

THE

SOUTHERN PLANTER

DEVOTED TO

AGRICULTURE, HORTICULTURE, LIVE STOCK AND THE HOUSEHOLD.

T. W. ORMOND,	-	-	-	-	-	PROPRIETOR.
W. C. KNIGHT,	-	-	-	-	-	EDITOR.
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44th Year.	OCTOBER, 1883.	No. 10.
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—THE—

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Agriculture, Horticulture, Live Stock and the Household.

Agriculture is the nursing mother of the Arts.—XENOPHON.
Tillage and pasturage are the two breasts of the State.—SULLY.

T. W. ORMOND,	-	-	-	-	-	-	-	PROPRIETOR.
W. C. KNIGHT,	-	-	-	-	-	-	-	EDITOR.

44TH YEAR. RICHMOND, OCTOBER, 1883. No. 10.

FARMERS AND FARMING IN VIRGINIA IN THE OLDEN TIME.

No. 15.

[1. Notice of JETHRO TULL, found among the papers of NICHOLAS CABELL, Jr., of Nelson county. Mr. TULL was the inventor of the grain drill, and his work on *Husbandry* was in the early part of this century much read by the educated farmers of Virginia.

2. Copy of a paper in the handwriting of Mr. CABELL on Rotation.

3. Letter from W. W. GILMER, Esq., of Albemarle, to N. F. CABELL, Esq., of Nelson county.]

Notice of Jethro Tull.—Jethro Tull, Esq., was descended from an ancient family in Oxfordshire, where he had a liberal education; and having finished his studies at the University, he applied to the study of the law, and was admitted a barrister in the Temple. But being of a delicate constitution, and applying too closely to his studies, his health was thereby so much impaired that he found himself under the necessity of quitting his profession to save his life.

He had an estate in Oxfordshire, and one of his farms there happening to come into his hands about the year 1696, he undertook the culture of it himself, with a view to the recovery of his health and the improvement of the land.

Turnips were not then cultivated in the *fields* for feeding cattle, and artificial grasses not generally. For this reason hay was

commonly at a good price, and in unfavorable seasons rose very high. This determined him to lay down most of his farm, which was a large one, with sanfoin, for which he found his land very proper; but sanfoin seed being then scarce and dear, and much of it not good—the farmers not being well skilled in saving it—he found it would be expensive to sow a large farm in that, for the quantity commonly sown at that time was seven bushels per acre.

This put him upon trying whether so much seed was necessary, and by making several experiments with the seed, and observations upon the different success of thick and thin sowing in the fields, he found that a great deal less would be sufficient if the seed was good and sown regularly and at a proper depth.

Having fully satisfied himself in these particulars, and learned to choose good seed, he prepared some land; and having made it fine and clean by good tillage, he employed some labourers to make straight channels in it, and to drop the seed by hand thin into these channels, and cover it exactly. This succeeded to his desire, and was, in time and labour, not above a fourth part of the expense of sowing it in the common way, and yet the land was better planted.

But the next year, as soon as he began to plant more land in the same manner, he found that the laborers disliked his scheme, and had agreed to disappoint him by sowing his seed badly. Vexed at this disappointment, he dismissed his labourers, resolving to quit his scheme unless he could contrive a machine to sow his seed regularly; which, being an excellent mechanic, he at last accomplished, and named it a *Drill*.

We are sorry to find Mr. Hart, the ingenious author of the "Essays on Husbandry," attempting to deprive Mr. Tull of the honour of inventing the Drill-plough, which he says "had been used in several European countries almost half a century before he put pen to paper." That an instrument for sowing wheat in rows had been thought of, is very true; but it does not appear that any such was ever brought to perfection and used in any part of the world before Mr. Tull's. And Mr. Hart seems to have been misled in this matter by a report that prevailed in Mr. Tull's own time, that he brought the invention from abroad. This he takes notice of, and in the year 1735 replied to it as follows:—

"I am surprised to hear that some gentlemen pretend I brought this instrument from *France* or *Italy*, when it is well known it had planted two farms with sanfoin before I travelled,

which was not till April, 1711, being above ten years after making and using my drill. The praised commentator on the Georgic can testify this, he having 27 years ago seen the fields of my best farm planted in rows by it. I gave one to a neighbor, who used it in his fields every year, while I was abroad. And it would be strange if I should bring it from countries where it never was."

The following is a copy of a paper in the handwriting of *Nicholas Cabell, Jr.*, then residing at Liberty Hall, Nelson Co. :

A PROPOSED ROTATION OF CROPS FOR FIVE FIELDS.

First.	Second.	Third.	Fourth.	Fifth.
Corn, Potatoes and Turnips.	Wheat, or Oats, &c.	Clover and other Grasses.	Fallow Wheat.	Clover and other grass for pasture.
Wheat, or Oats, &c.	Clover and other Grass.	Fallow Wheat.	Clover and other grass for pasture.	Corn, &c.
Clover and other Grasses.	Fallow Wheat.	Clover and other grass for pasture.	Corn, &c.	Wheat and Oats, &c.
Fallow Wheat.	Clover and other grass for pasture.	Corn, &c.	Wheat and Oats.	Clover and other Grasses.
Clover and other Grasses for Pasture.	Corn, &c.	Wheat and Oats.	Clover and other grass.	Fallow Wheat.

"THROW NOT PEARL BEFORE SWINE."

Your request shall be cheerfully complied with, though there are many who could give a fuller and better account of hog-raising than I can.

The first thing necessary for raising animals of all sorts (except those produced from eggs, in which case an egg will do), is to procure a male and female; these should be sound, well formed, free from lice, mange, and all other diseases, which they so readily communicate to their young. Sows are injured by having pigs before they are 14 months old; they go 4 months with pig. Never suffer them to approach your barn or stable. Straw, and especially litter from the stable, will produce mange.

Keep them in winter in a large wood lot; make a good shelter for 12 or 15; change the litter once a week, and move the shelter once a month. Hogs will have lice, for which use lard freely; they should be greased 3 or 4 times a year; occasionally give a little sulphur in meal; do so in good weather.

Give occasionally ears of corn dipped in tar to prevent disease. Early in April turn them on a grass lot of green sward or blue grass; the hog is a costive animal and requires grass in great quantities.

Pigs should come from the 1st Feb. to the 1st April; with good management at 10 or 11 months old they should weigh 150 or 200 lbs. I had 15 out of 18 last year weighing 130 lbs. at 6 months.

Your slops, soap-suds, and everything of the kind should be carefully preserved and carried out every day. Make long troughs, narrow at bottom to prevent their getting in; put wheat bran, a little meal, &c., with the slops.

Cut and spay young; 'tis better to risk a pig than a shoat; have a long plank put through the fence, place two strings round the top rail with a noose and let the animal rest on it while undergoing the operation, which should be performed as expeditiously as possible.

Turn your stock on clover as soon as it is in full bloom. Make a portion of your wheat on lots, get it off as soon as you can, and in with the hogs. When the wheat in the fields begins to fail, give them corn, stalk and all; about the 1st of October give them corn, and by the middle of the month it should stand by them. Continue the slops until 1st of December.

Charcoal, red pepper and hickory ashes should be given frequently after you commence corn feeding.

I shall close with an axiom: Keep a large portion of food for your stock of all sorts. They will thrive more rapidly when the master sees them fed, and he will soon become fond of it. I have 150 to kill this fall, and it is a real pleasure to look at them with their tails curled as if they would raise their legs off the ground. Come over and see for yourself.

Yours truly,

WM. W. GILMER.

N. F. Cabell, Esq.

THE truly virtuous do not easily credit evil that is told them of their neighbors; for if others may do amiss, then may these also speak amiss; man is frail and prone to evil, and therefore may soon fail in words.—*Jeremy Taylor.*

IMPROVEMENT OF LANDS IN EASTERN VIRGINIA.

[For the Southern Planter.]

“Line upon line, and precept upon precept,” seem necessary to arouse our farmers in Eastern Virginia, particularly in Tidewater, to the importance of the improvement and proper cultivation of their lands. In a recent trip over the Chesapeake and Ohio Railroad from Richmond to Old Point, I must say, offend whom it may, that I never saw so badly a cultivated country, though I have travelled over many of the Northern States, some of the Western and Southern States, and over England, Ireland, Scotland, Holland, Belgium, Germany, France and Switzerland. I am not writing for public notoriety, but to attempt to stir up the farmers in the section of the State alluded to, to an appreciation of their true interests. In the portion of Henrico below Richmond through which the Chesapeake and Ohio Railroad passes, the land is very capable of improvement, and is well suited to clover and the grasses. Most of it now is covered with stunted oak, the trees having been cut down during the war, and only a small portion being in cultivation. We saw, last year, just at the “Seven Pines,” very near the scene of the memorable battle fought there, an excellent field of clover, the land being similar to that just referred to. The corn along the route of the railroad is almost universally badly cultivated, in many places there being almost as much grass as corn. Why is this, and why is this land planted in corn if not designed to be cultivated? It may be said that hands that should work lands are fishing; but does not this occur every year, and have not the farmers yet learned how much land may be put in corn, with a pretty correct estimate of how much they can get cultivated? An area which may be properly cultivated, is worth as much as double the quantity badly cultivated; or, one acre of the former is worth as much as two of the latter. Then, through this country, we see few cattle, because there is little grass or clover, or corn-fodder—in fact, none of the latter is visible from the railroad, and precious little of the former. We might expect to see some difference about the villages, but about Williamsburg it is as bad as elsewhere, perhaps worse, and no better on the western side of Hampton. On the east of it lie the grounds of the “Soldiers’ Home” and of the “Normal School,” which present a very different aspect, particularly the grounds of the “Normal School;” and the fine condition in which this land is found, and the great improvement effected on it under the direction of General Armstrong, together with the fine piece of clover near the Seven Pines above mentioned—with the ex-

cellent clover found at "Lester Manor," Mr. John B. Davis' farm, 20 miles below Richmond, in King William county—show what can be done with these lands with proper management. But they have been worn and exhausted of their fertilizing elements, without any effort at recuperation by their occupants—still they are not "worn out;" and if the plan I will presently suggest is followed, even though a small quantity be improved annually, ultimately a great revolution may be effected in these lands. When you talk to the farmers of this section about raising clover and the grasses, they will say, "Oh, this is not a grass country." Well, if they will not attempt grass, let them sow corn-fodder, and ensilage it or not as they may hereafter find best. We advise ensilage wherever the farmer has the means to construct a pit, which, however, is not costly; and in addition to this, let a permanent pasture be enclosed, and if wire-grass is not already established on it, let this be seeded, as they are doing, the Bermuda grass in the South. That is, the roots are to be cut up (it does not propagate by the seed) in a straw-cutter, and seeded either in drills or lightly plowed under, broadcast, and dragged. The Bermuda and wire-grass are the same, as I demonstrated some years since by getting some roots of the former from Alabama, propagating them in my garden, and sending a specimen with one of wire-grass to the Botanist of the United States Agricultural Department, who pronounced them the same—viz., *cynodon dactylon*. In the South, the Bermuda grass is greatly esteemed for pasture and for hay, being considered very nutritious and being cut for hay twice a year on good land. There it grows much higher than here (under the name of wire-grass), from the fact that it flourishes better in warm climates, being a native, it is said, of the West Indies, and imported from there to the Southern States. As an evidence of the hardiness of this grass, and its resistance to drought, we cite the fact that the ramparts of Fortress Monroe are thickly sodded with it, where it gets the whole power of the sun, with nothing to retain moisture around it. It is not seen in the cooler parts of Virginia, as in Piedmont and the Valley. By a permanent pasture of wire-grass, fertilized some if possible, and by corn-fodder on land somewhat improved by marling and liming—and of course it would be better to use also stable manure or some commercial fertilizer, as fine-ground South Carolina phosphate, and kainit, presently to be mentioned—a commencement may be made in increasing the quantity of stock raised, which will add to the manure pile. But the main plan of improvement I advise is to use *fine* ground South Carolina phosphate and kainit (German potash salts) on peas, which are to be turned under,

and followed by wheat, oats or corn; if the latter, however, the peas to be suffered to remain on the surface until the spring. If oats or wheat are seeded after peas, then try clover with them; and if it fails, go back to the fertilizer and peas again, with oats or wheat following, and clover again. When the land is effectually set in clover, it is on a safe and certain road to improvement, if managed with care. I would advise winter oats, seeded last of August or first week in September, and clover at the same time, with a clod-crusher roller run over them, and if the clover fails it can be re-seeded in February or March following; but with oats, may be seeded on pea fallow as late as 15th October.

The proportion of South Carolina phosphate and kainit are about 250 pounds of the former and 150 pounds of the latter to the acre, mixed some week or two before using. The price of the first is \$18 per ton, and of the latter about \$12 (with 25 per cent. of sulphate potash); but the Southern Fertilizing Company, Richmond, Va., keeps them already mixed at \$18 per ton. Even 500 pounds of the mixture would be only \$5.50 for an acre; but 400 pounds (\$3.60 per acre) would generally suffice to procure a good growth of peas, and some think 300 pounds will answer. The great advantage of this preparation is that it will, on poor land, produce a good growth of peas, and then we have all the three constituents we need for plant growth—viz., phosphate lime, potash and ammonia, the peas furnishing the latter. The late Dr. Ravenel informed the writer that on his farm on the coast of South Carolina (light land) he procured by the article named (which he called "ash element") such a growth of peas that he had to burn them off, as he could not turn them under properly, losing, he said, nothing but the ammonia of the vines, retaining that of the roots and all the mineral matter. Mr. John Selden, on upper James river, found that his wheat has succeeded well, sown right on the peas and rolled with an iron roller of clod-crushing fashion.

If the farmers will use the preparation mentioned, even though they may be able to buy only one ton annually, fertilizing four or five acres, they will soon much improve their farms. It is possible they might have to repeat the fertilizer and peas the second year to procure a growth of clover, but this would cost only \$7.20 or \$9 per acre (as they might use 400 or 500 pounds per acre of the fertilizer, and even 300 pounds might answer).

Additional evidence of the imperfect cultivation of lands tributary to Old Point and Hampton, and want of meat production, is the fact that no market is found to supply the Fort, the Normal School, Soldiers' Home (with 1000 inmates), Hampton and the adjoining popula-

tion, and the Hygeia Hotel with its large number of guests all the year. They all have to send or go to Norfolk for their supplies. Scarcely anything is brought into the village to sell, save a very few muskmelons, no watermelons or fruit, and but a few apples. No newspaper venders or bootblacks are seen. In such a place in upper Virginia would be found a market with meats, vegetables, fruits, &c., with newspaper boys, bootblacks, &c. A friend came into the village recently, too late for dinner, on his way to Richmond. He could not find a snack in all the place.

Tidewater Virginia, with its many navigable streams, and with its whole eastern line bordering on the Chesapeake bay, thus having a ready access to all the markets of the world; with its comparatively mild winters, with its easy and cheap cultivation, with its good roads, with its abundant fish and oysters and crabs and wild fowls, and its healthful climate, if properly cultivated and improved, would be the most desirable portion of Virginia. I say *healthful climate* deliberately, though people in upper Virginia and elsewhere think it very sickly, and that because ague and bilious fever are prevalent there, forgetting that this (the two are the same disease) is the only disease in this region incident to the locality or the climate; while Piedmont and the Valley and mountain regions suffer much from inflammatory diseases, caused by the cold, damp winters, and pneumonia, pleurisy, rheumatism, and from consumption, in a greater degree than Tidewater. Both sections have typhoid fever, but the latter less frequently and in a milder degree. In a practice of ten years from 1841 to 1851, in Tidewater, the writer had never seen a case of typhoid fever. And from many cases of ague and bilious fever he saw only one death, and that in a constitution broken down by hard drink. The fact is, that these malarial diseases are much overrated in gravity. Quinine is a perfect cure of, and antidote to, them—a thing which can be said of scarcely any other disease. A person need have but one chill in the season. Stop the *first* chill, and then take three grains of quinine every morning for the rest of the season until frost, and even for two or three weeks will generally suffice. And the worst case of bilious fever may be broken up in two or three, or at most four days, by the free use of quinine. Then it must be taken into account that these diseases are frequently entirely absent for several years—once for ten years, from 1832 to 1842, as I was assured by one of the old practitioners in Tidewater.

In a recent visit to the Soldiers' Home near Hampton, I obtained a Report for 1882 of the National Soldiers' Home. Of this there are four branches, under one organization, and one board of managers—

viz., the Central Branch near Dayton, Ohio; the Northwestern Branch, in Milwaukee county, Wisconsin; Eastern Branch, at Togus, Maine; and the Southern Branch near Hampton, Va. The percentage of deaths in the Central in 1882 was 6.22; in Northwestern, 5.36; in Eastern, 3.78; and in Southern Branch, 3.80.

But in the latter the percentage of deaths in 1880 was only 3.46, and in 1881 was 3.50, showing the mortality was less than in any of the other branches, unless it be in the Eastern, and but little more than half of that in the Central. Of 138 cases treated in hospital in the Southern Branch, only five cases were of malarial origin (ague and bilious fever); and of more than 1000 cases treated in quarters, 23 are set down to "ephemeral" fever (which means fever lasting for a day), including fever from cold, indigestion and malaria. Of 110 Indians in the Normal School in 1882 there was only one death, that from consumption, the disease developing while the youth was visiting Massachusetts. These institutions are located on Hampton creek. Mrs. Eaton, living at Old Point for 22 years, told me she considered that the healthiest place she had ever lived at. She was raised in Boston, and had lived at various places. A lady, raised at Old Point, told me she had never had a chill in her life. Dr. Page, the Surgeon to the Fort, told me he rarely saw malarial disease in the Fort, or any where at the Point, where he practiced.

FRUIT CULTURE.

[For the Southern Planter.]

Col. Wm. Byrd, in his history of the dividing line in 1729 between North Carolina and Virginia, makes this just remark, "It is an observation which rarely fails of being true, both in Virginia and the Carolinas, that those who take care to plant good orchards are in their general character industrious people." This is as true now as it was then. It was the mark of a good planter before the war between the States, to have large orchards and vineyards. They were not for profit, but were for the pleasure and use of the family, and the negroes upon the plantation; and were, besides, of sanitary benefit. In a country naturally fertile, with an almost perfect climate, well watered and timbered, accessible to market, *every branch* of agriculture ought to flourish; and after a fashion it does flourish—that is to say, with imperfect cultivation—with a surplus of untilled lands, from which nothing is gathered but taxes, with the minor resources of the farm neglected, the

Southern farmer lives, and if he is prudent, makes a little money. But this is the rule of agricultural life to which there are many exceptions. In every neighborhood, a few farmers are laying up money, and this is done by a patient and intelligent attention to the *small products* of the farm. The meadows are mowed and the hay cured and stored, the poultry is attended to in a proper manner, the berries, grapes and fruits are marketed, the cattle and pigs are kept healthy and fat, fences and barns are put in order, and manures are saved. The odds and ends of the farm are saved and sold, and it is this saving that makes money.

It is to one of these subordinate crops that the attention of the farmer is invited—it can be shown how, by its growth, husbanding and manipulation in inexpensive factories, it can be made a source of much profit.

In a warm climate a free diet of fruits is most conducive to robust and regular health, and no one should know this better than the intelligent farmer. After the war, Northern men came South and bought property. They were led by the natural botanical law, *that fruits could be grown to advantage where they grew to the greatest perfection*, and were not attended with the expense of transplanting, acclimating, etc. They found a congenial climate and land of sufficient fertility for their purposes, and large tracts of country were given to fruit culture. In many cases they have been signally successful, but in a majority of instances, being disheartened by partial failures, they abandoned their undertaking and fell into the ranks of cotton producers. But an impulse has been given the industry, and it has moved along year by year, until in no part of the South is its influence unfelt. There are orchards and vineyards tended with skill and made the sole care of the owners in almost every community, but the farmers, as a rule, give only a passing thought to small things. Trees and vines are purchased from a travelling vender, without regard to their adaptation to the soil, and are planted with little care. When so planted the farmer considers his part of the work done, and leaves the rest to be done by the trees themselves. They are not protected from insects, disease, cold or heat and yet he is astonished his orchards do not bear fruit. If the fruit is matured it is gathered in a rough way, or allowed to fall and rot. Those who have made a specialty of growing fruit for market furnish about all the market receives. They are as well informed in regard to their business, and pursue it with the same activity and shrewdness that men pursue any other. But it is the average farmer who has the

facilities for growing fruits, and only fails to do so for the want of the disposition, who is to make the great surplus which, whilst it enriches him, will tend to reduce the price of fruit, and furnish an abundance for the multitudes of people who are annually flocking to the shores of these United States of North America. Take the earlier fruits, such as berries, in these days of fast trains, almost any farmer living along the lines of the great railways of the South could cultivate a few acres in strawberries and raspberries, at no great expense and considerable profit. If the beds are judiciously located, they can be worked and the berries gathered and marketed by the women and children on the farm. In the sections of country tributary to Norfolk, Newburn, Wilmington, Charleston, and Tallahassee, where market gardening has been followed by success, enormous quantities of berries have been raised and shipped for consumption. If these formed a part, though a small one, of the yearly crops of every farmer of these sections, they would not be so remunerative, perhaps, to the market gardener and trucker, but they would be sufficiently so to the farmers, and would add greatly to the health and pleasure of the vast number of people within the range of whose means they would come by reason of their reduced price, and if the supply exceed the demand at any time, the surplus could easily be canned.

In all parts of the South, blackberries grow wild, and when they first ripen, find a ready sale in the local markets. Within a few years evaporators and fruit-driers have become cheap enough to find their way amongst farmers, and are coming into common use. If sufficient public spirit could be infused into every community, to have erected at some convenient point in its midst, a public establishment, however small, provided it was neat and clean, and furnished with inexpensive apparatus for drying and curing fruits, the amounts gathered by individuals would be increased, the curing improved, and the time usually spent in curing saved; being better cured, it would bring better prices, and would thus effect a considerable saving to each community.

Blackberries, as all know, grow wild, but like strawberries, raspberries, or any other berry, they grow larger and better when carefully cultivated, and they can be planted in parts of the farm where they will not become a nuisance by interfering with other crops. Very few farmers are aware of the immense trade in dried fruits that awaits development at the hands of enterprising business men. "The quantity of dried fruit shipped from this point annually (Hickory, N. C.), for the past five years, will approximate a half million of pounds. About one-half of this amount is in dried blackberries. The present crop

was never better, and the market will open at about five cents a pound."

Apricots are brought to rare perfection in France, and are quite different from the tasteless, acid and watery fruits of the same name in this country. They do well on a loam soil, but thrive on any soil that is enriched, if the trees are protected and properly trained. In the Piedmont country of the South they will have a climate that is very like that of France. This fruit will pay as well as any fruit that is grown. At the present the apricot is not a common fruit, and has a future to make for itself. The cherry is valuable, because it can be matured and marketed before the apple blossoms have fallen from the trees in New York and New England. The thrifty farmers who will engage in nursing a few trees will be paid for their care, not only as a table delicacy, but in the fancy prices that this agreeable fruit will net them in the large markets.

Peaches and apples, in their endless varieties in the green state, or when dried, are the bulk of the marketable fruits. They are found in greater or less perfection in any part of the South, and it is safe to say, do well anywhere. But when these trees are left to themselves, in the old deserted, blank, barren fields, the fruit deteriorates every year, until it becomes small, faulty, and an easy prey to every kind of disease. With the same care and attention that similar crops receive in higher latitudes, these fruits grow to rare perfection, and if the trees were given the care to which their relative commercial value entitles them, they would yield on every farm as sure and high profits as any other crops under cultivation. The fruits go with the season—if it were carefully cut and dried, or what is better, if peelers, corers, and operators were used, and the fruit peeled and dried of an even whiteness, it could readily be sold at eight cents a pound. A considerable part of the fruit crop ought to be canned. The canning establishment would make a market, and would develop the painfully latent energy of the inhabitants of the neighborhood, as well as stimulate the cultivation of fruits.

There is an especial reason why a crop that is annual and almost self-producing ought to be encouraged in the South. It is a natural field for home capital, and a tempting one for Northern enterprise, which doubtless it will embrace.

But, Mr. Editor, the efforts made to infuse new life into our farmers is difficult, and in the words of the illustrious Martini, "is one demerit grind."

RELATION OF PLANTS TO NATIONAL PROSPERITY.

[We quote the following from the *Gardener's Monthly*, which purports to be an abstract from a lecture of Professor Rothbrock, of Fairmount Park. We call on our friend and acquaintance Mr. Brock, Secretary of the Virginia Historical Society, to say how far it is true as to Virginia. Our recollection of the early history of the Virginia Colony leads us to doubt the statement in respect to getting supplies of corn from "the men of Plymouth." These were taunted by the saying, that their lands were so poor that they had to put *three herrings* in a hill if they raised corn at all.]

The lecturer began by a statement of the complications which arose in Virginia over the proportion of land to be devoted to corn and tobacco. This commenced before there was a Pilgrim on Massachusetts soil. Greed for gain led to making the corn crop subservient to the tobacco. The result was a period of scarcity, and when the Virginia settlers made a demand upon the Chickahominy Indians for corn, they were refused so contemptuously that a fight ensued, in which a number of Indians were killed and others captured. The whites gained the victory, but awakened Indian hate, which culminated in a bloody retribution years afterwards.

On the other hand, within a few years after the landing of the Pilgrims, they had corn to spare, and the neighboring tribes "came to depend upon the men of Plymouth for their supply." Thus the want of corn in Virginia was a cause of war, while in Massachusetts the superabundance was a bond of peace. In Virginia it became necessary to limit the production of tobacco by law. In 1623 tobacco was a legal tender in Virginia. When, in 1692, William and Mary College received its royal charter, it was enacted that the College should receive one penny a pound on all tobacco exported from Virginia and Maryland towards its support. When the Church of England was recognized as the State denomination in Maryland, a portion of its revenue came from the same source. This was in 1698. Corn was cultivated in Peru prior even to the Inca rule, and also in Mexico and New Mexico at the time of the invasion of Cortez and Coronado. It proved a source of revenue to the Aztec throne, and entered into the religion of the country, where to insure a good crop human sacrifices were offered. The public granaries of the country were drawn upon by Cortez, so that the very food of the inhabitants was made to assist in their subjugation.

The last census gave the annual yield of corn and rye combined in this country at 1,774,783,271 bushels. The data derived from the same source led the lecturer to estimate that one of the products of these grains—whiskey—gave us about 107,000 insane, criminals and paupers. It would be interesting to know how much of those grains was required to blight so much manhood, and to determine whether, if used in some other way, the same quantity would not have yielded a better return to the country. The above estimate only includes those under restraint, and not those of the unnumbered host who were still at liberty to beat their wives and starve their children. The lecturer thought a tariff on

Canadian lumber a mistake, as, without a proportionate benefit to us, it placed a premium on the destruction of our own supply.

Rice among the cereals flourished in grounds where none of the others would grow. Hence it utilized large areas in India, China and Japan, and in our own country, which would otherwise have been unproductive. Though containing less nitrogen than wheat, it has, nevertheless, been almost the exclusive food of some of the hardest-worked and most enduring races on earth. It was introduced into our country in 1694 by a vessel from Madagascar, which put into Charleston in distress. One of the most valuable characteristics of this grain is capacity for adapting itself to varying conditions of soil and climate.

Food plants, from their abundance, may lead to national and individual indolence, as in the tropics. In such cases, the stimulus growing out of the demands which temperate regions make upon equatorial lands for their production is, to the inhabitants of the latter, of inestimable importance. Accumulation of wealth by individuals, as well also as the science of political economy, are characteristic of temperate regions, and mainly of the North Temperate. These distinguishing features both grow, directly or indirectly, out of the need of preparing for times of non-production in times of production. Such an occasion can hardly arise under the equator. Hence, while the tropics furnish the raw product for their own commerce, the capital, machinery and brains, which transport the product, come from the temperate part of the globe.—*Gardener's Monthly*.

WHEAT CULTURE.

In the winter of '53 and '54, being offered a high price for my wheat, which was a new and promising spring variety, I sold myself so short that when I came to sow in the spring, I found that I had left scant five pecks per acre for my own use, and I did not know what to do, as heretofore I had followed the practice of the farmers about me, sowing eight pecks per acre, and I had the opinion that a much less quantity would result in failure. However, after pondering awhile over it, as I did not wish to seed any other kind of crop, I concluded to risk it, and in harvest was agreeably surprised to find that I had a yield of 49½ bushels of thoroughly cleaned grain per acre. I say surprised, for the greatest yield I had ever got from eight pecks was thirty-three bushels—not over thirty, and sometimes not over twenty-five bushels—which was regarded as a great yield. I was so well satisfied with this accidental experiment that I determined to try it again, which I did, with nearly as good results, and from that time to this I have not sown over five pecks per acre, and sometimes only four, and seldom fall below forty-six bushels per acre. This, you will see, is not a "single experiment," but one of twenty-nine consecutive years' continuance.—C. E. HEWES, *Fort Plain, N. Y., in Louisville, Ky., Farm and Fireside, July 15, 1883.*

THE STATE FAIR.

The Virginia State Agricultural Society are continually engaged in making every preparation to meet the demands of an unusually large number of exhibitors and visitors. Additions have been made for live stock, and another building provided for miscellaneous articles, so that there may be suitable means for a satisfactory display of everything to the public.

Their intention is so to systematize all matters in connection with the Fair, that the clearest and fullest information may be imparted in every department, that methods and articles of merit in every line of industry may be presented and explained in the manner most conducive to the benefit of the public and to the interest of the exhibitor. No effort will be spared to make the Fair interesting to all grades of people; and while remembering that the object of the Society is essentially for the improvement of that basis of prosperity—*Agriculture*—they propose to regard the advancement of that all-important industry in the most progressive light; to bring before the farmer the latest inventions and improvements in agricultural machinery for the saving of time, labor and expense, and to have experienced and careful judges whose decisions on the merits will enable the inexperienced to purchase with comparative safety.

By the premium crop awards, farmers can, through the statements accompanying the samples, ascertain what manures, modes and implements of cultivation and character of soil, have yielded the best results in each variety, and the time, labor and expense attendant.

There will also be a large exhibit in the aparian line, and persons engaged in the production of honey will find it pecuniarily to their advantage to examine closely the useful and economical contrivances for the successful and convenient manipulation of bees and the increase and improvement of their products. The same is also true in regard to cheese, butter and hams, the value of all of which is so greatly dependent on the manner of curing and preserving. Another interesting subject will be the public exhibition of improved incubators, by means of which chickens will be daily hatched, and the curious and effectual uses of the artificial mother in caring for and raising chickens explained.

Large premiums are offered for the best samples of the different varieties of tobacco, confined to crops raised by the person in whose name the samples are exhibited. There is nothing more easily and with less inconvenience placed on exhibition than samples of tobacco, and it is to be hoped that this staple will be more largely displayed than heretofore.

Ample premiums are offered in the horse, cattle, hog, sheep and

poultry departments, and for any one who takes an honest pride in the ownership of a fine animal, or who as a breeder desires to advertise his stock in the best and most practical way, or for the purposes of sale, a medium is given by the State Fair that cannot be surpassed. The speed trials will be a feature of great interest, and while denounced by some merely because not interesting to them, they should remember that speed and bottom in the horse add to his salable and intrinsic value even more than his power of draft; that the only reliable means of ascertaining those qualities are by competitive trials, and that breeding from approved stock in those particulars, produces the finest animal for every other purpose.

It is proposed, at the coming State Fair, to present a combination of amusements with practical information, that will render it most attractive. "Much work and little play makes Jack a dull boy," and we may rest assured that the addition of pleasure to the obtainment of useful knowledge will make the entire exhibition more agreeable to every visitor.

A very important feature of the Fair, if the spirit of the movement is carried out according to the intention of the Society, will be the nightly farmers' meetings in the Capitol, which will be open to all, whether members of the Society or not, for the full and free discussion of all subjects in connection with agriculture and the farm, and for the reading of papers on those matters, and it is sincerely hoped that every farmer who can will write out his experience and views on any topic in which he wishes to give or receive information and present it at those meetings. The cultivation and diffusing of knowledge in this matter will of itself greatly foster the habits of observation and add to the economy, thrift and value of farming operations, and expand the views and general intelligence of every person who attends.

The Virginia State Agricultural Society are doing all in their power to elevate the standard of farming intelligence, and to diffuse useful, practical and profitable general information, and they are earnest in their invitation to and hope that our farmers will associate themselves with them, and strengthen and encourage them in that noble and important work. They ask one and all to become members of the Society, to have a voice in its proceedings and management; if they cannot do that, to attend the State Fair and show their appreciation of the efforts made for the promotion of that industry on which they themselves depend; to add to the means if not the numbers of the Society, in the successful prosecution of their beneficial labors.

GEO. W. MAYO, *Secretary.*

PEAS AND CLOVER.

Editor Southern Planter :

Col. Randolph Harrison, in an interesting article in the *Southern Planter*, propounds the following important question, "Why is it that clover seldom disappoints us of this section as a fallow for wheat, while peas invariably do; and why, in Tidewater, peas give better results?"

To the first clause of the question, I would say that any land rich enough to bring a crop of clover is, with that crop plowed in, sufficiently fertile to produce a crop of wheat; and that, in this section, before it will bring a crop of clover it has to be fertilized, while what is called a crop of peas will grow on our land without being fertilized, and this latter crop, when plowed in, is so small as not to afford sufficient fertilizing elements to make a crop of wheat; for neither clover nor peas can increase the mineral elements in the soil, but may, by their tap roots, bring them within reach of the rootlets of the wheat plants. Both largely add to the carbonaceous elements by taking carbonic acid from the air; and to the nitrogenous by fixing ammonia in the soil, by continuous growth and the formation of nitric acid from the nitrogen of the atmosphere through the agency of heat and a full supply of humus (carbonaceous matter) in the soil.

The reason Orchilla guano acts so well with a pea fallow is that it is very rich in phosphorus and other mineral elements, which is, I believe, very much lacking in the soil of this section; and the pea fallow furnishes enough ammonia for the growth and humus to make the phosphate more available.

In the Tidewater section I believe the land is naturally rich in phosphate, but is lacking in ammonia and humus, and the condition of the soil is bad; but the pea being a hardy plant grows notwithstanding, and when plowed in furnishes the needed amount of ammonia and humus, which renders the phosphate more available and improves the condition of the soil. Clover would no doubt do as well when the season and condition of the soil would admit; but the clover seed being very small, the young plant is also small, and would perish in its first growth under conditions when the pea would flourish.

D. B. HARRIS.

Goochland Co., Va., August, 1883.

IDLENESS is only the refuge of weak minds, and the holiday of fools.

BEST BREED OF HOGS FOR THE SOUTH.

Mr. Richard Peters, of Georgia, in response to inquiries as to the best breed of hogs for the South, says that the Berkshire, as improved, appears to be well adapted to the wants of the Southern people. The hams of these hogs are beyond doubt superior to those of any other breed, and the animals fatten readily at any age. They are, however, inclined to become wild if allowed to run in the swamps and are not called up and fed regularly. At eighteen to twenty months old they will yield, with fair treatment, from 250 to 300 pounds of net pork. The sows are good breeders and good nurses.

Of the Jersey Reds—a larger breed than the Berkshires—Mr. Peters' experience is that they require to be kept on high feed and to be permitted to run until two or two and a half years old before slaughtering. They will then weigh from 400 to 500 pounds. They are a lop-eared breed, and do not vary in color except in the shades of red. Young pigs have small black spots on the skin, which do not show as they grow older. They are prolific breeders, old sows bringing from ten to fifteen pigs at a litter, and when well fed they yield more milk than sows of any other breed; the cross between them and the Berkshire, using the Berkshire boar, makes, in Mr. Peters' opinion, a most valuable hog for all practical purposes.

"The Essex, beyond all question," says Mr. Peters, "can be kept at less cost than any other breed. They originated in England by a cross between the Neapolitan and the Chinese, and to them the Berkshires owe their great improvement, the blood of the Essex having been freely used by English breeders of Berkshires. They require some skill in their management, for when highly fed the sows become too fat to breed, though if allowed to run on grass they bring average litters and make good nurses."

Mr. Peters, who had tried all the breeds enumerated and many others, keeps now only the Essex and a few of the Jersey Reds. He allows the sows to breed but once a year, dropping their pigs in April. The sows run on grass and clover, and are fed about two ears of corn a day, or slops made at the house with shorts. This provides for them until the grain fields are open, and they all run together then on these fields until the fall. Such as are designed for store pigs are separated and given a run in the woods on the free mast. They are fed about one ear of corn each in two days during the winter. The following year they again have the run of the grain fields and then of the pea fields, and after having fed on corn for two weeks make nice meat for family use at very little outlay. All of the sows except those intended for breeders are spayed; the others are allowed to run with young boars and breed early. The first litter of young sows are invariably killed as soon as dropped. They bring their second litters from a selected stock of boars when they are thirteen or fourteen months old. The brood-sows are fattened and killed after bringing their third or fourth litters.—*Midland Farmer.*

WHEAT AND CHEAT.

Will wheat turn to cheat? That is the question which disputants on both sides have been chasing through the columns of the *Republican* for two weeks past, without bringing it any nearer to a settlement, apparently, than it was at the beginning. And no wonder. It is not a new question. It is a good deal older than the oldest of the disputants. It has been debated for a hundred years, and is as knotty as ever. The botanists are all on one side, and the farmers generally on the other. The former plant themselves firmly on the principle that species cannot change; that every seed-bearing herb begets its kind and does not and cannot produce anything else. In the very nature of things, they say, wheat cannot turn to cheat. The farmers on the other hand assert that wheat *does* turn to cheat—and they furnish examples which are hard to explain on any other hypothesis. The botanists' explanation of cheat (or chess) plants in a wheat field is that they come from cheat grains mixed in the wheat and sowed with it. This looks fair enough, but takese cases: A Missouri wheat-raiser of fifteen years' experience sowed two fields with wheat from the same grain. One turned out "so nearly all cheat that it was not worth cutting," while the other brought a fine crop of wheat with scarcely a head of cheat in it. Or this: The same farmer, while sowing his grain last fall, spilled a lot of wheat on the ground; when it came up and matured, it was all cheat—not a single head of wheat in it; but the field sowed with grain from the same sack was almost entirely free from cheat. Another case: A Lafayette county farmer sowed ten acres of good wheat broadcast. There was a sag in the field, of about one quarter of an acre. When the grain was headed out there was a heavy crop of cheat in the low place with not one head of wheat in it, while on the rest of the field there was a fine crop of wheat, with not a head of cheat in it. One more example: In 1874, a Lewis county farmer actually plucked a head of grain the lower half of which was all wheat and the upper half all cheat—a pretty clear case of being caught in the very act.

The botanists' theory fails to account for these apparently well authenticated cases. The farmers explain them by presuming that when the wheat plant is injured by freezing, or drought or wet weather, or choking by thick planting, it fails to mature and degenerates into the noxious similitude of wheat called cheat—and we must say, the weight of argument appears to be on their side.—*St. Louis Republican*.

THE WORLD'S WHEAT CROP FOR 1883.

As we are approaching the end of the wheat harvest, or at least have gone safely through that of the winter crop and begun on the spring, thus having secured three-quarters of our total crop, it is safe to make an estimate of the world's supply for 1883, and from it draw conclusions as to the probable value and course of prices for 1883-84.

Beginning with the United States, we take the Government estimate for June as our basis, as the conditions for July have not been such as to materially change the general result, although there has been a great deal of talk for speculative effect about damage by drought to the spring wheat, and disappointing yield of winter. These estimates, from the manner in which they are made, being based upon the reports of those living in the agricultural sections, where interests are bound up indirectly if not directly with those of the farmers, and hence in their favor, are always under-estimates rather than over, as is shown by comparison of every preliminary estimate made since the Bureau was established, with its final returns. This under-estimate averages 10 to 12 per cent. too low, and hence when we take the Government figures of 75,000,000 bushels less than last year's abnormal crop, we are on a safe basis. This would give us a crop of 425,000,000 bushels, or 30,000,000 bushels less than the average the past five years. Last year, on August 1st, statistical authorities estimated the balance of old crop wheat and flour carried into the new at 30,000,000 bushels; this year they estimate it at 100,000,000 bushels, or 70,000,000 more than a year ago, which offsets within 5,000,000 bushels the deficit of this crop compared with the big crop of 1882, and gives us 40,000,000 bushels more than an average crop to supply our wants for 1883-84. In other wheat-producing countries there is an admitted full average crop, and more than last year, outside of Great Britain and France; while Spain and Portugal, which were badly short last year, have full average crops this year. The deficit in Great Britain is about 20,000,000 bushels less than an average crop, and in France 50,000,000 bushels. Each had not over 10,000,000 bushels reserves last year on entering new crop. This year Great Britain has a reserve of wheat and flour estimated by statisticians at 34,000,000 bushels, and France about 17,000,000 bushels; or, for both countries a reserve in excess of last year of 31,000,000 bushels to offset a deficit, compared with an average crop, of 70,000,000 bushels in both countries.

The crop of France last year was more than the average, and hence the deficit compared with a year ago is still less than the above figures. Hence the deficit, compared with last year, to be supplied this year, is less than the difference between the above figures 70,000,000 and 31,000,000 bushels—or 39,000,000 bushels. Probably 25,000,000 bushels will cover the excess to be imported by these two countries this year over last. They are the only importing countries that have any deficit whatever. The United States is the only exporting country that has a deficit in crop, and as we have shown, even she has no deficit in surplus for export. On the other hand, all other countries have, as a whole, larger crops than a year ago, besides carrying over larger reserves than in past years, for the same reasons the United States, Great Britain and France do. Hence, other exporting countries will have a larger surplus for export than a year ago, and the United States as much, with only 25,000,000 bushels deficit anywhere to supply. Thus we have practically the same world's supply of wheat as in 1882.

As to prices, there has been a widespread belief that wheat would rule higher the coming than the past year. It is a well known fact, however, that the first large crop after a short one does not restore normal prices. Hence, last year's prices were above a normal basis of average crops. It takes the second good crop to bring prices to the average level. Hence, we should look for the world's average price in times of universal peace and average production or acreage under cultivation. There does not, therefore, appear to be any prospect of higher prices than last year for wheat, unless some accident should happen to the balance of the world's harvest not secured or some portion thereof, and not much then, for the number of bushels is now made, and it is only the quality that can be affected hereafter, while it is well known that any larger amount of damaged wheat drags down the prices of the good until the poor is used up. We cannot see what the farmer has to gain, therefore, by holding back his wheat for higher prices.—*The Dairy.*

KNIGHTS OF AGRICULTURE.

France has shown her appreciation of the importance of high class agriculture, by the establishment of a new order of knighthood known as the *Ordre du Merite Agricole*. It is designed to encourage and promote fresh exertions among farmers, and stimulate their efforts to excellence in their calling. The badge which is conferred on the knights of the soil consists of a five-pointed star of green enamel, surmounted by a wreath of olive leaves, and suspended by a green ribbon with a pink edge. If such incentives have the effect of stimulating greater endeavors toward the attainment of a higher order of farming, they are worthy of commendation. Tilling the soil was man's first pursuit, and it has always remained the leading and imperative occupation. Among some of the ancients agriculture was studied and pursued as an art, but it has in general become a lost art to succeeding generations. In most of the old countries of Europe, where land is now scarce, farmers are obliged to make the most of what they have, and this circumstance has taught them to concentrate their skill and energy, and has developed ideas and methods which agriculturists in this country might well with profit adopt and improve upon. We have made great advancement in many things pertaining to the farm during the past few years, especially in the invention and improvement of implements and machinery. Still, when we take into consideration the immense possibilities of agriculture, and look at man's progress in this his first business, from a comparative standpoint, the view is not flattering to his enterprise. However, he may find some satisfaction in the excuse that scientific farming—which is the only true method—could not be practised without a knowledge of various sciences, which, in the early condition of things, it was impossible for farmers in general to acquire.

The climate of the United States admits of the production of almost

every thing used or consumed by man, and there is room enough and variety enough to enable every intelligent cultivator to realize a reasonable profit on his industry. It may be possible some day to have agriculture so systematized, distributed and diversified, as to avoid over-production in any special branch. It is very natural for people to rush into a business which has proved a success to others, but there is need of great caution in raising perishable farm products, as for instance melons, and such things that are a dead loss if not disposed of at once. Every farmer, by keeping himself well posted as to what others are raising, can avoid disaster and consequent discouragement, by producing only what there is a reasonable prospect of his being able to dispose of with profit.

[We clip, with approval of its sentiments, the foregoing article from *The South*, and take the occasion to acknowledge the reception of a long article in manuscript from a distinguished agriculturist of France, which is not altogether adapted to our columns, but we quote its concluding paragraphs, which contain facts of interest to farmers in the United States :

"The outlook for farmers is not promising—save for potatoes. The harvest, in course of completion, will be less than last year by a fifth to a third; beets are running into leaf; the vine will be more abundant than in 1882, though the *oidium* has appeared in Burgundy. As for the *phylloxera*, nothing stops its march; the planting of American vine stocks is rapidly extending.

M. Pinta, and his school, claim to augment the yield of their wheat 50 per cent. by sowing it wide apart, and scything off the tops of the stems in spring, that which compels the plant to stool; he displays tufts of wheat having from thirty-five to forty stems."—*Ed. S. P.*]

INQUIRIES.

Editor Southern Planter :

Will you be so kind as to inform me the proportions in which kainit and South Carolina rock should be used on sandy loam or clay soils, respectively, both for wheat and corn? I am a young farmer, and nearly everything is new to me. I am only familiar with farming in theory, from books and chemistry.

I notice in your August number you call attention to another new *Ohio* enterprise; a new brick factory at Newark, Ohio, which is also manufacturing agricultural implements, etc. Why is it we cannot have such enterprises here in Virginia, where there are so many purchasers of these very articles? Many dams, with vast water power, are just running to waste along the line of the Richmond and Alleghany Railroad, and yet we send every day North and West for almost every agricultural implement we use; for pins, needles, paper, shoes, cloth, clothes, and thread; and indeed everything great and small that we use. When a Northern or Western man gets \$50,000 he feels that he is just in a position to work to advantage, and immediately goes to work. A Virginian, similarly situated, wants to invest his in bonds,

or at most, in some mercantile or commercial enterprise, and take his ease living upon the interest of his money. The truth is, Mr. Editor, our citizens with capital will not manufacture, and those without capital cannot, though truly the harvest is plenteous, etc.

Will you please be so kind as to inform me where I can get the most recent, reliable, useful, and *practical* books on farming, manures, etc., stock, etc., suited to the wants of a young farmer?

Above I have written very hastily my views on what I consider a very important subject to our entire State, and would be glad if you would urge it upon your readers. Hoping you will be so kind as to answer my inquiries, I am, very respectfully, W.

P. S.—Please also advocate a universal, as well as local, dog tax. We have raised curs free of tax long enough, and it is time sheep should go free of tax from man as well as curs.

Buchanan, Va., Aug. 28, 1883.

[*Reply.*—We would advise our correspondent to use the Charleston *floats* and kaintin in the proportion of two of the former to one of the latter. The quantity per acre must be determined by the character of the land on which the compound is used. Land in ordinary fertility will require 600 pounds for the corn to which it is first applied, and for the wheat and clover to follow. On this question we will refer to the practical communication of Mr. Stacy in our last issue, and to another in our present, and also to the article of Dr. Ellzey in this issue. These render it unnecessary that we should say more on this point.

We concur in the views presented as to the importance and profits of manufacturing in Virginia; and also as to the importance of a dog-law, which we have frequently mentioned in our columns. As to this, and a good system of county roads, we can only look for relief when the people will send to the State Legislature intelligent farmers who do not *seek* the place for the sake of office and party purposes, but will *accept* it for the benefits which they hope to aid in conferring on the agriculture and other important interests of the Commonwealth.

The *American Agriculturist*, published in New York, keeps on sale a well selected assortment of books of the kind indicated, and will furnish a list, with prices, on application.—ED. S. P.]

CAUSE OF APPLE TREES DYING, AND MUCK—REPLY TO “ENQUIRIES” IN AUGUST NUMBER.

[For the Southern Planter.]

Mr. F. L. Taylor, of Gloucester, wishes to know the cause of his apple trees dying. We think it is “Aphis,” or plant louse, one species of the “Phylloxera” that is destroying so many vines in France, a remedy for which, the French Government, several years since, offered so large a premium (we forget whether it was 100,000 or 500,000 francs). I lose several apple trees every year, dying for the most part in the way Mr. Taylor describes. We think the bark splits *after* the tree

begins to decline, the first evidence of which, in my trees, is the leaves turning yellow. This commences one summer, and the death occurs sometimes the next summer, but generally the second year, some of the branches first dying. I examined the roots by removing the dirt from around them, and found all the fibrous roots infected with these minute insects, which are generally surrounded by a white, powdery substance, which causes them to be sometimes called Woolly Aphis, or Mealy bug. Let Mr. Taylor examine the roots of his trees. A remedy proposed is boiling hot water, or hot lye, the roots being first exposed as much as practicable by removing the dirt. I tried the hot lye one year on a tree, but it was too far gone for the remedy to have a fair trial. In France they have found inundating the roots of the vine with water, where practicable, the best remedy for phylloxera, but no premium has yet been awarded by the government for an effectual, certain remedy. It is very probable that lime around the roots might do good in the case of our apple trees referred to.

As to hauling out mud or muck from swamps, I have no idea it will pay. The thing has been pretty much exploded in New England, where it was started twenty years ago by Mr. Dana (in his "Muck Manual"). Dr. Nichols, of the *Boston Journal of Chemistry*, (the name recently changed), and a successful farmer in Massachusetts, has analyzed various specimens of muck, and found them of scarcely any fertilizing value, containing only a small percentage of ammonia, and that *not in an available condition*. He says it is only valuable as an absorbent. Better then use straw or rich dirt from the fence-corners, than to attempt to haul out this heavy, wet, expensive material by wheelbarrows and carts. We say let muck alone. Besides the objections mentioned, it is said to be generally acid, and to require lime to correct this.

TH. POLLARD, M. D.

FLOATS AGAIN, AND DR. ELLZEY'S REPLIES.

M. G. Ellzey, M. D. :

Dear Sir,—I became a subscriber recently of the *Southern Planter*, but going back to January, 1882, in order to get the views of its leading contributors. Among these appears your name, and your articles are deeply interesting to me. Your last upon "Floats" is particularly so, because upon a subject on which I am endeavoring to obtain specific as well as general information, and I take the liberty of asking you for another chapter in the premises.

Within the last year or two I have been turning my attention to farming on a diminutive scale, but find myself met at the outstart with

the question of commercial fertilizers; a matter that did not confront me in my *ante bellum* farming in Ohio. Now, however, in Virginia it is the paramount consideration, and through it I was led to take a journal—the *Southern Planter*—containing the opinions of Southern rather than Northern farmers.

I was stationed for four years after the war at Lynchburg, Va., as an army officer, and was in constant association with Northern immigrants, on whom I always endeavored to impress the necessity of farming as their neighbors did. Save experimentally, and with an observation extending from here to New Orleans, my judgment is that nine-tenths of the farming failures among this class is due to adherence to Northern ideas. With such views you will appreciate why I desire to ascertain how you and other practical Virginians apply floats, etc. I, therefore, trust you will favor us with desired article in the *Southern Planter*.

Very truly yours,

R. S. LACEY.

Washington, 1st Aug., 1883.

I offer the above letter, which was not written for publication, but which contains so much that is sensible, as my reason for again occupying your space. I have received a very large number of similar letters, and I beg their authors to consider what follows as a general compliance with their wishes.

The best mode of applying "floats" (or phosphate flour) or other fertilizer of almost any sort, is that which secures the most even and thorough distribution of the material in that portion of the soil where the crop which it is intended primarily to benefit mainly distributes its roots. On land containing much organic matter, or where a fallow crop has just been plowed under, it may be, and generally will be, useless to apply nitrogen. On such land, 300 to 500 pounds of floats, applied broadcast on the rough-plowed land and harrowed in, will be best. It is necessary to invent a broadcast sower, especially for the application of floats; it cannot be applied as it ought to be by hand. On land containing little organic matter, nitrogen will have to be applied along with the floats, or the floats may be applied to peas or buckwheat, or clover in the spring, and these turned under as a fallow. The land may be harrowed and the wheat drilled in without further application of fertilizer. Applied for the benefit of corn, floats should be put on broadcast and harrowed in; never put it in hills, for it can only distribute slowly and imperfectly; the corn roots will soon grow out of its way and the small grain or grass which follows will grow in tufts. If the land is deficient in potash, I showed in my former article that one-third kainit mixed with floats renders the phosphate more soluble, and the whole mixture probably distributes through the soil somewhat more freely than floats alone; but in no case, in my judg-

ment, ought fertilizers to be put in hills or even drilled in, if it can be avoided. If I intended to fallow a clover field for wheat, I would apply 400 pounds per acre of floats or of floats and kainit in April as a top-dressing for the clover. I would plow the land, harrow it well, and drill in the seed-wheat without further preparation. If I intended to seed corn land in wheat, I would apply 300 pounds of floats broadcast and drill in 200 pounds of some highly ammoniated phosphate with the seed-wheat. I might then further apply 100 pounds of nitrate of soda as a top-dressing to the wheat in the middle of April. The British farmers do not manure their wheat in the fall, but they top-dress it with nitrate of soda in the spring. It is of no use to expect to make a full crop of grain on land destitute of organic manure by means of heavy applications of floats or of superphosphates. The farmer who tries to do that must not say phosphates do no good on his lands. If he will sow 400 pounds or 500 pounds of floats per acre on the rough and harrow it in, and then drill in the grain, and if the next April he will top-dress one-half of the field with 100 to 200 pounds of nitrate of soda, it is possible that the increased growth on the top-dressed portion of the field will be four times as great as on the other portion. The nitrogen applied in the nitrate of soda enables the wheat to obtain and assimilate a largely increased amount of the floats applied the preceding autumn. Fertilization is as much a science as the practice of medicine or civil engineering. A lack of knowledge of that science by farmers has led to much wasteful and unskillful practice by them, and to many maledictions poured out upon the manufacturers of fertilizers. When a farmer has through his own unskillfulness made a bad crop, he begins to curse the fertilizer people; then he curses the railroads; then he curses the politicians; lastly, he goes to the polls and there deposits his ballot for the most shallow, vulgar and corrupt demagogue to be found. Afterwards he goes to church and prays for his daily bread, unconscious all the while that he has made an exhibit of himself. "I do begin to perceive," said Falstaff, "that I am made an ass." There are many signs that at last the typical farmer does begin to perceive that he has very long been made an ass.

In conclusion, I would say that what a manure consists of is a chemical question, whereas how to use a manure, is a question of agricultural experience and skill. The whole science of fertilization is yet in its infancy, and the practice of it is yet but a very rude art.

M. G. ELLZEY, M. D.

EXPERIMENT WITH SHEEP.

Editor Southern Planter :

October 28, 1882, I purchased 21 sheep, costing at my farm...	\$69 25
February 13, 1883, 10 sheep with 7 young lambs, cost.....	48 50
	<hr/>
	\$117 75

All purchased at Richmond stock-yards.

SALES.

February 27, 1883, 6 lambs.....	\$ 30 00
April to July, 1883, 20 lambs.....	100 00
May " wool	25 11
	<hr/>
	\$155 11

Leaving me 25 sheep and five lambs, for which I have been offered \$125.

NORMAND SMITH.

Henrico county, Va., Aug., 1883.

AMERICAN CATTLE IN ENGLAND.

A cablegram from London, dated August 17th, states that a heated discussion took place in the House of Commons on the evening of that day over an attempt to shut out the importation of American cattle. As previously mentioned in the *Prairie Farmer*, the landlords' party, under the leadership of Mr. Henry Chaplin, succeeded in passing a motion through the House on July 10th, to the effect that the importation of live stock should be prohibited from all those countries whose sanitary regulations did not afford guarantees against the existence of foot-and-mouth disease in cattle. The debate upon the subject was long and bitter, and the government strongly opposed the measure as one tending to raise the price of beef in England, over one-sixth of the total amount consumed in the country being imported. It was finally decided by the government party that no legislation on the subject would be enacted until reliable information could be obtained from accredited British representatives in the United States.

At the opening of the session on the evening of the 17th, Mr. Chaplin again interrogated the government on the subject.

In reply Mr. Dodson created considerable astonishment in saying that so far as the government's inquiries had gone, they showed that there was absolutely no ground for any legislation that would prohibit the importation of American live cattle; that very little foot-and-mouth disease existed in the United States, and that in regard to this sanitary regulations were being properly enforced. Mr. Chaplin, with some show of temper, asked for statistics. Mr. Dodson stated that the proportion of cattle affected in the United States was smaller than it was in any other place where the disease existed, and that American ex-

porters never risked sending to foreign markets either inferior or affected live cattle. Mr. Chaplin demanded to know if the government investigations did not show that foot-and-mouth disease was a peculiar American cattle malady; Mr. Dodson stated that on the contrary the inquiries made proved but too plainly that what foot-and-mouth disease at present prevailed among American cattle, had gone there in cattle obtained from Europe, and that the general scope of the information in hand aided to show that by far the greater part of the disease was entirely attributed to American importation of cattle from England. This last statement was reluctantly made and produced a sensation. Mr. Chaplin then dropped the subject.—*Prairie Farmer*.

THE FARMER'S HOME.

The farmer's home is not a paradise; whoever attempts to portray it as such, or to conjecture it can be made such, is deluded.

I would not so attempt to picture it, for such a picture would be false. The farmer's home is just what he makes it. A home without labor; a home of aimless ease it can never be, and never ought to be.

Too many young men and women in the farm-house look away to social life in a great city, and fancy that there could be real happiness; that, with all the facilities for social enjoyment, their contact with superior intellects, social intercourse with educated and refined men and women; opportunities to listen to sermons of great divines, addresses of great statesmen, lectures of men of science and letters, access to scientific and classical societies, mingling with literary and musical clubs—all the advantages of public lectures, concerts, drama, opera, pulpit and forum—present all there is of human happiness, but very much of all this is delusion.

It cannot be denied that intercourse with men and women of superior intelligence and education and experience to our own, is good for us, but other considerations are worthy of attention. The clergyman who accepts the charge of a fashionable church in a great city, accepts the contact with artificial society life, and while he may fancy his field of labor is broader and more comprehensive, he finds that the results of his labor are far less satisfactory and far less successful in winning souls from lives of vice and sin to lives of purity and honesty, than it would be in the country. While the lawyer or the doctor, who seeks notoriety and reputation, has more varied opportunities to advance his ambition in the city than in the country, yet the country doctor or the country lawyer who makes his profession a life-time of study and honest research, finds himself sooner or later standing upon a plane of professional honor equal to that of his city colleague.

So the life of the farmer, though not so rich in adventure, not so full of artificial accomplishments, is fuller in that which goes to make up a pure and noble life. He can get nearer to God and his works. Higher is the scale of mental and moral culture, nearer to manly perfections,

because his life is simpler, more refined, less tainted with those things which corrupt and demoralize. I am neither a believer in total depravity nor in human perfection. Our lives are a compromise between both; we find in all humanity, in all walks in life, in all conditions, the good and the bad. It is for us to so use the good and the bad, as to render our lives more or less useful, wherever our lot may be cast. My own observation and experience convinces me that the truest happiness, the nearest to a perfect home-life, can be had on the farm.

Life in a great city may be elegant, brilliant, fascinating, but it is artificial; life on the farm may be humble, simple, common-place—it is natural. It has been wisely said, “the sum of human happiness is made up of little things.” Eminently does this proverb apply to the life of the farmer.

When one travels through our agricultural country and passes farm after farm, where the house is a box, devoid of art or beauty, or even the simplest attempt at comeliness; where the barn is but a tumble-down hovel; where fences are thrown together as barricades against invading animals only; where no trees, or shrubs, or plants break the monotony of the home surroundings; where the labor of farming is drudgery and daily toil only, no wonder that the children when grown to advanced youth, come to despise them, and look forward to the time when they can forever turn their backs upon them.

I would say to every farmer, for humanity's sake, for the sake of your own happiness, for the sake of the happiness and regard of your children and those around you, make your home pleasant, attractive, home-like! Don't say you have not the time, nor the means; you have both. When you are returning from your backwoods in spring or autumn, how much time will it take for you to pull up a pretty sapling, such as you will pass hundreds of, carry it in your hand to your house; and how many minutes, while the good wife is preparing your dinner or your supper, will it take you to plant it where its growth will beautify your home?

Your forests and fields abound in flowering plants and shrubs, which every-year you cut down when you cultivate the ground. It is no more expensive for you to carry one in your hand when you go home than to carry it to the pile you intend to burn.

It costs but the thrust of a spade to make a hole to receive it; it costs nothing to make it grow; it is only transplanted, and grows as well in the home yard as in the back lot; it will become a thing of beauty. Try it, and my word for it, you will not stop at the first trial.

When you are cutting timber to fence about your garden plat or about your house and barn, it will cost you no more time to select a few pieces, separate them from the others, for some rustic beauty or oddity, if you please, and construct them into a rustic arbor about your house, which, when constructed, will present something of picturesque beauty, than to throw them all together in the clumsy manner in which too many farm fences are built. When you build your house, your barn, your hen-house or pig-pen, it will cost no more material, very little more labor, only a little artistic taste, to build a pretty rustic cot-

tage structure, instead of the square, uncouth, box-like affair too commonly seen as country homes.

A willow riding stick has many a time been stuck in the ground when the rider dismounted from his horse, taken root, and grown to a magnificent tree. A hedge-row of blackberry or raspberry bushes will as effectually "stop the cattle" as an unsightly hedge of dead tree-branches.

The American forests are full of wild vines, which, if transplanted, will overrun gate-posts, rough fences, out-buildings; the transplanting may cost ten minutes of easy labor. In the cities thousands of dollars are expended in accomplishing the growth of vines, which would cost the farmer a few hours labor only each year.

Five years ago the writer planted with his own hands in the city of Washington four trees—two maples, two elms. They cost perhaps two dollars. They are now the pride of his home and the delight of his friends. Any farmer could do the same without cost, but with the same results.

Plant trees, plants, vines; plant shrubs and flowers. Your mother or wife or sister will cultivate them. All women love flowers. Your friends and neighbors will admire them; your children and your neighbor's children will grow up under and around them, will love them as a part of the home, will love you because you planted them, will love each other because love begets love. Every beautiful thing about your home will create a beautiful thought and purify the soul of one of God's beautiful creatures.—*H. N. Howard, in Lancaster Farmer.*

HOW MUCH WHEAT SEED PER ACRE?

Where wheat is not at all crowded, in a rich mellow soil, and the tilling is not impeded, the average number of stems for each plant is about sixteen. Each one produces a head or ear, containing on an average, under reasonably favorable conditions, fifty grains. Thus one grain yields eight hundred grains. At this rate, the man who sows two bushels to the acre, would harvest sixteen hundred bushels per acre, or else much of the seed is lost. The average yield of the country, however, is less than fifteen bushels per acre. A bushel of wheat contains ordinarily, seven hundred and fifty thousand grains; two bushels one million, five hundred thousand grains. An acre of land contains slightly above six million square inches. So that each plant has four square inches from which to derive sustenance. Measure that on the ground and see how small it is. Can you expect a plant to make a vigorous growth on four square inches? Can you expect it to tiller and produce sixteen stems? Can you expect it to mature sixteen full heads? The result of this crowding is plain. The plants cannot gain nutriment when growing so densely. Some must die that others may live. The strong triumph and the weak succumb. This struggle for life begins as soon as the plants appear above ground. As the plants grow larger they require more room, and others must give way, and very few, if

any, attain a full growth. All are cramped and starved. Tillering is impeded; many plants do not tiller at all, and those that do, tiller imperfectly. The same is true of earing. Full ears can not be expected. An acre of wheat contains about eight hundred thousand heads. It is safe to say that on account of tillering these are produced by three hundred thousand plants. Consequently only one-fifth of the grain sown produce mature plants; these plants produce less than one-fifth of the proper number of stems by tillering, and these produce imperfect heads. This is almost entirely caused by crowding.

Two quarts of seed sown on an acre have produced fifty bushels of wheat. Where all the conditions are favorable, the American farmer should not sow more than half a bushel per acre. But agricultural reforms are never sweeping; therefore let the wheat grower try one bushel per acre.—*Am. Agriculturist*

SOUTHERN PROGRESS.

In looking at the splendid exhibit of the natural products of the South at Louisville, it seems almost incredible that resources so vast, and so generously distributed, should have remained undeveloped save to a limited extent, for so long a time. The explanation is easily discovered. Under the old regime there was little or no incentive to utilize the latent wealth of that section in minerals, woods, etc. Cotton was indeed king, overshadowing and controlling the capital and labor of the country. Manufacturing enterprises were rare. Cotton mills and iron furnaces were started here and there, but they were like angels' visits, few and far between, and maintained a precarious existence. The greater facilities and experience of Northern and English manufacturers were drawbacks difficult to overcome. Gradually this state of things is changing, and when we take into account the terrible waste and desolation caused by civil strife, and the violent agitation which necessarily followed a complete and radical change in the system of labor at the South, the progress made is wonderful. It is unreasoning folly to say that new ideas, new methods, new opinions, affecting the social fabric of any country can be put into practice in a day, or a year, or a decade. Habits long established, and prejudices inherited from ancestors cannot be changed or eradicated in one generation, possibly not in two or more. But the transition is already marked, and is greater than could reasonably be expected. The number of cotton mills in the South is large and constantly increasing. The spirit of enterprise is abroad. Iron furnaces light up numerous "hills and hollows" in Tennessee, Alabama, and other States, and various manufacturing enterprises are multiplying. In the words of the Economist, "the improved system of agriculture that is finding place in the South is of immense value to that section. Her manufacturing growth and the development of other sources of prosperity point unmistakably to the final satisfactory solution of our great national problem, in showing that the band of economic interest are making the United States a nation whose integrity is impregnable."—*Prairie Farmer.*

WINTER FLOWERING PLANTS.

Cinerarias and Calceolarias.

To have flowers coming into blossom in their order involves the preparation for some some months before—looking to that end in view. With kinds of a perennial character, this may consist in keeping them in a free growing condition; pruning where necessary; repotting such as may require it and other minutia which the different habits of the plants require; in fact, constituting that knowledge acquired only by years of observation and study that goes to make up the qualifications of a gardener or good plant-grower. With the plants now under consideration, however, the Cineraria, Calceolaria, and we might add, the Chinese Primula, we have, every year, a new crop of plants entirely, and, as any of them may be kept over, it is far better to sow the seeds annually—as the plants so raised are much more vigorous, and, as a rule, give greater satisfaction in the long run.

It is usual to sow the seed during the summer, some care being necessary in the early stages of the young plants, to ward against damping off, as it is called, before the plants get into the rough leaf. The best way is to sow the seed in shallow pans, the soil to be kept uniformly moist and somewhat shaded; the former is easily done by a light covering of spongy moss until the seeds begin to germinate, when, of course, this must be gradually removed. Some lay a pane of glass over the pan, and, if there is a propagating, or other house facing the north, one has the best place for his work. If, however, you do not find it the best take the coolest part of the house, or a shaded hot-bed, for the purpose. As as soon as the plants are up enough to be handled, lift them carefully from the soil, leaving those too weak for a time longer, and “prick” them out in other pans, care being taken to plant them down to the base of the seed leaves; as soon as they are so treated they are past their greatest danger, and only neglect of a very grave character will kill them after this.

Up to this time the soil should have been very fine—well rotted leaves, mold and sand, about equal parts, are as good as anything for this purpose. If the young plants are placed about an inch apart in the pans, it will answer until the foliage meets, when each plant may be potted into two inch pots, plunged in any suitable material, placed in a cold frame, and kept within a foot of the glass, which, except on the north side of a building where the sun does not reach during the middle of the day, or a north exposure propagating house, must be carefully shaded. The after-cultivation will consist in repotting into larger pots as the roots fill those they are in, always giving the foliage plenty of room to grow—as upon this much depends—and a complete exemption from green fly, red spider, and other pests which, if allowed to get under headway with any of these plants, will surely prevent them from becoming well-grown specimens of their respective kinds. A fibrous loam, leaf mold, and sharp sand will grow any of these plants to perfection. At the proper time, when they take their place in the green-house, they

must be kept near the glass; hence it is one more often sees these plants doing better in the low pitched houses of the professional florist than if grown in the usually higher pitched roof of the amateur's conservatory, where there is no choice but the latter; then something may be done by placing a shelf up near the glass while the plants are young. As they approach the flowering period, when their beauty is required for effect on the shelves, they will be fairly well grown, even if some distance from the glass. The Chinese Primrose may, after the plants have become established, be grown as a window plant, but *Calceolaria* or the *Cineraria* will not generally do very well grown all the winter in the window. Either of them can always be obtained from the florists, grown ready to flower, and, as such, make excellent window plants, giving by their profusion of flower a cheerful effect grouped among the other miscellaneous plants of the window.—EDGAR SANDERS in *Prairie Farmer*.

RELATION OF FARM LABOR TO FARM CAPITAL.

This relation of farm labor to farm capital has a real, tangible interest to almost every farmer. A certain amount of labor must be done at a certain expense, in order that the profits may accrue, yet, at the price of day labor, or at the monthly wages, it seems impossible to carry forward the desired work. Now is the time to consider whether economy does not dictate the conversion of the man's labor into labor which shall in part be capitalized. We refer to the buying of machinery. If a machine represents the labor of five men, and the cost is \$100, it is for us to consider whether the investing of the farm capital in this machine shall not furnish us with the labor at lower and more convenient rates than if paid directly or indirectly to men. Can the ox or the draft-horse replace the more expensive man? And can we profitably increase the number on the farm? If these considerations do not solve the difficulty, and it is found impossible for the products of the farm to pay for the labor which we consider essential, then there is but one of two courses to pursue, either to change the system of farming, or else to abandon the farm.

Without labor, the farm is unproductive, and lapses into the wilderness; with labor, the farm is at the foundation of civilization, and the continuance of the nation's prosperity depends on the farmer. The prosperity of the farmer, and the management of his labor, are inseparable, for without the one the other cannot exist. We may therefore say that the greater the wise expenditure for labor, the greater the prosperity; and the greater the prosperity, the more wisely has labor been used. It is a question of serious moment just how to use labor, and how much labor to use; and it is a question which the writing agriculturist can well refer to, through the giving of facts and principles, but each farmer must solve for himself.—*Live-Stock Journal*.

AMERICAN JERSEYS.

We have already taken occasion to remark that our American bred Jerseys surpass in style and excellence any of the imported stock, and that it will be but a very short time before American Jerseys will be exported in considerable numbers and at such prices as will bring back much of the money spent by Americans in "the little island," a true "gem of the ocean." All that is wanted to reach this consummation is that such a boom as has been prevailing here should be started and well managed in England. There is little probability that we shall ever do much in selling stock back to the Jersey men. They are sellers and will never be buyers, unless for the English market, for when the American demand has been satisfied, their craft will have been destroyed. For their own purposes they have a surplus, and if Americans would find a way to get their money back again, it must be from English purchasers, just as was done with the Shorthorns. But while Jerseys are not yet booming in England, they are looking up, and English fanciers are casting their eyes over here with a view to secure new blood. The following remarks of the *Agricultural Gazette* point this way:

"As present returns go, the breeders of fashionable Jerseys are (both in the United States and Great Britain) taking the lead from other breeds. It is not necessary to reprint the extraordinary rates made in America for special animals. So long as an American 'boom' is on, nothing can rival the object of it. But recent rates in England are not controlled by American buyers, who, for most varieties, have plenty on sale at home. Yet Lord Braybrooke's Jerseys average more than Mr. Tracy's Shorthorns; and it is pretty certain that it cost more to bring the latter into the ring than it did the former. The real inference seems to us to be that any class has rallied from the depression quicker than the farmers have, *i. e.*, that dwellers in villas (who are Jersey buyers) are in better condition to pay for their fancies than are farmers, who would be the proper competitors for middle class Shorthorns. It really seems, however, as if English breeders who wish to obtain 'improved Jerseys,' *i. e.*, those which give increased quantities of butter, not those which conform more closely to an arbitrary standard of color, will have to go, not to the island, but to America, for new blood. By common consent, the island is well nigh stripped of fine specimens. 'New Jersey' seems to have more of the Channel Island cattle than the Jersey which may in distinction be called 'old.'"

Fortunately, our breeders have abandoned the foolishness of color markings, style, and all that kind of absurdity, and are looking solely to product as the chief point of merit of cows, and prepotency of transmission as the great claim to value in bulls. This is the right course, and will soon tell in the demand from abroad.—*The Dairy.*

DISCRETION is more necessary to women than eloquence, because they have less trouble to speak well than to speak little.

WHEAT CULTURE, &c.

Editor of the Planter:

Your editorial in the July No. of the *Planter* upon the subject of "Wheat" sounds very well, but you should remember your remarks are based upon the *successful* crops made in the last two seasons, and you lose sight of the many failures for years in the past. As an old farmer, you will pardon me for stating what I think about growing wheat. In the first place, there is nothing so *uncertain* as the wheat crop in Virginia. Liable, as it is, to so many disasters and injuries, an experience of thirty years is, that not more than once in ten years does it wholly escape one or more of these disasters, which lessens more or less the yield, and the result is a failure. I am satisfied that the *effort* to make wheat has done more to impoverish our farmers than any other thing—in fact, it has been the chief cause of their ruin. We have only to look at the vast amount of money expended in fertilizers and costly machinery, such as drills, reapers, threshers, &c. Millions of dollars have thus been spent in the last thirty years in these articles. (They were first introduced and used about that far back.) What has been the actual report of the average yield per acre? I think it is about eight bushels.

I think what I have stated is true; and if so, the farmer had better be asleep than spend his time sowing wheat in Virginia. What business man in this city would deal in an article that experience for years teaches him he loses money by, or that the profit is not commensurate with the risk and trouble. It is true, there are individual instances of better success; but if the same talent and energy be used in another direction, where less risk and expenditure exists, a much better result would follow.

Our farmers should abandon the wheat crop entirely, and depend upon their supply from the Great West, where they make easily from twenty-five to fifty bushels an acre, and under the present system or policy can ship to our market for less money than it cost the producer within a stone's throw of Richmond.

There are other resources that *can* be made to pay, and I think it will not take long to convince any one that will invest one-half the amount in other enterprises heretofore used buying fertilizers and costly machinery, to make wheat. I need only to refer your readers to what you saw at Westover, which was given them in your last No. of the *Planter*. You show them the yield of Major Drewry's fine crops of wheat and hay, although this year was a wheat boom. Figures

show that the hay would make double the money to the acre. The wine-sap apple always sells for a dollar a bushel; it never fails to bring that price. It is particularly adapted to our State; rarely ever fails to make a crop. It is unlike the wheat crop. There is no rust in the wine-sap apple, nor is it eaten up by the fly; has no costly machinery to make or gather the crop.

The early Southdown spring lamb or mutton "takes the cake" in the market everywhere. The mutton lovers of Washington, Baltimore, and even Philadelphia, don't regard the price. They will have none other if it can be had, and the butchers in these cities will tell you their best Southdown mutton comes from Virginia. Let every Virginia farmer devote time and attention to his garden, raising all the garden or small fruits. It furnishes more than half his living; taking the precaution to guard against a drought, to have a truck-patch on branches and low-grounds; also to plant the summer vegetables and vines that are destroyed in gardens, usually on the high elevations chosen for the dwelling.

All these things may serve to divert the mind from that old failure—the wheat crop—and may in the end give an insight to *what they can make* that will pay better.

"Experience is the best teacher;" and with a plenty of it, your humble servant would, for the future, take the orchard grass, Southdown sheep, and the wine-sap apple to raise for profit. W.

[This communication comes rather late for the discussion of the value of the wheat crop, as the preparation for it is now in progress. We admit it, however, mainly for the reason that the writer differs from our views, as well as a long experience in the cultivation of this crop. What we have said on the subject our readers may remember, and we see no reason to change, or even modify, our opinion by anything our correspondent has said.

As to the wine-sap apple, we endorse them as thoroughly as any apple which can be raised in Middle Virginia; but they are as uncertain in yield, under the circumstances which attend them, and even more so, than that of wheat under proper conditions of culture.

The Southdown sheep, as a breed, cannot be too highly commended; but we do not see how wheat—and the grasses, which should follow it—can interfere with the rearing of this or any other breed of sheep.—Ed. S. P.]

The offensive smell of the manure heap does not necessarily imply loss of valuable fertilizing matter. Where ammonia is perceptible to the smell, then look out for some absorbent to catch it. The sulphuretted hydrogen, which gives the very offensive odor to rotten eggs, is of very inappreciable value as manure. A farmer could not afford to carry such a load far to apply on his land.

GROUND SOUTH CAROLINA ROCK AS A FERTILIZER.

[From Leesburg (Va.) Washingtonian.]

The following letter from Mr. G. B. Stacy, an extensive and intelligent farmer of Amelia county, will be read with interest by our farmers who are discussing the merits of the Ground South Carolina Bone as a fertilizer. He gives the results of a practical test of its merits:

AMELIA C. H., VA., August 14, 1883.

W. B. LYNCH, Esq., Leesburg, Loudoun county, Va.:

Dear Sir,—I gladly give you all the information we have accumulated in relation to the use of Charleston Rock when reduced to flour. I esteem it the greatest boon the farmers of our section have had since the war.

Dr. Elzey is entitled to the credit of first publishing the fact, that all that is gained by the use of acid on the fine ground rock is a greater minuteness of mechanical division. That the acid itself is not only positively useless in the soil as plant food, but is absolutely injurious. This statement commends itself at once to the judgment of every observant person who has witnessed the process of compounding sulphuric acid with water. Just so soon as the two come in contact, the acid converts the water into steam or vapor. This is the constant and invariable action of the acid on water, and it no doubt continues till the last drop of water is thus converted into vapor.

The perpetual demand of growing plants is water enough in the soil, *as water*, not vapor, to be the all-sufficient vehicle to convey the plant food to the small vesicles or mouths of the rootlets of the growing plant. Hence the provision of our Father's wisdom, that the particles of soil lying beneath the surface should be cool enough to condense the *vapors* of the atmosphere as it permeates the soil and convert them into water, that as water it may perform its legitimate functions of preparing and conveying the plant food to the rootlets. Now we have seen that the sulphuric acid of commerce, or that produced in the laboratory of the chemist, has the precisely opposite effect. It is not, however, certain that naturally produced acid has the same effect; as, for instance, the lime in the soil of limestone regions seem to have a much more favorable effect on vegetation than burned lime, when applied as a fertilizer. Evidently, Jehovah's laboratory is far more perfect than any we poor mortals have been able to elaborate at present.

The drought, you say, that is at present prevailing in your county, will answer the question positively, whether you could promote vegetation under these conditions by the use of a fertilizer possessing a large proportion of sulphuric acid; whether the expulsion of water as *vapor* from the soil would help the growth of plants during droughts.

Voeckler, Laws, and all the great chemists of Europe, have conceded the truth of Elzey's position. I believe there is not a prominent

chemist of recognized authority that calls it in question. And the mechanical minuteness of the present division, it is admitted, meets all the requirements of plant rootlets—that is, *theoretically*.

But experience confirms the theory. On corn it has produced a decided effect, even when applied at the time of laying by. When applied at planting, it has produced for us the largest yield we have ever made. But its greatest value on the corn crop, is the fact that if the corn be worked well, and the land left in a *fine* pulverent condition at laying-by time, you may at that time sow clover in your corn-field with certainty of getting a stand and a growth the next spring, equal to any that was sown in the spring, either on winter wheat, oats or barley. In our country, where our lands have been run down by over cropping, *this is the weightiest consideration in its favor*. If it gave us no increase in the corn crop, the clover that follows would be the all-sufficient consideration for the cost.

If we can cover our wornout surfaces by the thorough cultivation of the corn crop, the application of 500 pounds of the flour of South Carolina Rock, and potash mixture at a cost of \$4.50, with a strong and vigorous growth of clover, we have saved our country from starvation and depopulation. For either all the literature of clover is false, or a fine growth of clover guarantees any cereal crop we may desire to grow.

I know not the condition of your limestone lands as to vegetable matter in the soil. If they are, as I suppose, full of vegetable matter, then it is certain that the South Carolina Rock mixture will give you most satisfactory returns on any cereal crop. You will perceive that we have been trying to produce the vegetable matter which I suppose you possess. Last fall was the only experiment we made on wheat of any extent. Our crop was seriously injured by the Hessian fly. We found as many as thirty grubs in a single stool, and we found five in one stem. Of course it would be unfair to take this crop as an example. We sowed forty-six bushels. We paid the thresher for six hundred bushels; have forty bushels we fanned out of tailings we did not return through the thresher. We have the gleanings unthreshed, and our wheat will over-weigh the thresher's measure twenty bushels. Altogether, it would be fair to say our yield is at least seven hundred bushels, or say fifteen for one sowed. We threshed two acres separately; one measured (less gleaning) twenty-two bushels. Again I say this crop is not, and cannot be, considered a fair representation of what the rock mixture will do.

Our application on turnips has been more than satisfactory. On clover it has beat bone and every other preparation we have ever used. On our wheat last year it equaled Stearn's Wheat Fertilizer, and all that was applied on the tobacco lot for that crop. In other words, we had as good wheat on fallow land where we applied 300 pounds per acre of South Carolina Bone, as on the tobacco lot, or where we applied 300 pounds of Stearn's Wheat Fertilizer. When we applied it on oats it told elegantly. We have never applied it on our hay meadows, but

Colonel Patton tried it this spring on seeding down a lawn, with most wonderful results.

But I have already made this too long. However, if these facts are of service to your neighbors, I shall be repaid for penning them.

Very respectfully yours, G. B. STACY.

FERTILIZING WHEAT.

[By P. H. Jacobs, Hammonton, N. J., in Farm, Field and Fireside.]

As the time approaches for putting in wheat, farmers will naturally seek the surest and best fertilizer that is procurable, but, unfortunately, they depend almost wholly upon superphosphates. Superphosphate answers well on land that has been previously in sod, or which has been well manured for a previous crop, but it is not a complete fertilizer for wheat. The most essential requisite is a deep, clean, well pulverized soil. Although the seeds of wheat are sown or drilled so as to remain near the surface, the plant, during growth, sends out its roots in every direction in search of food, not forgetting the water-pipe or tap root. The seed alone contains nutriment for sustaining the plant for a short time; but when that stage has passed, the growth is regulated by the solubility of those substances in the soil that are necessary for its continued progress. Barnyard manure is the most complete of all fertilizers, as a rule, is claimed by many; but barnyard manure varies in composition, not only in regard to the food from which it is produced, but also upon the age of the animal. The manure from very young animals will contain less phosphoric acid and nitrogen than that from those more matured; but it may be classed as a certainty that all soils that have been liberally manured will abound in potash. In fact, potash is always more abundant than nitrogen and phosphoric acid combined.

One mistake in fertilizing is in the application of superphosphate when drilling the seed in. More beneficial results may be obtained by using one-half finely ground bone and one-half superphosphate (reduced bone). Half of this mixture should be applied with the seed, but by applying the remaining quantity in connection with 100 pounds of nitrate of soda (saltpetre) in the spring, after the ground is somewhat dry, and going over the field with a smoothing harrow, much better growth and yield may be secured. Unless on soils underlaid with heavy clay, the soluble fertilizers are partly washed down into the soil; not that they are entirely lost, for the plants invariably send out roots to search for food, but it will not be within the immediate reach of the plants when they are just beginning to push forward. On sandy soils three applications should be made, so managed as to apply one third at time of seeding, one-third early in the spring, and one-third a little later, especially just previous to a rain, which will carry it to the roots. Every season a loss occurs from lack of judgment in applying fertilizers, and it would be well if farmers experimented with small areas occasionally for the purpose of making comparison.

HEDGES AND ENSILAGE.

Four vexed questions, and contributions towards their solution promised when needed—
 New honors for the field perhaps, waiting on a more faithful use of the Concordance—
 The early equipment of many of our homes with that of Dr. Young—The
 first step in the more enlightened policy of the agriculturist.

Editor Southern Planter :

Is it true that new honors await the fields where the homes are careful to honor the Lord's Day and the Lord's Word? Just now, while the movement is upon us of organizing into county unions, interdenominational, the Sunday Schools of the State, county by county, the agriculturists, as such, may not at once recognize their interest in the movement. Your correspondent, however, regards the Sunday School as the home—essentially at work and in repose—at work on the Lord's Day and in repose on His Word, hearing and asking questions. He claims that the equipment of these homes with the Concordance—the one weapon most effective for the purpose of searching the Scriptures—is just now an immediate duty confronting most of us. The need of a more enlightened policy in rural affairs, is to be read not only on the face of the landscape here in Virginia, but is gravely foreshadowed in Habakkuk, ii: 13; and the higher plane for successful tillage is beautifully outlined in Prov. iii: 9. And the question recurs, What may not the agriculturists of the counties do with advantage to their fields as well as their homes, by aiding this particular movement under the auspices of the Virginia State Sunday School Union, with Judge E. H. Fitzhugh, of your city, at its head as President?

Without waiting for General Wickham's committee of three, and at the risk of provoking a broadside from Dr. Pollard in response to this question, your correspondent proposes once more to put in a plea for the Osage Orange hedge and retrenchment in fence expenditure. In advance of Col. McCue's article, in the July number of the *Planter*, calling attention to your correspondent's experiments with ensilage and the osage orange in terms so very complimentary, in the *Central Presbyterian* of your city, in Oct., 1881, your correspondent, from a sheer sense of duty, had published such a plea. How could he refrain, when, from his own experience with this plant and the testimony of others, he saw that every mile of board fence he could build involved an unnecessary expenditure of some two hundred dollars? Now it is not every agriculturist that is disposed to draw upon a stock of patience in lieu of drawing upon his purse. Most of us, however, will be interested to

learn that by this substitute of the hedge, at an expenditure of about one hundred dollars per mile, and patient attention from year to year, hundreds may be saved for improvements of a nobler order.

Thus far had your correspondent written, when intelligence was brought him of the destruction by fire, that very morning, of the costliest barn in this, the vicinity of Winchester, with a large store of hay. One month ago, an animal lying at night on the track of our Valley Railroad, managed to wreck a train with the loss of life on the part of three out of four persons aboard. Casualties like these, plead to my mind most eloquently for ensilage and its general use. Substitute succulent summer feed for the scant herbage of August, and the compressed contents of the silo for the combustible contents of the hay mow, and the risk of loss by fire to your building in the one case, and of train and life in the other, is at once reduced. These are specimens of advantages indirect and remote. Our experience here at the Curve has been fruitful of advantages direct, varying with the seasons. The first was in feeding under shelter in the winter of 1880, when the snow lay for six weeks to the depth of twenty inches, and many were quarrying their fodder out of ice. The last was this summer, when one week was found to suffice for putting away in the silo forty tons of clover, while two weeks failed, because of incessant rain, to put away half as much hay.

This transition from hedge to ensilage may be regarded as a transition from the one vexed question of expensive fencing to the other of insufficient forage. We cannot be sure that either of these is pressing for solution just now. When they do, and President Wickham sees fit to appoint his committees of inquiry, he will find any contributions towards the solution of these problems furnished from this quarter will be shedding light as well upon the solution of two others of the problems that have perplexed our people. The protection of the flock is one, and the conservation of the son's interest in agricultural operations the other. Fields of correct proportions, enclosed with walls of solid verdure, possess much of the attractiveness of University grounds. Then let your gates be guarded, and your stock may be said to be reposing in a dog-proof enclosure.

If these things are so, how comes it we have slept so long on our oars, perplexed with such vexed questions, when remedies were within easy reach?

"It is not in man that walketh, to direct his footsteps." "Is it not of the Lord of Hosts, that the people shall weary themselves for very vanity?" For the solution of our problems, as well as the honor of our

fields, we will do well to unite with our fellow-citizens in the effort to secure not only a better observance of the Lord's Day, but a better acquaintance on the part of both fathers and sons with Him and His revealed truths.

Of the many ways of doing this, that which presses just now upon us as a first step in the line of the more enlightened policy indicated above, is to lose no time in equipping our homes with copies of Dr. Young's great Concordance. The use of any Concordance augurs well for any family. This of Dr. Young's, by its appearance in our day, may be said to augment vastly our power in the investigation of Scripture truth. Five thousand dollars invested a month ago would have secured for us two thousand copies. The supply at this rate is said to be limited, and our chief fear as we write is, that the price will be advanced before the readers of the *Planter* will act. Richmond can doubtless furnish the work, and in pressing it thus upon the attention of the readers of the *Planter*, I am, as you see, only acquitting myself of a duty I owe them.

W. A. CRAWFORD.

At the Curve, Sept. 7, 1883.

GRASS, OR CULTIVATION FOR ORCHARDS.

If fruit trees after they have attained a size sufficiently large for bearing fruit can be made to do as well in grass as when cultivated, it is obvious that it will be much less expense to seed to grass and save the cost of cultivation. But that would not be all the advantage obtained. It is well known that cultivation is likely to injure many of the large roots of the trees. This is the greatest objection to cultivating among large trees. It is desirable that the roots should penetrate the soil near the surface in all directions, since the surface soil is the richest; but if cultivation is practised the roots which approach the surface are continually torn and injured and kept from approaching the surface. If the soil is cultivated among large trees, the cultivation should be very shallow, so as to injure the roots as little as possible. By frequent top-dressing with fertilizers it is believed that the trees will do equally as well in grass as when cultivated. Pasturing sheep or pigs in the orchard is a good method of disposing of what grass grows, and enriching the soil. The pigs and sheep will also eat that fruit which falls prematurely, and they destroy the larvæ of the coddling moth contained in it. If, however, the grass is allowed to grow, it is best to cut it two or three times during the summer and let it remain on the ground to mulch and enrich the soil. In regard to whether to cultivate an orchard or not, it may be said that if the trees are young they should be cultivated to promote their growth, but if the trees are large they need not be cultivated, but may be seeded to grass and top-dressed.—*Correspondence Practical Farmer.*

Editorial.

Report of the Superintendent of the Government Farms and Agricultural Operations in the Madras (India) Presidency for the years 1881 and 1882, and also the Report on the Saidápet Experimental Farm.

We have received these Reports and find them very interesting. The *Planter* is sent regularly, on subscription, to the Superintendent of Farms, and to the Saidápet Experimental Station, and we accept as a courtesy the Reports sent us.

WHEAT.

We note some facts which may be of interest to the farmers in the States.

“Neither *smut* or *ergot* were observed on the crops. This, probably, was due to the fact that the seeds were, in almost every instance, dressed with *sulphate of copper* (bluestone) before being sown. The process followed is, for fifty pounds of seed, take three pounds of sulphate of copper, which dissolve in one quart of hot water; when the solution is cold pour it over the seed, and mix thoroughly; when dry the seed is fit for sowing.” “The object in dressing the seed in this way, is to kill the fungoid spores that may be mingled with the seed. This dressing, however, does not appear to have any marked effect in preventing attacks of *rust*. Of course, if straw is used in bedding the cattle which has been attacked by fungoid disease, and the manure of which this bedding forms a part is applied to land, the probability is that the spores of the fungus will be conveyed to the soil at the same time, and in this way may get into the plants, even though the seed from which they were raised was chemically prepared.”

SORGHUM.

2. After speaking of several kinds, the Superintendent, in detailing experiments at Saidápet, speaks of the *Minnesota Early-Amber Sugar-Cane* as the best for syrup and sugar. He acknowledges his indebtedness to Messrs. Allen & Co., of New York, for the seed with which the experiments were made. He says: “It is evident from these experiments, that it is in every way better to crush only the best canes, and to use those that are less ripe, and the leaves, for feeding stock. By selecting the seed, and by good tillage and good treatment, it will, I think, be possible to secure much greater uniformity in the ripening of the canes. This is a point to which attention is specially required, for it is both troublesome and expensive to divide the crop into matured and unripe canes; and but little advantage would be gained by har-

vesting, first, the matured canes, and afterwards the others as they ripened."

"The syrup of the *amber* sugar-cane crystallizes far more rapidly, and to a much more considerable extent than other sorghums. The refuse canes, after crushing, are more palatable to stock than the refuse of sugar cane; and, judging from its appearance and general character, must be far more digestible."

"*Cream of lime* was mixed with the juice before it was boiled until an alkaline reaction was observed. Crystallization began, usually, within twenty-four hours after the syrup cooled; in some cases much earlier. Experiments were made to ascertain the proper time when the syrup should be removed from the fire, and under what conditions the best colored jaggery* could be obtained. It was noticed that the syrup was lighter in color when removed from the fire early, but crystallization was slower."

PLOWS.

3. We do not know that we can do a better thing for the manufacturers of plows and other cultivating tools, and seeding and reaping machines, in the United States, than to invite their attention to other extracts from the Reports under consideration, which will show the great need of improved agricultural implements and machines in British India. We do not think that the fact can be questioned, that the agricultural implements and machines of the United States are superior, in every desirable quality, to those made elsewhere on the globe. Why, then, cannot our manufacturers open a traffic with these eastern British possessions and other contiguous countries where the rudest tools for culture are used? Steamship transportation is already provided, and, doubtless, consignments can be made to responsible parties who will account for sales at stated periods, and settle therefor by drafts on London, which will be worth a premium in the United States; or, if not this, return cargoes can be taken in coffee, tea and spices, which will open a profitable commerce.

We notice that the native plows, and some importations from Sweden, and the American combined plow, are only mentioned. If the transportation from Sweden is by the sea, as it probably is, that from the United States cannot be put to any special disadvantage.

*Webster defines this word thus: "A species of coarse, dark-colored sugar obtained from the sap of the cocoanut palm." The word is now, doubtless, applied in the East to the first crystallization of sugar from the juice of any plant.—ED. S. P.

"124. The ploughs in greatest request, for use as patterns, were the single-stilted Swedish plough and the American combined plough. The first mentioned were supplied at Rs. 20,* and the latter at Rs. 13 and 9 each, according to size. Under an arrangement made with an extensive manufacturer in Sweden, the Department will be able to supply single-stilted Swedish ploughs, made entirely of steel, at Rs. 16 each. Steel possesses many advantages over both cast-iron and wrought-iron, as a material for making ploughs, chiefly in its greater strength and lightness, while steel can be welded with almost as great ease as wrought-iron.

"125. These Swedish steel ploughs are, it is believed, the best ploughs for the requirements of Indian agriculture, that have yet been introduced.

126. A number of improved country ploughs were made up at the request of a land-owner resident in Tanjore, who for the past three or four years has had a graduate of the School of Agriculture as his manager. He forwarded a pattern plough which he called the "Nawab" that he said he had obtained from Cawnpore, and of which he had been making up copies in Tanjore; but, finding the expense too great, he had given up further efforts in that direction. On receipt of the pattern at Saidápet, it was examined and tried, and was found defective in several respects. Another improved form of a country plough was, therefore, made up and sent to the land-owner, for experimental trial, along with his pattern plough. He wrote: 'I have received the ploughs sent to me by Mr. Schiffmayer, and experimented with them in the wet lands, and find that the cattle here works with your light improved pattern with greater amount of ease and facility than the "Nawab" plough, and at the same time, this improved pattern inverts the furrow sods at the proper degree or position, whereas the other plough fails to do so. * * * * I therefore request that you would be pleased to order for the construction of 80 ploughs of your improved pattern, in the Farm Workshops.' In explanation of a Madras land-owner sending all the way to Cawnpore for ploughs, it should be stated that he first applied to the farm for ploughs, but that the workshops then being closed, through some misapprehension on the part of Government, no ploughs could be supplied from the farm, and he had, therefore, no choice but to send to Cawnpore. This improved country plough weighs but 30 lbs.; though a low-priced plough, it is not one that can be recommended for general use; it cannot, in full work, last longer than a ploughing season, without repair, and it is always liable to break, when the work it is required to do is at all rough in character. It is adapted only for use on wet land, or very light dry land, but is not suited for deep ploughing. Another improved country plough, made entirely of iron, except the pole, has proved fairly successful for irrigated land, and for working between the rows of cotton and similar work. The stilt of this plough is fitted with a cross bar, to admit of both of the ploughman's hands being used. These ploughs

* Rupee—contraction Rs.—is a coin and money of account in British India. Its value in U. S. currency is about \$7.—ED. S. P.

cost from Rs. 6 to 7, each. They are much stronger, and, therefore, more useful, than those with wooden stilts.

127. Great difficulty has been met, in experimenting on the farm with single-handle ploughs, made like the country plough. The farm ploughmen have for years used only the double-handle ploughs of the European pattern, which require far less exertion on the part of the ploughman than country ploughs. The men most decidedly prefer the double handle ploughs. A great deal of nonsense has been written regarding the supposed advantage of a single-handle plough, in its admitting, when at work, of the ploughman using one of his hands in twisting the tails of his cattle. The farm ploughmen plough a much larger area of land in a day than is usually ploughed elsewhere, yet, as has already been noticed, they work only double-handle ploughs, and never touch the tails of their cattle; indeed, any such reprehensible performance in tail-twisting, though apparently, in some quarters, deemed inseparable from ploughing with cattle, would lead to the immediate dismissal of the ploughman. Each ploughman uses a pair of reins, and carries on his plough a light whip, which he occasionally uses. Each man manages entirely his own plough and cattle; some of the men can make as straight a furrow as is made in other countries."

THE MADRAS ANNUAL PLOUGHING MATCHES.

19. The Annual Ploughing Matches were held on the Saidápet Experimental Farm on the morning of Saturday, the 28th January. The land on which the competitions were held, was of two descriptions—"irrigated" and "unirrigated." The latter was a sandy loam, free and easy to work; the irrigated land contained more clay, and it was, therefore, stiffer and more difficult to work. The dry land had been under ragi; and all the land at the time was in stubble. The competitions were distributed so that the public might see the working of both improved and country ploughs, in land differing in character and condition. There were fifty competitors; of these, eight were farm employés. The majority of the competitors used the common country plough; a few worked improved ploughs, which they had purchased from the farm and elsewhere. The average depth at which the country ploughs worked was not more than $3\frac{1}{2}$ inches; while, as is usually the case when these ploughs are employed, more than half of the land was left unmoved, in ribs, and the grassy surface was unturned, being simply loosened after the manner of a cultivator. The improved ploughs worked the land, on the average, 6 inches deep, the whole soil was moved, and the grassy surface was well turned over. As regards speed in performing the work, the improved ploughs were equally superior; on the average they completed each plot in 45 minutes, which is equal to an acre ploughed in $7\frac{1}{2}$ hours. The unimproved ploughs averaged 60 minutes for each plot, thus getting over an acre in 10 hours. The results of the matches were conclusive in showing the great superiority of the improved ploughs over the ordinary plough, as regards efficiency of work, cost of performing the work, and speed in doing the work. The cattle that were employed to draw the improved

ploughs were certainly superior to those used in drawing the country ploughs, but they were not superior to the cattle generally used in Cuddapah, Salem, Nellore, and in some other districts. In several districts the plough cattle are not fitted to draw the larger improved ploughs, but for these localities a smaller plough of the kind can be provided. A students' ploughing match was held to determine the best ploughmen in the senior class; it was an interesting match, from the fact that the selected competitors belonged to localities so widely apart—one to Bengal; one to Bombay; and two to this Presidency. The Bengal student carried off the first prize. The work done was very good indeed.

We see from these extracts that the improved plows of the United States are a great need in the British possessions of India; and the question arises, cannot this want be supplied at a profit to our manufacturers, and with benefit to agriculture in the East?

DEAD HEADS AT THE FAIR.

Some good shot fires the following through the columns of the *Prairie Farmer*:

I don't believe in having a fair ground filled up with undeserving "dead heads," and the man with money in his pockets, and a desire to see in his brain, who will not walk up and buy a ticket like a gentleman instead of pestering fair officers for a pass is meaner and lower than the poor tramp who scales the fence when the policeman's back is turned, or the gamin who glues his eye to a knot-hole. I know that most farmers are all right on this subject, but I have seen them—well-to-do men, too,—who didn't have a "chick or child," at home, who, when they got to the fair ground, were possessed of children enough for an able bodied Mormon prophet, and with more sisters-in-law than an ordinary man with three wives under the sod. Then I have seen big, strapping young men pass their tickets through a crack in the fence to comrades on the outside, thinking they had accomplished a wonderfully smart thing. Did you ever compare the estimates of good judges as to the number of people on a fair ground, and then observe how it tallied with the treasurer's report of the gate receipts? I tell you "dead heads" sow the seeds of death in a society. There is no permanent success in the fair business with out money to run it. I would be liberal toward all who are deserving of liberality, but this indiscriminate issuing of complimentary tickets to every political dude who may apply is demoralizing.

I am in favor of low rates of admission to an agricultural fair, and I would have one ticket admit to everything on the ground, from an amphitheatre to see a horse race, to a side show to see a fat woman, or a ringtailed monkey, but I would exterminate the race of everliving dead heads. This making one man pay two prices, that another man, equally able to pay, may see the same things for nothing, isn't exactly the thing in this country where all men are supposed to be born "free and equal."

Farmer's Home Journal.

The Southern Planter.

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EDITORIAL NOTES.

THE STATE FAIR AGAIN.

In our last issue was a communication from President Wickham, and we now call attention to one from Secretary Mayo. Each of these communications is an interesting expositor of the objects and attractions of the Fairs, and forcibly sets forth the interests of the farmers in respect to them. Read them carefully, and prepare to attend with wives and children. We may say to the ladies who have addressed us on the subject of artificial incubation, that a gentleman is already settled near Richmond who proposes to go into the business regularly, and will have on the grounds during the Fair an incubator *in the act* of hatching chickens, by which the whole process may be seen and understood. We are informed that the incubator to be used is the Campbell pattern, advertised in the *Planter*. The Apiary display, mentioned by Secretary Mayo, will also be an unusual one, and attractive to residents of the country.

It is unnecessary to repeat the various

matters connected with the Fair, which are so well enumerated by Secretary Mayo, but we will urge upon farmers' attention the proposed nightly meetings, in which questions pertaining to practical agriculture will be informally discussed, and written essays read and referred to committees for publication. There was no feature of the Fair-week, in the early days of the Society, in which there was a greater concentration of interest, and the effort to renew it is to be commended.

As this is the last opportunity we shall have to speak of the Fair, as our next issue will appear only a few days before its opening, we will express the hope that the communications of the President and Secretary will receive the attention they so well deserve.

THE *Southern Planter* will, as usual, have an office on the Fair-grounds during the approaching State Fair, and the farmers of this and other States are cordially invited to visit it. Without any disposition to appear selfish, we may say that it will afford a good opportunity for *new subscribers* to place their names on our list, and for *old ones* to square up their accounts. Whether the one or the other motive prompts, we shall be glad to greet all who may call on us.

HAMPSHIRE-DOWN SHEEP.—We have had frequent enquiries for the names and address of breeders of these sheep. Can we get the information through the columns of the *Planter*?

PEARS AS A PROFITABLE CROP.—We have been favored by Dr. B. Dennis with a box of beautiful and delicious pears grown by the Doctor on his farm near Mattoax, in Amelia county. He has, as yet, but few trees in bearing, but he shipped to New York this season a number of barrels, for which he obtained a net price of from \$7 to \$9. The pear is one of the most certain in yield of our fruit-bearing trees, and when properly handled commands a large price. The Doctor is not selfish in the matter, and is ready to give to others his experience.

THE ASHLY PHOSPHATE COMPANY.—We are requested to state by this company that our article in the last issue, copied from a Tampa Bay paper, to the effect that this company had made a large purchase of land for the purpose of utilizing phosphate deposits, is wholly erroneous. The letter of the company says:

"The whole story must have originated in the brain of the 'Rev.' W. L. Moseley, whose statements are not to be credited, as you will see by the accompanying copy of the *News and Courier*, giving some of the history of that gentleman. Please correct.

Yours truly, J. P. DESAUSURE,
for Company."

WE call attention to the following announcement of the CHESAPEAKE & OHIO RAILROAD COMPANY:

"Excursion fares to Louisville, via the Chesapeake and Ohio Railway, to attend the Great Southern Exposition of Art, Industry, and Agriculture, continuing till November 10th.

Round-trip tickets, good to return for thirty days from date of issue are on sale at the principal stations of the Chesapeake and Ohio Railway and connections in Virginia and North Carolina.

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C. W. SMITH, H. W. FULLER,
Gen'l Manager. *Gen'l Pass'r Ag't.*

SAYS a prominent horseman, in giving his opinion of Vanderbilt's mare, Mand S., whose great feat at Chicago put her at the head (and dubbed her "Queen of the Turf"), "In my opinion the time is not far distant when a two minute gait will be recorded." It will certainly be the case if horsemen continue to use Kendall's Spavin Cure, as it limbers up the joints, removes all blemishes, and in fact has made a complete revolution in the horse business.

LOOK OUT FOR FRAUDS!—The genuine "Rough on Corns" is made only by E. S. Wells (Proprietor of "Rough on Rats"), and has laughing face of a man on labels. 15c. and 25c. bottles.

BOOKS AND MAGAZINES.

THE work of Elliotte W. Stewart, entitled "*Feeding Animals*," we have read with a good deal of interest, and find it a practical and instructive work on the care of all farm animals. It should be in the hands of all good farmers. It gives the best mode of planning and building barns for the comfort of all farm animals and the economical storing of provender for the same; it also gives the proper proportions of sand, cement and water for concrete, &c. And more than all, it gives his mode of treating all the ills of animals with one article of the *Materia Medica*, namely, water. It is interesting and instructive to see how scientifically he uses this one element to aid the "vis medicatrix nature," and discards all of those violent and, to say the least, "doubtful" remedies now in vogue with the veterinary surgeon of the present day.

A NEW NOVEL.—We understand that there is now in press a novel by Col. Joseph Mayo, of Westmoreland county, this State, entitled, "*Woodbourne, a novel of the Revolutionary times in Virginia and Maryland.*" It will doubtless prove an interesting book, for which subscriptions are now being taken at \$2 per copy.

A NEW PUBLICATION.—We have before us the first number of a new publication entitled "*Richmond Mercantile and Manufacturing Journal*," which is issued by Richard E. Frayser, formerly Superintendent of Public Printing for the State. This journal is especially neat in respect to its paper and typography, and commendable in what appears to be its ruling feature—to advertise and advocate the industrial interests of our capital city and the State. This object is a deserving one, and it and other journals working in the same direction, should have the support of all citizens in their respective channels of business, if not in a more comprehensive sense of aiding all publications which advocate the advancement of all interests which underlie the religious, social, and material prosperity of the country. The enthusiasm of our friend Frayser has led him into some

statements which are extravagant, but this will all come right as his work progresses. We welcome him to the circle of journalism.

HARPER'S PUBLICATIONS.—The *Monthly* for October, and the *Weekly Bazaar* and *Young People* to date, are on our table, and as interesting and brilliant as ever.

NORTH AMERICAN REVIEW for October is received. It has many interesting articles: *Early Man in America*, *Board of Trade Morality*, *Social Forces* in the United States, &c., &c.

THE POPULAR SCIENCE MONTHLY for October has its usual variety of matter suited to the tastes of cultivated people. We may note *The Liver Fluke of Sheep*, "the object of which is to summarize the present knowledge of liver-fluke, causing the much dreaded and fatal rot in sheep."

REPORTS.—We have the usual-monthly reports from the U. S. Agricultural Department, and others from the States of Georgia, Tennessee, Kansas, &c., and also the eighth annual report of the Ontario Agricultural College and Experimental Farm, in the Dominion of Canada. These are all interesting and instructive. The last reports from the Department of Agriculture embrace :

1. The grasses of the United States.
2. The soils and products of Florida.
3. Condition of crops, American competition, and freight rates of transportation companies.

ELLWANGER & BARRY, of Rochester, N. Y., whose advertisement is seen in the *Planter*, sends us seven distinct catalogues, as follows : 1. Of fruits ; 2. Of ornamental trees, &c. ; 3. Of strawberries, blackberries, &c. ; 4. Wholesale list of fruits, flowers, &c. ; 5. Select roses ; 6. Fruit and ornamental trees, grape vines, &c. ; and 7. New and rare roses.

HIRAM SIBLEY & Co., Rochester, N. Y., and Chicago, Ill., sends their catalogue of Holland Bulbs, and plants for fall planting.

For man it has no equal ; for beasts it is not excelled. What? Kendall's Spavin Cure.

NEW ADVERTISEMENTS.

THE *Mutual Assurance Society of Virginia* is the oldest fire insurance company in the South. It was incorporated in 1794, and "many of the most eminent men in Virginia nurtured it in its infancy and aided to bring it to its full maturity and success." It is purely *mutual*, and the interest of its profits, after safe investment, are applied to the reduction of premiums. There are no dividends to stockholders, so that its investments constitute a safe reserve to meet all contingencies. Its directors are unpaid men, who look after its affairs with no personal motive except to secure its efficiency. This was so in its first organization and is so now. Its investments are carefully made, and the yearly income therefrom is largely in excess of the losses which annually occur, and thus there are ample means to meet any loss as it occurs. We quote the following from a recent "Historical Sketch" of the Society :

"Whilst this Society, like all other insurance companies, has encountered many difficulties as the result of the late civil war, whilst its reserve fund for the protection of its members was well nigh swept away by that war, and whilst, unlike other Southern companies, it was able to pay in United States currency, without scaling or commutation, all *accidental* losses occurring during the war, amounting to at least \$150,000,—yet, owing to the fact that the average losses have not been so great since the war as before, owing to better fire departments and other causes, it has been able to accumulate in first-class securities a larger surplus or reserve fund than at any period of its long and honorable history.

The annals of that nation are said to be blessed which contain, if any do, no great calamities, no fratricidal strifes, no desperate and exhausting foreign wars. So, by analogy, we may congratulate ourselves that up to this time our venerable Society has never in more than three-fourths of a century of experience resisted any claim for loss, until the institution of the suits growing out of the losses by the fire of 3d April, 1865, but has pursued a long, useful, peaceful and honorable career, and been a great benefactor and protector to the cities and towns of old Virginia."

RANDOLPH & ENGLISH is the oldest book-house and publishing firm in the city. See their advertisement.

BE CAREFUL!—The genuine "Rough on Corns" is made only by E. S. Wells (Proprietor of "Rough on Rats"), and has laughing face of a man on labels. 15c. and 25c. bottles.

C. F. JOHNSON, bookseller and stationer, has lately moved into a new store, and presents to people who walk on Main street between 9th and 10th, a most attractive bargain of periodicals, daily and weekly papers, and the newest literature.

SHOES.—"As easy as an old shoe," is a familiar adage. We are reminded of it by the fact that we have held on to an *old pair* of shoes several weeks longer than we should have done, with a *new pair* confronting us all the time. The pain of *breaking in* new shoes we have always dreaded, but we were surprised when we found the *new* more comfortable than the *old*. It only remains to say that the accuracy of measure and the pliancy of material solved the problem, and that Mr. Drew, corner of Eighth and Main streets, conferred on us the comfort of *new shoes*.

THE VIRGINIA AGRICULTURAL AND MECHANICAL COLLEGE advertises for sale cattle, sheep, hogs, and poultry. It seems to be one of the features of this valuable institution to breed on its farm, for the instruction of its pupils, animals and fowls, and its success has been such that for several years its cattle have received the first and other premiums at our State Fairs. We suppose the stock now advertised is the surplus on hand beyond the needs of the farm.

Is your liver out of order? Then is your whole system deranged. The blood is impure, the breath offensive, you have headache, feel languid, dispirited and nervous. To prevent a more serious condition, take at once Simmons Liver Regulator.

G. P. HAWES, noticed in our last issue in connection with his losses by a fire, has resumed operations. The brief period intervening shows his energy, and for this *quality* and others all Richmond knows Percy Hawes.

DR. CASPER recommends Kendall's Spavin Cure in the highest terms, and thousands of eminent physicians do the same. See advt.

HENRY T. MILLER & Co. have renewed their *three months'* advertisement for *twelve* months. Our readers may remember our former notice of this enterprising concern, but since then its business has largely increased, and about *thirty-three* per cent. has been added to their facilities in machinery and operatives. There are no better manufacturers in their line than these, and we speak what we know, having known the senior partner from babyhood, and in all the vicissitudes of war and peace.

You who lead sedentary lives will find great relief from constipation with which you so often suffer by taking Simmons Liver Regulator. It is a simple, harmless, vegetable compound, sure to relieve you, and can do no injury.

CHRISTIAN & WHITE.—We are glad to have an opportunity to speak of this old and reliable firm. *Christian*, the senior, we are disposed to berate because he is a bachelor, but has are deeming and lovely manner of dandling in a *grandfatherly* way, on his knee, the children who visit his store. *White*, though younger, has his family around him, and we feel that we have known him even longer than we have known his senior, for his parentage is connected with an old and esteemed grocery house in Petersburg with which we, and our father before us, had long and satisfactory dealings.

A word more for Christian: Away back yonder, before we knew much about railroads, he was selling *dry* goods, not *wet*, as now, under the firm of *Christian & Lathrop*, and when we came to the city on horseback, or in our two-wheeled sulky, with a pocketful of orders from our country neighbors, they went to his hands, and were filled satisfactorily all around, just as the orders received now by *Christian & White*.

I have used Simmons Liver Regulator in my extensive practice for the last four years, and cannot find its equal for bilious colic, dyspepsia, sick or nervous headache and constipation.

Yours truly,
JAS. M. SHORT, M. D.,
Butlerville, Ark.

COLEMAN'S PLOW HARNESS.—Since our first notice of this improved harness the

patent right for the State has been transferred by Mr. Tribble to Messrs. Finney & Co., who have renewed the advertisement with the proper changes. We have something special to say about this harness, but are unable to do so in our present issue, but will in our next. Read carefully the advertisement.

AUTOMATIC GATE-LATCH COMPANY.— This advertisement comes to us so late that we can only refer to a previous notice in our January number. The most practical men speak favorably of this simple and automatic latch, which always leaves a gate safely locked, no matter how hastily opened or closed.

SEE advertisement of Mr. MILLER, whose business it is to repair *Sewing Machines* of all kinds. He is a native of Richmond, and has had seventeen years' experience in his line. Has no connection with any sewing machine company, and is reliable and trustworthy. Machines from the country will be received, repaired and returned.

J. M. WERTHEIMER offers a good stock of shoes, &c., at 422 Broad street. We have good reports of him as a good and *reliable dealer*.

DR. G. B. STEELE, surgeon dentist, 723 Main street, is too well known to require a notice from us.

WE have the following advertisements through the well known house of N. W. Ayer & Son, of Philadelphia: W. Parry, blackberries; J. H. Hicks, stock farm; W. A. Noyes, consumption cure.

BOOKS!

The largest assortment of books (new and old) in all the **Departments of Literature** (Agricultural Works a specialty) in the Southern States is at 1302 and 1304 Main street, Richmond, Va.

J. W. RANDOLPH & ENGLISH,
oct 2t

FARMER'S LAND CO., 25 State Street, New York, sells on commission Farms and Lands. Correspondence solicited with all wishing to buy or sell.
sep 1t

DARBY'S PROPHYLACTIC FLUID.

For the prevention and treatment of
DIPHThERIA, SCARLET FEVER,
SMALLPOX, YELLOW FEVER,
MALARIA, &c.

The free use of the Fluid will do more to arrest and cure these diseases than any known preparation.

DARBY'S PROPHYLACTIC FLUID, a safeguard against all Pestilence, Infection, Contagion and Epidemics.

Use as a Gargle for the Throat, as a Wash for the Person, and as a Disinfectant for the House.

A CERTAIN REMEDY AGAINST ALL CONTAGIOUS DISEASES.

Neutralizes at once all noxious odors and gases. Destroys the germs of diseases and septic (putrescent) floating imperceptible in the air or such as have effected a lodgment in the throat or on the person.

PERFECTLY HARMLESS USED INTERNALLY or EXTERNALLY.

J. H. ZEILIN & CO., Proprietors,
Manufacturing Chemists, Philadelphia.
Price, 50 cents per bottle. Pint bottles, \$1. nov 1y

Preserve the Natural Teeth.

Dr. JOSEPH WOODWARD,

DENTIST

OFFICE: 805 E. FRANKLIN STREET,
RICHMOND, VA.

MORISON'S PILLS

A remarkable remedy for Stomach, Liver, Kidney or Bladder Disorders, Jaundice, Chills, Malaria, Sick Headache, Indigestion and Costiveness.

Mailed free to any address upon receipt of price, \$1. W. S. PILCHER, Agent,

Broad and Pine streets,
RICHMOND, VA.

BEST MARKET PEAR.

99,999 PEACH TREES All best varieties of new and old Strawberries, Currants, Grapes, Raspberries, etc.
EARLY CLUSTER
New Blackberry, early, hardy, good. Single hill yielded 13 quarts at one picking. Send for Free Catalogue.
J. S. COLLINS, Moorctown, N. J.

sep 3t

FALL PLANTING. The largest assortment in the country of the best *Old* and *New* Fruit and Ornamental Trees, Shrubs, Roses, Paeonies, Hedge Plants, etc. Abridged Catalogue mailed free.

ELLWANGER & BARRY, *Mt. Hope Nurseries, Rochester, N. Y.*

J. T. GATEWOOD,
DEALER IN

fine Groceries,

LIQUORS AND FEED.

116 E. BROAD STREET, RICHMOND, VA.

Families having a surplus of anything produced in the Dairy, Barnyard or Garden, will do well to advise with me. Correspondence solicited. au1y

P. A. SUBLETT. W. M. CARY.

SUBLETT & CARY,
Commission Merchants

No. 113 SOUTH TWELFTH STREET,
RICHMOND, VA.

Specialties: Tobacco, Cotton, Flour, Grain and Forage. Grain Sacks furnished to order.

J. F. JACOB and B. LORRAINE, of Richmond, Va., and NAT FRAZER, of Orange County, Va., respectfully solicit the patronage of their friends. au12t

422 BROAD STREET. 422

NEW STORE—NEW GOODS!

J. M. WERTHEIMER

422 BROAD STREET, BETWEEN FOURTH AND FIFTH STREETS,

(opposite Fourquarean, Price, Temple & Co.

Having withdrawn from the firm of Heller & Co., 517 Broad street, I inform my friends and the public in general that I have established myself at above place, where I shall commence with an entire new stock of **BOOTS, SHOES, TRUNKS, &c.**, and shall only keep such goods as will give entire satisfaction.

Thinking for the very large patronage of the past, I solicit the same for the future at my new stand.

J. M. WERTHEIMER.

422 Broad St., bet. Fourth and Fifth, op. Fourquarean, Price, Temple & Co.

oct 3t

BERKSHIRE AND JERSEY RED
Pigs & Hogs

FOR SALE!

Berkshire Pigs, two months old, \$4. Berkshire Sows, with pigs by Jersey Boar, weighing from 100 to 250 pounds, 10c. per pound, nett, delivered on the cars.

C. R. CULLEN.

au 4t 1305 Main St., Richmond, Va.

GRAPE VINES
FOR SALE!

Two years old and well rooted. Very low. Address **EMIL F. HENKENIUS,** Bumpass, Louisa Co., Va. sep 3t

GUNS

Of every kind cheaper than ever. Rifles, Shot Guns, Revolvers, Ammunition, Fishing Tackle, Seines, Nets, Knives, Razors, Skates, Hammocks, etc. Large Illustrated Catalogue Free. Address

Great Western Gun Works,
sep 2t PITTSBURGH, PA.

F. Stearns' No. 1 Fertilizer

TO THE FARMERS OF VIRGINIA:

Gentlemen,—We continue to manufacture this **SUPERIOR FERTILIZER**, composed of **PURE BONE MEAL** (partially dissolved) combined with **FISH GUANO, ANIMAL MATTER, and POTASH** (muriate).

We grind the bone and fish ourselves, and can vouch for its purity. Nothing can be better for **TOBACCO** and **ALL SPRING CROPS**, as testified to by the best farmers in Virginia, who have used it. Price, \$40 per ton on board cars in Richmond.

Our **PURE BONE MEAL**, ground fine, on hand, and for sale at the same price.

Send in your orders at an early day, as our stock will be limited. Address

STEARNS & HALSEY,

No. 15 Fifteenth street, Richmond, Va.

FRANKLIN STEARNS, }

J. MORTON HALSEY. }

sep 1f

HELLERSLIE FARM.

THOROUGHbred HORSES,

Shorthorn Cattle, Cotswold Sheep,

AND BERKSHIRE PIGS

FOR SALE.

June 1y

Apply to R. J. HANCOCK

Overton, Albemarle county, Va.



OUR PATENT SAW MILL

Address, **TAYLOR MFG. CO.**

(Please Mention this Paper.)

Chambersburg, Pa.

my—6t

GRAPE VINES!

Jefferson, Lady Washington, Pocklington, Delaware, Catawba, Concord, etc. **LOWER THAN THE LOWEST.** Price list free, with lithograph cuts of Jefferson and Pocklington. **ALL STOCK WARRANTED TRUE TO NAME.** **EVERETT BROWN & CO.** Bluff Point, P.O. Yates Co., N. Y.

au 3t

REST

not, life is sweeping by, go and dare before you die, something mighty and sublime leave behind to conquer time. \$66 a week in your own town. \$5 outfit free. No risk. Everything new. Capital not required. We will furnish you everything. Many are making fortunes. Ladies make as much as men, and boys and girls make great pay. Reader, if you want business at which you can make great pay all the time, write for particulars to **H. HALLETT & Co.,** Portland, Maine. jan1y

R. L. CHRISTIAN.

W. L. WHITE.

CHRISTIAN & WHITE, FAMILY GROCERS, RICHMOND, VA.

Here you will find the largest and finest assortment of the finest of
FAMILY GROCERIES, WINES, LIQUORS, CIGARS, &c.

South of New York. They are Agents of Hotopp's Celebrated Premium Virginia CLARETS, Portner's TIVOLI LAGER BEER, and Werner's AMERICAN CHAMPAGNE, and keep always in stock a full line of the leading and most popular brands of Table Wines and Imported Champagnes.

oct 3t



AN HONEST OFFER.

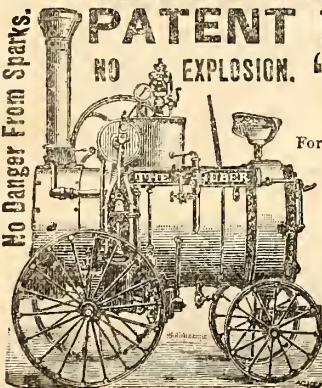
If you are sick or ailing, no matter what your complaint, write to us and we will send you ON TRIAL one of our large ELECTRIC MEDICATED PADS to suit your case, provided you agree to pay for it if it cures you in one month. If it does not cure you it costs you nothing to try it. Different pads to cure Dyspepsia, Rheumatism, Liver and Kidney Diseases, Piles, Lung Diseases, Asthma, Catarrh, Lame Back, Ague, and many other diseases. Marvelous cures being daily made in cases where all other treatments have failed. Prices very low. Remember these are not little medals, but large Pads made of Roots and Herbs, combined with Electricity. We do not ask you to buy them blindly, but merely to try them at our risk. Book, giving prices and full particulars, free. Address at once



ELECTRIC PAD MANUF'G CO., 560 Atlantic Ave., Brooklyn, N. Y.

oct 1t

No Danger From Sparks.



PATENT Return Flue BOILER. NO EXPLOSION. "THE HUBER" ENGINE

For COTTON GINS, RICE THRESHERS and PLANTATION MILLS has no equal. Economy, Safety and Durability combined. Boiler of the best plate and highest tensile strength. Engine the latest and best design. Special features patented; every part perfect. All modern improvements. Every ENGINE a model. Fully tested; warrant to give satisfaction or money refunded with 6 per cent. interest. Sold direct from first hands, saving customers from two to four profits.

6 H. P.	\$600.00	12 H. P.	\$750.00
10 H. P.	650.00	14 H. P.	800.00
18 H. P.	700.00	16 H. P.	850.00

Rice Threshers and Plantation Locomotives at corresponding prices. Send for Catalogue No. 10 giving full details.

Huber Manufacturing Co., Marion, Ohio.

oct 1t

LANDRETH PEDIGREE SEEDS!

THE U. S. MAIL BRINGS US TO YOUR DOOR!

The most extensive Seed Growers in America. Founded 1784. Drop us a Postal Card for our PRICED CATALOGUE. Address simply LANDRETH, PHILADELPHIA.

MAKE HENS LAY

An English Veterinary Surgeon and Chemist, now traveling in this country, says that most of the Horse and Cattle Powders sold here are worthless trash. He says that Sheridan's Condition Powders are absolutely pure and

immensely valuable. Nothing on earth will make hens lay like Sheridan's Condition Powders. Dose, 1 teaspoonful to 1 pint food. Sold everywhere, or sent by mail for 8 letter-stamps. I. S. JOHNSON & Co., BOSTON, MASS.

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ESTABLISHED 1846
MUNN & CO.
PATENTS
NEW YORK

We continue to act as solicitors for patents, caveats, trade-marks, copyrights, etc., for the United States, and to obtain patents in Canada, England, France, Germany, and all other countries.

Thirty-six years' practice. No charge for examination of models or drawings. Advice by mail free.

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DEDERICK'S HAY & COTTON PRESSES. are sent anywhere on trial to operate against all other Presses, the customer keeping the one that suits best. No one has ever dared show up any other Press, as Dederick's Press is known to be beyond competition, and will baffle with twice the rapidity of any other. The only way inferior machines can be sold is to deceive the inexperienced by ridiculously false statements, and thus sell without sight or seeing, and swindle the purchaser. Working any other Press alongside of Dederick's always sells the purchaser a Dederick Press, and all know it too well to show up. Address for circular and location of Western and Southern storehouses and Agents.



P. K. DEDERICK & CO., Albany, N. Y.

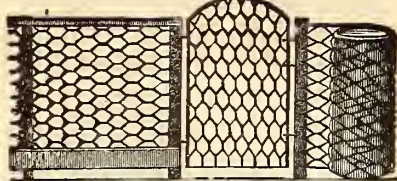
JERSEY RED PIGS

From largest herd South, which took eight premiums and great sweepstakes as finest herd in Virginia at State Fairs, 1881-'82. This hog is free from disease, a natural grazer, prolific and early to mature, and in the Western markets brings a higher price than any other breed.

T. LOVELOCK,
 Gordonsville, Va.

mh 1y

Sedgwick Steel Wire Fence



Is the only general purpose Wire Fence in use, being a Strong Net-Work Without Barbs. It will turn dogs, pigs, sheep, and poultry, as well as the most vicious stock, without injury to either fence or stock. It is just the fence for farms, gardens, stock ranges and railroads, and very neat for lawns, parks, school lots and cemeteries. Covered with rust-proof paint (or galvanized) it will last a life-time. It is superior to Boards or Barbed Wire in every respect. We ask for it a fair trial, knowing it will wear itself into favor. The **Sedgwick Gates**, made of wrought-iron pipe and steel wire, defy all competition in neatness, strength and durability. We also make the best, and cheapest All Iron Automatic or Self-Opening Gate, also Cheapest and Neatest All Iron Fence. **Best Wire Stretcher and Post Auger.** Also manufacture **Russell's excellent Wind Engines for pumping water**, or geared engines for grinding and other light work. For prices and particulars ask hardware dealers, or address, mentioning paper, **SEDGWICK BROS. M'rs. Richmond, Ind**

ly

\$72 a week made at home by the industrious. Best business now before the public. Capital not needed. We will start you. Men, women, boys and girls wanted everywhere to work for us. Now is the time. You can work in spare time, or you can give your whole time to the business. No other business will pay you nearly as well. No one can fail to make enormous pay, by engaging at once. Costly outfit and terms free. Money made fast, easily and honorably. Address **TRUE & Co. Augusta, Me.** janly

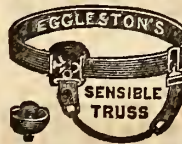


Dana's White Metallic Ear Marking Label, stamped to order with name, or name and address and numbers. It is reliable, cheap and convenient. Sells at sight and gives perfect satisfaction. Illustrated Price-List and samples free. Agents wanted. **C. H. DANA, West Lebanon, N. H.**

de

SOUTHERN ACCLIMATED REGISTERED JERSEYS for sale at fair prices.

Eight registered Jersey cows, from 4 to 8 years old, bred to choice registered bulls. Also imported bull **JERSEY EXPRESS** No. 5771; solid color, black points; dropped December 20th, 1879; and several registered bull calves, from 6 to 9 months old, two from imported sire and dams, and both solid, fancy colors. Also, 6 pure-bred unregistered Jersey heifers, from 6 to 16 months old, all from good butter stock. Address **ROWE'S CO-OPERATIVE STOCK FARM, Fredericksburg, Va.** jantf



EGGLESTON'S ELASTIC TRUSS

Has a Pad differing from all others, in cup shape, with Self-Adjusting Ball in center, adapted itself to all positions of the body, while the Ball in the cup presses back the Intestines, just as a person would with the Finger. With light pressure the Hernia is held securely cure certain. It is easy, durable and cheap. Sent by mail. Circulars free.

day and night, and a radical cure certain. Sent by mail. Circulars free.

EGGLESTON TRUSS CO., Chicago, Ill.

fe 1y

Received Medal
AND
HIGHEST AWARD



OF MERIT
AT
CENTENNIAL
Send for Catalogue,
SAWMILLS

STEAM ENGINES,

A. B. FARQUHAR, York, Pa.,
Cheapest and best for all purposes—simple, strong, and durable. Also Horse Powers and Gin Gear.

SAW, GRIST AND COB MILLS, GINS, PRESSES AND MACHINERY generally. Inquiries promptly answered.

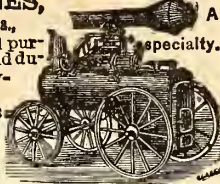
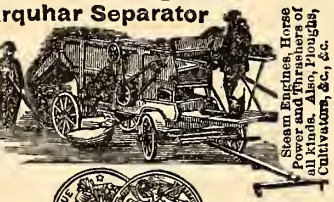


Fig. 1. Vertical Engines, with or without wheels, very convenient, economical and complete in every detail, best and cheapest Vertical in the world. Fig. 1 is engine in use. Fig. 2 ready for road.

Fig. 2. *Delicate fine, but larger than other models.* Send for Catalogue.

The Farquhar Separator

(Warranted)
Penna. Agricultural Works, York, Pa. Lightest draft, most durable, simplest, most economical and perfect in every respect. Ready for market.



Steam Engines, Horse Power and Thrashers of all kinds. Also, Ploughs, Cultivators, &c.

AND
BEST PRIZE
AWARDED
AT
PHILADELPHIA



THE
SILVER MEDAL,
AT
Paris Exposition.

Send for Catalogue. Address A. B. Farquhar, York, Pa.

sep ly

26,999 NOW IN USE.



All persons say their goods are the best. We ask you to examine our Improved Keller Positive Force Feed, Grain, Seed and Fertilizing Drill and our Hay Rakes. They are as good as the best, and can be sold as cheap. All are warranted. Circulars mailed free. Newark Machine Co., Newark, Ohio. Eastern Branch House, Hagerstown, Md.

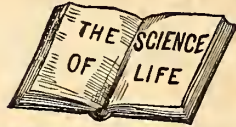
W. N. STAGE,
General Southern Traveling Agent,
174 4t Louisville, Ky.

**A. T. BURR'S
STANDARD
CARRIAGE REPOSITORY**
1505 FRANKLIN STREET.

Custom-made work. Buggies, Phaetons, Carriages and Farm Wagons at wholesale factory prices. All work warranted. ap ly

WATER-PROOF BUILDING MANILLA
This water-proof material resembles fine leather, is used for roofs, outside walls of buildings, and inside in place of plaster. Catalogue & samples free. (Estab. 1866) W. H. FAY & CO. Camden, N. J.

MANHOOD



KNOW THYSELF.
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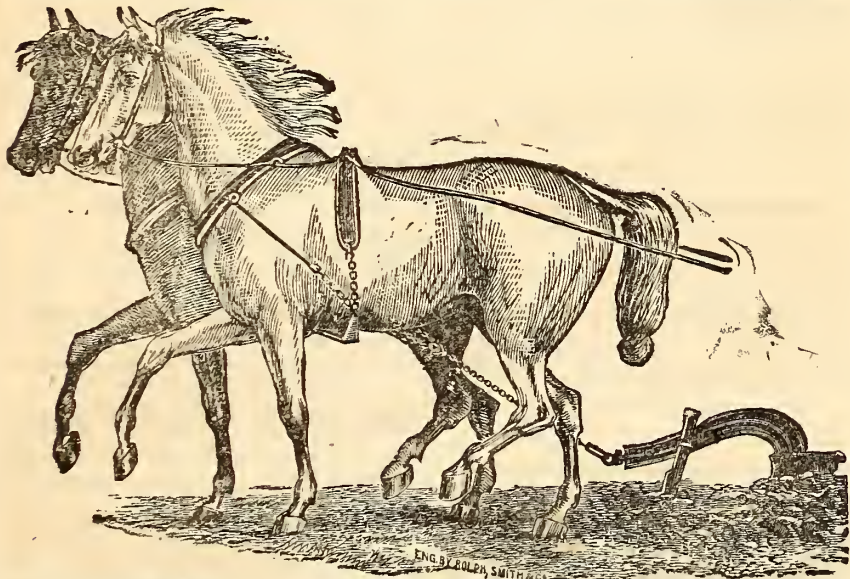
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JNO. M. BUTLER, W. P. BOWLES, W. S. BOWLES.

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Very respectfully,

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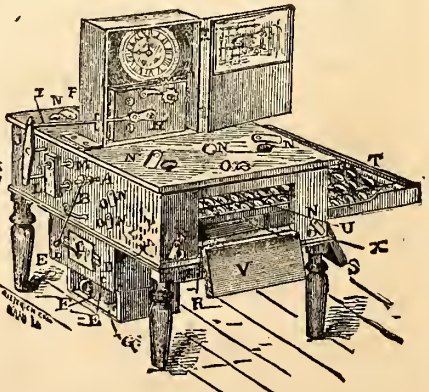
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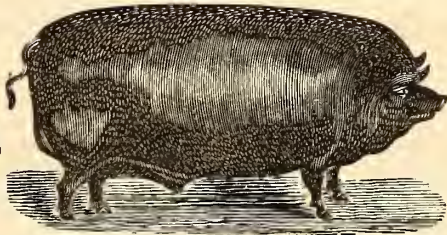
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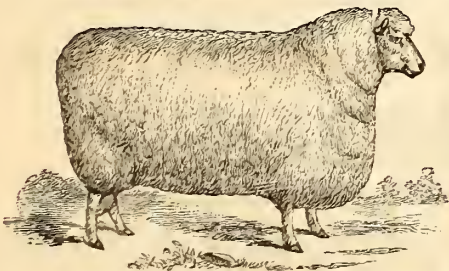
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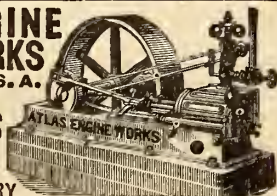


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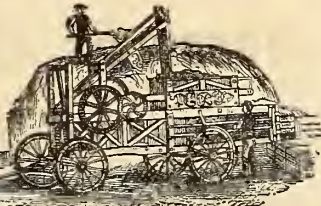
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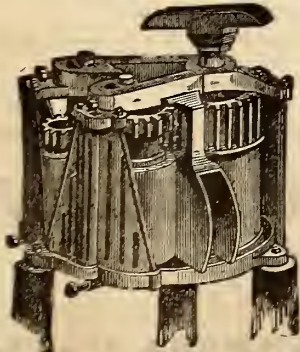
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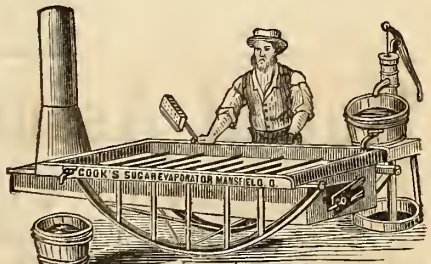
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This guano is found in the Orchilla Island, in the Carribbean Sea, and comes to us direct by vessels, and all we do to it on arrival is to screen out the lumps and bag it. Every cargo is analyzed before leaving the Island, and comes guaranteed to us to contain from 40 to 50 per cent. of Bone Phosphate of Lime, and other valuable ingredients.

THE CHEMISTS ENDORSE IT.

The Department of Agriculture of the State of Virginia, under the administration of Mr. J. M. Blanton, have recently undertaken the analysis of every brand of Fertilizer, sold in the State. The Report of the work done in that respect, by Prof. W. I. GASCOYNE, the well-known Chemist of the Department, during the Fall Season of 1882, has just been published. It embraces the analysis of *seventy-five* different brands of Fertilizers, and certifies to the *actual value* of their several constituents as developed by the analysis. A reference to this Report exhibits the following remarkable results:

1. The actual value of most of these Fertilizers falls *below* the prices asked for them!
 2. Where the actual value exceeds the price asked, the excess, in very few instances, reaches 10 per cent.
 3. In the case of ORCHILLA GUANO, the certificate of the chemist is "Actual value \$41.12," which is *more than 50 per cent.* over the price asked for it!
- This official statement is only corroborative of similar results, furnished us privately by other chemists of high reputation in Virginia and elsewhere; notably Prof. Mallet, Dr. Dabney, Prof. Taylor and others. According to Dr. Dabney, the cash value of the sample analyzed by him, was \$43.97. Prof. Taylor's, by the same calculation, was \$44.32.

We are permitted to copy a portion of a private letter from PROF. JOHN R. PAGE of the University of Virginia, as to practical results:

UNIVERSITY OF VIRGINIA, January 23, 1883.

* * * * * I have used Orchilla Guano very successfully on root crops, as you might expect from its high percentage of Phosphoric Acid. * * * I repeat what I have said repeatedly, that high-priced ammoniated fertilizers cannot be used in a large majority of the worn-out lands in Virginia profitably, until those lands have been prepared by drainage, thorough tillage—the use of *lime compounds* and vegetable matter ploughed into the soil. Until the land is prepared thus, there is nothing to hold the nitric acid and ammonia in the soil, and it is carried off by the drainage and atmosphere before the crop can use it, which often results in no profit and no permanent improvement to the land. I have used the Orchilla Guano this fall on wheat. * * *

Yours, &c.,

JOHN R. PAGE.

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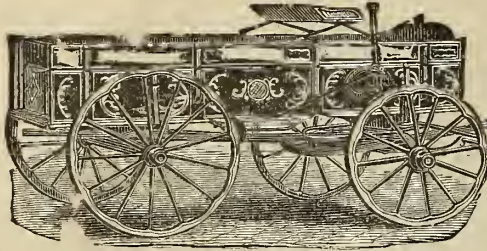
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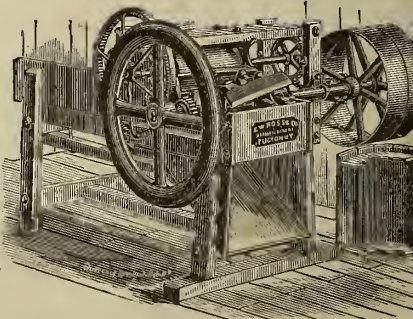
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