsome strip of mud along the margin of the stream, will place his turf even down to the water, while from the midst of the delicate spires of grass the flowering plants shall spring to bend in beauty over the stream. So, in copying Nature, he will not plant thorns and briars in his copse to deface them, nor take misshapen trees, or leave dead branches on them, or permit them to wanton in the wild luxuriance of boughs and foliage which is seen in virgin forests; but here and everywhere his skill comes into play, to heighten natural beauty and to remove everything that is offensive and which would detract from the enjoyment of the scene. Art is here, but as the handmaid of Nature, subsidiary to Nature, art which is so artful that it conceals itself and seems to be,

n truth and verity, not art but Nature. A elebrated English dandy is reported to have aid, that a well-dressed man was one, whose ntire dress was so arranged that it would at- ract no attention and excite no comment, and ve would pronounce that landscape gardening he best which copied Nature so faithfully that he departures from Nature could not be de- ected, and at the same time avoided the re- production of every accident of natural ar- rangement and combination which would of- fend the eye of good taste, or excite unpleasant motions.

It will very readily occur to the least atten- ive reader, that upon these principles of proce- lure, we must entirely condemn the very com- non practice in Virginia, of cutting down all he forest trees about the grounds, when mak- ng a clearing for a new settlement. That this s the sheerest folly, seems to us to be too clear o admit of an argument. If there are to be rees at all about the house, what possible eason can be urged in extenuation of the utter destruction of all the trees which are found growing upon the soil, when they are to be re- placed by others which are to be dug up, planted, nurtured and cared for, for long years ere they become such as those were which fell beneath the woodman's axe A half dozen negroes, in an hour, have often destroyed trees which it required a quarter of a century to produce, and which the owner of the premises was unable to replace during his lifetime, and for which he might have given the price of the half dozen destructionists, and then have been largely the gainer by the purchase. Once for all we protest against this practice as we would against some others which are equally common, were it not that in the progress of these articles we shall have occasion to refer to them, and ought not perhaps to tarry longer upon the threshold of our subject. Passing by this then for the present, and other practices which are very usual and equally as ridiculous and erroneous, we come to the first serious practical point of inquiry in this discussion, which is—

THE SELECTION OF SITE OR LOCATION.

In deciding on this, very many circumstances are to be taken into the account, especially where the object is first of all to rear a roof tree, under which to place the household gods, the Lares and Pennates of the family. Rightly, as we think, in this State, we are accustomed to look for a spot which affords an abundant supply of water for the use of the family, and the presence of a bold spring in one quarter is almost sure to fix the location of the dwelling, especially if with this the spot offers security against the biting North winds of Winter, and invites the visits of the bland airs of the South during the Spring and Summer. All this is most proper and desirable, and where the spring of water is used prudently it may, and always will, greatly aid in the com- position and arrangement of the grounds. The fountain itself can, by a little management, be rendered an extremely picturesque object, and the stream which issues from it, properly managed, will form the most pleasing and at- tractive feature of the entire landscape. As the discussion proceeds we may show how this can be done, but must content ourselves now with the suggestion that water is always an element of beauty in every landscape, and performs a most important part in the play of the gardener's art. Next to this we must look to the extent of surface which can be secured for the use of the ornamental gardener, and we would inculcate large and liberal views on all our readers. Extensive grounds about the mansion house are not so common in Virginia as they ought to be, considering the comparative cheapness of land, and the large body which is usually found in the possession of every proprietor. An acre, more or less, taken from the fields of the farmer, make no material difference in his operations when he counts his possessions by hundreds and thousands of acres, and it is a short-sighted policy which brings the cultivated fields within a few feet of the front porch of the mansion, and crowds kitchens, corn houses, stables, poultry pens, and pig styes together, in close proximity to the drawing-rooms and chambers of the family. Never select a location for a dwelling, whatever advantages it may offer, which will not afford ample scope for shade trees, shrubs, walks, flowers, lawn, and every feature of beauty, ornament and grace. Of course, the space which is to be devoted to these purposes, must depend somewhat upon the size and style of the dwelling which is to be erected; and, on the other hand, good taste would seem to de- mand something of adaptedness between the

style of the dwelling and the arrangement and embellishment of the surrounding grounds. They must be in harmony in order to the production of the happiest effects; for want of harmony is lack of beauty always and everywhere. It will not follow, however, that extensive grounds may not entirely harmonize with a small building, provided the building be so placed that there shall be no violent contrast between the extent of each, and the natural objects scattered over the grounds be so arranged as to prepare the mind for the architecture which is presently to be disclosed to the spectator. For a very beautiful exemplification of these views, we may refer to a sketch in the published works of Edgar Allen Poe, entitled "Landor's Cottage," which, as well as another, entitled "The Domain of Arnheim," is one of the very best essays on landscape gardening with which we are conversant. Besides these points, we must also regard the soil, that such may be selected as will readily sustain vegetation. And here we should find it difficult to be exact in laying down any rule of universal applicability, though we may approximate this result with a series of negations. It is entirely obvious that no low, marshy spot should be chosen, however eligible in other respects, since it would be unsuitable for the growth of trees, shrubbery and flowers, except the party should be willing to endure the heavy expense of filling and grading the locality. For reasons equally obvious, no shallow soil, filled with stones, should be selected, as such would not afford sufficient depth of earth to sustain vegetation after it had been planted. And in general terms we may say, that any moderately deep, moderately rich soil will suffice for the purposes of the ornamental gardener, provided he be supplied with fertilizers in sufficient quantities, and where the grounds to be improved are very extensive, the greater the diversity of soils the better. And that for a reason that must commend itself to every reader; that is because while one plant or tree requires one kind of soil, another will thrive much better in a different soil, although this can be met to some extent by specific applications to the individual plant or tree, even when the soil in which it is planted is not by nature well adapted to its growth. Another point to be considered, and the last which we deem it essential to notice, is the exposure, which is i some instances a matter of highest impor The best is an East or South-East exposur where this can be secured without the sacrific of other and more essential advantages. the land gently slopes, so much the better, an the ascent may continue ever so long, if it onl proceeds with a gentle grade, and the dwellin be so placed that there shall be a back-groun of hill to relieve it, as the back-ground of painting relieves and heightens the chief figure of the composition.

These hints will suffice for the present t direct in the selection of a suitable locatio for a mansion and the contiguous grounds especially as we shall, as we progress, an nounce other principles of taste which wil still further tend to the elucidation of the point So far we have done litte more than body forth in words the ideas which are very generally entertained by persons of taste in every com munity, and which have been practically ex emplified, except where indifference to all con siderations of taste has actuated the individual Persons, however, even intelligent persons, are wont to suppose that embellishment and orna ment is for the rich alone, and that the poo can do nothing in this behalf. We hope t convince many that the opinion is an erroneous one, by showing how cheaply the poorest owner of a farm can beautify and adorn his homestead. While we shall endeavour to satisfy the wants of the wealthiest, and aid him in his efforts to spend his money to advantage in the embellishment of his grounds, we shall also show the poorest owner of a farm how he may vastly enhance the beauty of his premises, without the expenditure of one dollar more than he has been accustomed to expend from year to year. The elements of beauty are around each tiller of the soil, ready to his hands, if he will only open his eyes to behold them, and put forth an effort to combine and group them. God, the great maker, has painted the sky with infinite skill and hung it out, and every man may arrange for himself just the picture which his tastes demand and means will afford, and if he cannot make a gorgeous landscape, which shall awaken the admiration and command the applause of every spectator, it is alike his duty and his blessed privilege to compose an humbler picture, which

ill at least glow in the sunlight and smile in e moon-rays, and whether glowing or smil- g, shall show forth a perfection which no aster of the pencil shall be able to rival. Let o man lightly esteem that art which aims to store to this sin-cursed earth something of e primeval glory and beauty of man's earliest me, ere

"Man's first disobedience
Brought death into the world
And all our woe."

It is no vain toil that seeks to soften the arsher aspects which Nature, under the curse, ears. Thorns and thistles, and all the ruder rms of Nature, are the fruits of Adam's lapse om virtue; and surely he who labours and rives to remove the marks of that fatal fall, ust, in the very effort, gain something of ele- tion, and be impressed the more as his task oceeds with the importance and desirableness totally eradicating from his nature all the ains of pollution which sin has placed there. ll that is lovely in Nature speaks of God, and is only the baser forms of earth which re- ind us of the evil and wrong that is in the orld, and as we become assimilated to that hich is the constant object of our contempla- ons, surely, surely, he that studies daily to ake the little world of home more and more eautiful, will be daily growing in goodness, nd be ever approximating the highest excel- nce.

These are motives strong enough to move ght-minded men to study how they may best nprove the spot of earth on which they may nance to live, though there are others which e have heretofore presented, which might rove more influential with some persons. Vith so much, by way of introduction to the rticles which are to follow, we close for the resent, trusting that both now and hereafter e shall meet with candid and sympathizing uditors, and that something of good may come f these labours.

New Apple. The Virginia Beauty.—An Interesting Letter. Comments.

MOUNT ZEPHYR, WYTHE CO., VA., *February* 17th, 1858.

. G. EGGELING, ESQ.

Dear Sir—In your article on "The Apple," n the Planter of November last, you request hat any person knowing of new and valuable varieties of apples, will send you an account of them, with specimens of the fruit where convenient,

In compliance with this request, I forward you specimens of an apple which we here call the "Virginia Beauty." The scions were brought from an old orchard in Carroll, an adjoining county, where the fruit, I am inclined to think, originated—as I have found no person who could identify it as any of the known varieties, nor can I recognise it in any of the books on fruit—but you will be able to correct me if I am in error, and also to pronounce upon its value if I am correct. I know of no other bearing trees of this variety in our county, except the four on my farm. The tops were removed from tolerably large but thrifty trees of worthless varieties and the grafts inserted into these forming entire new tops—this is why mine are the only bearing trees in the county. Since mine have commenced bearing they have become very popular here, as I think they will wherever they may be cultivated.

The fruit I send you is not a fair sample of what it would be under favorable circumstances. My trees stand in an old pasture field where they have had no cultivation for years and never anything like manure until the present winter. The tree is rather irregular in its growth—is hardy, and is a profuse bearer. My trees have produced three very heavy crops in succession. The season of this fruit is from the middle of December until first of March—though I have kept it until April.

Should it prove to be a new variety, and one you deem worthy of propagation, I will take pleasure in forwarding to you or any of your readers who may desire them, scions by mail or otherwise, as they may direct.

My address is Jackson's Ferry, Va.

Respectfully yours,
R. W. SANDERS.

REMARKS.—As the reader will perceive from the date, the letter above has been in our possession for some time. Accompanying it was a box containing some fifteen or sixteen apples, which were fairly entitled to the appellative which has been bestowed upon the fruit, albeit our correspondent deems them inferior specimens. The fruit was a peculiarly beautiful red, in colour, and of very handsome shape and rather larger than the average, and of a very pleasant flavour, tender and juicy. Perhaps the majority of persons would account it rather sweet, but the other qualities which it possesses must commend it highly. The description which our correspondent gives, both of the tree and the fruit, is so complete, that we need hardly say more in that behalf.

It is in our power, however, to testify that the fruit keeps well, as we had specimens so late as the 21st of March, and then they betokened a capacity which would have carried them fairly into the month of April. For this quality alone this apple certainly deserves high appreciation.

If the Virginia Beauty, which we shall henceforth call it forever, is not a new, native variety, we have been unable to identify it with any variety which we have seen, or with any apple described and pictured in our works on fruit and fruit culture. We had purposed sending specimens to one of the most distinguished and experienced pomologists in the country, with the view of having his judgment on this point, but were hindered by circumstances beyond our control. We shall yet carry this resolution into effect, and will place the result of the experiment before our readers.

Assuming for the present that the apple is a new, native apple, we feel no hesitancy in affirming that it is a valuable addition to our stock of native apples. There is scarcely one more valuable, and upon reflection every reader will agree in this estimate. Dr. Saunders very kindly furnished us with grafts, which we have already placed upon excellent stalks, and they are now doing well, and promise to become very thrifty trees. We esteem ourselves fortunate to have met with this apple, and shall greatly felicitate ourselves if we should be instrumental in introducing "the Virginia Beauty" into very general notice.

We avail ourselves of this opportunity to invite similar contributions from other gentlemen living in various parts of the State, who may feel interested in the culture of fruit. Certain are we that there are other fruits which need only to be known to be highly esteemed, and we know of no better method of introducing them to the public than this, and certainly any gentleman would be conferring a benefit upon the lovers of good fruit by aiding us in this way. That there are many native fruits of which we know nothing we are satisfied, and as all the indications point to an extraordinary large fruit crop, we trust that this appeal will be heeded, and that we shall hear from many persons in different parts of the State. We shall recur to the subject again at a future day.

Artichoke, its Culture, etc.

A friend desires some information concerning the culture of the Artichoke, and thinking that there may be others in like circumstances we have concluded to answer his enquiries through this medium, rather than by private communication.

Two kinds of artichokes are cultivated in this country, one called Jerusalem Artichoke something like the potatoe, is very well known and will not occupy our attention here.

The artichoke of which we propose to speak is a far different plant, and is not so well known in this country. In appearance it looks much like a thistle of the big blossomed kind, and sends up a seed stalk and blows very much as the thistle does. The edible parts are the lower end of the thick leaves, that envelope the seeds, and the bottom out of which those leaves grow. The whole of the head, (which is about as large as a man's fist,) before the blooms begins to appear, is boiled, and the pod leaves are pulled off by the eater one at a time and dipped in butter with a little pepper and salt the mealy part stripped off with the teeth, and the rest of the leaf put aside, as we do the stem of asparagus. The bottom when all the leaves have been thus disposed of is also eaten. The French eat it in salad. They also gather the heads when not much bigger round than a dollar, and eat the lower ends of the leaves before mentioned raw, dipping them first in oil, vinegar, salt and pepper.

The artichoke is propagated from seeds or offsets. Sow the seed in rows, a foot apart, as soon as the frost is out of the ground. When the plants are well set, thin them out so as to leave them standing one foot apart in the row and in the fall of the year put out the plants in clumps of four in rows, three feet apart, and the rows six feet asunder. They will produce fruit the next year.

At the approach of winter, earth the roots of the plants well and then cover with litter from the yard or stable, but it is erroneous practice to cover over the plants with manure Having thus secured the plants against the effects of the winter's frost, leave them be until the ensuing spring.

About the last of February the covering of litter should be removed, and so soon as the frost is out of the ground, say during the

month of March, the ridges of earth thrown up to the plants for their protection during the winter, must be levelled, and all the earth removed from the stock to below the part from which the young shoots spring. Upon removing the earth, many young shoots will be found growing out from the parent stock, of which select those growing from the under part of the stock to make new plantations. These off-setts you will now plant, just as you planted the original plants, and they will probably bear sometime during the same year. All these shoots should be removed except two or three, and every bud rubbed off, so that these which are allowed to stand may produce fine heads. After removing the suckers, the earth should be replaced about the plant so as to cover the crown about an inch or two. The suckers for planting should be clipped in March or April, and if any of these planted out do not bear fruit the same year, tie the leaves together and cover the plant with earth so as just to leave it visible, and as winter approaches cover them over again with litter as before directed. This dressing for winter should be given about November, at which time cut away the old leaves without injuring the centre or side shoots.

As often as a head is cut from the permanent bed, the stem should be broken down close to the root to encourage the production of suckers before the arrival of winter.

The plants produce heads ordinarily from May until June or July, and the spring-planted shoots produce from July to October, and by a little management a supply can be had throughout the entire summer and autumn.

Although the plant, in a suitable soil, is a perennial, yet after the fourth or fifth year, the heads become smaller and drier, and the usual practice therefore is, after that lapse of time, to break up the beds and to form fresh ones.

Those plants produce the finest heads which are planted in a soil abounding in moisture, but in such situations they are not apt to survive the winter, and probably the very best location is in a soil only moderately moist. The soil should be rich, and needs to be manured every spring. An admirable compost for them is made of well putrified manure three parts, and fine coal ashes one part thoroughly mixed together. The plants should always have an open exposure, and above all, be free from the influence of the shade of trees; for when the plants stand beneath the shade or drip of trees, they invariably grow spindling and produce worthless heads.

The Present Prospect for Fruit this Year and some Reflections Thereon.

It is, perhaps, premature to be calculating the chances of the fruit crop for the present year, and the event may prove that we have committed the folly of crowing before we were out of the woods, as the adage goes; but we cannot refrain from noticing the flattering indications that this will be an unusually good fruit year in Virginia. We do not remember ever to have seen so favourable indications as now exist since we have lived in this State. We cannot tell what a day or night may bring forth. Unexpectedly a blighting frost may come and destroy all our sanguine expectations; but at this present writing we do entertain the most flattering hopes of such success to all fruit growers in Virginia, as they have not had for ten years. Thus far the season has been remrkably propitious, and all vegetation is very much advanced, but the fruit trees especially are loaded with embryo crops, with everything to encourage the belief that they will ripen into an abundant harvest. Some varieties may already be accounted out of danger from frost; and if the present bland weather continues a while longer, all will be placed beyond peradventure. Should nothing now occur to blight the fruit, the crop in Virginia will be unprecedently large, and those who have heretofore planted orchards will reap an abundant reward.

On very many accounts, we hope for the continuance of the present very flattering indications, but chiefly because of the effect which would ensue in arousing all our agriculturalists to the desirableness of a good orchard. Not a few of this class have been deterred from planting fruit trees by the frequent failures of the crop in late years, who would have infallibly entered upon this branch of production long ago, had the success of the crop been more certain. All such individuals would be induced to plant orchards forthwith by the vision of trees loaded with golden fruit—and thus one of the grand aims which we have in view, to increase

the orchard products of the State, would be secured.

We are the more desirous that there shall be a large crop of fruit because we have good reason to know that the nursery business has been much stimulated since we commenced our contributions to this department of the Planter. We may be pardoned this personal reference, since it is based upon communications which we have received from various sources of the most encouraging and flattering character, and since the fact is not attributable so much to what we have written as to the vehicle through which our crude suggestions have found their way to an indulgent public. We are the debtors of those kind friends, most of whom we do not personally know, who have communicated to us their too partial estimate of the service which we have been able to render. The fact, however, remains that a deep interest is beginning to be felt in the culture of various kinds of friut trees, and we know that one effect has followed our labours, that the Virginia nurserymen have been much more liberally patronized this year than in former years. It is no light triumph, in our estimation, that the perapetetic vendors of fruit trees from the Northern States have been completely routed in this market, and have been forced to seek elsewhere for purchasers for their wares, and that by consequence, every person within our knowledge in Virginia, who has been engaged in the culture of fruit trees, has had even more orders than he could fill, and is enlarging the sphere of his operations to secure an adequate supyly to meet this enlarged demand. We congratulate the agriculturists upon the hopeful signs of a reviving interest in the culture of fruit; and if we claim too much credit for the Planter, as the instrumentality by which this good has been wrought, we trust the harmless vanity of our assumptions may be pardoned.

By whatever agency caused the two facts are indisputable, that our nurserymen, one and all, are preparing themselves to supply very large demands the coming autumn, and our farmers, as a class, are taking a more lively interest in the cultivation of fruits. If, at this juncture, we shall realize our hopes of an abundant crop of apples, peaches, pears, plums, apricots, &c., we have no doubt that the demand for trees next fall will be unprec dented. There are, already, heavy orders o hand at many of the nurseries, which could n be supplied during the past season, and whic have been laid over to be filled during th next season; and the probabilities are, tha with all the efforts of the nurserymen, th supply will fall short of the demand. It is condition of affairs which we contemplate wit peculiar pleasure, and which must be gratifyin to every citizen of Virginia who feels concerne to have the agricultural resources of the Stat fully developed. As we may be able, we shal endeavor to help on the movement, and w earnestly ask the cordial co-operation of all th readers of the Southern Planter.

For the Southern Planter.

Root Pruning and Manuring.

The readers of the Planter are, I think, un der many obligations to Mr. Eggeling and my self for our "gentle and joyous passage a arms," as it has been the means of bringin into the field the redoubtable knight R. C., a will be seen by a reference to the last Planter

As the dull steel and lusterless flint, by thei collision, produce bright flashes and vivi sparks, so we, by our "hollow" and superficia controversy have brought out one, who casts not merely a transient gleam over a dark sub ject, but by a light, as steady as it is brilliant illumines at once the whole science of pomolo gy and the art of arboriculture: a writer, wh by a single dash of his pen settles all contro versies, and elucidates every doubtful point; whose every sentence is pregnant with "prac tical information" and redolent of wisdom, not given to "barren and superabundant wan derings," he is never "oblivious as regards the true merits of the case;" and will not be found guilty of the folly of comparing "that annual grass, wheat, to the arborescent apple, whose age marks one thousand years:" he well knows "there is no physical analogy between these two plants; or in plainer words they cannot be allied by cross impregnation; or were we to examine the medullery veins, organs and ramifications of the wheat and apple plant we should invariably fail to establish the semblance of a criterion by which to judge of these defects and remedies." The above sentence which I quote from R. C., doubtless contains the profoundest philosophy and most useful practical information, and my inability to comprehend a word of it, is owing to my utter want of acquaintance with the works of those "sages, our great ancestors," Virgil and Columella, and in no degree to any want of precision in the writer.

My confidence in the wisdom and perspicacity of R. C., induces me to place an undoubting

ıith in his declaration that the articles of Mr. . and Tyro are characterized at the same time ıy "an extravagant superfluity of matter and arrenness of ideas." The fact that I am unble to understand how the same "composiion" can combine such qualities, in no degree ınsettles my belief in the correctness of his tatement.

R. C. says he "agrees to the chiseling off of he tap-root to induce fruitfulness in the wriers." From the amount of useful informaion, and the number of practical suggestions ontained in his brief communication, I think ıe must have been, not only "root-pruned," ut also top-dressed with some highly concenrated fertilizer. He produces grain without ither straw or chaff, and fruit without leaves r flowers. But to point out all the beauties of R. C's article would require too much space. To properly appreciate its elegancies of style, nd excellencies of matter, it must be studied with care and attention. As a specimen of luid writing and cogent reasoning, I commend o the readers of the Planter the concluding ortion of it, commencing with "The enquiry s not so much whether," &c., &c.

R. C. expresses the opinion that "it is useless to be wasting words with men who cannot distinguish wood from straw, or blossoms from roots." Perhaps he will be kind enough to enlighten us in reference to the difference between a "barren" and an "unproductive" apple tree, both growing in the same "green spot of ground" in which the most "exact scrutiny" cannot discover the "smallest difference in the texture of the soil."

I hope that no one, after reading the caustic criticism of R. C. on the "bit of a controversy" about the culture of apple trees, and his promise not to "enter upon the same strain of superficial reasoning," together with the profound and original remarks upon "spongioles or the most minute fibres" with which he sums up the whole matter, was so cruel and ungrateful as to permit his thoughts to recur to that old fable of the "mountain in labour," or to that proverb which has been put into the mouth of the Devil on the occasion of his undertaking to "shear the pig."

I will close this communication with a remark or two on the culture of apple trees. I have never doubted, but that manuring would hasten the growth and increase the luxuriance of apple trees, and if farmers had an unlimited supply, it would doubtless be advantageous to give to young orchards an annual dressing. But in the valley, I am sure, very few, if any farmers can afford to manure their orchards; or in "plainer words" a more profitable application of the manure would be to a grain or grass crop.

In this part of the State, whilst trees growing on our richest lands, are larger and apparently more vigorous, yet they neither bear better fruit or with more certainty than trees growing on poor lands. They all appear to be subject to the same law of alternate barrenness and fruitfulness. The general opinion however is, that if there is any difference, it is in favour of the trees growing on poor land, as being the surest bearers.

So far from the facts falling under my observation, establishing the truth of the proposition, that apple trees are in a high degree exhaustive of the fertility of the soil, they tend to confirm the opposite opinion. For I have never known an old orchard, that had not been cultivated, which was not rich and fertile far beyond the surrounding lands of the same kind.

The apples that took the premium at the fair of 1856, were grown on land of but a moderate degree of fertility. They however illustrated in a striking manner the effect of climate upon that fruit; the orchard from which they were gathered was planted from the nursery of Messrs. Sinton & Sons, near Richmond, and they had the same kinds of apples on exhibition, thus affording a good opportunity for comparison. The apples of Messrs. S. were so far inferior in size and appearance to the same varieties brought from the valley, that they obtained permission to place a card upon the latter, stating that the trees upon which they grew had been obtained from their nursery. My practice with an orchard of about one hundred bearing apple trees, which are healthy and vigorous, and from which I have rarely failed to get at least a moderate crop of apples every year—as the barren year of some varieties is the fruitful one of others,—has been neither to cultivate nor manure, farther than what is done by fattening from twenty-five to forty hogs in it every year. TYRO.

April 15.

For the So. Planter.

To Make Cabbages.

HENRICO, Dec. 1857.

Mr. Editor—As I hear great complaints this fall of failures in making a crop of cabbages, I will state the course I pursued with success this summer. In the first place, I manured the land well early in the spring, and plowed it in deep. The manuring, I think, is by far the most important thing in the treatment of the crop, and if many of those who failed would reflect on this, they might probably be enlightened as to the cause of their ill success. The cabbage, of all things, will not come to perfection on a poor soil. About the last of May I sowed the seed, (Flat Dutch are best,) which were preserved from the flea by sprinkling every morning with pine wood ashes while the dew was on. About a week before planting out, I replowed the land, and after harrowing well, sowed fish salt, dried and pounded, at the rate of 4 or 5 bushels per acre; this was done to destroy the cut-worm, of which there was a great number, on account of cow-pen manure

being used on the land. The salt destroyed nearly all, however, and had only to re-plant some twenty or thirty in a lot of about the third of an acre, besides it being very beneficial in stimulating the plants. I then set the plants in rows three feet apart, and about two feet distant in the rows. The cultivation was performed mainly with the straight bar coulter and cultivator, without much hoeing, and the land was left as flat after the crop was made as it was before the plants were set out, a method I like much better than that of ridging up high with the plough. There are various ways of keeping, or rather of *spoiling* cabbages, but for keeping them I prefer turning them down towards the North-west, and covering them nearly all over with earth, only leaving a small place exposed about the centre of the head for the cabbage to *breathe* through. This, of course, should be done before a severe frost. I should state that I consider the last of May too soon to sow the seed for a late crop, and it would be better, no doubt, to sow about the middle of June. My crop this year came to perfection too early, and consequently some of it will not stand the winter very well. In turning them down it is better to turn them away from the sun, because the constant thawing that would otherwise take place is very injurious, and in a long cold spell it is much better for them to remain frozen all the time, than to be alternately frozen and thawed. Yours, T.

From the Country Gentleman.

Cultivating Plants while the Dew is on.

Messrs. Editors.—At least fifteen years ago, I noticed a plot of cabbages, of which the large firm heads I could not account for from anything apparent in the soil. On asking the owner how he made from such a soil so fine and uniform a crop, I found his only secret was that "he hoed them while the dew was on." He thought that in this way he *watered* them, but of course the good resulted more from the ammonia than the moisture of the dew.

I adopted the practice the year following, and with the result was so well satisfied, that I have since continued and recommended it to others. In my "Gardening for the South," published two years since, you will find (page 163) "they (the cabbage tribe) especially like to have the soil about them thoroughly worked *while the dew is on them.* There will be a very great difference in the growth of two plots of cabbages, treated in other respects alike, one of which shall be hoed at sunrise and the other at midday; the growth of the former will surprisingly exceed that of the latter."

A story in point some time since went the rounds of the agricultural press, of which the substance follows: A small plot of ground was divided equally between the hired lad of a farmer and his son, the proceeds of its culture to be their own. They planted it with corn, and a bet was made by them as to which should make the best crop. At harvest the son came out some quarts behind. He could not understand the reason, as he had hoed his twice a week until laid by, while he had not seen the hired lad cultivate his plot at all, and yet the latter had gained the wager. It turned out the winner's crop had been hoed quite as frequently, but before his rival was up in the morning. *Providence, it seems, follows the hoe of the early riser with a special and increased reward.*

But there are exceptions. Cultivating while the dew is on, manifestly benefits such gross feeders as cabbage and corn, but there are plants very impatient of being disturbed while wet. The common garden snap and running beans are examples; and if worked while wet, even with dew, the pores of the leaves seem to become stopped, and the whole plant is apt to rust and become greatly injured. Whether the Lima beans and other legumes are as impatient of being hoed in the dew, I have not ascertained. Experiments should, however, be tried the coming season on all hoed crops.

Athens, Ga. Wm. N. White.

Sowing Peas.

I have before written of my practice in sowing Peas; but as added experience shows me the great advantages accruing from it, I give "line upon line." Some years since I commenced with sowing peas, and covering them at different depths, varying from one inch to one foot. I found those buried 8 inches deep, appeared above ground only *one day* later than those buried only two inches; while those that were covered twelve inches deep, were but a little over *two days* behind. As they grew, no perceptible difference was noticed, until they commenced blossoming and setting, then the advantage of the deep planting exhibited itself; for those that were eight and ten inches deep *continued to grow, blossom, and set pods* long after those only two to four inches commenced ripening and decaying.

If the soil is light and loamy, I will hereafter plant my Peas eight to ten inches deep; if the soil is clayey, I will plant six inches. I never earth-up, but leave the ground as near level as I can.—*Ohio Farmer.*

Muskmelons.

A fine way to force the muskmelon is to take a barrel without heads, fill it with good stable manure, and some six inches from it, plant muskmelon seeds around it. Saturate the manure with water, and once each day afterwards until the melons begin to ripen, pour a bucket of water in the top of the barrel. The melons will be much increased in size, and will grow and mature very quick.—*Cotton Planter.*

REESE'S MANIPULATED,

OR,

PHOSPHO-PERUVIAN GUANO,

monia, 8 per cent.—Bone Phosphate of Lime, 45 to 50 per cent.

e above fertilizer is superior to Peruvian Guano, and all *manufactured* or *chemically prepared* ures, for the following *obvious* reasons:

ST. Its effect on the first crop are *fully* equal to Peruvian Guano, as is shown by the uniform rience of all who have used it.

OND. It is far more permanent, because it contains *double* the *quantity* of *phospate of lime*, s found in Peruvian.

IRD. The product of *grain* is *greater, better developed* and *heavier* because it affords an abun- e of the element (Phosphate) required to form the grain, which is *not the case* with Peruvian.

URTH. It increases the permanent fertility of soils, because it supplies *more phosphate of lime* is required for the crop, while Peruvian does not afford a quantity sufficient to compensate ie loss sustained by the soil.

FTH. Its condition is that of a FINE, DRY, UNIFORM POWDER. Hence it requires no *pounding* or g to prepare it for use, while Peruvian contains one-third at least hard lumps, which cannot educed as it ought to be, by any means at the consumer's command, from which arises consid- le loss.

XTH. It is *perfectly* prepared, and adapted for application by means of the drill, now so exten- y used.

VENTH. It is superior to all artificial or manufactured manures, such as superphosphates (so d) &c., because it is the *natural guano*, and contains a much larger per centum of both *ammo- nd phosphate of lime*, and is sold at as low a price, when its money value is from $15 to $20 e, as may be seen by simple calculation.

he above article is not a *manufactured* fertilizer, nor does it in any sense partake of the char- r or nature of a nostrum, but is simply *Peruvian Guano modified*, in accordance with the dic- s of rational inferences from *established facts* and *uniform experience*. It has been satisfactorily l for the two past years by many of the most enlightened farmers and planters of Virginia, h and South Carolina, Delaware and this State. Its effects on *Corn, Tobacco, Cotton* and *Wheat*, be seen or heard of in all quarters. We are prepared to exhibit manuscript letters from a e number of gentlemen of the highest standing, in confirmation of its real superiority and its. No apprehension need be entertained that it will be suffered to depreciate in quality, or r from its past and present proportions of the two guanos. It is prepared under our personal erintendence and control, with the greatest care and attention, under a sense of our *responsibil-* o the public.

n order to secure *the above* article, consumers must be careful to specify in their orders, REESE'S, btain it direct from our agents. The present price in Baltimore is $45 per ton of 2,000 nds, and it may be had from the following agents at the same rate, with the necessary expen- added.

he bags of *our* article are branded, "Reese's Manipulated Guano."

or a detailed account of this guano, with an argument demonstrating the truth of its theory, we r to our Pamphlet, which will be mailed to any address, upon application, postage free.

John S. Reese & Co.,

No. 77 South Street, (Up Stairs,) Baltimore. Md.

AGENTS.

G. WATERS & Co., Georgetown, D. C.
. H. BESANT & Co., Point Rocks, Md.
K. PHILLIPS & Co., Fredericksburg, Va.
T. WINSTON & Co., Richmond, Va.
EBLES & WHITE, Petersburg, Va.
. A. MILLER, Lynchburg, Va.
WLAND & REYNOLDS, Norfolk, Va.
May 1858.

R. NORFLEET, Tarboro', N. C.
DEROSSET & BROWN, Wilmington, N. C.
JAS. GADSDEN & Co., Charleston, S. C.
WM. B. HORSEY, Seaford, Del.
NATHANIEL HORSEY, Horsey's ⋈ Roads, Del.
RICHARDS & MILLER, Philadelphia, Pa.
WHEAT & BRO., Alexandria, Va.
ACREE & TURNER, Walkerton, Va.

Mr. Lefebvre's Schoo

Corner of Grace and Foushee Streets, RICHMOND, VA.

The next SESSION of this INSTITUTION will open on the FIRST DAY OF OCTOBER, 1 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,	$
For Washing,	20	For three lessons (of an hour) a week,	
For Lights,	6	For four lessons (of an hour) a week,	
For English Tuition,	40	For the use of Piano,	
For Modern Languages, (each,)	20	For Drawing, from Models,	
For French, when studied exclusively of the English branches,	40	For Drawing, from Nature,	
For Latin,	20	For Painting in Water Colors,	
For Music on Piano, Harp, Guitar, Organ or Singing:		For Oil Painting,	
For one lesson (of an hour) a week,	40	Primary Department—for Children under 11 years of age,	

REFERENCES:

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

FACULTY.

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—1

Fourth Annual Catalogue of Thoroughbred North Devon Cattle,

THE PROPERTY OF

C. S. WAINWRIGHT, "THE MEADOWS," Rhinebeck, Duchess Co., N. Y.

The subscriber has just issued his Catalogue for the present season, containing full pedigrees of all the animals composing his herd at this date.

TERMS OF SALE, &C.:

He offers at *private sale* some half a dozen young Bulls, and about the same number of females; all of them of the very first quality, and either bred or imported by himself.

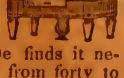
Copies, with the prices marked against such animals as are for sale, may be had by addressing him as above.

may—3t C. S. WAINWRIGHT.

Why is it that E. P. Nash of Petersburg Continues to sell so many Pianos?

THE ANSWER IS PLAIN AND TRUTHFUL AS FOLLOWS:

Because, for more than twenty years he has conscientiously avoided selling any but the **best instruments!** And the natural result has been, that every one of the Thousands of Pianos he has sold has had the effect of selling others, and thus year after year, his sales have



increased until, to meet the demand, he finds it necessary to keep on hand a stock of from forty to fifty Instruments; but suppose for a moment that his Pianos had been of doubtful quality, can any candid, thinking person fail to see, that the public would long since have found it out, and the results have been a falling off instead of increase in sales.

E. P. NASH,
Petersburg, Va.

may—tf

548 ACRES O

VALUABLE

ORANGE LAND FOR SALE,

Near Barboursville, and six Miles from Gord ville Depot.

To both places there is an excellent McAd ized road. About one-fourth of the land is he ily timbered, the balance is cleared and w adapted to the growth of GRAIN and TOBAC There are

Fifty Acres of Blue Run Lov Grounds;

which is very fine Meadow Land. The provements consist of a comfortable dwell and all necessary out houses, in good rep There is a large

APPLE ORCHARD,

and an abundance of other fruit. The neighb hood is healthy, and the society inferior to n in the State. The farm is remarkably w watered; and is (as all acquainted with it w testify) equal to any of its size in the coun For terms and further information, address subscriber at BARBOURSVILLE, ORANGE Co.

WM. C. GRAVES

I also wish to sell, with the land or separate one moiety of a valuable SAW and GRI MILL, within one mile of the farm.

may—tf