

—THE—
SOUTHERN PLANTER.

DEVOTED TO

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, MARCH, 1883.

No. 3.

FARMERS AND FARMING IN VIRGINIA IN THE OLDEN TIME.

No. 8.

1. Letter from JOHN BROWN, Esq., to Col. CABELL, in relation to the *Burnet Grass*.
2. Letter from PHILIP TABB, Esq., to Gen. J. H. COCKE, in regard to corn culture in Gloucester county.
3. Letter from RANDOLPH HARRISON, Esq., to Gen. J. H. COCKE, in respect to his farm, the General being then in the Military Service during the war with England.

GOOCHLAND, 2nd February, 1808.

Mr. Cabell,—In answer to your quæries relative to *Burnet seed*, &c., *September or February is the best time to sow this seed—*one peck to the acre is plenty. If you sow in September on wheat, after getting your wheat in the ground by plowing or harrowing, you will then sow your *Burnet seed*, and give them one slite harrowing, as they should not be covered deep. If you sow in February or March on oats, you will sow the same way as on wheat in the fall. It is best to prepare the land well by plowing, for grass seed as well as for wheat. It will answer to sow on wheat in February, or early in March. It will grow best in rich land; but, the good quality of this grass is that it will grow

in poor land, such as will not bring clover or any other grass that cattle will eat. I think in rich land that will bring clover well, I would give the clover the preference; but I sow both on the same land for grazing. Burnet will come earlier in the spring, and continue to give food later in the fall than clover, and if the winter is not very hard, it will keep green and grow all the winter. It's a good grass for sheep. Our sheep are now all, or nearly so, good mutton, and have not been fed with anything this winter; and we have a large stock. I am not able to say how long the seed will keep well, but I suppose for four years, if they were kept dry, and perhaps longer. I have plenty of seed—all of the last year's crop. The price is 6s. a bushel. There were so many applications (last fall was twelve months), that I took care of the seed and saved all I could. If any of your neighbors want any seed, you may tell them they can get furnished here. My brother, who lives in *Warminster*, wrote me for forty bushels about fifteen months past, he said, for some friends of his, but at that time I had none to spare.

Yours, with respect, JOHN BROWN.

TODDSBURG, 22nd September, 1808.

Dear Sir,—Your favor of the 12th I have received, and though I do not admire paper communications, generally, on the subject, I proceed, with pleasure, to answer your quæries, which, being explicit and clear, simplifies the answers.

I have no doubt but the bedding sitem, if properly executed, would have the happiest effect on the lands you describe, and with which I am not altogether unacquainted. This mode is certainly economical, as it respects labour, and no doubt is entertained here of its saving the land if it does not improve it. The lands intended for corn is bedded by the first and only plowing anterior to planting, between the months of November and April, and is performed by four furrroughs; the width of the row being proportioned to the ability of the plow to take up the whole space, and we find that five and a-half feet is the proper distance for ours.

Respecting the height of the beds, we are governed by the conveneance of the plow, taking care that the two first furrroughs is well laped to furnish sufficient depth of pulverised earth to receive the corn.

The top of the bed is prepared for planting in two different ways; one by running the plow on the bed, leaning it to the

left, that the bar may operate so as to make a trench, in which the corn is dropped from eighteen inches to two feet, as the strength of the land may require, to leave one stalk only in that distance, and is called drilling. The other is done with the hoe, placing the earth in a proper state to receive the corn at the distance of from three and a-half to four and a-half feet, intended for two stalks together. In strong land, I prefer the later; in weak, the former. The first plowing after planting is performed, immediately after the corn is up, and may be done by two furrows (I never use more myself), the mole-board for that purpose being set out a few inches, the earth to be thrown from the corn so as barely to meet in the middle.

The corn should be immediately weeded after it's well up and standing. The second plowing should be performed by the bar share (we use no other at any time) so soon as the plants have attained strength sufficient to bear earth, which should but slightly reach it from the ridge of the furrow, using long swingle bars, that the horses may walk on different sides of the row, to prevent treading on the plants. This operation of earthing should be performed, as soon as the corn will permit, with one furrow only on each side the corn, as the corn is in danger of falling as well as being injured by much rain in that state. The residue of the broken earth left between the rows after the two first furrows, is taken up by former furrows, and forms a good bed for the corn to mature in. You see, by this statement, that four furrows breaks up the land in the first instance; two takes away the earth preparatory for weeding, and six replaces the bed, making twelve in all for one crop. It is usual with us to run a harrow after the last plowing, to prepare the land for small grain. The use of the hoe is sometimes dispensed with after weeding. Our best planters generally give the corn a slight hoeing immediately before and after harvest.

Fields intended for the foregoing mode of culture should be laid off with care, it being peculiarly inconvenient to alter the rows, and the plowing is done better and with greater facility after the lands have been once properly bedded, as in every breaking thereafter the furrows will be coupled in the hollow between the beds. I hope for the pleasure of seeing you here before you can proceed far on your proposed plan, when we can communicate with more ease, for writing goes hard with me.

I beg you to be assured of my esteem.

PHILIP TABB.

BREMONTON, 12th July, 1813.

Gen. J. H. Cocke:

My Dear Sir,—Amidst your ardent and oppressive military labours, I am sure it will be interesting to you to hear something of your agricultural concerns, and altho I cannot expect to add much to the information you receive from Mrs. Cocke's weekly reports, yet, by descending more to particulars, I may give you some satisfaction on subjects not in the scope of her communications. I came up this morning early enough to spend two or three hours in riding through your river estate, and to entertain a short conversation with each of your overseers. Your crop of wheat, as far as I could judge, is well saved and well secured in shocks at each place, tho Thomas tells me he sustained some loss in his bearded wheat crop (which I did not see) by cutting it rather too late. A violent gust on the 3rd instant deranged the shocks very much, but a day of close labour has reinstated them. Pettit suffered great loss in his oats, which were layed flat by the gust, but I believe were saved as well as could be expected under such circumstances. The crop of tobacco at both places very unpromising; the crop of corn well stalked, and of a fine colour—a very promising crop. Thomas has plowed over all his corn and tobacco at both places, turned out his horses, and put all his hands to the hoe. The best of his tobacco is hilled, and, after finishing his own, he will probably hill the balance of the tobacco early in the next week. Pettit's business is more behind hand, owing, probably, to the trouble he had with his oats. I do not think he will finish plowing his corn and tobacco this week, since more than half his corn and the greater part of his slash tobacco is now to plow. A. W. More came to Thomas', while I was in the low grounds, for the purpose of repairing their machines. I suggested to them the propriety of pushing the threshing business as early as possible, both because the situation of their tobacco will enable them to dispatch that business with more convenience early than late, and because it will keep better than if threshed when the weevil is in an advanced stage. They complained of the want of room, and I suggested to them the propriety of devoting a tobacco-house to the purpose of putting it away in the chaff. Should you write to them, I think you will do well to urge them on the subject of taking advantage of the circumstance of threshing while the crop of tobacco can but spare the labour. Thomas desired me to say to you that he is informed of your

having employed a man in his place, and wishes to know whether you have or not. It is with reluctance I trouble you on a subject like this. You will discharge it as you think right.

And now, my friend, let me assure you of my earnest prayer for your health and success in your arduous and perilous efforts in your country's cause; it is the cause of freedom—the cause of the world. My boys have all left me; God grant them power to acquit themselves with honour and a safe return to their parents and friends. Mrs. Cocke is well and as cheerful as a tender and affectionate wife can be in the absence of a fond husband. All the rest of your family are well. I lament that it is not in my power to visit her often. But my sons' business at Elk Hill and my own at Lirkinghole, have devolved on me by their absence in the service. To you this will plead my excuse. Farewel.

Yours truly,

RANDOLPH HARRISON.

THE ARCTIC NIGHT.—Lieut. Schwatka, since his return from an expedition in search of Sir John Franklin's ill-fated company, combats the prevalent opinion that the Arctic winter, especially in the higher latitudes, is a period of total darkness. In latitude eighty-three degrees twenty minutes twenty seconds north—the highest point ever reached by man—there are four hours and forty-two minutes of twilight on December 22, the shortest day in the year in the Northern Hemisphere. In latitude eighty-two degrees twenty-seven minutes north, the highest point where white men have wintered, there are six hours and two minutes in the shortest day; and latitude eighty-four degrees twenty-seven minutes north, 172 geographical miles nearer the North Pole than Markham reached, and 328 geographical miles from that point, must yet be obtained before the true Plutonic zone, or that one in which there is no twilight whatsoever, even upon the shortest day of the year, can be said to have been entered by man. Of course, about the beginning and ending of this twilight, it is very feeble and easily extinguished by even the slightest mists, but it nevertheless exists, and is quite appreciable on clear cold days, or nights, properly speaking. The North Pole itself is only shrouded in perfect darkness from November 13 to January 29, a period of seventy-seven days. Supposing that the sun has set (supposing a circumpolar sea or body of water unlimited to vision) on September 24, not to rise until March 18 for that particular point, giving a period of about fifty days of uniformly varying twilight, the Pole has about 188 days of continuous daylight, 100 days of varying twilight, and seventy-seven of perfect inky darkness (save when the moon has a northern declination), the period of a typical year. During a period of a little over four days, the sun rises continuously on both the North and South Poles at the same time, owing to refraction parallax, semidiameter and dip of the horizon.

THE CHAPMAN FARM.

Mr. Editor,—I have seen several pieces in the agricultural papers recently about that “Bonanza” farming done over in Fauquier county last year on the “Chapman Farm.” Though I have read many different statements of the operations of the Dakotah Dalrymples, yet I have found nothing in all their grand operations that would compare in results with what has been recorded in this case. Ten thousand dollars made with three hands!! perhaps four, counting day labor. Is it not “prodigious?” The “sun do move!!” Not wishing in any way to reflect on the veracity of these statements, we (farmers) would like to learn how this thing was done. Every trivial operation would be of vast interest to us who have been slumbering on the outskirts of the “intensive” system. We want to know what kind of labor was employed on the “Chapman Farm”—was it white or colored? If the latter, we want to know how it was managed so as to squeeze such marvellous results out of them. I have been working negro labor all my long life; in days of slavery I found it possible to realize profit out of it, but since the days of “freedom,” I feel uncommonly lucky every time I can coax them to make enough on my farm, with free use of teams and tools, to pay themselves at the end of the year. Let us hear some more from the “*Chapman Farm.*”

19th January, 1883.

R. Wood.

DISEASES OF SHEEP.

Editor Southern Planter,—During the hard freeze of 1880 and 1881, I lost four of my best sheep, fat and heavy with twins. I could see that the head was the trouble, but had not available remedy. One of my neighbors told me afterwards that he saved some of his affected in the same way by pouring kerosene into the nostril, the oil reaching the worm and destroying it, or opening the mucous canal so that it was relieved. A few weeks ago I found one of mine affected in this way, the head thrown back and falling on its side, and kicking as if dying. I poured the coal oil into its nose, and in an hour it was better and following the flock. Another, that was taken in my absence from home, died. It was fat and about to bring twin lambs. The coal oil is harmless, and there may be something in it. ISAAC H. CHRISTIAN.

THE superstition in which we were brought up never loses its power over us, even after we understand it.

THICK AND THIN SEEDING.

Editor of Southern Planter,—Thin seeding, by which I mean from one peck to one bushel of wheat per acre, has often been recommended and tried in England, but has generally been abandoned, and the practice is to sow from $1\frac{1}{2}$ to $2\frac{1}{4}$ bushels per acre. If land is very fertile, and wheat had no enemies to contend against, such as weeds, birds, wire-worm, it is almost impossible to say how small a quantity of seed would be sufficient to grow a large crop. But farmers have to deal with things as they are. Upon my permanent wheat field, which is now sown with its fortieth crop in succession, the quantity of seed sown is two bushels per acre. It is drilled, as nearly as the weather will permit, during the last week in October. As different portions of the field are in extremely different states of fertility, the quantity of seed being the same in all the experiments, we have a good opportunity of judging the circumstances under which the quantity of seed used is too much or too little. Upon the land which never receives manure, and which now grows about thirteen bushels per acre, it is tolerably evident that the seed might be increased with advantage; although the land is kept free from weeds, the crop stands very thin upon the ground. Upon the various experiments, where the manures applied are sufficient to grow crops which shall not exceed thirty bushels per acre, I should say that two bushels of seed are about the right quantity. On other experiments the manures applied are sufficient, under favorable conditions of weather, to grow a crop of between fifty and sixty bushels per acre. In these cases the crop stands too thick upon the ground, and it would, I think, be benefitted by a reduction of seed from two bushels to $1\frac{1}{4}$ to $1\frac{1}{2}$ bushels. There is one advantage in a thick standing crop, which, in this country, at all events, should not be lost sight of, a thick crop keeps down weeds. When a thin-seeded crop tillers very much, the wheat grows in bunches with large spaces unoccupied; these become filled with weeds, and the expense of hoeing is often incurred. While, therefore less seed is required when land is in high condition, I think it may be said that in England practical farmers do not think it advisable to use a less quantity of seed than from one and one-half to two bushels per acre.

Rothampstead, England.

J. B. LAWES.

THE average number of swine in the United Kingdom is about 2,250,000.

COMMENTS ON TOBACCO, Etc.

Editor Southern Planter,—"Old Farmer" says he goes for corn, wheat and tobacco, and that corn is well-suited to our soil and climate, and, with deep and frequent tillage, never fails; the wheat crop at six or eight bushels brings some income, and on a clover field well plastered, etc., we get from twenty to thirty bushels; that crop is more certain than wheat on clover fallow, and the land improved under this system. Now if this be true, and I believe it is, why cannot the small farmer have corn and wheat to sell as well as at the North, where tobacco is, with few exceptions, raised? Why all this barren waste, if tobacco has not impoverished the soil? Is it not rather the good farming, thorough preparation of the soil, thorough tillage, and making an application of large quantities of manure; the growing and turning in of good crops of clover, with all the operations of the farm conducted with industry and intelligence, and thus the farmers who improve their farms make better crops, live better, and leave a larger estate for their children in defiance of the tobacco raising. That tobacco is a poison, no sane man will deny, notwithstanding the "bulls of popes and counterblasts of kings," and the "curse of the Lord against the house of sin," and being in more general use does not prove its utility or justify its culture, as it is only a luxury and a nuisance, leaving the land like the user, the worse for its use, as it destroys the earth-worm by its baneful effects in poisoning the ground, thereby preventing the air penetrating and permeating the soil, which is as essential to vegetation as to animal life.

Again, he thinks that plaster has not failed to show its usual effects, except on land saturated with plaster. I have tried it on new ground and old alike, and have found no beneficial effects from its use, and have not found the first man in this section who has, and no one presumes to use it only to test it. And let us inquire which is best to build, barns or silos; and which is cheapest, to herdle cattle or build permanent fences for your cattle?

Keysville, Va.

NUB.

SEVERAL small living sea-fish have been sent by mail on a four days' journey. They were packed in damp sea-weed, and all but one survived the trip and came out in good condition.

FROM the dissection of fifty lions in Algeria, it was found that the lungs of twenty were affected, one-half of them were almost gone, showing the prevalence of consumption among them.

THE THINKING FARMER.

The value of an education is not simply in the facts it teaches relating to spelling, arithmetic, geography, etc., but in the capacity it develops to think, study, compare and reason. Some men need very little of what is called education, being born with more education than thousands of college graduates possess, or ever will. They quickly acquire such rudiments of learning as the common schools supply, and use them as stepping-stones in the work of getting ahead in the world, and in striving through merit—sometimes without moral merit—for the places of honor. The ability to observe closely, to criticise and compare, deduce logical conclusions and to remember what they have learned are often natural gifts rather than acquired ones, and from this class come those who are known as “self-made men.” They are thinkers and reasoners, and they become leaders because they are bold enough not to accept the opinions of others unless satisfied of their correctness. They form opinions and stand by them, and they become leaders when they can present these opinions with force enough to carry conviction to others.

Farmers are perhaps more numerous than any other voting class in the country, and yet they have thus far exercised very little influence, not only in shaping its policy, but in protecting their own rights against encroachment. They are preyed upon by almost every class of business men, sneered at when they timidly protest that they are neglected, and insulted often when they are bold enough not to be cowed into silence by those whose ordinary profits all come from their vocation. Now, why is this? They have the voting power to get every grievance redressed and to make their calling universally respected—and why is it not done? Because the great mass of them lack the thoughtful and pushing energy of men in business life, and are routine men, disposed to go on as they have done and sneer at suggested improvements. An educated farmer they look up as something unnatural. What need, they ask, to educate a man to plant potatoes or beans, turn over the sod for corn, or compost manure? How will liberal education fit a farmer to build a haystack or milk a cow? Such questions they regard often as “stunners”—and so they are? They stun the persons asked because they show a density of ignorance which it is almost hopeless to attempt to enlighten. It is about as stunning as to tell an astronomer that if the earth revolved daily on its axis “everything would fall off.” The hope of influencing such men is very slight indeed, so far as argument is concerned, but the argument of success by educated men is far more hopeful; and

in addition, the new and better influences surrounding farmers' sons at the present day are full of encouragement to those who desire to see agriculture intellectually advanced.

The value of greater intelligence to the farmer is not merely in adding to his crops or in getting better prices for them, though that is vastly important, but largely in making him useful as a citizen. When he once thinks and reasons for himself, in addition to observing closely, he will not much longer be a tool of politicians. He is so now, in a large measure, because in spite of his political power he has almost no influence in shaping the legislation of the country, and of curing that legislation of much of its evils. It is only recently that the farmer has begun to assert his independence of parties and to vote according to his best judgment rather than at the dictates of some caucus or the "regular convention." Were landed proprietors half so intellectually active and as well informed as lawyers, how long would that rather unscrupulous fraternity rule the country, most of them too as the agents of monopolists, whose aim is to plunder the farmer to the full extent that he will bear? How long would they avow a purpose to support the regular ticket, no matter what names it should bear? How long would they claim that their neighbors and friends, and in many cases their relatives also, were allied to a party which was aiming to destroy the country, and whose candidates were necessarily bad men. These are in a measure superstitious, and unworthy of intelligent men. The preference for measures which we may all justly feel should blind no one to the fact that the motives of others under similar circumstances are just as good as our own, and that we may be mistaken as well as they. Besides, experience shows that bad men are to be found in all parties,—that such men are energetic and unscrupulous,—that they push themselves into the leadership often, and that therefore we cannot safely promise in advance adherence to a party ticket and that the shortest way sometimes to a great reform is to vote direct for the party most opposed to it! That seems a little strange at first thought, but it is true nevertheless. Give your enemy full rope and he will often hang himself. Give the country and your party a thorough taste of the evils you want reformed and it will often make converts rapidly. Farmers often tear down old houses and live poorly and inconveniently while a new one is building; and so a party out of order, off the track, or badly officered, can be improved by permitting the other party a short rule.

Here then is a great field for an intelligent race of farmers—better government; less extravagance, less corruption in office; lawyers to

the rear; crime punished so that lynch law is not needed; taxes equitably adjusted; monopolies made subservient to the powers that created them; the civil service made approximately pure in all branches, and office-seeking discouraged. Once get a Congress and a President in power animated mainly by a desire to promote the public welfare rather than their own, and they will grapple with the statesmanlike problems that politicians now shun and put them in the way of solution. The farmer, then, who sneers at high intelligence in his class as being of no use is immensely wide of the mark. He is a citizen as well as a farmer, and a blind, ignorant, led constituency is about as dangerous as a corrupt one, and is about as inexcusable.

In repelling such considerations it is sometimes urged that the farmer has no time to give to matters of state—that he is a worker, forced to be so by his surroundings, and that this largely unfits him for independent thought and action in political matters. But when he is educated and intelligent, he will not be so much of a mere worker; he will work more with his head and less with his hands, and leave the last to those who cannot or will not rise above such a position. A farmer is none the less a farmer because he employs great capital in farming, and has scores, hundreds or even thousands of men under him to go or come at his bidding, while he rarely or never “labors” with his own hands. The spread of intelligence will dispel that superstition also, and will prove that agriculture is a business pursuit as well as merchandizing or railroading. The thinking farmer has already got beyond it.

Philadelphia Weekly Press.

SCIENTIFIC AND PRACTICAL AGRICULTURE.

AN OLD FARMER'S IDEAS OF THE CONNECTION BETWEEN SCIENTIFIC AND PRACTICAL KNOWLEDGE IN AGRICULTURE.

Mr. Editor.—Science and practice must go hand in hand. The December number of the *Planter* contained an interesting essay, from Dr. Page, Professor of Agriculture, at the University of Virginia. I have read and considered this essay with that care which its importance requires. As an old farmer I am not satisfied that scientific agriculture, without practice, is worth the time and money spent in its acquirement. Dr. Page shows that the word *failure* must be written against every effort to impart a suitable agricultural education. Every farmer knows that successful farming depends on practical knowledge and experience; and that the knowledge of all the sciences will not supply their place.

I am no enemy to scientific agriculture. It should go hand in hand with practice. One of our best farmers expressed the truth of the whole matter when he came out of the hall where Dr. ——— had delivered an address on scientific agriculture, and remarked Dr. ——— spoke very well, but that if the Dr. had to make his living by farming he would die of starvation in less than five years. And it must be so. All the work of the farm is practical. If the crop of corn is put in the house before it is dry it will spoil. Every practical farmer knows this, and he divides his house into narrow apartments, the corn is ventilated, dries out, and is safe. If we take a crop of tobacco, science will not aid us in its management—it will be ruined without practical knowledge. Will science teach the proper soil and exposure of a plant bed; how to treat the young plants, how to cut and cure the crop, in what order it should be taken down, how to prepare it for market? In this way I could show that the work of a farm was dependent on practical experience and that botany, geology, applied chemistry, biology, zoology, &c., had very little to do with the making and preservation of crops. I admit that all the departments of science are very important to the farmer with practical experience. They suggest and guide and control many of his operations. It may tell us that such a field lacks a proper proportion of potash, phosphate lime is wanting in another; and it may tell us our crops consist of certain substances, that manure contains these substances, and if applied it will make these crops grow. It is satisfactory to know the reason of this, and why it is that plants and animals grow by furnishing them suitable food. Is there no way to unite the science and practice of agriculture? The obvious plan seems to have a farm attached to the school presided over by an expert and skillful farmer whose duty it should be to show to each scholar the various manipulations and the best methods of managing all crops.

Let him learn them how to cut out a beef and how to scald a hog. Does science teach that if the water is little too hot the hair will not slip, that it is set, and must be shaved off with a knife? Every farmer should know these things and they must be taught. Do any of the graduates of any agricultural school know that in building a stack of grain or hay it must be kept fullest in the middle, and well trod down? Do they know how to tie up and shock wheat? Do they know how to whet a scythe? Do they know that if the blade is whetted up and down it will not cut off the straw clean, as it should be whetted from the heel to the point? Do they know how to lengthen or shorten the plow gear so that the plow will not cut too deep or too shallow? Do they know how to put up a rail fence so that some of the rails will not

project at the corners to snag the stock? Do they know how to put up a stone fence so it will stand, and that the long rocks ought to be put cross-wise the fence to act as braces, and if this is done it will not tumble by settling? Do they know how to square a house? Science teaches them that the hypotenuse of right angle triangle is equal to the square of the two sides, but they have never seen the application of this rule, thus they build a house pointing every way but the right way. Experience teaches us that with a ten foot pole a house can be squared in five minutes. We measure eight feet on one sill and make a notch, six feet on the other sill and make a notch. If the ten foot pole just reaches from notch to notch that corner is square, the other three corners treated in same way will be square, and also house.

OLD FARMER.

FARMERS' ACCOUNTS.

There are probably no class of men, says the *New York Observer*, who live more strictly according to their means, and more uniformly make both ends meet at the close of the year, than farmers. But there are comparatively few who are as strict in keeping their accounts as those who are engaged in mercantile or mechanical business. And yet there is no reason why they should not be as systematical in recording their incomes and their outgoes as any others. As one of the least weighty considerations, it would afford an interesting occupation for occasional leisure moments and an interesting matter of review at the close of a season or of the year. But in an economical point of view the advantage would be much greater. If every one who has a farm or a garden were to put down the amount of his expenses from day to day, but separately, what he expends upon a particular crop, or upon a particular field or tract of land, be it large or small, and on the opposite side of the balance sheet the returns in product and in money of what he raises; and if this was done in connection with every crop and each one of his fields separately, it would enable him at a glance to determine on what portions of his place, or on what particular crops, he could lay out his money and his labor to the greatest pecuniary advantage.

One of the chief hindrances to success in any branch of business is a want of system, and keeping an accurate account of expenditures and receipts would at once be followed by systematic results. The winter season is a good time for each one to lay his plans in this respect, to prepare his books, and so be prepared for a more systematic

prosecution of the work of the year. Those who have adopted the plan of keeping the most minute record of all their operations, have found it to be not only a source of great satisfaction, but of great profit, we recommend the plan to all, whether their business is on a large or a small scale.

THE WHEAT BELT AND WHEAT PRODUCTION.

It occurs to us that we hear a good deal less nonsense now than formerly about the "Wheat Belt." It is only a few years ago that learned disquisitions on the shifting of the wheat belt were as common as the editorials on the "Causes of the Late Defeat" have been during the past month. This journal always combated the idea that climatic, or any other, unpreventable changes had anything to do with the shifting of the localities of greatest wheat production. We have many times pointed out that continuous cropping of the soil to wheat would inevitably lead to small and inferior crops. Show us a locality where wheat is the mainstay of the agricultural population, and we will show you a district where wheat will soon be a rare crop. It is not necessary to recite the history of the Genesee valley, and of nearly all the older States of the Union. The change from a wheat growing to a non-wheat growing section is going on to-day in parts of Iowa, Wisconsin, and Minnesota. Farmers have fondly imagined that the soil was inexhaustible; and if ever there was excuse for such a fallacious belief, it exists in reference to the soil of some parts of the Northwest. But it cannot be gainsaid that wheat is an exhausting crop. It is not like tobacco, that seems to poison the soil, but as wheat contains in proper proportions every element necessary to sustain human life and activity, something which cannot be predicted of any other cereal, it stands to reason that it must speedily exhaust the soil of vital elements necessary to the perfection of the wheat berry. There are, it is true, some soils that have raised wheat year after year. The "American Bottom" in Illinois may be cited as an example; but its time of deterioration must come sooner or later, no matter how long deferred.

The statistics of wheat production during the last ten years show conclusively that there is no such thing as a climatic shifting of the wheat belt, and that whatever changes take place in this particular arise from the cause just stated—long continued cropping of the soil to wheat. It is only a couple of years ago when wheat raising was abandoned in parts of Illinois, Indiana, and Ohio; but now there is scarcely a county in either of these three States which does not pro-

duce a respectable amount of wheat. The facts are simply these: Years ago when the country was new, the soil produced prodigious crops of wheat. The virgin prairie seemed anxious to repay the settler who braved the perils of the frontier life. In return, the intelligent settler continued to sow wheat until nature put in her veto. Then the settler or his son declared that wheat could not be raised any longer in that section, and went to planting corn and oats. Another generation has found that the soil has recuperated; and it does not need a prophet to foretell that the soil will go through another experience of over-cropping the deterioration until the farming population learn the logic, the common sense of rotation of crops. A map of the greatest centres of wheat production would be interesting. It would show for one thing, that new land produces large crops; that old land that has been cropped to wheat for years also produces large crops. It would also show that from Minnesota to Tennessee there are no climatic influences that prevent the raising of wheat, the difficulty is in the soil and its tillers.—*American Miller.*

MARL.

Ed. So. Planter:—I clip the following from the Agricultural Reports for 1871. It will be interesting to the people who have marl to experiment with. Unfortunately very few people in the best farming sections of this country and others have marl, or can get it. It was formerly brought at considerable expense, but in large quantities, from Prince George county, across the river.

No one doubts the benefit derived from marl. There are large accessible deposits in some sections of these counties, but the people who have it don't seem to value it as we do who have it not, or their lands don't need it so much. A deposit such as that at St. Peter's church in New Kent county, or at the Burnt Ordinary, in James City, would be a fortune to a man owning it, in the neighborhood of Wilcox Wharf in this county.

“*Nitrogenized marl in compost.*—The following is a statement of an experiment by Mr. Bortier, an eminent Belgian agriculturist: Commencing in spring, a large quantity of stable manure was spread in a barn yard under cover, and divided into three equal parts.

“The first was left to be trampled by stock. The second portion was kept from the stock: and the third portion was put in alternate layers

with marl; the latter being in weight, about three per cent. of the manure.

“In September, these manures were applied on three plots of loamy land of uniform character. For four successive crops, without further manuring, the plot dressed with the marl compost produced 10 per cent more than either of the other plots. Chemical analysis disclosed the fermentation of nitric acid in the marl thus treated; and further experiment showed an additional advantage gained by mixing old plaster and mortar with the marl before composting.

In this experiment 1000 parts of marl, placed in layers among stable manure for two months, was found to contain, by analysis, 0.69 part of nitric acid. Subtracting the nitrogen originally contributed in the plaster and mortar, the nitric acid formed in the marl was more than double that obtained in the other experiments. In Mr. Bortier’s opinion the particles of limestone thus nitrogenized continued for years to absorb atmospheric nitrogen, and to communicate fertility to the soil.”

Would not the same thing occur if the marl and stable manure were applied to the soil direct, without the labor of composting?

ISAAC H. CHRISTIAN.

AUGUSTA SOIL, AND SOUTH CAROLINA PHOSPHATES.

One familiar with that portion of Augusta county closing the line of the Scottsville and Staunton turnpike, and Chesapeake and Ohio railroads, that run parallel with each other, will observe a wonderful change in its appearance since the war. There has been no portion of the country that gives evidence of greater improvement than this, unless that extending down South River, from Waynesboro, and embracing the section around New Hope, embracing an area of six or eight miles square. In conversing with several of the most judicious and observant farmers, as to the cause, all concur in the belief it has been because of the judicious use of fertilizers. Grass is relied upon as one of the paying crops, in the shape of hay, and it is questionable if a greater average yield per acre, in an ordinary season, can be found in any section of country, and we are very sure the *quality* cannot be improved upon. We observed through all this section referred to last summer in the finest fields of grass, that unmistakable indication of the want of *lime*, the large patches of sorrel that killed out the grass, and recognizable at a great distance in the red appearance it presented. Among the best farmers in Pennsylvania this and the running and tall

briar were deemed unerring indications, and a heavy application of from 50 to 150 bushels per acre would be made on the *sod*, where they always preferred to apply it. Our farmers will not come up to the true standard of success, until each one of them has his lime-kiln.

The general appearance of the wheat through all this region induces the belief that the dry weather, the fly and red-rust all combined have made some impression, and the promise is not as encouraging as this time last fall by a considerable difference. We heard an idea in reference to the effect of red rust on wheat on new or fresh land, advanced by an old farmer, observant, sensible and one of the most successful, that was entirely new to us. He said that for many years he had observed that it injured wheat on such lands always, and often to produce almost a failure. We do not understand the philosophy of it, and state the fact to call attention to it, and have the question investigated, and if correct, that the antidote may be provided. We have found within a few days that our farmers are economizing their fodder by this simple arrangement, whilst having the machine to thresh their clover-seed, with a cutting and lacerating attachment their fodder is cut, and stowed away in their mows, put in the mangers for cattle, sheep or horses, and in such shape, it is easily masticated, and instead of the blade and shuck being stripped off, and the stalk left, all is within the reach of the animal to be converted into food, and manure, whereas the stalk for the latter purpose has been slow of decomposition, and inconvenient to handle, what now with the improved mower, hay *tedder*, rake, baling process, &c., a revolution has been effected, and the profit arising from the hay crop rivals that arising from wheat, and the land improves more rapidly, and the farm wears a more sightly and handsome aspect. Why cannot our Eastern Virginia farmers see the benefits of their mode of husbandry and take courage? Let them not say, after seeing the example Judge Fullerton and others have set them, that it cannot be done. Let them follow in the lead of that illustrious Georgian, Mr. Furman and take courage, with the motto *nil desperandum*.—AUGUSTA.

COST AND PROFIT OF RAISING WHEAT.

Eds. Country Gentleman—In a talk with one of the most intelligent farmers in this vicinity, not long since, he remarked that the great difficulty in the way of improved farming, or larger crops (he was speaking of the wheat crop in particular), is that generally farmers are unwilling to believe that there is any more net profit in a large crop than

in the small one. In other words, they think the extra crop raised will no more than pay for the extra labor, care and manure that it takes to produce it, leaving them no better off at the end of the year in the one case than in the other.

This is all wrong. As well might a railroad company, having a good track and plenty of cars, say it would not pay them to increase their gross receipts by paying out more money for brakemen, engineers and coal. Capital invested in labor and manure, on the farm, will pay as large a net profit as the same capital would invested in any other legitimate business, provided it is under as skillful management in the former as in the latter. The truth of the matter is that there is not much net profit in farming, railroading, manufacturing, or any other business that is only run to half its capacity. If a man raises 30 bushels of wheat per acre, under good management, there will be more net profit in the last 15 bushels than in the first. But mere assertions amount to little; let us try and get some facts to back them up.

A writer in the last Ohio agricultural report says that, according to carefully collected reports of official figures of the Agricultural Department in Washington, and the single States, and of reliable practical farmers, the cost of production for one acre under wheat is to the average American farmer—

To plowing, harrowing, &c.....	\$2.00
Manure, or higher expense on the rent of land, taxes, &c.....	2.00
Seed.....	1.50
Sowing.....	.50
All harvest work, threshing and marketing.....	2.50
Land rent.....	2.00
	\$10.50

He also states that the last agricultural reports of Illinois, Indiana and Ohio concur perfectly with him in these estimates, and that the average yield from 1870 to 1880, inclusive, on one acre under wheat, in all the States of the Union, has been fixed at 13 bushels, and that the average price for the same time was about \$1.06. The money value, then of an average acre of wheat in the United States for ten years has been \$13 78. Take from this the cost of production, and we have a net profit of \$3.28 an acre.

But there are many thousands of good farmers in the United States who are applying manure and labor freely to their wheat land, and raising much more than an average crop. If their crops were taken

out of the general average, it must be evident to every one that there are millions and millions of acres, which, even at the very low estimate given above for labor and rent, would show no net profit at all. I have searched agricultural reports, books and papers in vain, to find any statements of cost of production and net profits that covered a series of consecutive years, where labor and manure were applied so as to raise a crop two or three times as large as the general average. There are plenty of statements showing the net profits of single crops, but we want the net profit for a term of years on the same farm. In the absence of any other figures, I will give some from my own farm, although they do not cover many years as I wish they did. The average cost of raising an acre of wheat, for the last four years, has been—

Plowing.....		\$1.50
6 harrowings, Thomas harrow.....	\$1.00	} 3.50
4 cultivatings.....	2.00	
2 rollings.....	.50	
Seed.....		1.84
Harvesting.....		2.69
Drawing in.....		2.16
Threshing.....		3.56
Manure.....		5.00
Use of land.....		6.00
Use of barn.....		1.00
Marketing.....		1.41
Interest.....		.50
		\$26.16

The average yield for the four years has been $35\frac{1}{2}$ bushels. The average price, sold right from the machine (no speculation), was \$1.17 I have found no difficulty in getting \$8 an acre for straw by feeding it out with grain, but as some has been used for bedding I will put it in at \$6 an acre, which is less than it has actually brought. We have, then, the average yield in dollars for one acre, for the last four years—

Wheat.....	\$41.24
Straw.....	6.00
	Total.....\$47.24
Cost of production.....	29.16
	Net profit..... \$18.08

In these figures hand labor is counted at cost, and a man and team

at \$3 per day, which covers cost, use of tools and depreciation. There is no charge for drilling, as the seed is sown by an attachment to the cultivator while working the land. No manure was applied directly to the wheat crop, but a fair proportion of what was put on preceding hoed crops is charged. So then we have the bulk of the wheat crop raised at little or no profit. In an average crop, by taking a very low price for our labor and use of land, we can squeeze out a net profit of \$3.28 an acre; while with a crop of 35 bushels per acre, we can pay our help liberally and not over work them; get a good round price for our team work; enough rent for our land so that we can afford to improve it, and still have \$18 cash left in our pockets as the net profit from each acre. *Take your choice!*

You may think that I should not have made any account of the straw in my table, as there was none made in the average table. In the latter case some other things are left out also, such as use of barn and interest, which would go toward balancing the value of the small quantity of straw that an average crop of wheat produces. Again, if I had to harvest, draw in, thresh and market an acre of wheat for \$2.50, I should certainly want the straw thrown in. There are few farms in the Eastern or Middle States where the straw from a large crop of wheat, cut early and fed with grain, cannot be made to bring at least \$8 per acre. Even if the straw is used only for bedding and manure, it has a value for this purpose, and if we charge the wheat crop with the manure it uses, it should certainly have credit for the straw.

I consider the items given in the table under the head of "Working Land," as among the most important essentials for a large crop of wheat. The good book says: "As a man sows, so shall he reap," and this is emphatically true of wheat-raising. I have succeeded in one instance in increasing the yield on the same land from 23 to 33 bushels, and in another from 23 to 35 bushels, by thorough working of the land alone, no manure having been applied to the land between the two crops, except to half an acre. Good seed put in early also helps one to raise a large crop without manure. In the COUNTRY GENTLEMAN for Dec. 28th. W. J. F., in an article on the available supply of nitrogen, says "ammonia is of less moment to very early sown fall wheat," and goes on to give the scientific reason. He hits the nail squarely on the head, as usual. By the way, that article alone is worth the price of the paper for a year.

Summit County, O.

T. B. TERRY.

ENSILAGE.

The *Planter* asks for the experience of Virginia farmers as to the value of *ensilage*. I propose to add my *mite*, though I do not regard myself as a graduate-farmer. A celebrated farmer of this county once said, it takes a man thirty years to become a good farmer, and unless he is very shrewd and careful he will not know much about it then. Well, according to this good old farmer I am hardly a third on the way; nevertheless, I hope to learn more and more as I progress through the long course, and I think I make a little progress; for since the agitation of the *ensilage* question I have been favorably impressed with its theory, though doubtful as to its practical value, until after timid trial I feel convinced that *ensilage* occupies a most important place in the system of stock-feeding and that it is entirely and *cheaply* practicable in this part of Virginia, and I should think in any part of the South where it is properly put in the silo.

In the summer of 1880 I mowed some second growth grass (clover, timothy, and herdsgrass mixed) for the purpose of curing into hay. It commenced raining on it soon afterwards and I allowed it to lay on the ground for forty-eight hours in the rain (a drizzle) and then concluded I would try some of it as *ensilage*. I had a little root pit that measured $6\frac{1}{2}$ feet each way and $6\frac{1}{2}$ feet deep and I determined to fill it with the grass that had been mowed forty-eight hours—just placing it carefully in the pit without any further cutting—all of which was wrong. It should have been placed in the pit as soon as mowed and not after acetic fermentation had commenced, but I had not read the *details* of the subject, and did not at that time know any better, and was rewarded on opening the pit January 20th, following, by such a *failure* as your correspondent, J. A. Lynham, in the February *Planter* describes as *ensilage*. But could he see and smell and feed the *silos* of *ensilage* I put up in 1881 and 1882, I am sure he would write an article much better than I can, on the great feeding “*value of ensilage.*”

I said my first experiment was a *failure* and so I firmly believed just as Mr. Lynham believes of the whole system. About a foot on top and all around the sides appeared to be entirely ruined and was thrown aside as such, the inner part had a most undecipherable odor that adhered to every passer by and permeated the surrounding atmosphere and entered the house and buildings. Well, thought I, this is enough *ensilage* for me, but I concluded to try the cattle, most of which devoured it very greedily, though they were amply provided with corn-fodder, hay and meal. They ate the spoiled (?) “stuff” before they would

touch meal placed in the troughs at the same time, and on the second day every one of them devoured it greedily and my little silo was soon emptied. I then had the top which had been thrown off, and was now dry, thrown into the barn lot for manure and imagine my surprise at seeing horses, cattle and hogs, all eating it up clean. These statements are reliable, and though they seem incredible, can be verified by eye-witnesses with myself. And after noticing these strange facts I began to wonder if the stock were not better judges of the value of *ensilage* than I was, and I was obliged to answer affirmatively. I thought on the subject a good deal and finally procured Bailey's "Book of *Ensilage*," and after a careful perusal of the book and all its details, determined on a further experiment. Just here I would state that I do not live in a stock country, and do not practice feeding except as a branch of my business, which is mainly that of growing tobacco and wheat, with corn, oats, hay, rye, &c., in addition. I like, however, to keep all the stock I can attend to properly and I find that, be the feed ever so good the cattle tire of it during the latter part of the winter. Particularly is this the case with sheep, and right here, at this *tiring* point, is where the *value* of *ensilage* comes in, and I have never in my life seen a feed of any kind more greedily devoured by both sheep and cattle than well preserved *ensilage*.

I know that chemists of great learning and ability write against *ensilage*, they cannot theoretically manage its results.

I know also that chemists of great learning and ability have written elegant and plausible *theories* on other subjects and have been practically mistaken, and I believe such is the case with *ensilage*, and I hope they may yet see the necessity of taking the glossy cattle and the fine healthy sheep and lambs into the laboratory and be enabled to determine with accuracy that the great improvement so manifest over dry feed is due to the amazing "value of *ensilage*."

And now a few words as to the expense of *ensilage*. I have found it *very cheap*. My *silo* consists of a single square hole dug in the ground and has no masonry of any kind about it. The soil is solid clay for $4\frac{1}{2}$ feet in depth—after that a more porous soil extends all through to the bottom. Its dimensions are 12x13x10 $\frac{1}{2}$ ft. deep, and it cost me \$4.00 to dig it. The walls are very smooth and exactly perpendicular, to allow it to settle evenly. I dug it under an old house, so the roof did not cost me anything, and I use the house for storing dry feed after the *ensilage* has been put in the *silo*—of course using the dry feed out first. One acre of good lowgrounds planted in rows $3\frac{1}{2}$ feet apart and as thick as any corn-plant will drop it, will produce enough corn to fill

my silo—and this quantity will feed nine cows about three months. I only worked my corn once with the “Brown” wheat cultivator, and if it is grown near the *silo*, with ten hands and a fifteen inch cutter, driven by power I can fill the *silo* in one day. So our friend Lynham and Judge Christian will see that *ensilage* is not a “*luxury* reserved entirely for the *rich*.” Of course in some soils that would cave or where water would rise in the *silo*, masonry would have to be used and the *first cost* increased by that much. Where the soil is firm enough to stand no masonry whatever is necessary, and the *ensilage* keeps perfectly and possesses a flavor *relished* by every one who passes it, and producing a fine flow of milk and rich yellow butter that brings a price above any market it is offered on, and I have never been able to supply the demand for it.

As to *ensilage* being 80 per cent. water, What if it is? Does not grass, the best food in the world, possess a very large percentage of water? Does not milk, on which the young of nearly all animals live and grow more rapidly than at any other period, consist almost entirely of water? And is not pure water one of the most important elements of animal growth?

I have neglected to say that I plant about June 10th, and cut in August when in full bloom and house as fast as cut down, not allowing the corn time to wilt a particle before it goes into the silo. Hence I think the plan may be followed in the South, as it is usually very hot when I put mine away. Being a tobacco grower August is the only leisure month I have to depend on for any time for this work, and the work is done before the *busy fall* sets in.

If the work is rapidly done and the weight immediately applied, the *air is excluded*; and fermentation cannot go on without the presence of three agents, *heat, air, and moisture*, consequently the outside temperature cannot affect the mass, as it cannot penetrate its air-tight bulk.

Amelia Co., Va.

C. N. S.

ON THE CHEMISTRY OF HAY AND ENSILAGE.

At a recent meeting of the London Chemical Society, Mr. Toms read a paper as above. The author has analyzed various samples of hay, and contrasted them with analyses of “*ensilage*”—*i. e.*, grass buried while green in a water tight pit or “*silo*” and subjected to pressure. It is well known to chemists that hay making is not a mere drying of grass, but that a fermentation also takes place, which develops the

well known perfume of hay, and during which the grass loses its green color. A specimen of good hay dried contained :

Fatty matters.....	2.17
Free acetic acid... ..	1.80
Sugar.....	3.42
Starch.....	12.46
Gum and mucilage.....	27.25

A specimen of brown hay from the same rick as the last, but from a portion of the stack which had been heated, contained :

Fatty matters.....	4.26
Aldehyd, which formed a mirror with ammonia-sil-	
ver nitrate	trace.
Free acetic acid.....	5.38
Sugar.....	6.94
Starch.....	3.42
Gum and mucilage.....	24.77

More than two-thirds of the starch had thus disappeared, and apparently had been converted into sugar, etc. Three specimens of ensilage were examined. One differed very little from ordinary grass. The second was brown, and smelt strongly of tobacco; it contained more acetic acid and sugar, but less starch. The third specimen represented fodder which had been buried eighteen months; it still contained starch-sugar, but was not acid, and was mouldy.

Mr. O'Sullivan did not think the author had proved the presence of starch in the hay and ensilage, because other substances, such as gum and mucilage, when boiled with dilute sulphuric acid, furnished cupric oxide reducing substances.

Dr. Gilbert said during his recent visit to America he had heard a good deal about "ensilage," and the process seemed to be thought much of in that country. The crops, too, of succulent maize, etc., seemed well suited for it. It was essential for a good result to put all the materials as quickly as possible in the "silo," and put on a pressure of 100 to 150 pounds per square foot almost immediately. He suggested that unless samples of ensilage taken for analyses were kept under pressure during transit the product might be completely changed. The process was very suitable for the preservation of the pulp from the sugar beet.—*Scientific American*.

THE man that works at home helps society at large with somewhat more of certainty than he who devotes himself to charities.

NITROGEN IN OHIO.

Eds. Country Gentleman—Under this head, in a recent issue, appeared an article from the pen of my friend, W. I. Chamberlain, about which I wish to say a little. I had not the advantage of a college education, and shall not attempt to refute his position, but will suggest that an analysis in the chemist's laboratory will not always correspond with one in the field. We will take as an example No. 64, in the table of the Ohio State Board's analyses of pure ground bone. It analyzed \$45.64 per ton, and I believe sells at about \$48. Then we will take No. 73, acid or rock phosphate, containing no nitrogen, or but a trace. It analyses \$32.19 cents per ton, and sells for about the same, thus making a difference of about \$16 per ton, or about enough to buy another half ton. It is a notorious fact that these two numbers (manures) have been used side by side in this section repeatedly, and almost invariably in favor of the rock phosphate, and applied at the same number of pounds per acre. I see also, in a recent issue, that M. N. R., from Irondale, O., reports the same experience.

Last fall I met a man on the hunt for rock phosphate like some which a neighbor of his had used. He said he knew it did better than bone had done for him. Thus we can see there is a vast saving in the expense column. It is a noteworthy fact that while people are left to their own choice, they will take an article for \$32 in preference to one at \$48, if they are satisfied that one is as valuable, pound for pound, as the other when tried in the field.

My friend, Secretary Chamberlain, says that commercial fertilizers appear to have come to stay, and they doubtless have, and so have the rock or acid phosphate while they behave as they have done so far. They will effect a vast saving of money. I have seen some of the most surprising instances of its effect on quite poor land, where we might very reasonably look for nitrogen to be demanded. Indeed the development of the straw looked as if there might have been ammonia applied to it. In my observations I have come to the conclusion that many farms would be better if their straw piles would take fire and burn up—at least so much as was not needed to absorb liquids. If we find our charts are leading astray, in this nitrogen question, certainly, as good sailors, we should not change our bearings, in order that we may avoid collisions. It certainly seems to me that future cultivators will look over our feeble efforts, and can point to sad blunders we have made, and these fertilizer analyses will not be exempt from their criticisms. Let us preserve them as free from contempt as possible.

Barnesville, O., In Country Gentleman.

TIME TO SOW CLOVER AND ORCHARD GRASS.

Editor Southern Planter.—The question often arises when is the best time to sow the spring grasses? Experience has taught me that just as soon as the hard freezes of winter are over, which is generally in February, sometimes as late as March. Most farmers contend that you should wait until you can drag on your wheat or winter oats; but I find that the seed sown in February, drag or no drag, rarely ever fail to come and make a good stand, and those sown late, and the drag and roller both used, often die out in midsummer, soon after the grain is cut off. I don't think I ever fail with mine in February, and generally the ground is so wet we cannot drag, and I often have seen the seed lay on top the ground until I almost despaired of them, but when the ground got in order to suit those who wait to drag, my seed would be sprouted and growing before theirs were in the ground. I have some nice lots that had to stand the long drouth of 1881, and seed I sowed dragged and rolled the same year in March, failed to stand the hot dry weather. I have tried the plan of sowing in February for three years, and succeeded each year, and shall do the same this year. It is a strange thing to me that every farmer does not avail himself of the great help a nice grass lot would be. Most any of our high lands manured will bring fair crops of clover and orchard grass. I don't see how they can be done without. If sown early and alone, and lightly top-dressed, they hardly ever fail to make a good stand, even as late as the last of April. Top-dressing I consider a safe insurance for a good stand, and if repeated every winter or early spring, the grass will stand on only tolerably fair land for five or six years, and I have yet to see a grass in this country that is better for grazing. You can graze it on good land most of the winter until April, cut a crop of hay, then graze again in the fall. Why our people don't ship hay from Virginia instead of to Virginia I can't see. I am often discouraged in writing for agricultural papers, with the thought that what is the use, the people that you want to impress are the very people that don't read. Our poor old Virginia is so given to old ruts and old fogyism that they think it a weakness to take an agricultural paper, and call those who do take them, or write for them, *book farmers*; but there is one thing I have observed, and that is, where you find progress in farming you find a reading man and farm papers; but how to reach this non-reading people is the mystery to me, and I hope, Mr. Editor, you will solve it for me.

I will try and answer your questions on ensilage in your last number, when I sell my lot of thirty-two beef cattle now feeding on it.
Manchester, Va. F. Gux.

FEEDING VALUE OF ENSILAGE.

We have inquiries concerning the feeding value of ensilage, some of which show some confusion of mind in regard to the subject. Bearing in mind a few general principles will help to a better understanding:

1st. The value of food preserved in a silo depends very greatly on what was put in—its nature and condition. The material used and the degree of maturity of the crop will greatly affect the value.

2nd. Putting grass, corn stalks, or other substance in a silo, does not add anything to the nutriment contained in the material. We cannot take out what we did not put in. Cutting and storing the green food in a silo may make it more digestible; may, and often does make it more palatable than when the food is dried in the open air. Letting the moisture dry from the meadow grass or from green corn-stalks, in itself, should not make these substances less desirable as food. In fact, it does make them less palatable. Preserving much of this moisture in the ensilaged food may be a help.

3rd. If fermentation goes on in the silo to any considerable extent, there is absolute loss of food value.

4th. Reason and experience alike lead us to conclude that we cannot make ensilaged grass or corn-stalks alone fully take the place of good grain feed. The latter should be given in connection with the former.

5th. Reason and experience alike show that almost any palatable, nutritious, succulent plant, kept in a silo, with reasonable exclusion of the air, makes a palatable and fairly satisfactory food.—*Breeder's Gazette, Chicago.*

FAITHLESS ADVERTISING.

BUMPASS, VA. Jan. 31st. 1883.

Dear Sir.—You did not send me the January number of the *Planter*. Please send it as there is an article I particularly wish to see, and do not wish to break my file. I also wish you to expose a fraud. In the *Planter*, last spring, T. M. Smith, Fresh Pond, N. Y. was advertising pure bred fowls and eggs. I sent to him for two sittings, one of Plymouth Rocks, and one of Partridge Cochins. He sent some eggs from which I got three chicks, two of them perfectly white, the other nearly so, all perfect mongrels, and very small, almost like Bantams. I hope you will expose him for the protection of other farmers. Use my name if you like. Please be sure to send me the January *Planter*.

Very respectfully,

J. O. SMITH

[We insert the above card from Mr. Smith as we wish every opportunity afforded to expose faithless advertising.—Ed. S. P.]

UNDERDRAINING.

To the Editor of the Southern Planter :

As I have had a good deal of experience and some observation in draining, I will make a suggestion to Mr. William Tayloe, of King George, who asks for information thereanent in the *Planter* of October last (at p. 184.) I had designedly put off what I had to say until now, thinking that it would appear in the February number, at which time I knew the state of his land would incline him to take advice, that might not necessitate too heavy a drain on his pocket, more readily than at a time when the need might not appear so great.

I regret to learn from you that my communication is too late for the February number, but I offer it to you notwithstanding, as the facts stated may be of some use in guiding Mr. Tayloe and others to some of the principles which underlie the important art of land drainage.

If the surface soil be a dense, stiff clay, resting on a deep stratum of the same material, and that lying upon another stratum of water-glutted sand or gravel, and the surface be level, then the only thing to do is to bed the land—30-foot beds are best—to lime it and clover it and so deepen the soil, and then grass it as much and cultivate it as little as you can.

If the land be rolling, I have not much to say in addition to, or criticism of, what you have already said; but little more, indeed, than to confirm your remarks by giving some of my own experience.

The land I operated on was a clay stratum, resting on a wet, gravelly sand, from which the water came upwards by capillary action and rendered the soil wet and miry in the winter. I drained it completely by ditches four feet deep, with holes bored with a two inch marl auger six feet down, tapping the saturated stratum, so that the water rose and overflowed the lips of the orifice. These holes were filled with gravel—small stones not larger than a pigeon's egg—to keep the walls of the holes from caving. Tiles were then laid along the bottom of the ditch, which was then compactly covered up. The water forced its way into the tiles, and at the outlet of the ditch formed a spring, whose flow only ceased in a severe drought.

If the work had been more thoroughly done, the spring, I am convinced, would have been never-failing. As it was, it produced a serious effect upon a well thirty-three feet deep which penetrated the wet stratum and rested on solid rock, lowering it several feet in very dry weather, and causing an insufficient supply of water for household purposes.

If this clay had rested on a dry sand, it would have been drained by a precisely opposite operation: a sufficient number of these holes carried down to the sand and filled up with small stone would have discharged the superfluous water into the sand. This I have seen. The mansion at Spring Garden, on the Pamunky, in the county of Hanover, stood upon a small, level plateau.

At its foot was a stopping place for carriages. The pawing and trampling of horses standing in that place, had excavated and puddled it until every rain made a pond there. In 1834, my kinsman, the late Hon. Wm. H. Roane, then residing there, bored down some ten feet with a marl auger, and filled the hole as I have described. The effect was to drain the place perfectly, though carriages stopped there as before. It was the recollection of this that suggested to me the opposite and more laborious, but successful plan, at Summer Hill, in 1856.

In confirmation of the Spring Garden plan, I remember that our excellent friend, the late Hon. Willoughby Newton, of Westmoreland, once stated that by boring holes—of a less depth with a post-hole auger, whose shank he had elongated—in the water furrows, where the depressions had caused the water to gather, that he had got rid of it without difficulty.

This statement he made at one of those charming meetings which you, Mr. Editor, so well remember, when the pleasures of a day at the Fair Grounds were renewed in evening discussions, which can never be forgotten by those who heard them, nor remembered by any of us without a sigh. There never can be anything like them again. And one of the most agreeable and intelligent of those gentlemen of that happy time, was Mr. Ed. T. Tayloe, of Powhatan, in the county of King George.

In conclusion, I would say that your own judicious articles on this subject have rendered it unnecessary that I should say any more, perhaps useless for me to have said anything.

Your friend,

January 20, 1883.

FRANK : G. RUFFIN.

[We welcome the reply of Col. Ruffin to the enquiries of our correspondent, Mr. Tayloe, though somewhat delayed. The subject is one of vital importance to farmers, and, therefore, is always *in order* as to the time for its consideration. Col. R.'s facile pen, practical experience, and devotion to all methods of agricultural improvement, give sufficient guaranty that all he writes will be fairly appreciated by the farmers of Virginia.—ED. S. P.]

POTATO ROT—ITS CAUSES.

Editor Southern Planter,—In the February number of your valuable paper, Mr. J. H. Berkeley, of Hanover county, Va., assigns four reasons for the *potato rot* in the fall of 1882, and asks, "Will not Mr. John Washington, of Caroline county, give his opinion on the subject? (and this crop, I think, has been a specialty with him.)"

For convenience, I will reply in the form of a letter to Mr. B. For sixteen years I have raised late Irish potatoes as a paying crop; only one year during that period were they not salable. I expect to raise them so long as potatoes are imported into Virginia for home demand—this, too, although the potato crop is not a "specialty" with me at present. But grass and Jersey cattle are. I think, with proper preparation, manuring and cultivation of the soil, and

care to plant good and pure seed, potatoes can be raised as cheaply, and of equal if not better quality in Virginia, as at the North or West. Hence, I do not think your crop "of 174 bushels per acre *unusual*"—at least, should not be so. I know that 250 to 300 bushels per acre can be raised; and, in this connection, advise that you plant the whole potato, and do not plant earlier than June. Also try the difference between seed of half pound and over, each, with smaller seed. Never plant less than four to five inches deep in furrow.

Now as to causes of potato rot. I can speak of my crop in some confidence. The first reason you assign may be good; the second I think not a good reason. I mounded Peerless potatoes in September and October, and one of my neighbors mounded in October and November. Another neighbor mounded his *Peach Blow* in October (of the latter I will say more.) None of these had the *rot*. They were subject, in bulk, to the "warm weather" that yours were.

I do not concur in your third reason. My *Peach Blow* potatoes were not over large. "The hollow or black-heart" is in the centre; the *rot* appeared on the surface. I think your potatoes had the *rot* when dug, as mine had, and the bulking of them only developed it rapidly.

Your fourth reason "frosted." My crop was not frosted, and some were dug after yours were.

Additional facts: My Peerless potatoes did not *rot*, nor did the Peerless raised by my neighbors, although in some cases dug late in November. Again: One neighbor, who purchased his seed of me, planted in light and sandy soil, and *dug in October*, and mounded in the field. His potatoes (*Peach Blow*) had no signs of *rot* and have none at this writing. Again: About the 15th of October a friend came to see me, and desired some *Peach Blow* potatoes to take home. A large basket was gathered. They were sound and perfect at that time. The ground was then wet and the weather damp, but cool. Then we had for weeks, with slight intervals, rains, fogs, dews, with sultry and damp atmosphere. My potatoes were then about matured. The stalk, not the leaf, of the vine was kept green by the dampness. They remained for weeks in a *bed of mud*. We raise in this section two varieties of potatoes—Peerless and *Peach Blow*. Of the two, I conclude, first, that the *rot* was confined to the *Peach Blow*. Secondly, its direct cause was the wet, warm and sultry weather immediately after the potatoes matured. Thirdly, this cause might have been relieved by earlier digging. I felt the danger at the time, and took the risk at the cost of 500 to 600 bushels of large spoilt potatoes. These were carried to the stock in wagon loads, after giving them a few small feeds. This is my first experience of the potato *rot*, and hope to be more prompt should it return.

I do not think the seed planted had anything to do with it. My seed were the Jersey variety, only two years from New Jersey, and carefully assorted, both in the field and again in April, and again in June when planted. Neglecting to dig the *Peach Blow* potatoes in October, I think, was the occasion of their decay. My Peerless were dug and shipped before the 15th of October. The best implement for the potato field that I have found, is the "Malta

Wheeled Cultivator." With four shovels, and the horses straddling the furrows, it covers beautifully as fast as two quick hands will drop. Nine days after planting, harrow once or twice. After the potatoes are up along the furrow, start the cultivator with bull-tongue next to the potato. Repeat this every week, running the bull-tongue or shovel each time further from the vine, until the crop is cultivated. From five to seven acres in potatoes is a day's work.

A word, in conclusion, to Mr. Editor, who, in his note, expressed the opinion "that potato fields are fertilized *exclusively* with *nitrogenous* manures, such as stable and other rich farm manures," &c.

My potato field was fertilized, in part, with stable and farm-pen manure; a portion had no manure, except ashes, applied to the entire field, from four to six bushels per acre; potash or kainit, 200 pounds per acre to about two-thirds of the field, in alternate strips. The entire field was also limed. The rot was as bad in those parts of the field not *manured* as in those manured. The difference, and only difference, was in the heavy and light, and high and low places in the field. The rot was worse in the heaviest soil and in lowest places. One rocky knoll (manured) was *freer* from rot than any other part of the field.

Again: I endorse the views of F. R. C. (p. 70) "Mantua Farm," who, with others, have inscribed on their banner "nitrogen is too expensive;" the atmosphere which enriches the earth contains a sufficient quantity for plant food. A beneficent God has given to man two inexhaustible storehouses of nitrogen. One, the earth and its vegetable products; the other, the air that encircles the earth. Utilize them!

JOHN WASHINGTON.

Spring Hill Farm, February 6, 1883.

POULTRY.

Editor Southern Planter.—Some of your readers in this region were much interested in reading an article in your January number, headed "Poultry raising a profitable employment for women," by Mrs. Annie S. Carr, of Frensbury, N. Y. But they have not the necessary appliances suggested for hatching, know nothing of their construction or where they can be obtained. I write on behalf of these enquirers in order to elicit something from yourself—some of your correspondents, or Mrs. Carr herself, by which they may make trial of her very successful method. A knowledge of this method would doubtless interest many others. I hope the appeal I make will not be suffered to pass over in silence.

It is lamentable to think how few avenues are open to profitable employment for females and others incapable of active labor, and at a time too when it is more than ever desirable and even necessary that every one should do all he or she can for an independent and comfortable support.

Many of our lady friends are making commendable efforts to qualify themselves for teaching. Many are thus employed, and are thus being useful and securing independence. But a majority I presume, for want of inclination or qualification, are not thus employed. Some engage in sewing, but are poorly paid, and in most cases cannot get sufficient patronage. Indeed, it is lamentable that females are not as well paid for the same work, equally as well done, as males. From these and other considerations that might be named, I argue that *they* are public benefactors who shall suggest as many subjects of laudable and profitable employment for the class of society as possible, and at the same time explain how they may be successfully followed.

Flwanna.

M. B. S.

AN ENQUIRY.

Ed. So. Planter.—Please tell me, if you can, why it is the custom in tide water Virginia (at least in all this section) to cultivate corn in beds with a turn plow rather than flat with shovels?

I would not trespass on your valuable time, for I know an editor is always busy, but I have been taught so much by *the Planter*, I cannot refrain from bringing my troubles to you. Permit me to add, that I consider the *Planter* now better than I have ever known it to be. Hoping that you will answer my query either privately, or in your columns,

I am very truly yours

Moss Neck, Caroline Co Va.

J. P. CORBIN.

P. S. I would also like very much to know something more of Japan clover—*Lespedeza*.

The method of cultivating corn, referred to by our correspondent, universally prevail^s in the Tidewater and middle sections of the State. The *flat and checked* culture is equally prevalent in the Valley, and to some extent, in the Piedmont section. We are unable to give a satisfactory reason for its adoption and general use in the first sections named. Tidewater lands are usually flat, with slight undulations, and hence this method of culture was deemed advantageous for drainage. So far as drainage was, or is subserved by the method, it furnishes a good argument in its support. But, however, with most farmers, we fear a different and less satisfactory reason, prevails. The drill system, and bedded rows, permit a convenient, but a bad, method of covering up with a turn plow grass and weeds which have been suffered to accumulate in the corn field, much to the injury of the crop, and to an extent that a *cultivator or shovel plow*, useful in flat culture, would be of no value. We have often seen high bed-furrows thrown up along corn rows, when drainage did not at all require them, and the tongues of grass lapping up between the hill were *tongues of fire* to burn up the crop. We do not approve of this method of culture, and if any of our readers can justify it, they should, and, we hope, will answer the enquiry of our correspondent. On the level fields of the Tidewater section, it is, in most instances, best to lay up the lands into fifteen or thirty feet beds when fallowed, but the culture of the corn on the beds should be flat.

As to *Lespedeza*, we call on our friend, Capt. Richard Irby, to respond, as he has given the subject more consideration than any other person we know of.—Ed. S. P.

"THE VALUE OF ENSILAGE."

As requested on page 93, February number of *Southern Planter*, the following enquiries are answered:

No. 1. Location of silo with reference to feeding-rooms? *Answer*, About twenty yards distant.—No. 2. Form of silo? *Answer*, Parallelogram.—No. 3. Dimensions of silo? *Answer*, 24x6x8 (last depth). No. 4. Walls of silo—materials and construction? *Answer*, Lined and floored with inch-plank.—No. 5. Cover? *Answer*, Virginia fodder-house (made of top-fodder).—No. 6. Weight—materials used for, amount required and how applied? *Answer*, Rock—sixteen ox cartloads, put on top plants.—No. 7. Cost of silo? *Answer*, Dug it with my own hands.—No. 8. Crops used for ensilage? *Answer*, Corn. No. 9. Method of planting and cultivation? *Answer*, In three-foot drills—worked twice with Watt plow.—No. 10. State of development at which fodder is most valuable for ensilage? *Answer*, When shooting and tasselling.—No. 11. Weight of fodder produced per acre? *Answer*, Have never weighed any.—No. 12. Kind of corn best suited for ensilage? *Answer*, Never tried but one kind—Goard seed.—No. 13. Value of sweet corn as compared with field varieties? *Answer*, Do not know.—No. 14. Preparation of fodder for silo—machinery used? *Answer*, Cut in inch lengths by "Sinclair" No. 8 Fodder Cutter, bought of H. M. Smith & Co.—No. 15. Filling silo? *Answer*, Cutting-box at end of silo, so that cut fodder fell directly in; levelled over and trampled.—No. 16. Cost of filling per ton of fodder put in? *Answer*, Never estimated the cost.—No. 17. Lapse of time before opening the silo? *Answer*, Filled in September, opened January 1st.—No. 18. Condition of ensilage when opened? *Answer*, Very good.—No. 19. Deterioration, if any, after opening? *Answer*, Can observe none.—No. 20. Value of ensilage for milch cows? *Answer*, Cannot answer.—No. 21. Effects of ensilage on dairy products? *Answer*, Increases them.—No. 22. Value of ensilage for other stock? *Answer*, Valuable for all stock in making them shed earlier and winter better.—No. 23. Quantity consumed per head? *Answer*, Do not weigh or measure it.—No. 24. Method of feeding—alone or with other food? *Answer*, Feed with meal, &c.; but my cattle eat it with or without meal equally as well and greedily.—No. 25. Condition of stock fed on ensilage, both as to gain or loss of weight and health? *Answer*, It is my opinion they improve both in weight and health. No. 26. Profitableness of ensilage, all things considered? *Answer*, It pays: 1st. The same amount of forage cannot be made on the same

area of land of anything else. 2d. The same amount of forage cannot be secured in such a small space, or as cheaply, of other kinds. 3d. It is like green food for cattle, and consequently much relished by them. 4th. All things considered, in my opinion, it is cheap, healthy and profitable to the farmer, and the cattle enjoy it.

Yours, &c.,

S.

Halifax Co., Va.

INDUSTRIAL DEVELOPMENT OF THE SOUTH.

No one circumstance pertaining to the history of the past more strikingly illustrates the extent of the resources of the country and the energy of its population than the recent industrial development of the South. In 1865, this section of our country found itself, as the result of four years' war, entirely prostrate, without industry, without tools, without money, credit, or crops; deprived of local self-government, and, to a great extent, of all political privileges, the flower of its youth in the hospitals or dead upon the battle-fields, with society disorganized, and starvation imminent or actually present. But the year 1868, the third year of the free labor experiment, brought an improvement. The harvest was sufficiently abundant to furnish the people with cheap food and to produce a large surplus for the future and for export, while the value returned from the sale of the exportable product of that year, in the form of cotton, grain, sugar, tobacco, and naval stores, and the like, was large enough to lay a solid foundation for future success. That result of effort and industry brought to the people of the South, before so enfeebled, poor and discouraged, a large measure of strength and prosperity. Since that day it has restored and built railways; it has enriched the soil and increased the quality and quantity of the great staple per acre, through the extensive use of fertilizers and improved tools and implements; it has multiplied that distributor of comforts and necessities, the country store; it has built manufactories, and is attaining a truer independence than could ever have been purchased through a victory at arms.

The supply of labor in the South has not been sufficient to meet the demands of its new and various industries; population is needed, and advantages to the immigrant are multiplied. To doubt that such a supply cannot be obtained is to doubt that the influences which have heretofore proved sufficient to control human action and direct the movement of population will continue to operate. But supposing the supply of labor and the population of the South to remain for many

years as it is, and the circumstances attending production and development to be only moderately favorable, the South gives fair promise of deriving annually a greater amount of active surplus as the results of industry than any other section of the Union, and of thereby attaining to a degree of prosperity which will enable its population to become large consumers of the products of other States and countries. This in turn must tend to increase the general prosperity of the whole country, and to extend trade and commerce within its borders.

Furthermore, the large amount of capital that has become available at the South has, in large part, been invested in local and domestic enterprises, and in the establishment of manufactures on an extensive scale. True diversity of employment has become to the South, for the first time, possible; and Southern capital can be advantageously applied to the manufacture of agricultural tools and implements, leather, wagons, woodenware, soap, starch, clothing and similar materials. These are manufactures in which iron, steel and cloth are raw materials. They employ the largest amount of labor in proportion to product and capital, and warrant the payment of high wages.—*New York Economist*.

THE CARE OF FARM MACHINERY.

Nothing appeals more strongly to the interest of the farmer than a proper care of his tools and machinery. Virginia farmers, by our observation, give but little attention to this subject, and appear to be regardless, and unconscious, of the loss they sustain.

The *Ohio Farmer*, a good agricultural paper, says :

We have noticed that plows last, on an average, about three years; wagons, eight to ten years; reapers, five to eight; drills, eight to ten. We think these figures are fully as large as the truth warrants. We know of many implements that have not lasted so long, and of many which have lasted much longer. We to-day can point to wagons that have been in constant and hard use for twenty years, reapers that have stood the wear and tear of liberal use for more than fifteen years, drills that have been in use as long, and other agricultural implements that have stood the wear of fully twice the average age of such implements. These implements were not made of unusually good materials, nor were they suffered to lie idle. They were put to constant use. What, then, is the secret of their great endurance? It is simply this—they were taken care of. When not in use they were put away, and put away properly.

These implements not only lasted longer, but while they were in use

they very rarely failed. They were always ready for work. The reapers did not break down in the middle of harvest and compel all hands to lie idle while some one went to the railway station to get repairs; the drills did not fail just when the wheat ought to be sown; the wagons were not always breaking down and occasioning delays and vexation. Another thing may be said in their favor, and that is, that they always did good work. The reapers cut a smooth stubble and put the grain down in good condition; the plows did not refuse to scour; the drills put the wheat in just as a first class drill would; and these implements did good work not only while they were new, but till the last year they were in use.

ASPARAGUS IN FLORIDA.

ORANGE Co. FLA., December 1882.

Editors of the Florida Dispatch:

Having heard a gentleman who had traveled extensively through this State say that asparagus will not grow in Florida, I desire to know of you, or your numerous readers, whether such is the fact. I doubt, of course, as I have heard of no edible plant but that will grow here, under proper condition, and flourish.

REPLY.—The “ludicrousness” of our respected correspondent’s query almost upset our editorial gravity. The *asparagus officinalis* is a “hardy, perennial, maritime plant.” It is indigenous to the shores of various countries of Europe and Asia, and has been naturalized in all countries within the temperate zone. A sandy soil, slightly moist, and well enriched with manure, is most favorable to its perfect growth; and though not indigenous or native to this continent or State, it grows beautifully in Florida, wherever it is properly planted and cared for. It is only a few years since it was gravely asked if Irish potatoes, or strawberries or cabbages would grow in Florida (?)—and now—for further particulars, see the New York market weekly reports.—EDS.

We clip the above from the *Florida Dispatch*.

We do not like to see this *sunny clime* disparaged in any way. Its healthful climate, and its variety of products make *Florida* the pride of the country. We have just read in the *Southern World* a most interesting article, headed “what shall we eat,” giving a graphic statement of what is found there in the way of birds and animals fit for the table, and the usual means of trapping and hunting them.

THE MAKING AND KEEPING OF CIDER.

To make good cider, good, sound, well-ripened, clean apples must be used, and no others. It is better to crush them than to grate them. Everything about the mill with which the apples, pomace, or cider can come in contact must be clean—perfectly so.

The apple juice, when expressed from the pomace, must be filtered so as to take out every particle of apple or other solid matter which may be floating in it. Cleanly washed sand is sometimes used, and animal charcoal; but probably a mass of perfectly clean cotton or cotton cloth of many thicknesses, will be found as good as anything. The cider should be expressed from the pomace as quickly as possible after the apples are crushed, and the juice will be nearly as white as water if it is immediately filtered. If the pomace is allowed to stand some time after crushing the apples, before pressing, the cider will be colored and not as good.

When made as above, and filtered, the question is, how to keep and cure it fit for use. First, a clean cask. If it has been used for cider before, it must be wholly freed from the flavor of its previous contents. This may be done by burning out the inside; no other way is certain, though long soaking in water and washing may make a tolerably clean cask; but it is better to use a new cask, or one that has been used for spirits. Before filling the cask, adapt a faucet to it, so that the contents can be drawn off three or four inches above the bottom. Fill the cask perfectly full, and place it in a cool cellar, where it will not be moved or in the least disturbed, and fit a bung with a small aperture, so that gas may escape while fermentation is going on. Before fermentation has ceased, bung up perfectly tight with a small faucet, or its equivalent, through or near the bung, by which air may be admitted when necessary; but this must not be opened except when it is impossible to draw through the lower faucet without admitting air, and then admit as little as will answer. Cider fit for drinking cannot be made in warm weather, unless you have a much cooler place than farmers' cellars generally are, to store it in. A temperature below 50 is indispensable. With such places for storage as farmers are likely to have, cider should not be made until November.

When made, filtered, and stored as before described, it should not be drawn from or in any way moved or meddled with until it is cured, which will not be until May following, and it will be still better to let it stand longer before drawing from it.

You can draw from it some time before it will be necessary to admit

air through the faucet on the top of the cask, as the gas generated will force the cider out ; but when it ceases to do that, then a little air must be admitted from time to time through the upper faucet, which must be kept closed except when it is necessary to admit air to the cask. Cider made and kept and cured in this way will be more palatable and more wholesome than any wine, and is much safer to use in moderation than lager beer or ale.

Thus it will be seen that to have good cider, we must have the pure juice of good, ripe apples, in a perfectly clean cask, placed in a position in a cool cellar where it will not be moved or jarred, and after the apple juice has gone through about three-quarters of its period of fermentation, tightly closed, and then left to cure until about May 1st. If the air faucet is carelessly left open, the cider is spoiled—reduced to the condition in which we generally find cider, unfit to drink.

If you want apple juice, or uncured cider, for use during the winter, set apart a cask sufficient for the purpose, made and treated as above described.

Most farmers can add to their receipts by using their sound apples which are too small or ill-shaped to be merchantable, in the way indicated, and promote temperance and good health.—*Charles Houghton, in Country Gentleman.*

[The *rationale* of this process for making and keeping cider seems to us to be as near perfect as possible. We, therefore, commend it, and suggest its preservation. There is no better beverage than *good cider*. Better to our taste than the most costly champagne. And, again, it satisfies the appetite for *strong* drinks. It is then conservatory of the morals of the people.—ED. S. P.]

KEEPING SWEET POTATOES.

We observe the following *Circular* from the Southern Fertilizing Company, which contains some valuable rules on this important subject, and would advise farmers to lay it by for future use :

To Our Friends,—Inquiries have been made of us from time to time, by our sweet potato growers, as to the best way to keep sweet potatoes so as to present them in good condition for sale in winter. To give the best practical answer possible we have consulted one of the most successful growers in New Jersey (Mr. F. S. Newcomb), whose potatoes go to New York for sale. The following is his reply :

“In keeping sweet potatoes three points are to be observed, viz :

1. They should be *thoroughly dried* in the field before being stored. If the ground is very damp (that is, wet) when dug, and the day cloudy,

it is difficult to dry them sufficiently, but on a clear day there is usually no trouble.

2. The store-room must be a *dry and well-ventilated* place. A steady temperature of about 50°, Fahrenheit's thermometer, will usually give the best results, although a variation of 10° either way will do no harm. If kept much warmer than 60° the ends of the potatoes are apt to shrivel. The important point is to have a dry atmosphere, and this can be done by keeping a fire and having plenty of ventilation.

3. The potatoes should be taken immediately from the field and placed in the store-room, where they will *not be disturbed* until ready to ship. If left to stand around in barns or other places, and handled over, they are almost sure not to keep well.

"The store-room may be a dry cellar, or it may be entirely above ground. Here (in New Jersey) cemented cellars are used more than anything else, and they are usually under the dwelling-houses. If the house is heated by a furnace in the cellar this supplies the heat for the cellar, and, saying nothing about its sanitary effects, it is a very convenient arrangement.

"The potatoes are stored in large bins, with bottoms 3 to 4 inches from the floor, all made of slats. The bins are usually 4 to 6 feet wide, and any depth up to 7 feet. They may also be made in barrels, boxes, and trays. It does not seem to make much difference, in regard to their keeping, what they are put in, if the points above noted are carefully observed.

"The method herein set forth for keeping sweet potatoes has lately taken the name of 'kiln-drying', which is as good as any other. We know it does the work."

It is hoped that our friends will profit by Mr. Newcomb's clear statement of the case. There is no reason why the magnificent sweet potatoes peculiar to the region around Richmond should not find a market at every important point North, the winter through, and realize to the grower the reward he should receive for his labor.

SOUTHERN FERTILIZING COMPANY,
Corner Cary and Virginia Streets, Richmond, Va.

WELL-DRIED fish guano contains fifteen times as much nitrogen as ordinary stable manure. The use of fish as manure dates from the earliest history of the country, and its discovery is attributed to the Indians who used to plant a menhaden with every hill of corn.

Editorial.

SIR. JOHN B. LAWES.

The communication in this issue of the *Planter* from Dr. Lawes, the most distinguished agriculturist in England, and we may say, in the world, will be read with interest. The discussions in the columns of the *Planter* of the important question as to the proper quantity of seed wheat to the acre, have induced Dr. Lawes to send us his views on the subject, for which we thank him. Our theory and experience in favor of thin seeding—say 3 to 4 pecks, are not at all shaken by the statement that the practice in England is to sow $1\frac{1}{2}$ to 2 bushels. One or more expressions in Dr. Lawes' article confirm our position; he says, "if land is very fertile, and wheat had no enemies to contend against, such as birds, weeds, wire-worms, &c., it would be difficult to say how small a quantity of seed would be sufficient to grow a large crop." Again: in speaking of land fertilized to the point sufficient for 50 to 60 bushels to the acre, he says, "the crop stands too thick upon the ground; and it would, I think, be benefitted by a reduction of seed from 2 bushels to $1\frac{1}{4}$ to $1\frac{1}{2}$ bushels." Our theory is, that the quantity of seed should be *decreased* with the fertility of the land. We may assume that $1\frac{3}{4}$ is a full *maximum* for the *thinnest* land which should be sown with wheat, and this quantity should be reduced according to increased fertility, until a *minimum* of one half to three fourths of a bushel is reached and distributed by a good drill. One of the main conditions on which we base our advocacy of *thin* seeding seems to be strangely discordant with the practice in England. This refers to the *time of seeding*. We are speaking for Virginia, but States north and south have their time according to their latitude. We hold that the best time for seeding wheat in Virginia is from the 25th September to 15th October. The wheat, then, has from forty to sixty days of growing weather before it is checked by winter, and in this time it becomes well rooted, and if sufficiently *thin* to favor *branching*, nature and *good land* will have furnished all that is required, and the spring growth will be too quick and vigorous for weeds or anything of that sort which are a pest to the English wheat-fields. Dr. Lawes further says, "Upon my permanent wheat-field, which is now with its fortieth crop in succession, the quantity of seed sown is two bushels per acre. It is drilled as nearly as the weather will permit during the last week in October." Now this presents to our mind a curious fact, about which we hope

the Doctor will enlighten us at a future time. His wheat-field is about fifteen degrees further north than the centre line of Virginia, and in our country the higher latitudes are the earliest seeders. We should think that wheat sown in England as late as the last week in October, if it vegetates at all, would simply *hibernate*, and have all its tillering, growth, &c. to accomplish the next year between the months of May and August. This practice of late seeding in England may explain some of the differences in opinion in respect to thin and thick seeding. We desire to ask Dr. Lawes a question or two in respect to his *permanent* field he speaks of. We understand it to be an *experimental* field which is supplied each year with *specific manures* to continue its capacity for producing the same crop. If otherwise, it would "knock into a cocked hat," (pardon the slang phrase) all our American ideas of a proper rotation. Is this field kept for experimental purposes? If so, what are its specific manures? How far are *nitrogenous* manures used, and how far the *phosphatic*, &c.?

PROFITABLE FARMING.

How to farm profitably is a question of paramount importance, for profit is the common standard of success. Let us, this new year, take a brief practical view of the subject.

Profit in farming is made from growing large crops on small areas. The cost of fertilizer, labor, seed, &c., for a small area is less than that for a large, and as the cost per acre is decreased, of course there is a wider margin for profit. Of course, also, if one has the means to fertilize, and cultivate a large farm properly, and will do it, it will pay as well or better in proportion than the smaller; but so many attempt it who fail to do the work on the large area as it should be done, that it is safe as a general rule to say there is no profit in cultivating large farms. It is certain this is the case when it is attempted with inadequate means. Many a large field, indeed most of them, is put into a small crib. A farmer does not realize much money from fifteen bushels of wheat and corn to the acre, but if he gets thirty there is a chance for some profit. Is it not obviously the best to so fertilize and till the smaller area as to get from it the latter yield, or more?—*Petersburg Index-Appel*.

There is a great deal of practical truth in what is said by our contemporary. A great deal has been said and written about small farms. Much of it has been well said, but in the South the great question is, how to utilize, how to improve, how best to work and handle *large* farms—farms with from 500 to 3,000 acres of land, reduced by the war, process of grain-raising by detailed farms and damaged by in-

ability to improve since the war. There are many such farms all over the South. The owners have been unable to sell them for anything like their value—many have been sacrificed—and men have been reduced to poverty who had fine estates. What we need is information how best to handle and properly dispose of such estates. Southside Virginia, at the close of the war, was full of such valuable estates, and millions of dollars have been lost because the owners could not dispose of *part* of them at their real value, and because they were not able or did not know how best to manage them. The *Index-Appeal* well says, "profits in farming is made from growing large crops in small areas." This is one way. A man is easy told how to make rich and cultivate and manage 10, 20 or 50 acres, but when a man finds himself with 2,000 acres of valuable land reduced in fertility, and for which there is no market at anything like its real value, what shall we do? Now to this we have given some attention for the benefit of our Southside friends. A New Yorker suggested to us some years ago the solution of this question. Look to sheep and small cattle, and sell lambs and early beef in the Northern cities, and hold on to their lands. To do this burn off the broom sedge and as fast as possible sow grass and make as much good pasture land as possible, cultivating only their richest lots and low grounds, and planting fruit suitable to the section. This is greatly preferable to selling off surplus lands at one fourth their value before the war.—*Lynchburg Advance*.

We like to see such political papers as the *Index-Appeal*, and the *Advance* forget politics, occasionally, and turn their thoughts to *agriculture*; especially when each can express their ideas with such *practical force*.—ED. S. P.

INCUBATORS.

One or more communications in this issue of the *Planter* give evidence of an awakened interest in the artificial process of hatching fowls. The article of our lady correspondent, from New York, in February, has given rise to much enquiry. She should, if acting in good faith, respond further to the enquiries which she has brought upon us.

That artificial incubation is an established fact, there can be no doubt. The great poultry-farmers of France have, for many years, used no other process. The *hens* are kept *laying* and the incubators are kept *hatching*; and the statistical tables are wonderful as to results. As one item, it is stated that the flesh of more than *one hundred* broken-down horses, and others accidentally killed, is required for daily use on these farms. The flesh of other animals may also be required to meet the full demand, but we have no report on this point. The *bulk*

of food used is *grain*, and *flesh* is only a seasoning, and, therefore, very small in comparison; so that the capacity of those great incubators may well be wondered at.

Farmers must not, however, let themselves be deceived. They must count the cost, but not too slowly, as many Virginians do, and thus be left in the rear.

Put an approved incubator at \$100, with the necessary *yard-fixtures* to keep the *chicks* separated from the hens and old fowls, and for warm quarters equal to a mother's wings; and then the question is, How far the profit from *assured sales* will meet a good interest on the investment and afford relief in respect to worry and trouble under common methods?

As we see it, a farmer's wife who does not wish to make it a business to raise fowls *for market*, should not trouble herself with an incubator.

We quote the following from a late issue of the *New York World*:

"ARTIFICIAL INCUBATORS.—The possibilities presented by artificial incubators has of late awakened much interest in the subject of the artificial hatching of eggs, and not a few farmers and poultrymen have been found willing to take the risks involved in experiments in this line. The advice and suggestions of those who have successfully experimented with incubators are of more or less assistance to amateurs. A. M. Halsted, Rye, N. Y., in the *Bee and Poultry Magazine*, gives his opinions about the sizes of incubators, and as he has experimented with a number of patents, these opinions are reproduced for the benefit of *World* readers. He favors the smaller or medium sizes, and objects to those holding over 300 to 500 eggs. His experience has taught him that as the size of the machine is increased, the percentage of hatch is decreased; the reason is plain; one can heat an inclosed surface of four square feet so that there is no apparent variation of temperature in any part of it. Increase that surface to eight square feet, and there will be a decided variation in the outside edges. Again, increase it to sixteen square feet, and the probabilities are that the variation of temperature between the centre of the egg chamber and the outer edge will be so great as to spoil many of the eggs in the outside rows. Professor J. Hasbrouck, who has given time and study to the subject of artificial hatching, names uniformity of temperature as the most important condition; hence, he places a trustworthy regulator as the first essential of a good incubator. After repeated experiments, Professor Hasbrouck finds that eggs hatch equally well, other things being the same, if held fixedly at any point between 102 and 105 degrees, or if the heat varies from 98 to 106 degrees, without remaining long at the extremes. He says: 'Very few eggs will start below 102 degrees; none, I think, at 100 degrees, and for the first half of the incubating period few will endure 106 degrees many hours.' Some operators advise a considerable increase of heat at about the middle of

the hatching; others advise a reduction of temperature the latter half of the hatching. Professor Hasbrouck thinks it does not make a bit of difference whether one varies the temperature or keeps it just as it was at the beginning, so long as one keeps well within the safe lines—102 and 105 degrees.”

SORGHUM AND CISTERNS.

Editor Southern Planter,—There has been a great deal said for and against sorgho as a paying crop to cultivate in this State and others by different witnesses. Perhaps all of them are correct from their standpoint. Sorgho pays us here about twice as much as any other crop that we cultivate, tobacco not excepted, only on land that will grow a very fine weed.

I set out to ask you for a formula that will make a good fertilizer for the sorgho crop. It is well-known to all who have tried barn-yard manures, that the sorgho is of an inferior quality. Is there anything that will give a good sorgho, and at the same time increase the quantity? This is question No. 1.

From time to time we see some one saying something about cistern water for family use, but he don't tell us how his cistern is built, how much it contains, where he gets his water, how he filters it, or how long it will keep? These are questions No. 2.

We would like to have some light on the subject through the *Planter* or privately, etc.

Cana, N. C.

Respectfully,

THOS. F. EATON.

Will some of our readers respond? For ourself, to question first, will say that no *specific manure* is required for sorghum. Any fertilizer which is favorable to the corn crop will suit for sorghum. It is a gross feeder, and no manure will go amiss with it. The idea of our correspondent that *barn-yard* manure produces a plant of inferior quality, is new to us. All plants possess the power of assimilation in respect to food. Sorghum, we may say, is like the *hog*. It has a large appetite, and is not particular as to what supplies it; but yet by its animal organism all things come out right, and it is our national food.

In reply to question *two*, we say: That cisterns are of great use in sections where springs are scarce, and especially in localities near the sea where water is *saline*.

1. Cisterns are built by digging in the ground ten to twelve feet deep. The excavation may be either square or round, but better square, for facility of arching and then covering over with earth a few feet to the general level of the ground. The walls are laid with hard bricks in a mortar of hydraulic cement; and after paving the bottom in the same way, the whole is made water-tight by a coat of

hydraulic lime on sides and bottom. An arch is then sprung from a bearing below the ground, so that its apex will be at least a foot below the general surface, and this arch should also be laid with bricks and cement, with openings just large enough to admit the pipes by which the water is introduced. We have seen cisterns made by the excavation and walling as we have described, and then covered level with the surface of the ground with cross-beams and closely laid flooring.

2. The quantity of water a cistern should contain is a matter to be determined by the probable demand on it. A cubic foot of water is about eight gallons, so that the capacity of the cistern is easily determined by its cubic measure.

3. The cistern must be located near the side of the dwelling, or in a basement room, so that the rain-water from the roof may, by properly arranged pipes, be conducted into it. Of course there should be an *over-flow* pipe near the surface to take off the surplus water.

4. The water requires no filtration, and will keep pure an indefinite period. It is lifted by a pump when wanted, and this agitation and the renewed supply from occurring rains, with the close covering, will keep it pure.

POTATOES.

We find in the *Eastern Virginian*, published at *Onancock*, Accomac county, a long and interesting article on the subject of potato-production in the counties of Accomac and Northampton. The article is headed, "A Land of Promise," and was taken from the *Baltimore Rambler*. We have made clippings from it, as they appear below, which exhibit the great resources of these two peninsular counties in respect to both Irish and sweet potatoes. The production of these crops show a net increase to the farmers of about \$1,500,000 per annum. And then when we consider the adaptation of climate and soil to all the small fruits, and to this add the large yield from the fishing shores of the two counties, it would seem that "A Land of Promise" is no misnomer.

The round, or Irish potato crop nets the farmer from \$1.50 to \$2.50 per barrel, according to the general supply and demand of each season. The sweet potato crop about \$1.50 per barrel; that there is less fluctuation in the price of the "sweets" than the "rounds" is owing largely to the fact that the shipping period of the former lasts four months, while the latter crop is marketed in about two months.

Below is appended some figures which are not claimed to be accurate, but approximate as nearly as possible the amount of sweet and

round potatoes shipped from various points on the lower peninsula, in order to show the activity of the several localities in raising this profitable crop. The estimate is no doubt considerably under the actual aggregate number of barrels raised in Accomac and Northampton counties.

BAYSIDE.

From Pocomoke River,	5,000
“ Guilford,	40,000
“ Hunting Creek,	60,000
“ Onancock,	200,000
“ Pungoteague	100,000
“ Occahannock,	100,000
“ Nandua,	60,000
“ Naswadux,	20,000
“ Hungars,	30,000
“ Cherrystone,	75,000

SEASIDE.

From Franklin City,	10,000
“ Powellton,	20,000
“ Matchapungo	15,000
“ Other points,	10,000

Total, 745,000

The war left these people crippled in fortune and with a demoralized labor system. Yet in this one crop they have recovered all losses and have made themselves comparatively rich. The work has been done, too, in about fifteen years. What favored section in the West can make so good a showing?

This exhibit, when coupled with the great results shown all over the peninsula in raising fruits, vegetables and berries, proves that the country has magnificent resources. When viewed in the light of the further fact that the peninsula is only *beginning* to improve in its agricultural and truck-gardening methods, and that the soil is yet in the hands of people who have not been taught thrifty habits and are operating upon their own limited financial resources, the great capabilities of the country are emphatically demonstrated.

Why is it, that intending emigrants and those desirous of bettering their fortunes by cultivating the soil pass by this desirable country and strike for the “howling West,” is one of those mysteries which must be put down to fashion and prejudice. This peninsula is just the very country for the better sort of people to settle. Give it a large additional population of thrifty, intelligent people and the capital they would carry there, and the peninsula would become a social and financial Arcadia.

ONE of the grandest things in having rights is that, being your rights, you can give them up.

ROTATION.

Editor Southern Planter,—I have been a reader of your very valuable farm magazine for a short time past, and for the purpose of special information applicable to myself, I will state my case and beg you to come to my assistance.

I have a farm of 800 acres, divided into seven fields, with wood land not included. Some of the fields are in fair condition, others of them are poor. The crops here grown are corn, wheat, oats and tobacco. These are the market crops. I am inexperienced as a farmer, and I hear that there is a system of improving land known as the "rotation" plan. Will you please acquaint me with the ways of this rotation system, so that I may adopt it and work intelligently, and not so much by chance, as is the custom round about? If you will kindly take notice of this letter and give me the benefit of your experience and advice, in an early issue of the *Planter*, you will do a great favor to a

Bedford Co., Va.

FRIENDLY SUBSCRIBER.

Our "Friendly Subscriber" has put upon us a great task, and we must claim to divide it with other friendly subscribers and readers of the *Planter*. To explain all the principles of *rotation* would require an essay, or much more writing than our present occupations will allow. We may, however, briefly condense our views:

1. The crops named should commence and *rotate* somewhat in this way: Tobacco in field No. 1 should receive all the home-made manure, and be limited to so much surface as such manure will perfectly fertilize. The balance of the field should be sown in oats, with a sufficiency of commercial fertilizer to give a fair crop. The oat stubble should be fallowed early in August, and after the tobacco is taken from the other part, the whole field should be prepared for wheat, which should be done by the 15th of October, and to ensure this the portion in oats should be seeded first to give time for the removal of the tobacco. On this crop of wheat a liberal amount of commercial fertilizer should be used on the oat land, and selected in reference to its supply of the *phosphate of lime*. On the same field, in the spring, say between the 15th of March and 1st of April, after the wheat has been harrowed by a sharp two-horse harrow, clover seed should be sown at the rate of a gallon of seed to the acre. This completes the field for three years, for the clover should stand one year for *hay* or moderate grazing.

2. Field No. 2 comes in and is treated in the same way, and so with No. 3 and others.

3. In the end, when the rotation fairly comes on, it will be found that there is one field in tobacco and oats, to be followed with wheat; one of clover-fallow for wheat; making two in wheat, one in clover for

hay, one in young clover, one in corn, and one for moderate pasturage.

This is a rapid and brief statement of the case, as to which circumstances may demand modifications.

It may be said that the farmer is a "tub which must stand on its own bottom." In other words, that each one should know his situation and work intelligently for the best results in the production of crops, and the constant improvement of his land.

The rotation suggested ignores special tobacco lots, which prevail in the tobacco region of Virginia, and therefore may not suit the views of many farmers. To those we would say, keep your tobacco lots as now, but sub-divide your other land into six fields and adopt a rotation for them which will afford grass and grain, and, at the same time, improve them.

BUYING A HORSE.

The *Turf, Field and Farm*, than which there is no better authority on the subject, says that "in buying a horse first look at his head and eyes for signs of intelligence, temper, courage, and honesty. Unless a horse has brains you cannot teach him to do anything well. If bad qualities predominate in a horse, education only serves to enlarge and intensify them. The head is the indicator of disposition. A square muzzle, with large nostrils, evidences an ample breathing apparatus and lung power. Next, see that he is well under the jaw, with jaw-bones broad and wide apart under the throttle. Breadth and fullness between the ears and eyes are always desirable. The eyes should be full and hazel in color, ears small and thin and thrown well forward. The horse that turns his ears back every now and then is not to be trusted. He is either a biter or a kicker, and is sure to be vicious in other respects, and, being naturally vicious, can never be trained to anything well, and so a horse with a rounding nose, tapering forehead and a broad, full face below the eyes is always treacherous and not to be depended on. Avoid the long legged, stilted animal—always choosing one with a short, straight back and rump, withers high and shoulders sloping, well set back and, with good depth of chest, fore legs short, hind legs straight, with low down hock, short pastern joints, and a round, mulish shaped foot. By observing the above directions a horse may be selected that is graceful in his movements, good-natured and serviceable—one that will be a prize to the owner.—*Prince George Enquirer*.

The Southern Planter.

SUBSCRIPTION: \$1.25 a year in advance, or \$1.50 if not paid in advance.

TERMS OF ADVERTISING.

PAGE RATES.

	1 Mon.	3 Mons.	6 Mons.	12 Mons.
One-eighth page	\$ 2 50	\$ 7 00	\$12 00	\$ 20 00
One-fourth page	5 00	12 00	22 50	40 00
One-half page...	9 00	25 00	45 00	80 00
One page.....	15 00	40 00	80 00	140 00

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One inch.....	\$ 1 50	\$ 4 00	\$ 7 00	\$12 00
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Three inches....	4 00	10 00	20 00	40 00
Half column....	5 00	12 00	25 00	50 00
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Special rates for cover.

Reading notices, 25 cents per line, of brevier type.

EDITORIAL NOTES.

OUR CITY SUBSCRIBERS.

We must again appeal to our subscribers in the city to aid us in the matter of the prompt receipt of the *Planter*, which is always issued a week before its date. There are three forms of delivery of mail matters in the city; first, through the rented boxes; second, at the general delivery window; and third, by the *carriers*. It seems strange that the U. S. postal laws discriminate against *monthly journals in the city of their publication*, but yet it is so. For instance, the *Planter*, after having been taxed with the usual newspaper postage—two cents per pound—will be delivered to subscribers through their rented boxes or the *general delivery*, but to such subscribers, as take their mail by the *carriers*, a prepaid postage by stamp, is required. The *Planter's* subscription price has been in the past year reduced so low that we cannot afford to pay out thirty six cents a year, or three cents on each number, and prepay at that, to secure delivery to subscribers whose convenience is

subscribed by the *carriers*. We, therefore, say to such of our friends, call at the general delivery window of the post office a few days before the first of each month and get the *Planter*; or otherwise your name will have to be stricken from the roll, as we cannot afford to *pay for readers*.

T. W. WOOD'S FIELD AND GARDEN SEEDS.

We have received one of Mr. Wood's catalogues for 1883. It is neatly gotten up, and seems to embrace all varieties of seeds. The best of it is, that Mr. Wood, as we are told, raises his own seeds on his farm near this city, and gives personal attention to their purity as well as maturity. The great seed-farms of the north are supplying the country, but we are glad to see that we have a man of sufficient *pluck* to open a competition under the advantages of climate, and of soil, if judiciously selected. See Mr. Wood's advertisement.

SEED WAREHOUSE OF JOHNSON & STOKES, 114 MARKET STREET, PHILADELPHIA.—Attention is invited to the advertisement of Messrs. Johnson & Stokes; and we desire to acknowledge the receipt of their box of seeds. These seeds are neatly put up and, we believe, fresh and pure. The *Cuban Queen* watermelon, and the *Golden Gem* musk melon were especially acceptable. We have placed all the seeds in the hands of friends who will test and report upon them. This firm advertises through N. W. Ayer & Son, general agents, Philadelphia. Their catalogue is elaborate, and embraces all farm and garden seeds.

VENNOR'S ALMANAC FOR 1883 has been laid on our table by Messrs. *West, Johnson, & Co.*, book-sellers of this city, and we know it will prove interesting to farmers' families to whom the conditions of the weather are important. The book itself is a little unique. It has for a *vignette* an owl peeping through, or out of, the moon. Many persons suppose *Vennor* to be a myth, or if a real person, a *dried up old man*, a little cranky about weather questions, but still after a long life has been able to collect together a number of weather prog-

nostications, which frequently receive verification. The truth is, Mr. Vennor is a young man—less than forty—and a close student of meteorology, having all the appliances of science for observations. He has been well gifted in the accuracy of his work, and hence the reputation he has gained.

SOUTHERN EXPOSITION AT LOUISVILLE, KY.—There is to be an exposition at Louisville, Ky., commencing August 1st., and continuing one hundred days. Funds for the purpose have been raised up to this time to the amount of \$252,000. We had hoped to see this Exposition in Richmond, but our people are too slow. Our Louisville friends will be equal to the occasion, and we may look for something that will be ahead of the great Atlanta Exposition. Our space will not allow us to go into details.

TURF, FIELD AND FARM—This enterprising journal which is devoted to the most popular literature of the turf and field, met with disaster by the great fire in January 1882 in Park Row, N. Y.; but it is now re-instated in its old position, and is conducted with unflagging zeal, and ability of the highest order in its line. It comes with regularity and is much appreciated.

PACIFIC FRUIT GROWERS.—We have received from one of our most interesting exchanges, *The Pacific Rural Press*, of San Francisco, California, a copy of the official "Report of the second annual meeting of California Fruit Growers, at San Jose, November 1882, pp. 84"

This report contains a great deal of interest to fruit-growers, professional, and to farmers in every section of the country.

It will be sent, post paid, to any address for twenty-five cents, an application to the *Pacific Rural Press*, San Francisco.

One of the most complete and artistic catalogues for 1883, is that of *Wm. Rennie*, Toronto, Canada. Its list of field, garden, and flower seeds is very extensive. Its notes as to culture, &c., are so complete as to make it a good hand-book for farmers of the U. S. as well as of Canada.

ADDITIONAL CATALOGUES RECEIVED.

1. H. S. Anderson's semi-annual *Cayuga Lake Nurseries*, Union Springs, N. Y. Mr. Anderson is an old and reliable advertiser in the *Planter*.

2. J. M. Thorburn & Co's *Annual* for 1883, 15 John St., New York.

3. Vanderbilt's *Seed and Illustrated List* for 1883, 23 Fulton St., New York.

4. Thorburn & Titus' *Annual Catalogue* for 1883, 158 Chambers St., New York.

5. J. W. Manning's *Catalogue of Hardy Herbaceous Plants, Ferns and Shrubs*, Reading Nursery, Reading, Mass.

6. *Illustrated Catalogue of Field, Garden and Flower Seeds* from Joseph Harris, Moreton Farm, Rochester, N. Y.

7. *Lovitt's Monmouth Nursery*, Little Silow, New Jersey. The Catalogue of this establishment is elegant and tasteful, and embraces all kinds of fruits.

8. The Catalogue of J. A. Everitt, Watsontown, Pa., of *Field and Garden Seed*.

9. *Small Fruit Plants, Trees, &c.*, Jno. S. Collins, Moorestown, N. J.

10. *Illustrated Catalogue* of A. P. & M. B. Rowe's Co-operative Stock Farm, Fredericksburg, Va.

11. *Analyses of Fertilizers* by the Department of Agriculture of Virginia; Dr J. M. Blanton, Commissioner.

12. *Second Biennial Report* of the Director of the North Carolina Agricultural Station.

13. *Proceedings in Memoriam* of Judge R. C. L. Moncure and Judge Robert Ould. This interesting pamphlet was compiled and published by E. G. Booth, Esq., in testimony of his high appreciation of the decedents, and of his devotion to his native State.

SOUTHERN CULTIVATOR AND DIXIE FARMER AND OUR PLANTER will be clubbed to new subscribers at \$2.25, net. We have so often mentioned the *Cultivator* as a leading journal of the South, we cannot trust ourself to speak further of it now, as our ardor might transcend our space. We will say, however, that Mr. David Dickson,

the great farmer of Georgia, will furnish the *Cultivator* with a series of articles, commencing with the March number, and every farmer who has heard of Mr. Dickson and his practical methods, will say that each of said articles will be worth more than a year's subscription.

THE OLD COMMONWEALTH, HARRISONBURG, VIRGINIA, in a recent issue, has given the *Planter* a very flattering notice, for which it will accept the *Planter's* thanks. We would be glad to have the clubbing rates of the *Commonwealth* with the *Planter*. This notice came too late for our February issue.

We have had *other* such notices from many of our *Exchanges*, of which we have not kept a record, and they will all accept our thanks and send their clubbing rates.

For *new* subscribers to the *Planter*, we will *club* at \$1 per annum.

FERTILIZERS.—With this issue of the *Planter* the first month of spring is numbered. The time has arrived for the commencement of active farm and garden work for the year. We hope that big piles of compost and other farm manures have been husbanded. On these, and good cultivation, success mainly depends. Still a judicious use and selection of commercial fertilizers will, in addition to home-made manure, increase products. See advertisements of the following in the order of publication:

1. Stono Phosphate Company.
2. Ashly Phosphate Company.
3. Allison & Addison.
4. Southern Fertilizer Company.
5. Stearns & Halsey.
6. Ochilla Guano, by Wooldridge of Baltimore.
7. W. T. King, Plaster.

THE ADDRESS OF DR. CURRY, General Agent of the Peabody Fund, before the General Assembly of Alabama.

We have rarely received a more interesting document than this. Its diction, vigor of thought, and the subject, all commend it.

LAND PLASTER.—We call attention to the advertisement of *W. T. King* who is engaged in this city in grinding plaster from the best Nova Scotia Rock. Plaster was never cheaper than it is now, and according to our observation, there is no fertilizing agent more neglected by the farmers. Its judicious use as a conservator of the manure heap, a disinfectant in stables and cattle yards, for broadcast application to clover and other grass fields, and in various other ways, makes it almost as necessary on any well regulated farm as salt, sugar, and coffee.

J. W. CARDWELL & CO.—We have received the new catalogue of this well known agricultural implement house. It is neatly printed and illustrated with the machines and implements manufactured and sold by them. One feature of the growth of trade is the establishment of an agency at Dallas, Texas. From the friendly relations of the *Southern Planter* and *Texas Shiftings* our circulation is increasing in this far off Southern State, and we are also pleased to see that Virginia implements are in demand for its fertile fields.

F. STEARN'S NO. 1 FERTILIZER.—We call attention to the advertisement of *Messrs. Stearns & Halsey*. The high position which this fertilizer has taken is doubtless owing to the liberal use of the phosphatic and potassic elements.

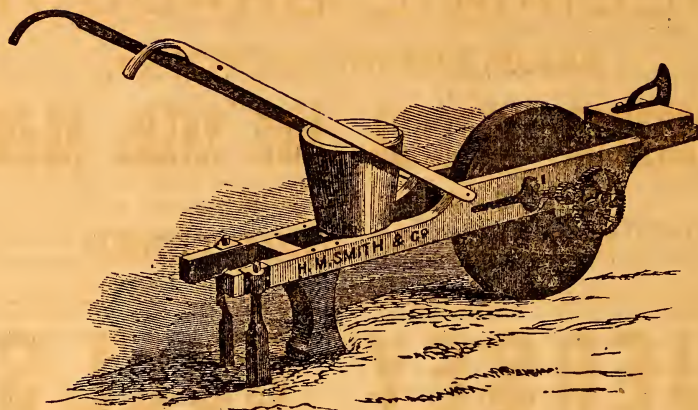
KENDALL'S TREATISE ON THE HORSE.—This excellent little book, of one hundred pages, treats of the diseases of the horse and the proper remedies. It is liberally illustrated, so as to make the subject plain to the simplest mind. Every farmer should possess and keep one of these books at hand. We have made arrangements with the publishers which will enable us to keep a supply of them in our office. Further than this—we will mail postpaid a copy as a premium to every new subscriber to the *Planter*, and will also send a copy to each old subscriber who will pay his subscription for the current year prior to the 1st of April next. We will also, on the receipt of twenty five cents in postage stamps, or otherwise, send the book post-paid to any address.

Southern Planter.

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PRICE, \$16.00

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Order early if you would make sure of getting the above Planter, as we have not been able for two years to supply the demand, *i. e.*, the demand has each year surpassed our expectations and exhausted the stock before the planting season was over.

FOR SPRING OF 1883

We have the best line of cultivating implements in the city, including the following: Genuine Iron Age Cultivators, Genuine Planet, Jr., Cultivators, Horse Hoes, Seed Drills, Genuine Malta Double-Shovel Plows, Brown Wheel Cultivators (warranted superior to any in the market), Malta Wheel Cultivators, the New York Seed Drills. In short, a full line of implements for cultivators of the farm and garden.

Special circulars sent on application of any implement wanted.

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For more than seventy years this medicine has maintained its high reputation. No remedy was ever offered to the public sustained by such forcible certificates of wonderful remedial properties. Presidents of the United States, Judges of the Supreme Court, Governors of States, United States Senators and Physicians of the highest standing are among those who attest their value from personal tests.

E. R. Beckwith, Pharmacist, now manufactures these invaluable pills from the Original Recipe of his grandfather, Dr. John Beckwith.

40 Pills in a Box—Price, 25 Cents.

Sufferers from **DISORDERED STOMACH** or **DERANGED LIVER**, with their attendant complications, will find relief from these pills. **SOLD BY DRUGGISTS GENERALLY.**

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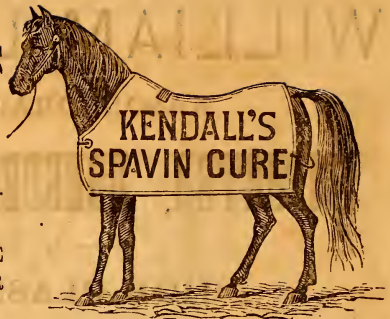
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Very respectfully,

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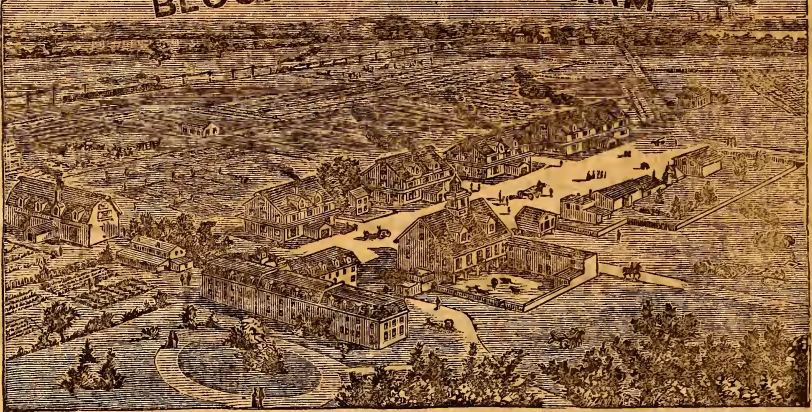
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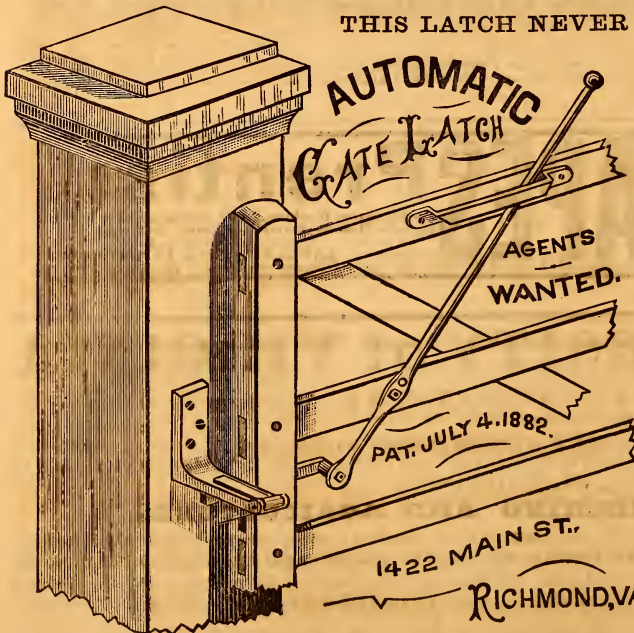
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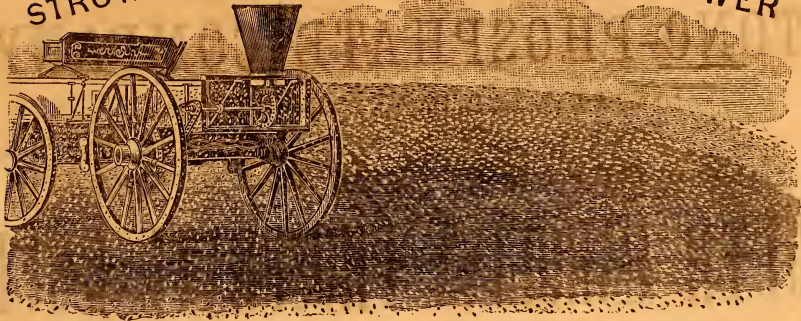


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The Rock is subjected to FREQUENT ANALYSIS by the Company's Chemist, and is of the BEST QUALITY.

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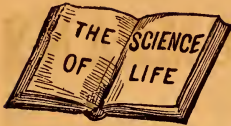
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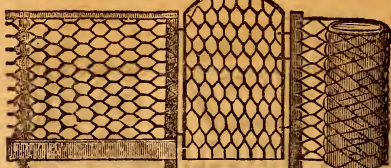
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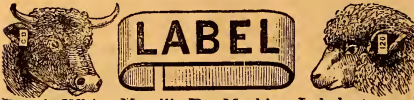
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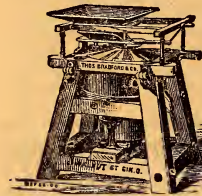
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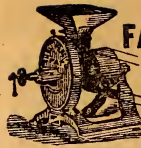
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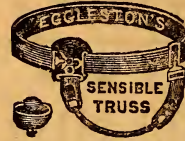
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