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# THE SOUTHERN PLANTER AND FARMER,

DEVOTED TO

Agriculture, Horticulture, and Rural Affairs.

L. R. DICKINSON.....Editor and Proprietor

RICHMOND, VA.,

JUNE, 1878.

No. 6.

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AGRICULTURE, HORTICULTURE AND RURAL AFFAIRS.

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

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L. R. DICKINSON, - - - - - EDITOR AND PROPRIETOR.

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Vol. XXXIX. RICHMOND, VA., JUNE, 1878. No. 6

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[For the Southern Planter and Farmer.]

## BEET-ROOT SUGAR IN VIRGINIA—AGAIN.

[In presenting the paper of the Hon. A. DUDLEY MANN, last month, on this topic, we ventured some prefatory remarks. We referred specially to what North Carolina was doing in this behalf, and expressed the hope that Prof. MALLETT, of the University of Virginia, would undertake the work here. Prof. PAGE, who has charge of the Experimental Farm at the University, informs us that he has not been idle in this direction; indeed, has been good enough to furnish us with the following memorandum on the subject, for which we send him our best thanks. Our thanks are also due to Prof. MALLETT for a specimen of sugar made at the University.—ED.]

In 1872, the following varieties of sugar beet were cultivated on the Experimental Farm of the University:

1. *White Silesian Sugar Beet*.—Seed imported and obtained from United States Department of Agriculture; product per acre, five tons; average size of roots, five and a half inches long; average weight, one pound eight ounces; juice determined of analysis of Professor Mallet yielded sugar 11.75 p. c.

2. *Carter's Prize Nursery Sugar Beet*.—Product, sixteen hundred pounds per acre; average size of roots, five and a half inches long; average weight, one pound; juice yielded sugar 13.72 p. c.

3. *Vilmorin's Improved Sugar Beet*.—Product per acre, seven thousand nine hundred and eighty-four pounds; average size, six inches long; average weight, one pound fourteen ounces; juice yielded sugar 12.54 p. c.

4. *White Sugar Beet*.—Product, four and a half tons per acre; average size, seven and three-fourth inches long; average weight, two pounds; juice yielded sugar 10.17 p. c.

In 1873, two varieties of White Silesian and of White Sugar

Beets were cultivated. The seed was obtained from Buist, a seedsman in Philadelphia. The crop was good, but the yield of sugar to the juice was much less.

In 1874, the White Silesian Sugar Beet was again cultivated with a crop of over twelve tons per acre.

In 1875, the seed of the same varieties were obtained from the United States Department of Agriculture, and sowed on land on which was applied ninety-six one-horse cart loads of compost manure per acre. The beets were much larger; the product was over twelve and a half tons per acre, but the juice yielded only from 6 to 8 p. c. of sugar.

In 1876, we lost the finest crop, per acre, we ever made, by a killing frost, which caught the beets in the ground the middle of November.

In 1877, we cultivated the White Silesian Sugar Beet, as detailed in the accompanying report of Dr. Oscar Kratz, a highly educated gentleman—a native of Germany—for some time a sugar planter in Louisiana, who has made both the cane and beet, as a source of sugar, a special study. During a sojourn of twelve months in this vicinity, he applied himself particularly to the subject of manufacturing sugar from the beet; and his analyses were made in the laboratory under the supervision of Professor Mallet; and his report speaks for itself.

From 1872, the details of the cultivation of the Sugar Beet on different soils, with different fertilizers and different varieties of seed, with the analysis of the juice of the beets not less than three times, is a matter of record in the *Farm Register* of the Experimental Farm of the University.

In our experience, the poorest lands, treated with about four hundred pounds of superphosphate of lime per acre, have produced beets richest in sugar, and the imported seeds have given beets richer in sugar than the native.

JOHN R. PAGE, M. D.,

Professor Natural History and Agriculture.

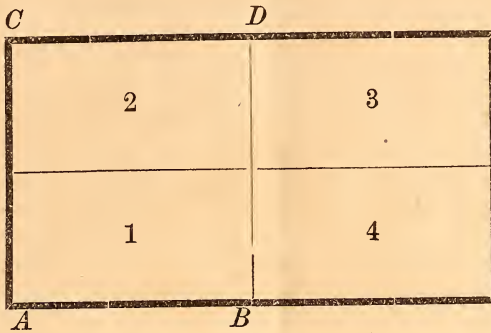
*Dr. J. R. Page, Professor of Agriculture, University of Va.:*

*Dear Sir,*—Allow me to report to you the result of the analyses of the different samples of beet-root, which you had raised from the seed of the Silesian Sugar Beet on the Experimental Farm of the University of Virginia, according to your report of September 21, 1877.

The following form [shown on opposite page] represents the land sown, divided into four sections, viz: 1, 2, 3, 4. Land plowed in January, replowed March 29th, harrowed 30th, rows made  $2\frac{1}{2}$  feet apart April 4th. Fertilizers were applied in the following order:

Section 1. Nitrate of soda at the rate of 320 pounds, sulphate of

lime (plaster) at the rate of 320 pounds, muriate of potash at the



rate of 160 pounds, and "woods earth" at the rate of 1,600 pounds per acre.

#### RESULT OF ANALYSIS.

Per centage per Saccharometer.	Per cent. crys. sugar per Polariscope,	Per cent. of crys. sugar. in dry substance.
12.1	9.58	79.2

or 100 pounds of the beet of section 1, would give 6.36 pounds of crys. sugar in manufacture.

Section 2. "Nitrate of soda" at the rate of 320 pounds, "national soluble bone" at the rate of 320 pounds, "muriate of potash" at the rate of 160 pounds, and "woods earth" at the rate of 1,600 pounds per acre.

Per centage per Saccharometer.	ANALYSIS. Per cent. crys. sugar per Polariscope.	Per cent. of crys. sugar in dry substance.
13.8	10.07	73

or 100 pounds of the beet of section 2, would give 5.71 pounds crys. sugar in manufacture.

Section 3. "Sulphate of ammonia" at the rate of 240 pounds, "national soluble bone" at the rate of 320 pounds, and "muriate of potash" at the rate of 100 pounds per acre.

Per centage per Saccharometer.	ANALYSIS. Per cent. crys. sugar per Polariscope.	Per cent. of crys. sugar in dry substance.
12.5	9.27	74

or 100 pounds of the beet of section 3, would give 5.44 pounds of crys. sugar in manufacture.

Section 4. No fertilizers applied.

Per centage per Saccharometer.	ANALYSIS. Per cent. crys. sugar per Polariscope.	Per cent. of crys. sugar in dry substance.
15.5	13.59	87.7

or 100 pounds of the beet of section 4, would give 10.52 pounds of crystalizable sugar.

The land was in wheat last year, one-half, A B C D, was sown with "Zell's ammoniated superphosphate" at the rate of 590 pounds per acre, on the other half no fertilizers used. Yield of wheat on the part fertilized, 12 bushels per acre, the other part, sections 3 and 4, 5 1-16 bushels per acre. The above analyses were all verified by Dr. Mallet, Professor of Chemistry, University of Virginia.

From the above it will be seen that by far the best result has been obtained from the most exhausted unfertilized land—section 4.

The average production for the whole of Germany is 11.8 tons of beet per acre. The cost of cultivation of one acre of beet-root, including rent of land, fertilizers, seeds, field labor, hauling, storing, etc., is \$32.23. Cost of manufacture of the product of one acre, *i. e.*, 11.8 tons, \$50.16. Total cost of raising and manufacturing one acre of beet into sugar, \$82.39. The average yield of sugar in Germany is 8 per cent., which would give 1,902 pounds of sugar per acre, or 100 pounds of sugar would cost to produce \$4.33, or 4½ cents per pound. This sugar would be worth here, at 8 cents per pound, \$152.16, or on one acre of beet manufactured into sugar, \$152.16, minus cost of production \$82.39, nett profit \$69.77. This enormous profit is explained by the fact, that the manufacturer in this country receives a bonus of 100 per cent. on every pound of sugar through the prohibitory or protective tariff on imported sugars.

A capital of \$100,000 would be sufficient to erect a beet-root sugar factory capable of working 50 tons of beet per day of 22 working hours. This would be a capacity of 5,000 tons for 100 working days. At a yield of 8 per cent., this would give 400 tons of sugar. If this factory paid \$5 per ton for the beet, the price of production of these 400 tons, according to the above calculation, would be \$114.08 per ton, or \$45,920; worth, at 8 cents per pound, \$64,000, or a nett profit for the factory of \$18,080. The farmer, in selling his beet at \$5 per ton, would realize a nett profit of \$26.80 per acre.

From the above facts you will readily perceive, my dear Dr Page, what a great benefit this industry would be to this part of Virginia. The facts in relation to the beet culture in Germany, I have taken from the standard work of Walkhoff edition, 1872, vol. 1, p. 140. \* \*

Hoping that the above lines may contribute to make a few of the farmers think a little on this subject, I am

Very respectfully, your obedient servant,

O. K.

CHICKEN CHOLERA.—Seeing considerable about this disease in the different poultry and agricultural journals, I give you a very simple cure, which was communicated to me by a lady friend. We have tried it and found it "to work to a charm." It is simply a piece of salt bacon or shoulder nailed to a stump or board and placed where the fowls can pick at it. Old wormy stuff that is not fit to eat is just as good as any, and a large piece can be bought at almost any country store for a mere song. Try it.—HAYSEED, *Jefferson La., in Son of the Soil.*



(For the Southern Planter and Farmer.)

## EXPERIMENTS WITH AMMONIA, POTASH AND PHOSPHORIC ACID.

Enclosed please find \$12.25 for a list of subscribers; also a report of some experiments tried under my supervision, for the purpose of ascertaining to what extent phosphoric acid, ammonia and potash were needed as manure by our lands. These are the experiments referred to in a "Lecture on the Matter of Fertilizers," published by order of my Grange, on page 477 of the July number, 1876, of the *Southern Planter and Farmer*, which is so full of errors as to be scarcely intelligible.

Tobacco was the crop planted, on rows containing 20 hills, three and one-half feet apart. The rows were six feet apart, and otherwise great care was taken to prevent the plants on one row feeding on the fertilizers in any other row:

	1ST. EXP'T.	2D. EXP'T.	
1st row, containing $2\frac{1}{4}$ lbs. dissolved bone ash, yielded,	$2\frac{4}{16}$ lbs.	$2\frac{10}{16}$ lbs.	Of Stripped and Cured Tobacco.
2d row, containing 2 lbs. refined carbonate of potash, yielded,	$1\frac{1}{2}$ "	$1\frac{6}{16}$ "	do
3d row, containing $1\frac{1}{2}$ lbs. nitrate of soda, yielded,	$1\frac{4}{16}$ "	$1\frac{1}{16}$ "	do
4th row, containing $2\frac{1}{4}$ dis. bone ash, and 2 lbs. ref. carbonate potash, yielded,	$2\frac{14}{16}$ "	$2\frac{3}{4}$ "	do
5th row, containing $2\frac{1}{4}$ lbs. dis. bone ash and $1\frac{1}{2}$ lbs. nitrate of soda, yielded,	5 "	$4\frac{1}{4}$ "	do
6th row, containing 2 lbs. ref. carb. potash and $1\frac{1}{2}$ lbs. nitrate of soda, yielded,	$2\frac{4}{16}$ "	$2\frac{1}{4}$ "	do
7th row, containing $2\frac{1}{4}$ lbs. dis. bone ash, 2 lbs. ref. carb. potash and $1\frac{1}{2}$ lbs. nitrate soda, yielded,	4 "	$4\frac{3}{4}$ "	do
8th row, containing no fertilizer at all, yielded,	$1\frac{6}{16}$ "	$\frac{6}{16}$ "	do

The first experiment was on a very thin soil, only about two or three inches thick, of grey loam, almost as fine as flour, upon a good red clay subsoil. The second was on a rather coarse sandstone soil about five or six inches thick, lying upon a sandy, moist and porous subsoil, slightly mixed with yellow clay. Both plats were unimproved old land, and very poor. The quality of the tobacco is very well indicated by the quantities. The application is about equal to 90 lbs. soluble phosphoric acid per acre, 270 lbs. soluble potash and 60 lbs. ammonia.

JOHN BLACKWELL.

*Lunenburg Co., Va.*

(For the Southern Planter and Farmer.)

### DOES FARMING PAY ?

No doubt the statement that farming in Virginia "pays" will be regarded either in the light of a joke or as an effort on the part of some individual, overwhelmed with debt and unsalable land, to entrap an unwary purchaser. The writer is not in this unfortunate predicament, nor is he jocularly inclined, and his attempt to verify this statement is made in the hope that it may give encouragement to some fainting brother who has been proclaiming so lustily that farming no longer "pays," that he believes it now himself.

In the business of any one but a farmer the profit or loss sustained is readily discoverable by an examination of his books. The great mass of farmers keep no books, and we therefore must gather our information from the records of the few who do, and comparing their condition with that of the residue, draw our inferences accordingly. And here it is interesting to notice how generally the farmer depends upon his memory and his habitual want of cash for the record of his business. The true system of book-keeping for the farmer, requires him to keep the farm account *separate and distinct* from all others ; even machinery, implements and stock, can only have interest and allowance for wear and tear charged to the farm. He must consider his services as superintendent rewarded by his home, orchard, garden, and the numerous other comforts and conveniences which a country place supply.

We do not hesitate to say that a careful investigation of accounts thus kept, will prove that a majority of the farmers in Piedmont Virginia, if not in the whole State, pay six per cent. interest on a reasonable valuation.

Doubtless every reader of this Journal has instances before him of families supported, clothed and educated with no other source of revenue than the farm ; and whose wants, if they were otherwise situated, could not be supplied for less than six per cent. on the amount invested in it. The assertion, that farming does not pay, is true, therefore, only so far as excessive demands are made upon it. The farmer may find himself becoming involved in debt even with a six per cent. income from his land. It is hardly fair to make the land responsible for this misfortune. Better summon back our old friend, the war, or attribute it to the broken banks or the free school system.

In all likelihood, the same pecuniary embarrassments would arise if the farmer—his land converted into so-called securities, yielding 6 per cent., and he himself receiving from a clerkship a salary sufficiently large to give him what we considered he earned as farm superintendent—should attempt to live in town. He is guilty of the perilous proceeding, financially speaking, of living beyond his income. Let this, then, be the explanation of the "*res angusta domi.*" After robbing the farm of all its products, let us not add insult to injury by

heaping contempt upon it—making agriculture a reproach in all the earth.

RAPIDAN.

*Culpeper Co., Va.*

NOTE BY THE EDITOR.—As *apropos* of the above, we submit the following, from the *Statesville* (N. C.) *American*:

“A farmer,” writing us from Granite Hill, Iredell county, says: “As many young men are emigrating to the West, seeking better land and country, I propose to give you a statement of my neighbor, Calvin L. Shinn’s crop for last year, who is one of our best farmers, attending to it himself. He ran four plows, principally by his own family; expenses for hire was about \$165. He harvested 416½ bushels of wheat from 31½ sowed; cribbed 1,140 bushels of corn; made 22,700 pounds of seed cotton on 27 acres of land; used 6 sacks of fertilizer. On the 22d instant, killed the last of his hogs, 25 head, which weighed 4,417 pounds. These hogs were raised at a very small cost on clover and grasses with the aid of pea pasture. I had forgotten to state that he had gathered 150 bushels peas off his corn land before pasturing, and made 38 loads of hay. You can make your estimate and can see at once what his profits are, and whether farming pays when properly attended to.”

“I give you this receipt for hog cholera: When the hog sickens, one gill new tar, with from one to two tablespoonfuls sulphur, according to size of hog.”

[For the Southern Planter and Farmer.]

#### AN EXPERIMENT SHOWING THE FALLACY OF THINKING WHEAT CAN DEGENERATE INTO CHEAT.

Having noticed several communications in your valuable paper favoring the preposterous idea of the convertibility of wheat into cheat, I am induced to copy from the *Farmers’ Register*, Vol. IX, page 13, the following:

“*Experiment to Test the Possibility of Wheat Degenerating into Cheat.*”

“October 20th, 1832. A spot about twenty feet square on one side of a field of corn was left out when all the adjacent ground was plowed and sown in wheat three days before. Soil, a silicious loam (which had been marled in 1820), on a retentive subsoil, which by preventing the sinking of the water from rains, keeps the surface very wet through winter and spring. The surface of this part of the field is a very gentle slope, declining towards the north, and the lowest part of the whole (and therefore the most exposed to water) is where the space was marked for this experiment. There the surface becomes level. The whole field, including this spot, had been plowed five or six inches deep last winter for corn, and well cultivated, but not later than the beginning of July. All remained very clear of weeds.

“The space was slightly smoothed by the broad hoe, merely to level the clods, but not broken anywhere an inch deep, and generally not cut at all. As the corn had been tilled level, and not hilled, the surface required but little smoothing. Wheat was selected for the trial which had passed through a cockle sieve, and of course was all either shrivelled or very small grains, if plump. Lines were slightly traced along the edge of a straight rod (not more than half an inch

deep), and a few seeds, varying from three to seven, were placed accurately at every six inches of the line, by notches of the rod made at those distances. The seed was carefully cleaned of every grain of cheat, spelt and cockle. Half the square was thus planted in such rows six inches apart, and the remainder in similar rows twelve inches apart. For fear that even this very defective seed might not be bad enough to insure *the change* to cheat, one of the subscribers picked out a number of the most shrivelled and imperfect grains, all of which he is confident will bring cheat, if they are capable of producing any thing, which is very doubtful, from their appearance. One of the rows was planted with these grains, four being carefully deposited at each distance of six inches. All the seeds were covered with about half an inch of mould, taken by the hand from the intervals between the lines, and the whole space was then slightly beaten over with the flat of the hoe.

"About four feet width, adjoining the square, and of similar unbroken corn land, was strewn broadcast with similar defective seed, covered as shallow as possible.

"The earth dry at this time, and in fine order for plowing; the weather uncommonly warm for the last three days.

"Present and assisting at the making of this experiment, and undersigned, Thomas Cocke and Edmund Ruffin, of Prince George County, and William J. Cocke, of Sussex; the first a believer, and the second an unbeliever in the change of wheat to cheat, and the third undecided. It was our design in this experiment to bring into operation every cause to which this change is usually ascribed by different persons, namely, 1. Imperfect seed; 2. Thick sowing; 3. A wet soil; 4. Hard or unbroken soil; 5. Grazing or mowing, which is to be done next spring.

"If any cheat or spelt should grow in this square from any other seed, it cannot be mistaken for the product of the wheat we have planted, unless the plants should stand in one or more of the positions so accurately fixed by measured distances.

THOMAS COCKE,  
EDMUND RUFFIN.  
WILLIAM J. COCKE.

"October 20, 1832."

"April 15th, 1833. The growth of plants on the square is very mean (generally six or eight inches in height), and but few are living compared to the number of grains sown. Every row, however, has some plants living. Half the marked row where the worst seed was used, and so much of the one adjoining, was cut down this day within an inch of the ground, and the parts so treated were also marked.

"June 3d. We again carefully examined the experiment together to know and report the final result. *Not a single* head of cheat or

spelt is in the whole space. The cut plants have grown as tall and are not perceptibly worse than the balance in the same rows. The rows sown with the very imperfect grains has a still more scanty growth than the others, but had twenty-four heads of wheat in its whole length; a few of these heads had not come out of the boot, and perhaps will not produce grain; but they were opened and found to be wheat, like all the rest which were out.

"The adjacent parts of the field of wheat contain a few scattering stalks of cheat and still fewer of spelt.

"The seed had been well cleaned (though probably not perfectly) by the hand sieve.

"THOMAS COCKE,  
EDMUND RUFFIN.\*

"Prince George Co., June 4, 1833."

Now, can anything be more conclusive and thoroughly tested than this? So convinced was my grandfather that the transmutation of wheat to cheat was impossible, that he publicly published that he would give \$100 reward to any person who would prove a single case of wheat producing cheat, for which no one ever applied.

Last winter, a year ago, I had about twelve acres of winter oats almost killed, and so few plants were left that weeds of all kinds and cheat and spelt were abundant. I did not for a moment suppose that *my killed oats* had produced all these pests, but that if the seed sown does not fully occupy the ground, then foreign growth *will* spring up. The often cited case of so much cheat coming around wheat straw ricks is easily accounted for, viz.: Some seeds of cheat were in the previous crop of wheat, and being lighter than wheat, a large per cent. of them were blown out from the machine, and so into the straw.

In conclusion, I am confident that if the seedman sows in proper time, prepares his land thoroughly, and does his duty in other respects, that "Whatsoever he soweth, that also shall he reap."

J. M. R.

(For the Southern Planter and Farmer.)

The farmers in the Valley, as also in Eastern Virginia, where corn ground was seeded in wheat, will be greatly inconvenienced and sustain a loss in sowing their wheat, in not finding suitable weather to cut their corn stalks. The quantity of snow, when it was cold enough, prevented, and after it melted, the ground did not continue hard frozen long enough to cut them. In horse-raking the stubble the greatest inconvenience, as well as loss, will be sustained, as the straw will double around the stalk and pull through the rake.

Nelson Co., Va.

M.

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\*Dr. William J. Cocke was absent, and therefore did not sign.

## SAVINGS BANKS.

Mr. Henry L. Lamb, Acting Bank Superintendent, has written a long letter to Mr. William H. Macy, President of the Seamen's Bank for Savings, in reference to the statements which have recently been made by committees of depositors in failed savings banks of this city, condemning the savings bank system of the State as inefficient, and declaring their want of confidence in it as at present administered. Mr. Lamb declares that the only effect of this declaration will be to unsettle the confidence of depositors in other savings banks, and to cause anxiety and distress of mind, in many cases, needlessly. He says: Twenty-two savings banks have failed in six years and a-half in New York city. The majority of them never ought to have been organized. They were established on purpose to fail and rob depositors, or to make paying places for men whose conduct of them would inevitably end in failure. Shall the good ones, organized for public use and benefit, and prudently and beneficently doing their work, be denounced for this?

It was claimed at the meeting of the depositors in the Sixpenny Savings Bank that all the failed savings banks in New York city held \$11,919,728 for the depositors when they failed. The truth is, they held the sum of \$12,188,771 77. It was asserted they have paid and can pay only \$4,799,466, so that the total loss is \$7,120,262. Now these failed institutions have paid already the sum of \$4,868,767 51, and the assets of the Sixpenny and Teutonia Savings Institutions were not included at all in making the balance sheet of the failed institutions. The best attainable information to-day from trustworthy official sources indicates that the failed savings banks in New York will have paid to depositors within a year from July 1, 1878, the aggregate sum of \$7,885,155 36, including therein the payments already made. The net loss would then be \$4,303,616 41.

These failures began in November, 1871. Let us look at the matter in a general way. January 1, 1872, the savings banks in New York city reported their total assets at \$170,797,000. If those deposits had then been invested in United States bonds of the various kinds, at the current market prices, the loss by shrinkage to-day on the investment would be \$7,173,474, taking for computation the average per cent. shrinkage on Government bonds. That sum exceeds the most probable loss actually incurred by the failure of the savings banks in the city of New York by the sum of \$2,869,858, and United States bonds were low in price on January 1, 1872. Had the deposits in the savings banks in New York city all been invested in Government bonds of the different classes on January 1, 1875, when bonds were high, the shrinkage and loss to-day would be over \$22,000,000. If these deposits had been invested in good bank stocks January 1, 1872, the loss upon them would have been quite 20 per cent., or \$34,159,400; or if they had been invested in stocks of the best eastern railroads, then and now paying dividends, the shrinkage would have been near the same sum, or over \$30,000,-

000. Had such deposits been invested in real estate in New York city and its vicinity in 1872, the shrinkage would be nearer 30 per cent. than 20, even if the investments had been made fortunately; and the loss through shrinkage would have been \$45,000,000 or more.

Now have the savings banks in New York city done so very badly, even though they have been loaded with parasitic institutions of spasmodic origin, which have inflicted much loss? If the savings banks in New York be treated as a unit, it appears that since January 1, 1872, they have increased their deposits from \$161,106,000 to \$176,261,000, and during the same period their reserve (their surplus fund) has risen from \$9,613,602 on January 1, 1872, to \$19,006,000 on January 1, 1878. In spite of all shrinkage in values, their surplus has quite doubled.

Taking another view, let me suppose the Federal Government had issued its proposed postal 4 per cent. interest bonds several years ago, and that on January 1, 1872, the assets in the New York city savings banks had been invested in such postal bonds. The annual income would have been \$6,831,880 from such an investment.

For five years after January 1, 1872, the savings banks paid interest at the nominal rate of 6 per cent. Reckoning that the average actual rate was 5 3-10 per cent., the annual income from such resources of the savings banks was \$9,052,241. For the other year the rate of interest was approximately 4 5-10 per cent. The income for the other year at that rate on such assets would be \$7,685,865. For the six years the aggregate income is \$52,947,070. In the same period the assets of the savings banks, if they had been invested in Government 4 per cent. bonds, would have paid a total sum of \$40,991,280. The amount of interest paid or credited to depositors in the New York city savings banks for the last six years ending December 31, 1877, is \$55,727,597. The surplus of the savings banks in the city is \$9,000,000 greater now than it was in 1872. The difference in values now in the two kinds of investments is over \$16,000,000 in favor of the savings banks. If the difference in values be added to the difference in income, the total profit to the depositors in the savings banks is \$28,000,000 for the last six years, as compared with the proposed postal bond. And the net profit, allowing for the loss of principal in failed savings banks, and the loss of interest on funds in such banks, would no doubt exceed \$22,000,000.

The "savings bank system" in New York city has been exposed to two kinds of harmful influences. Corporations have been organized under the names of savings banks, which had their real root in the rapacity and cupidity of bold, bad men. They run a short term and robbed confiding depositors. The collapse and failure of these have brought discredit upon the system among people not well informed and discriminating.

Another cause which has worked to the ruin of some savings banks in the last few years is the shrinkage in the prices of securities. In

such as had no sufficient surplus to maintain solvency after shrinkage, the decline in values has sometimes brought them to insolvency. In others, where investments had not been prudently and circumspectly made, losses were great and liquidation was compelled. But these conditions are not peculiar to savings banks. Disaster, failure, insolvency, have marked every kind of business in the country for a half dozen years. The real savings banks have stood the trial well. The spurious "sucker" growth is nearly destroyed.

In conclusion, Mr. Lamb declares that in view of the vast interests involved, "the savings bank system of New York deserves the considerate support and demands the patient and sympathetic attention of those who study economical and social problems, with the purpose of promoting public welfare."

NOTE BY THE EDITOR.—We are more disposed to magnify evil than to give credit for good. Certain savings banks throughout the country have failed lately, and some of them found their misery in dishonest officials. The manner in which these failures have been referred to by the press generally has had the effect to cast suspicion upon all institutions of this kind, and to make the times, if anything, harder than ever. To enable our friends to see that everything is not wrong in this line, we reproduce, with pleasure, the above from the *New York Journal of Commerce*. The picture is not confined to New York.

Of course, when a man wishes to lodge his money in the custody of a savings or any other bank, he will take the trouble to find out the standing of the people who have charge of its management, and not "go it blind," taking anyhow the one that offers the highest rate of interest. We are persuaded that not a few have taken this latter course, and are now paying for their wisdom.

We will close this note by the following, which went the rounds in the hard times consequent upon the panic of 1857, trusting that the day is near at hand when Confidence will become our guest again, and all men smile :

The day was dark, the markets dull,  
The 'Change was thin, gazettes were full,  
And half the town was breaking ;  
The countersign of Cash was "Stop."  
Bankers and bankrupts shut up shop,  
And honest hearts were aching.

When near the 'Change my fancy spied  
A faded form with hasty stride,  
Beneath grief's burden stooping.  
Her name was Credit, and she said,  
Her father, Trade, was lately dead,  
Her mother, Commerce, drooping.

The smile that she was wont to wear  
Was withered by the hand of Care,  
Her eyes had lost their lustre ;  
Her character was gone, she said,  
For basely she had been betrayed,  
And nobody would trust her.

That honest Industry had tried  
To gain fair Credit for his bride,  
And found the lady willing.



But, ah! a fortune hunter came—  
 And Speculation was his name—  
 A rake not worth a shilling.

The villain was on mischief bent,  
 He gained both dad and mam's consent,  
 And then poor Credit smarted;  
 He filched her fortune and her fame,  
 He fixed a blot upon her name.  
 And left her broken-hearted.

While thus poor Credit seemed to sigh,  
 Her cousin, Confidence, came by  
 (Methinks he must be clever);  
 For when he whispered in her ear,  
 She checked the sigh, she dried the tear,  
 And smiled as sweet as ever.

[For the Southern Planter and Farmer.]

### COMMERCIAL FERTILIZERS.

In your editorial note to article on "Commercial Fertilizers," in May number, you say, "Like most other things in this world, the matter of the commercial valuation of artificial manures appears to have two very distinct sides," &c. Do you mean to say that the analytic chemist is unable to ascertain the quality of ammonia, soluble phosphoric acid, potash, and soda in artificial manures? or do you mean that the market value of these ingredients change according to the laws of supply and demand? Again; What do you mean by "*commercial valuation*" of artificial manures? Do you mean what it will sell for in the market? Please reply in your June number. I observe several errors in the printing of my article—the result of my bad writing—one only important; the word "common lime" in 4th line from bottom of page 249, should be "common sense."

JOHN WASHINGTON.

[REPLY.—The articles, published in this Journal, from the pen of Dr. ELLZEY, and appearing in our Stock Department, under the head of *Analysis of Fertilizers*, answer fully the questions propounded by Col. Washington.]

[For the Southern Planter and Farmer.]

### A MEMORANDUM.

1. I am for the sowing and raising of more orchard grass.
2. For raising thoroughbred Southdown sheep and Alderney and Devon cattle and Berkshire pigs.
3. I do not thirst for a political life. I am with "Civis," in his position to let every man educate his children. I am a friend to education. I am opposed to any man who wishes to tax my property to educate paupers, who ought to be in the field at work and made to work. Let bankrupts assail "Civis," but the bone and sinew of the land are with him.

M. L.

Southampton Co., Va.

[For the Southern Planter and Farmer.]

### COMPARISON OF PROFITS FROM THE USE OF HIGH- AND LOW-GRADE FERTILIZERS.

In my former article it was shown that the farmers of Virginia have paid annually about \$700,000 in excess of their values for commercial manures; that their dealing in the same has heretofore been a *lottery*; that the act of Assembly of March, 1877, gives partial though not full relief, and that their only protection is in the purchase of those manures that are analyzed by the State Chemist of Virginia, and by paying for them no more than their value, estimated upon their analyses as a basis.

I now propose to compare the relative profits to the farmer from the use of the high- and low-grade manures. For simplicity, I will use an illustration. Suppose Mr. W. to reside ten miles from Guiney's station on the R., F. & P. Railroad. He purchases at Richmond two tons of manure. For No. 1 he pays \$40, for No. 2 \$20 in depot at Richmond. Each, by Dr. Taylor's analyses, is worth the price paid, and each increases the yield of wheat in the same ratio. No. 1 increases it fifty bushels; No. 2, twenty-five bushels. The price obtained for same is \$1.20 per bushel. Product of No. 1 will be \$60; of No. 2, \$30. Expenses—freight on each \$1.25, cartage \$2, handling \$1.50, aggregate \$4.25. Add price of manure. For No. 1 we have \$44.75; for No. 2, \$24.75. Deduct these from gross increase, and \$60 less \$44.75 gives \$15.25 as profits on No. 1, and \$30 less \$24.75 gives \$5.25 as profits on No. 2. Had Mr. W. purchased two tons of No. 2, his profits on both would be \$10.50 against \$15.25. This is only one-half the expenses. The manufacturer is subjected to the same. He pays the same drayage on each, the same cost for passing them through his machinery, the same freights on their ingredients and charges for handling. Assume these to aggregate \$4 per ton, and we have only \$16 of the value of the manure left. Now add manufacturer's profit (a certainty) say \$5, and we have \$11 left when it leaves the dealer's hands. From this deduct the farmer's expenses, \$4.25, and we have \$6.75, from which the farmer is to get a profit on his outlay of \$20 after waiting a year in patience.

This is only an approximation designed to illustrate a principle which practically enters into all successful business operations, and demonstrates that the so-called cheap manures are, as a general rule, *too dear* to be used successfully. It also demonstrates that the higher the grade, consistent with sufficient *body* or bulk to retain the volatile ingredients, the cheaper. Why use three hundred pounds per acre when one hundred contains the same amount of plant food of equal value and condition?—the difference being *dirt and moisture*. One has three times the incidental expenses of the other. Hence, farmers near the oil factories can use to advantage the refuse fish. So those near the slaughter-houses can use the bones, flesh and blood. But these crude and volatile substances will not bear trans-

portation. The vultures of the air inhale and the very atmosphere becomes impregnated with the most valuable ingredients of these manures—ammonia—and when they reach the farmer may or may not be of value.

I do not mean to be understood as maintaining that all manures in the market should be of high-grade in all the elements of a good manure. I do mean emphatically to say that all “complete manures” should be of high-grade; and by “complete manures” I mean to embrace all, except the phosphates usually sold as “dissolved bones or phosphates,” and by these to embrace two classes only—animal bone pure, or animal bone subjected to sulphuric acid, or mineral phosphates pure, or mineral phosphates subjected to sulphuric acid. The former may have some ammonia obtained from the matter adhering to the bone. The latter will have none. The chief value of both depends upon their per cent. of soluble or available phosphoric acids. These phosphates should be sold at reduced prices and extensively used by farmers for composts. Their free use on grain, particularly wheat, will, I think, demonstrate the fact that a low per cent. of ammonia is quite sufficient, and that even four per cent. is too great, and wasted in an over-growth of straw or stock. It is obvious that the use of high-grade manures enures to the advantage both of the *maker* and the farmer, and the low-grades should be wholly discarded, as the railroads and dealers get about all they are worth, leaving very little to the farmer. It is equally obvious that the low-grade manures are apt to strike the minds of the credulous and ignorant with the idea of cheap, and opens wide the door to imposition, if not to fraud. Who ever heard of “damaged manures” being offered for sale in Virginia that it was not quickly taken up, with its addendum of water and dirt notwithstanding? It is equally obvious that low-grade manures for transportation are made either because the maker is too ignorant to turn out a better, or he expects to play upon the ignorance and weakness of his fellowmen. For one, I think the farmers have lost as much as they can bear.

I propose hereafter to suggest some amendments to the law regulating the duties and powers of the Agricultural Department of Virginia.

*Caroline county, Va.*

JOHN WASHINGTON.

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In England a laborer was fined \$1 and costs for having in his possession a live Colorado beetle. — It is estimated that five million cans of tomatoes, etc., grown and packed in Hartford county, Maryland, will be shipped this season. — One Kentucky farmer appropriates the yearly product of one acre of his farm to the purchase of reading matter for himself and family. — In central Georgia the annual average cost per head of keeping sheep is fifty-four cents; average cost of raising a pound of wool, six cents.

[For the Southern Planter and Farmer.]  
POULTRY MANAGEMENT, &c.

In compliance with your request I give you my experience in poultry raising :

Three years ago \$250 worth of fine fowls fell into my hands which were intended for the table, but becoming interested in them I determined to keep them, and from such a beginning sprang my present stock of fowls. A large corn-crib, built over an icehouse, and about three and a half feet from the ground, is used for a coop. In one side nests are fastened to the wall, in the other barrels sawed in half and filled with straw are put on the floor; and I find these nests preferred by the hens. Instead of hovels for the little chickens, barrels are used, and at night they are put in the coops, and not let out until 7 o'clock in the morning. In this way the dampness is avoided, and the chickens kept from having the gapes.

The coop is cleaned once a week, and whitewashed two or three times during the summer, besides being smoked with tobacco and sulphur several times. In the morning, corn meal dough is fed to the fowls, and at other times, screenings. Red pepper is used very freely, and sulphur is mixed with the meal frequently in warm weather. I never set a hen without putting sulphur in the nest. The amount of fresh water used during the day by the fowls keeps them healthy, I believe. At least a dozen times during the day the hydrant is turned for them, and they all rush at the gutter for carrying off the water, and drink most greedily.

Brahmas and a cross between the Brahma and Houdan I find the best and most profitable fowls for eggs; and the Brahma, crossed with any common fowl, for table purposes. Game hens make excellent mothers, but they so often steal their nests that the eggs are lost, at least that has been my experience. My advice to any lady who wishes to raise fowls would be to have a coop large enough for her to go into at any time; have it kept clean, give the chickens plenty of food and fresh, good water, and keep the little chicks out of the wet as much as possible. This spring not one of my young chickens has died. Two years ago I saw in a paper a cure for chicken cholera by a Mr. Joseph Stout, of Maryland, and am sure it is excellent, as I use it whenever I see signs of disease in my coop. I give it for the benefit of your readers :

"Boil a handful of white oak bark in a quart of water to make a strong decoction; put a teaspoonful of cayenne pepper in two quarts of meal, and mix the meal with the liquid to the proper consistence for feeding, and give to the fowls."

My fowls have a good range, and frequently get into the garden; they enjoy themselves very much while there, and destroy many insects, but I do not believe they injure the garden. My fowls receive constant care and attention, but do not take my time from other and more important things.

LILLA PENDLETON.

*Lexington, Va.*

[Our readers will remember that our fair correspondent received a \$25 premium from the State Agricultural Society on her Management of Poultry.—Ed.]

[For the Southern Planter and Farmer.]

### PLOW TRIAL IN NORTH CAROLINA.

At a meeting of the Spewmarrow Agricultural Club, in March, the subject of "Plows and Plowing" was discussed with a good deal of interest, and the discussion elicited some very practical and instructive remarks from several of the most experienced members. But as there seemed to be a considerable diversity of opinion as to what turning plows were best for general work on our farms, a proposition was made and adopted, to have a practical test, by actual trial, and to request manufacturers to bring their turning plows and cultivators for trial.

The Goodwyn and Montpelier Clubs, also of this county, were invited to join with us in the trial, and heartily accepted the invitation. A committee of three from each Club was appointed to make the arrangements, correspond with manufacturers, select judges, &c.

The trial came off on the 1st of May, near Williamsboro, a small village in the eastern part of the county, on the farm of Mr. E. Haithcock, in the presence of the three clubs and of about one hundred and fifty farmers from Granville and Warren counties, N. C., and Mecklenburg, Va. Had it not been for the short notice and busy time, there would have been a much larger attendance of farmers to witness this interesting trial of plows.

Plows, cultivators, harrows, coulter, &c., were present from the following manufacturers:

J. & J. L. HOBGOOD, Oxford, N. C.  
 Dr. WILLIS LEWIS, " " "  
 W. B. DUNN, Forestville, N. C.  
 STIVAL & MORGAN, Williamsboro', N. C.  
 B. S. KARNEY, Franklinton, N. C.  
 P. H. STARKE, Richmond, Va.  
 WATT & CALL, " "  
 TAPPEY & STEEL, Petersburg, Va.

The trial commenced about 10 o'clock in the morning and continued with a short intermission for dinner, until 4 o'clock, or later, in the evening. During the intermission, Mr. Watt, who was present and worked indefatigably all day, "for the good of the farmers," as he said, "and for some good to himself too, gave a very interesting and instructive talk on farming matters in general—urging the importance of deep plowing, thorough cultivation, diversity of crops, good stock of all kinds, the proper gearing of teams, and of kindness and humanity in the treatment of our horses and mules. Many farmers left the grounds that evening with more enlarged views about many things connected with their vocation than they had brought with them in the morning.

The judges (two from each Club), were practical farmers—most of

them practical plowmen. After a very thorough test, the judges taking hold of the plows themselves, the following award was given:

- The Watt single turning plows, the best.  
 “ Stoval & Morgan turning plows, second best.  
 “ Watt double “ “ the best:  
 “ Stoval & Morgan turning plows, second best.

The Stoval & Morgan's jumping coulter, with attachments, and Dr. Lewis' combined cultivator and harrow, were highly recommended.

Mr. Watt exhibited his one-horse and two-horse smoothing harrows, which worked beautifully, reducing in a short time the cloddiest surface to great fineness and smoothness—among the most valuable and useful implements exhibited, especially for preparing for and seeding grass and clover seed.

We have now in our county three Agricultural Clubs, the Spewmarrow, the Goodwyn and the Montpelier, dove-tailing into and working with each other; and there is a move for the organization of the fourth, which, if successful, will give us a very valuable auxiliary. The success of our “plow trial,” and a feeling of power arising from combined action in our Clubs, is begetting a desire in the minds of some of our members to do more for the good of the farming interest of this section. There is some talk of organizing for an annual county fair, after the manner of and for the same purposes as the English and Continental Fairs—not solely for the purpose of pleasure, exhibition and premiums, but more especially for the exchange, barter and sale of stock and agricultural products of all kinds.

Will you not, Mr. Editor, give us a few inklings on this subject in your valuable paper?

N. V. W.

*Brookland, N. C.*

(For the Southern Planter and Farmer.)

“BILLION OF SECOND.”

In your February number of *Planter and Farmer* is a piece taken from the *London Times*, written by Henry Bessemer, on the “significance of a billion.” He says: “As a measure of time, I would take one second as the unit, and carry myself in thought through the lapse of ages back to the first day of the year 1 of our era, remembering that in all those years we have 365 days, and in every day just 86,400 seconds of time. Hence, in returning in thought back again to this year of grace, 1878, one might have supposed that a billion of seconds had long since elapsed; but this is not so. We have not even passed one sixteenth of that number in all these long eventful years, for it takes just 31,687 years, 17 days, 22 hours, 45 minutes and 5 seconds to constitute a billion of seconds of time.” Allow me to say that Mr. B. is *much mistaken*, for it only takes 31 years, 259 days, 1 hour, 46 minutes and 40 seconds to constitute a billion of seconds of time.

FROM A LADY WHO READS THE PLANTER.

[For the Southern Planter and Farmer.]

### REPORT ON THE FARM OF CHANNING ROBINSON, ESQ.

Your committee appointed to examine the farm of Mr. C. M. Robinson beg to say that they have done so, and make the following report: *Eshcol*, the farm of our respected secretary, Mr. Channing M. Robinson, is situated on the north side of Grove avenue, about one mile from the corporate limits of Richmond, and was formerly the estate of Mr. Anthony Robinson, the father of the present owner.

This farm is naturally of a good soil—of various composition, mostly a rich chocolate loam, on a clay subsoil. The different aspects and lay of the land are well adapted to natural or artificial drainage and easy cultivation. The dwelling—large, solid and commodious—is beautifully situated in a fine grove of original forest oaks, sufficiently remote from the noise and dust of the avenue, and yet not too secluded, commanding a view of the city and surrounding country.

Mr. Robinson cultivates about seventy-five acres; forty-eight are in high cultivation, and the balance is being gradually improved. The present growing crops are wheat, winter oats, clover and rye; merely a little of the latter, for the name of the thing.

The wheat, of which there are twenty-eight acres, is looking very fine, vigorous in growth and of good color. There were no indications of the Hessian fly being at its destructive work or having done any injury.

Your committee observed that the wheat has been sown in different lots and after different crops—potatoes, clover and corn. As was to be expected, that succeeding clover and potatoes is much more forward and vigorous than that after corn; a liberal top-dressing of barn-yard manure, which has been given, will, however, in a short time, bring all even. At the very pleasant meeting of our Club lately held on this farm, it will be recollected that casual mention was made of the rough appearance of the ground after corn. Mr. Robinson thought at that time to remedy it by rolling. He, however, has done better by breaking up the roots and clods with the hoe, and gathered and carted the roots and loose stalks to the barn-yard. We think the work could have been done as effectually and more cheaply with the harrow; but our friend is afraid of the harrow, and likes not the idea of pulling up even a little of what he has planted with so much care; at any rate, his prospect of reaping a large yield is good. The variety are Fultz, Bouton, and a small quantity of "Arnold's Gold Medal," obtained from the Department of Agriculture at Washington. The latter is looking well, though not so vigorous as the other varieties.

There are thirty-three acres of winter oats and eight acres of spring oats. The oats are looking better than we have ever seen them before on the same land.

Clover is looking well, and in its growth gives evidence of our late mild winter and early spring.

Mr. Robinson does not keep a large amount of stock—only cows enough to supply his family with milk and butter, and the usual farm and carriage teams. The vicinity of the city and facility of procuring manure, enables him to sell and convert into money nearly all the crops raised, even to the straw, and we find he is very well satisfied with the net result. We found the pigs all penned, looking well and contented with their lot. We are sorry to find such a prominent member of our Club is not in favor of thoroughbreds, but cultivates a mixture of Essex, Berkshire and Poland-China. We think he ought to be called to explain to the Club why he cultivates such an "*omnium gatherum*."

We had almost forgotten to make any mention of that part of the farm mostly connected with home comfort—the garden. Mr. Robinson had not forgotten it, as it was already cultivated and supplied with the usual seeds. The name of this farm, "Eshcol," or land of the grape, led us to look for the vineyard, which we found represented by two luxuriant arbors—one of the Scuppernong and the other of the Missouri. Mr. Robinson informed us that he had gathered from the latter in one season twenty-five bushels of grapes, and that it was a good wine grape.

The above is respectfully submitted,

J. G. BEATTIE,  
T. S. MICHAELS.

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[For the Southern Planter and Farmer.]

### DOES WHEAT TURN TO CHESS?

I see a good deal said in the *Planter and Farmer* about wheat turning to cheat. It is a matter about which men have differed since my earliest recollection, and about which they may differ for years to come, unless some one takes the trouble to get at the truth of the matter. I will not undertake the task myself, but am willing to contribute my mite towards it. I have been observing the growth of wheat and cheat for twenty-five years, and never yet have seen any convincing proof that wheat will turn to cheat. I know that the cheat grain will germinate and produce cheat; and have further noticed that if I sow clean wheat, I reap clean wheat; if I sow cheat, I reap cheat, and if I sow cockle, I reap cockle. I am a firm believer in things producing "after their kind." They may be improved or degenerated by good or bad culture. John O. Harris (April number) seems to think the wheat germinating on top of the ground causes it to turn to cheat and cockle. If that were the cause, there would be but *little* if any wheat clear of cheat and cockle. I never have yet seen a crop of wheat put in that there was not some left uncovered; and, according to his rule, if three grains were to grow without being covered, one of them would produce wheat, one



cheat and the other cockle. 'Tis a bad rule that will not work both ways. Perhaps if John O. Harris will plant some of his cheat and cockle the *proper* depth, they will turn back to wheat. I put in my wheat last Fall with the drill—part of it on wheat stubble. The stubble and rag-weed would catch on the points of the drill hoes and drag, leaving a great deal of the wheat uncovered. It rained soon after, and the wheat all came up—that which was not and that which was covered—but as yet none of it has turned to cockle; don't *think* any of it has turned to cheat.

Why is it that timothy meadows are sometimes so taken by cheat, and in a few years the cheat will disappear and the timothy take its place? Can any one tell what the rag-weed comes from that always follows the wheat crop? What produces the various kinds of weeds that spring up after the land is cleared, where, before, there never was one seen? What produces the blue grass and white clover that grow so finely in some portions of our State after the timber and brush are removed? Do they come from their own seed, or does something turn to them? Will smutty seed produce smutty wheat?

*Wythe county, Va.*

T. M. GANNAWAY.

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[For the Southern Planter and Farmer.]

#### FODDER PULLING.

Having read Mr. S. M. Shepherd's experience in pulling fodder in 1874 and 1876, I am led to relate the experiment of W. B. Carney. I have been of the opinion that Mr. S. was so near correct, that I have continued to strip my fodder. I was at W. B. Carney's, in Norfolk county, Virginia, the 28th of last January. He invited me to see some corn measured. I found three flour barrels filled with corn unshelled. One contained corn cut at the ground and shocked at the time to pull fodder; another was marked fodder left on, not cut and shocked until perfectly dry; the other was marked fodder pulled. I assisted in measuring, moving a straight-edge very slowly across the half-bushel, so as to leave it perfectly level. The first barrel, after being shelled, weighed 110 pounds and measured 2 bushels,  $1\frac{1}{2}$  quarts; the second, 109 pounds, 2 bushels,  $1\frac{2}{3}$  quarts; the third, 110 pounds, 2 bushels, 1 quart. The tops were all cut at the regular time to pull fodder through the misunderstanding of the man performing the work. The difference is so small, I still expect to continue to follow Mr. S's plan. It is claimed by farmers near Great Bridge and Norfolk county, that their corn will shell six bushels to the barrel. The seed of this corn was obtained by Carney from that place. His crop was late, being raised between trucks.

*Isle of Wight county, Va.*

W. S. GRIMES.

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The most successful farmer is not the one that gets most money, but the one that gets the most good from everything.

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[For the Southern Planter and Farmer.]

PLASTER—ESPECIALLY THAT OF BEVERLEY & SONS.

Three years ago I bought from Messrs. Beverley & Sons five tons of their ground plaster. I sowed in wheat, on corn land, which had been cultivated very hard, and I was anxious to get it to grass. I sowed my grass seed and plaster together on the wheat in April; a very intensely dry Spring and Summer followed, and I saw no action from the plaster. The wheat was the most perfect failure I ever had, and I saw no appearance of any kind of grass, though I would get down on my knees with spectacles on to see if there was any. What little wheat was on the field I made the cradlers go over and cut the best of it down and rake it up with a horse-rake, and in that way I got about one bushel per acre. I then turned my stock on it—hogs and all. The 25th of July came the first shower of rain of the Summer, which sprouted what little wheat was left and gave action to the plaster, and in a week or two the field began to look a little green; stock remaining on it to 1st November. I then turned off and let it run, and the next Summer I harvested fifteen bushels wheat per acre on all except some out-land in the field that was Winter killed, and I did not cut over. *This was entirely attributable to the good plaster*, as I had a field alongside and nothing but a plant fence dividing, which was in better condition and alike in treatment, *except the plaster*, and there was not a handful of wheat on it and little or no grass. To my greater astonishment, I had a splendid set of grass, and now it is the best set field on my farm. The Fall of 1876 I used a fertilizer on my wheat, except on two bushels sowing. On that I sowed Beverley's plaster broadcast late in February. That made me sixteen bushels to one; that sowed right beside it, on rather better ground, with one hundred and fifty pound fertilizer, "Buseys," made fourteen to one—certainly attributable to this excellent plaster. Wm. Moss.

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The Fish Commission appointed to decide the matter of dispute between the U. S. and Great Britain, gave their decision, awarding Great Britain \$5,500,000. — What more appropriate present to a farmer friend, or for a farmer's son or daughter to their father, than the *Planter*. — In writing to advertisers, please mention *Planter and Farmer*. — Mississippi takes the lead among the cotton-growing States. — Kentucky grows more than half the hemp crop of our country. — The last potato crop throughout Great Britain was unusually light. — There are about seventy thousand orange trees in bearing in Louisiana, yielding over thirty million oranges annually, which are worth on the trees about \$100,000. — There are some things it never pays to doctor. If you have a sick fruit tree of any kind dig it up at once, and in so doing dig a big hole ready for a thrifty tree next Spring.

## Stock Department.

CONDUCTED BY DR. M. G. ELLZEY, AGRICULTURAL AND MECHANICAL COLLEGE, BLACKSBURG, VIRGINIA.

### THE JERSEY CATTLE.

Among the butter breeds, the Jerseys stand first. Of this there can be no question or doubt. The quantity of milk yielded is very satisfactory when we take into consideration the size of the cow and the quantity of food consumed; and the quality of this milk for butter purposes, is certainly unsurpassed. We shall not stop to go into the history of these purely phenomenal Jerseys which have occasionally produced extraordinary quantities both of milk and butter. Such cows are to be found among all the breeds, and even also among the mongrels and the scrubs. The fair average Jersey cow yields, according to our information, rather less than three gallons of milk daily, when fresh, which quantity of milk produces about one pound of butter. Certainly we have known many Jerseys which greatly surpassed this yield, and we have at the same time known many others that fell greatly below it. We think that 500 gallons of milk and 200 pounds of butter in the year is about the yield of a good Jersey; and we think further, that this implies good feed and management, and that even then more cows will fall below this standard than will surpass it. As to the quality of the butter, it is superior to that of any other cow and fetches a higher price on the markets. The skim milk is blue and rather poor in quality, and is not desirable either for family use or for feeding purposes. For grading purposes it is ascertained that the Jersey bulls are very prepotent in their crosses and that the peculiar milking qualities are often as strongly developed in the half-bred cows as in the pure Jerseys, the quantity of milk being very often greater in the grades than in the purely-bred cow, while its quality is little, if at all, inferior for the production of the first quality of butter. In starting a butter dairy, we think there can be no doubt that the best possible plan would be to begin with selected native cows and a carefully selected Jersey bull, saving the heifer calves and gradually substituting the best of them for the old cows. The cows selected for this cross should be rather above the medium but not of the largest size. They should yield more than an average quantity of milk, and it should be ascertained that the proportionate yield and quality of butter are satisfactory; color and shape will be matters of perfect indifference as to yield perhaps, yet there is a certain satisfaction in having the cows uniform in style and appearance as well as in yield. The bull should be purely bred, of good size and

masculine appearance; if it can be ascertained that his dam and grand dam have been great performers at the pail, that will be a great point gained. If he proves successful in the first cross, breed him to his own daughters without any hesitation whatever. No evil and much good will result from this step; and if no evil is observed, he may be used for a third cross in the same manner. After that it will be better to change the bull. If the new bull fails in the first cross, get rid of him and weed out his get from the herd. If he proves successful, hold on to him as long as possible. After you have five pure-bred crosses, you may send your best butter cow to the best pure Jersey bull you can find until you get a bull-calf, and thereafter continue this plan of renewing the bull. This plan will produce a dairy of butter cows of first-class excellence, cheaper than they can be otherwise obtained. The following are the leading characteristics of the Jersey cow: The head is of medium size, but rather long; the muzzle fine, the eye bright, prominent, mild and beautiful; the horn small, neat, crooked and of fine texture, and tough, waxy appearance; the ear thin and fine, of a bright rich orange color within; the neck rather long and slim; high and thin in the shoulders and crops, slim in the fore-ribs, with a big, drooping belly; the chine thin and high, though the animal is apt to be rather sway-backed and to rise from the coupling of the hips and loins to the setting on of the tail; the hips are narrow and the twist cut up high towards the chine; the thighs being flat, thin and flabby in appearance; the legs below the knee joints are neat, fine and small; the hoof black, hard and neat, and finally, the whole appearance is deer-like and not unpleasing, though when examined, point by point, the beast seems to be as ill made and ugly as possibly can be the case. Accurate experiments in the matter of the relations of quantity and kind of food to product in the dairy are greatly wanting. If we could have a national Experiment Station they might undertake a series of such investigations with the best prospects of success, and the good accomplished would be vastly in excess of anything possible on the present plan of organization of the Department of Agriculture. We do not know anything of the Jerseys as food consumers, therefore, but there is a general impression that they are large feeders in proportion to the results in marketable products. Our own conclusion is, that they are large feeders and that there is a large share of the food used up in the formation of the waste products of the system. Much of it is, however, doubtless to be accounted for in the extraordinary richness of the milk. It is not merely the well known and remarkably handsome color of Jersey butter that gives to it its pre eminence in the markets, but it is as far superior to the common kinds in flavor and nutritious qualities as in color. One objection urged against the Jerseys is, that the bulls are apt to be savage and unruly, and we are afraid this objection is, to some extent, well founded; yet, strange to tell, the cows are as docile and gentle as those of any known

breed. Our experience is, that bulls of any breed are somewhat uncertain and dangerous, and should always be approached and handled with some degree of caution. A ring should always be put in their noses at one year old, and it is safest to lead them by a staff and not by a chain or strap. It is best not to allow them to run at large where they can have the opportunity to make murderous assaults. Bulls and stallions are to be regarded and treated as necessary evils. With proper management, we doubt if Jersey bulls are more dangerous or troublesome than those of other breeds.

[For the Southern Planter and Farmer.]

HAYS, April 17, 1878.

DEAR ELLZEY,—I have had many horses and mules opened after death, most of whom were treated for bots, and have yet to see the first case where they had done injury. A majority of the cases died from inflammation of the bowels, caused by the drastic and ridiculous remedies administered. I have known the entrails of a chicken forced down the throat of a valuable animal as a remedy. Upon another occasion, a portion of the horse's mane and tail chopped up, and administered in urine. This to an animal owned by a professor of chemistry, by the way.

A horse has colic, which is at once pronounced a case of bots, and the remedies used kill the horse. In one *post-mortem*, which all the experts pronounced bots before the death of the animal, we found that the horse died from congestion of the lungs. The bots is incapable of penetrating the stomach, as much so as a fishing worm is of going through a granite wall. But granting that he has the faculty of so doing, the stomach being punctured, the case would be hopeless in nine cases in ten.

If the bots had the power of eating a hole in the horse's stomach, the animal would have disappeared from this part of the world long ago. To those of your readers who believe in the fatal effects of bots, I will give a prescription, which a veterinary surgeon told me he had never known to fail in removing them from the stomach of the horse. It is simply three or four Irish potatoes, chopped up raw, and given in mixed feed, three times a day, for three or four days. Of course quick work should be avoided while the horse is on this diet; but as prevention is better than cure, anyone may avoid the bots by passing a greased rag over the eggs of the bott fly, which she attaches to the hair of the legs and other portions.

Truly your friend,

WM. N. BERKELEY.

NOTE BY EDITOR.—It is, indeed, wonderful how much willful ignorance prevails on the subject of this parasite of the horse, and it is certain that a great number of valuable animals have been destroyed by absurd attempts to destroy these worms. The vitality of the bott is simply marvelous. It can resist the action of concentrated acids and alkalies, which would kill the horse outright. It is in vain to attempt to remove it from the stomach by any ordinary and safe medicine. We think it likely that coal oil would effectually destroy them, and not in-

jure the horse. The fly which deposits the egg, which produces the bott, is well-known to every one who has anything to do with horses. When the horse licks itself, the egg is instantly hatched by the warmth and moisture of the tongue, and the little worm extracted, often leaving the shell of the egg still adhering to the hair. Growing from the head of this worm are two stout little hooks, by means of which it becomes attached to the mucous membrane of some portion of the alimentary canal. Once attached, it remains in place until considerable development takes place, and in the Spring or early Summer, lets go its hold, passes out with the dung, enters the ground, forms a chrysalis, and soon thereafter emerges again in the form of the well-known fly. In a great majority of cases, the larger number of botts attach themselves to the left half of the stomach, which is covered with a highly insensible cuticular membrane, and remain there utterly harmless, until one at a time they detach themselves and pass out with the dung as above mentioned. They may, however, during their passage out, reattach themselves to the bowel at various points, and are often found adhering to the skin externally beneath the tail. Sometimes they are attached to the throat primarily, and produce a chronic discharge from the nose; sometimes they may be seen adhering to the mucous membrane far back in the throat, whence they may be removed by the hand or with forceps. From this point to the arms they may be found singly or in patches, hitched on to the mucous membrane, and sometimes they accumulate at certain points in such numbers as to cause complete obstruction of the bowel. It is clear that obstruction of the bowel from this cause is bound to prove fatal as in other cases. There is absolutely no means of making such a diagnosis except by a *post mortem* examination. We once saw a case of this kind. The horse in this case could not swallow food or drink; everything returned through the nostril. When opened, a great mass of botts were found adhering to the gullet just where it joined the stomach. These worms had probably been originally attached at intervals along the œsophagus from the throat downwards, and had, after letting go their hold for the purpose of passing out to assume the chrysalis form, re-attached themselves at this point. Certainly there is nothing to preclude the idea that botts not producing obstruction may, nevertheless, produce irritation when accumulated at the sensitive points of the alimentary tract, which may result in colic or inflammation, but such cases are certainly very rare, and not to be distinguished during life from ordinary colic or inflammation. To treat any case of colic or inflammation with harsh medicines, with a view to the destruction of botts, nearly always results in the destruction of the horse, without disturbing the botts. It is absurd to suppose the bott can penetrate the gut. In cases where this is supposed to have occurred, the stomach has been rup-

tured by distension or attacked by the gastric juice after death. It is entirely useless to pursue any plan of medication with a view to making the botts let go the stomach, or, indeed, in the hope of in any manner disturbing them, unless by means of a remedy not yet discovered.

#### MR. J. B. LAWES ON NITROGENOUS MANURES.

SIR,—A short time ago I pointed out in your paper the reasons why it appears probable that nitrogen does not become active as a manure until it has assumed the form of nitric acid. The presence of nitric acid in water draining from the soil, is supported by an overwhelming amount of evidence. It is found in the water running from my land, on which no manure containing nitrogen has been applied for nearly forty years, and it is very abundant in water where salts of ammonia, and no other substances containing nitrogen, have been applied to the soil for an equally long period. The sixth report of the "River Pollution Commission," which contains thousands of analyses of water taken from every part of Great Britain, leaves not a shadow of doubt that nitric acid is the ultimate product, whatever may be the form in which nitrogen is applied to the soil. One of the most important elements of plant food is, therefore, always in solution of the soil, moving upwards or downwards in the water, and, unless arrested by vegetation, passing beyond the reach of plants whenever heavy rain saturates the soil or the drains run. Equally important elements of plant food, such as phosphoric acid and potash, although perfectly soluble in water, enter into very insoluble compounds with the soil; and very minute quantities of these substances are found in drainage water. But although insoluble, they still exist in a form in which plants can take them up without difficulty.

In our permanent wheat field we have two experiments side by side; both received potash and phosphoric acid in 1844, and from 1845 to the present time both have received an annual dressing of salts of ammonia, except in 1848 and 1850, when one received a manure containing potash and phosphoric acid. The effect of these mineral manures, applied 30 and 25 years ago, is shown up to the present time by an increase in one crop as compared with the other; and this difference is likely to continue until almost the whole of these substances has been taken up by the crop. Some years ago, a son of the late Baron Liebig asked us to furnish him with samples of the soil of this wheat field, and the result of his analysis established the fact that manures such as phosphoric acid and potash remain in combination with the soil very close to the surface. As all manures are applied either to the surface of the soil, or a few inches below it, we may consider that if they contain potash, phosphoric acid and nitrogen, as is the case with farmyard manure, the two former will remain close to the place where they are deposited, while the nitrogen, as it becomes converted into nitric acid, will diffuse through the soil, where part will be arrested by vegetation, and part will escape into the subsoil and drains.

This fixed condition of one part of the food of plants, and solubility of another, explains why nitrogenous manures are held in such estimation by farmers. They are not only the most active, but the most likely to be deficient in the soil, compared with the more fixed ingredients. I am disposed to think that a careful consideration of the

special properties of the various manuring substances, will help to explain several points in which science and practice are not altogether in agreement. One instance of such a difference may be pointed out in an ordinary corn crop. Measured by the amount of manure ingredients removed, which may be called the scientific standard of exhaustion, the corn crop should be the least exhausting of all crops, but practice says otherwise. A corn crop takes up less nitrogen than any other crop, but is more especially benefited by the application of ammoniacal manures. A root crop takes up much larger quantities of nitrogen than a corn crop, and yet the general opinion is that phosphates rather than ammonia is the manure most adapted for its growth.

In order to explain the difference between these two crops, we must consider their peculiar habits of growth. A corn crop commences actively growing in early Spring, just after the Winter rains have washed a great portion of the soluble nitrogen out of the soil. Owing to evaporation from the surface of the soil, as well as to the vast quantity of water which plants give off in their growth, comparatively little water passes into the subsoil, and beyond the reach of the plant in Summer and Autumn. The corn crop avails itself of any nitrogen, or nitric acid, which it finds in the soil, but its active period of growth ceases early in Summer. Sometime in June, or generally in July, the changing color of the crop shows that the collecting of food from the soil has ceased. The root crop may be said to commence its active life in July. All the soluble nitric acid which the corn crop could obtain can be taken by this crop; and it can collect, in addition, all that is formed during the Summer and Autumn months. By arresting the nitrogen, which would otherwise have been washed away by Winter rains, the root crop obtains a supply of soluble nitrogen which was not available for the corn crops, and to this extent it is less dependent on a direct supply of nitrogenous manure than the corn crop. It has often been said that broad leaves, such as the root crops possess, obtain the nitrogen from the atmosphere, but I have no reason to think that such is the case. If, however, a root crop arrests nitric acid which would otherwise be washed out of the soil by the Winter rain, it may be said to add fertility to the soil, as if it had absorbed it from the atmosphere.

Dr. Frankland found no nitric acid in the drainage water taken in the month of June from our permanent wheat field, on the flat where no manure containing nitrogen had been applied since 1840; the water taken from the same flat at the end of October, however, contained considerable quantities. As the soil of our permanent root crop land is more exhausted of its nitrogen than that of the field when permanent corn crops are grown, it is, I think, tolerably evident that it is the soil, and not the atmosphere, which furnishes the root crops with nitrogen. The distinction between the corn and root crops in regard to nitrogen may be explained as follows: Both depend upon a supply of nitrogen in the soil, and both take the supply from near the surface of the soil; a root crop takes more nitrogen from the soil than a corn crop, but it is less dependent upon a direct supply of soluble nitrogen in manure, because it can avail itself, not only of the nitric acid which would be formed in the Spring and early Summer, and which would be equally available for a corn crop, but also of the nitric acid which would be formed in more or less quantities during the Summer and Autumn months.

The period of time over which some of our crops collect their food is



very long; clover, for instance, is sown in Spring, and is not ploughed up until about eighteen months afterwards. Some clovers have much deeper roots than others, and experience shows that it is the deeper-rooted plants which are most beneficial to the succeeding crops. Without pretending to say that the distinctive properties of the various crops can be entirely explained by their behavior in reference to these special properties of plant food, still, the range of their roots, the length of time during which they collect food, and the period of the year in which it is collected, must have a distinct effect upon the results. The saying that "nature abhors a vacuum," was an attempt to explain a fact long before the true explanation was known. Nature's abhorrence of a spot on the earth uncovered with vegetation, and the assiduous provision which she makes to clothe it with plants, must have been observed at a very early period. The true explanation of this process is to be found in the escape of nitric acid, and the arresting of it by living vegetation.

From a piece of old pasture on my farm a crop of hay has been removed every year for twenty-two years—no manure of any sort having been applied to the land during that period; yet the first nine inches of soil contain about 2,000 pounds per acre of nitrogen in some fixed combination—more than would be found over the same area in the adjoining arable land. This amount is quite independent of that which would be contained in the living vegetation of grass and roots. As the time when the land was converted into pasture is not known, we cannot measure the rate at which the amount of nitrogen has accumulated; but the fact I have stated gives some idea of the functions of vegetation in arresting and storing up nitrogen for future use.

J. B. LAWES.

*Roathamsted, St. Albans, April 12, 1878.*

NOTE BY EDITOR.—We present above a most interesting and important letter of the most competent and experienced authority extant upon one of the leading topics of agricultural science, to which we invite particular attention; and we venture to ask our readers in this connection to recall our own views upon this point as expressed in previous numbers. It appears to be settled beyond question that all salts of ammonia and ammonia itself give up their nitrogen in the soil in order that it may unite with oxygen to form nitric acid, and that in this ultimate form, if not arrested and taken up by the roots of growing plants, it descends rapidly through the soil, and is washed out in the drainage water, or is lost in the subsoil, far below the reach of plant roots.

In a former letter by Mr. Lawes, published in the same journal from which the above is taken (the *North British Agriculturist*), the great experimenter remarks: "As parts of my land have been growing wheat manured with different proportions of salts of ammonia and nitrate of soda for the last 20 or 30 years, they present unusual facilities for such investigations, of which Professor Voelcker and Dr. Frankland have availed themselves. The latter has determined the ammonia and nitric acid in more than 100 samples of drainage water from these plats, and all these analyses agree in showing that whether salts of ammonia or nitrate of soda are applied to the soil, nitric acid and practically *no am-*

*monia* are found in the drainage water. The proportion of nitric acid was always larger where the most salts of ammonia were applied." Our readers will please mark this—that whatever the form in which nitrogen be applied to the soil, it must be converted into nitric acid before it can be distributed through the soil, and become available as the nutriment of plants. Why, then, does our learned friend, Colonel Washington (see May number of *Planter*), become so indignant with the analyzer who reports the nitrogen of his analysis in fertilizers as "nitrogen yielding ammonia?" and why does he place full reliance in that valued as "ammonia?" The true valuation is most clearly based on nitrogen yielding nitric acid, since to that form nitrogen must come before it can be assimilated by plants. The nitrogen valued as ammonia is not in the form of ammonia at all, but in the form of organic matter or salts of ammonia and nitrates, and the valuation of it as ammonia is utterly wrong and misleading, and this is one of the most fatal objections to the valuation tables in use. The only correct way to state the result of the analysis, and therefore the only *honest* way, is to state the nitrogen as nitrogen yielding ammonia, which it does yield to the analyst under treatment with "caustic alkalies and red-hot crucibles," and in no other way does he or can he estimate the nitrogen of the fertilizer, except by thus first converting it into ammonia. Then when he values this ammonia *which he has made out of the materials of the fertilizer* (there is no ammonia in the fertilizer) all at one price, while he remains in absolute ignorance of the nature or sources of the materials from which the ammonia is made, we maintain, and we maintain in the face of all comers, that any calculations based upon such valuation by the farmer are utterly delusive and misleading, and that whatsoever confidence is reposed in such valuation by Colonel Washington, or anybody else, is misplaced confidence. We hope that, in accordance with suggestions made by several gentlemen, this matter of fertilizers will be fully discussed at our next State Agricultural Fair.

We take the following from circular No. 52, Department of Agriculture, State of Georgia:

REMARK.—In publishing the *average* analysis of *Patapsco Ammoniated Soluble Phosphate* for 1875-'6, a typographical error occurred in the *Soluble Phosphoric Acid*. (See page 5, of Circular No. 26.) It is there printed 1.56, but should have been 4.56. It was an error of the printer. The commercial value was correctly calculated and printed, viz: \$48.95, according to the prices per pound for the valuable elements in fertilizers, adopted *for that season*.

On page 19 of the same circular, in giving a comparison between the commercial values and cash prices of fertilizers, a clerical error in copying occurs, in giving the commercial value of this brand at \$40.85, instead of \$48.95; and again, on the same page, in giving the "excess of price over value," as \$14.15, when it should have been \$6.05.

“A table, in which the Analyses, Commercial Values, and Cash Prices of Fertilizers for the seasons of 1875-6 and 1876-7 are compared,” was published in Circular No. 42, in July, 1877, commencing on page 15; and this comparison of Patapsco Ammoniated Soluble Phosphate appears in it, on page 19 of the Circular. The available Phosphoric Acid for 1875-6, is given there at 7.38 per cent., when it should have been 10.38 per cent.—making the commercial value \$33.19, when it should have been \$40.69. This was caused by copying the above named error of the printer, showing only 1.56 per cent. of Soluble Phosphoric Acid, when it was 4.56 per cent.

These errors are here noticed and corrected at this late day, because the Commissioner of Agriculture is informed that they have recently been printed in a fertilizer card and circulated, to the prejudice of the Patapsco Company.

NOTE BY THE EDITOR.—The above puts a remarkable state of facts before the public. Typographical errors, which constitute a damaging advertisement against an honest company, such as we know the Patapsco Company to be, are utterly inexcusable on the part of public officers. This matter will come to be understood after awhile.

#### TECHNICAL EDUCATION.

Liebig thought it absurd to attempt to teach the average German youth advanced science, at the same time that he was being taught manual dexterity in the technical operations of any pursuit by labor or practice in such handicraft. Professor Huxley thinks that the average English boy, intended for any handicraft, must *leave school* in order to *begin work*, at not later than 14 years of age; and that thereafter there ought to be provided night schools, where he could carry forward, free of cost, the study of such sciences as bear upon the practical part of his work.

The best medical teachers think that a first-course student ought not to take any part of the clinical courses, as experience establishes that it results in retarding the progress of the student. In our industrial colleges, mostly such only in name, the courses of instruction are far too extensive to admit of any thing of importance being accomplished in the way of acquiring handicraft skill in any industrial art. And much that is taught cannot be utilized in any ordinary trade. Our idea of an Agricultural College is, that the student should receive such instruction in the school as would best fit him to pursue farming as a business, but that he should receive no diploma unless he spent at least one year afterwards under a practical teacher, working at some specialty, in the various schools of practice afforded by the College Farm; of course the great difficulty would consist in getting the boy to remain and do a year's work, unless the style of operation was such as to convince him that he would or could really learn something by it to compensate him for his time and labor. Experience convinces us that less than 5 per cent of

the students in the industrial schools are there without any view to learn the industrial arts, or even the sciences upon which these arts are based, with a view to utilizing them in the practical pursuit of any such industrial arts, but simply to get the benefit of such educational features as are considered good preparation for such learned profession as they may have in view. Unconsciously, the management will shape the course of instruction to suit the desires of the greatest number of the patrons of the institution, and thus, by degrees, they become simply preparatory schools for Universities, or aim at high reputations as independent schools of advanced science, while catalogues and announcements are shrewdly worded to keep up the popular delusion as long as may be. Now, what does all this prove? Does it prove that "industrial education" is a failure without remedy? It does not; but it simply shows that if patronage for these schools is to be obtained from the industrial classes, having in view the pursuit of industrial arts, involving applied science, the courses of instruction must be vigorously pruned of all merely ornamental appendages. The management must have the firmness to say to all who want such things, "*Go elsewhere.*" We are often told that we should not have five students on such a plan. Very well, then let us start with four students; and when we have established a real industrial school, patronage will come; until then, never need we expect the patronage of the working people. We believe that there should be for these institutions an examination for admittance, and that fair acquirement in English and primary mathematics should be insisted upon; and then there should be a curriculum of studies arranged to be completed in two years, from which everything in the nature of preparation for finishing at the University should be rigidly excluded. Then the student should enter the practical department, and when he had given evidence of satisfactory skill in the industry he proposed to pursue, graduate him in that school, and not before. The industrial departments in the University should, on the other hand, ignore the handicraft entirely; and devote their energies to original investigations in the sciences as applied to productive industries. Let there be a division of labor; let the College not encroach upon the work proper to the University, nor the University take upon itself the functions of the College.

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Mr. Abram Renick has exchanged his bull, Duke of Sharon, inbred to 4th Duke of Geneva, and several of the best bred Rose of Sharon cows, for about 400 acres of the best land in Kentucky, valued at about \$125 per acre. Mr. Renick now owns about 2,000 acres of such land, which may be valued at two hundred thousand dollars; all made out of "Roses of Sharon."

We take the following statement from Mr. Darwin's work on animals and plants under domestication. "The Short Horns arrive at maturity far earlier than the wilder breeds such as those of Wales or the highlands. This fact has been shown in an interesting manner by Simonds who has given a table of the average period of their dentition which proves that there is a difference of no less than six months in the appearance of the permanent incisors. The period of gestation from observations by Tessier, on 1131 cows, varies to the extent of 81 days, and what is more interesting, Lefour affirms 'that the period of gestation is longer in the large German cattle than in the smaller breeds.' With respect to the period of conception, it seems certain that Alderney and Teeland cows of ten become pregnant earlier than other breeds." The following are average periods of gestation and incubation :

Mare	11 months.	Duck	33 days.
Cow	9 " 13 days	Goose	29 "
Ewe	5 "	Pea Hen	28 days.
Sow	4 "	Guinea Hen	25 days.
Bitch	2 "	Turkey	26 "
Rabbit	1 "	Hen	21 "
Cat	7 weeks	Pigeon	18 "

From the same work we take the following: "With sheep there has often been long continued interbreeding within the limits of the same flock. The Messrs Brown, during fifty years, have never infused fresh blood into their excellent flock of Leicesters. Since 1810 Mr. Bradford has acted on the same principle with the Fosote flock. He asserts that half a century of experience has convinced him, that when two nearly related animals are quite sound in constitution, in-and-in-breeding does not induce degeneracy. In France, the Naz flock has been bred for sixty years without the introduction of a single strange ram. The most celebrated of recent breeders, Jonas Webb, kept five separate families to work on, and thus secured the requisite distance of relationship between the sexes." The cases mentioned by Mr. Darwin are sufficient to show that the aversion of some sheep breeders to admit a single incestuous cross in any part of their flock is not founded in any known fact. We often see in print the statement that sheep deteriorate more rapidly than most other animals when in-and-in-breeding is practiced. There is no evidence whatever to sustain this notion; the cases above given show clearly it is not the case, and we know from personal experience that the contrary is true.

#### EUROPEAN CARP.

Professor Baird hopes to distribute some of his carp to the States this Fall. We think they will hereafter be the principal fish cultivated in ordinary ponds.

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#### THE FISHERIES OF THE POTOMAC.

Are reported a complete failure; cause over-fishing. Why do not the Legislatures of Maryland and Virginia take joint action to prevent this state of things? What is the sense of States trying to establish new fisheries in all directions, and at the same time suffering such as those of the Potomac have been to be completely destroyed. Such reckless and wanton waste and destruction of public property would be permitted by no other government that ever existed, except such as are to be found in the States composing the United States of America. What is the use of going to the expense of hatching shad or other fish for a river, which, from the time the ice breaks up in Spring as long as a fish is to be caught from the head of tide-water to the sea, is rendered absolutely and permanently impassable, by an amazing multitude of nets, for any fish above four inches in length. It is a waste of money and a want of sense. Shorten the season and give the fish two days and two nights in each week when they shall be positively unmolested, and the natural process of reproduction will soon restore the fisheries.

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#### HORSES FOR ENGLAND.

Horses have been shipped for England pretty freely since we wrote the article on that subject for last month's issue. In one week 600 head went out from Montreal. If the English authorities will send purchasers and ships to Norfolk, Va., they can get all they want; so can Russia or other parties.

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#### SHORT HORNS FOR FLORIDA.

Messrs Ficklin and Son have made a shipment of Short Horns for Florida, a move in the wrong direction. There are not two Short Horns in Virginia to-day, where there ought to be one thousand. And to let them go to Florida at such prices as they are now fetching, is very short sighted in Virginia farmers.

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[For the Southern Planter and Farmer:]

#### SHEEP FOR VIRGINIA—AGAIN.

In the *Planter and Farmer* for April there appears an article entitled "Sheep for Virginia," and signed R. N. S. Had the writer simply given expression to his own opinion upon this subject without misrepresentations or the use of personal strictures, which lack confirmation and are incapable of proof, I should not have felt called upon to notice the effort. But as there are many persons who have expressed a desire that these assertions should be contradicted, in simple justice to myself, I solicit the use of your columns and the courtesy of your readers whilst I "rise and explain."

I am sure that the author of the article referred to will be glad also

to have his errors corrected, because I can conceive of no reason for malicious misrepresentations, and every right thinking man desires to do justice. I have no quarrel with my old friend, Dr. John R. Woods, to whom the writer refers in such complimentary terms, but I feel sure that R. N. S. has been sadly in the dark as to who have been the exhibitors at our State Fairs, if he supposes he does the Doctor justice in stating that he does not breed sheep for show, and consequently refused to take any to our State Fair. I think the Secretary's books will show quite a number of his entries in the past few years, and his absence at one recent exhibition should not be construed, in fairness to him, as evidence that he had suddenly ceased to breed sheep suitable for such competition as one is likely to meet at our annual exhibitions. In his next clause he makes a personal reference in stating "he would not exhibit yearlings as lambs, as one ambitious breeder did two years ago." It will be remembered by many interested in sheep that Dr. John R. Woods brought this charge against me as an exhibitor of a pen of lambs which had been awarded the premium over a pen of his own, and that his judgment was based solely upon the development of the teeth, which, in the absence of other testimony, might be considered fair, but as I shall proceed to show, from competent authority, could not be considered conclusive. It will also be remembered that as soon as the Doctor's charge was made known to me, I personally sought the Department Chief, Mr. James Newman, of Orange, and solicited him to have the matter thoroughly investigated, and if he found the charge to be correct, to have the animals ruled from competition. Every exhibitor of that year knows the result of that investigation. The committee declined to reconsider the award, upon the ground that there was no justification for the charge; that on the contrary, the evidence fully coincided with and confirmed their verdict. Mr. George W. Palmer, of Saltville, who bred and raised the lambs, testified, and is still willing to testify, that the pen in question were lambs, and not yearlings as stated. Mr. Newman, as Chief, reviewed the evidence as presented to the committee, and was perfectly satisfied with it, and I unhesitatingly, and *by his permission*, refer the matter to him now, if there is any doubt upon the mind of R. N. S. Mr. Randall, in his *Practical Shepherd*, and I presume so high an authority would have some weight with your correspondent, certainly the opinion of one so universally acknowledged to be competent, will be received by the public, on pp. 267, says: "The teeth afford the most decisive test there is of the age of a sheep until it is four years old, *though there is sometimes a variation of a number of months or even a year in their development. High kept and rapidly grown sheep acquire their second teeth earlier.*" The italics are my own.

The best judges may sometimes be mistaken if the teeth are the only guide, but the statement of so highly respectable and honorable breeder as Mr. Palmer should be taken where there is any doubt; but in this case I am gratified to be able to state, upon the authority of gentlemen who were members of the committee, that they were not doubtful as to the age of the sheep. I do not design to injure the influence of my old friend, Dr. Woods, or to weaken the respect of R. N. S. for his judgment; but as this charge was made by him, and him only, to illustrate the fallibility of his judgment, I will, by the permission and upon the authority of Mr. S. W. Ficklin, of Charlottesville, state a circumstance which occurred at one of our State Fairs. Dr. Woods and Mr. Ficklin

were looking at a certain buck exhibited by Mr. J. P. Herndon, of Spotsylvania, when the Doctor was earnest in his denunciation of the buck, stating, in his peculiar manner, "He is not a pure Southdown, but is more of a Hampshiredown," and condemned the imposition. Mr. Ficklin said to him, "Doctor, did you sell a Southdown buck to Mr. Gray Boulware of Caroline county?" "Yes sir," said the Doctor, "and a fine one he was." Imagine his dismay when Mr. Ficklin told him that "*this was the same sheep,*" subsequently sold by Mr. Boulware to Mr. Herndon. The animal was a good one, but he was a Southdown for all that, and the Doctor's nice discrimination was not sufficient to protect him in this case from imputing a fraud to himself.

Your correspondent refers to a supposed mistake being made by the committee and an attempt at fraud by the exhibitor, Mr. Cooper, when he states that a buck was shown for a ewe. I am not Mr. Cooper's apologist, but want to see justice done to all, and especially defend my friend, Mr. Newman, from such malicious imputations of negligence as Chief of the Sheep Department. Those who are posted, know well that nothing of the kind was ever attempted. Mr. Cooper was necessitated, for want of accommodation, and by consent of Mr. Newman, to put one of his bucks in a pen with some ewes, but he was nevertheless shown as a buck, and the premium awarded accordingly.

Says R. N. S.: "He will not confine himself to one particular breed and tell you another breed is not pure, as said the 'ambitious breeder' to me, nor denounce an honest man as ignorant of sheep after, &c." The gentleman misunderstood me in the conversation referred to. I did not mean to say that Shropshires, as such, were not pure, but I said then, and now say, that they are not of as pure a type as the Southdowns, if their ability to fix their characteristics upon their offspring was evidence of pure breeding. If I remember rightly, I disputed the statement then made by R. N. S., that "Mr. Randall says the Shropshires are the purest bred of all the middle wool breeds," and, for the benefit of your readers, I will quote Mr. Randall's *Practical Shepherd*, pp. 62. After describing the Morfe common sheep, he says: "This appears to have been the original stock from which the Shropshiredown has sprung; as the country advanced and the breeds became valuable for their carcasses as well as for their wool, the Morfe common sheep were crossed with other breeds, but more particularly with the Longwooled Leicesters and Cotswold, or the Shortwooled Southdown. The admixture of each different blood has produced a corresponding variation in the characters of the present breed of Shropshiredowns, and has tended materially to sustain the hesitation which still exists to allow them a place as a distinct breed;" and to sustain my claim for the Southdown, I will quote from pp. 55, *Practical Shepherd*. In speaking of them and of Mr. Ellman, who had done so much for their improvement, he concludes: "And he closes a useful and honorable career of some fifty years with the satisfactory conviction that he had obtained for his favorite breed a reputation and character which would secure them a place as the first of our middle-wooled sheep,"

As to the charge of "denouncing an honest man," &c., I have to say that I do not now recollect what I said as to the Doctor's ignorance of sheep, but whatever I said was justifiable with the lights before me, and I now say that it must have been ignorance that led the Doctor to allege fraud in the "yearling for lamb trick," when, if he had been posted,



he would have known that *the teeth are not an infallible guide as to the age of a sheep*. I am thankful to R. N. S. for styling me an "Ambitious Breeder." This is an attribute so important and an incentive so essential to success in any department of effort, that it argues well for any man to possess it. I have always endeavored to excel, and in the department of sheep, it is with a feeling of just pride that I can to-day point to the fact that my "ambition" has led me to the control of the finest flock of Southdowns upon the soil of Virginia; if not superior, at least equal, to any in the United States, and I shall continue to give the same effort, instigated by the same ambition, toward the development and improvement of every branch of stock breeding to which I now, or may in the future, devote myself, and shall, under all circumstances, I hope, be considered an "Ambitious Breeder."

*Augusta Co., Va.*

A. M. BOWMAN.

[WE hesitated as to publishing this reply of Maj. BOWMAN, but he insisted that it was unfair not to let him reply. We hope this will be the last on this subject as it is a matter of no general interest to our readers.—L. R. D.]

[For the Southern Planter and Farmer.]

#### MARKING CATTLE.

Passing by where some parties were marking their cattle, preparatory to turning them into the range--the Blue Ridge—a day or two since, I discovered they were using the little wire fixtures for preventing hogs from rooting. They bored each ear, and appended a small metallic tag to the lower part of each. The idea is a good one, is simple, less barbarous, and far less trouble than branding, which is always so imperfectly done as to be almost illegible. On conversing with one of them afterwards, he said that one could procure metallic tags at 50 cents per 100, with name of owner, postoffice, &c., stamped distinctly on them. Unless the animal would accidentally catch the wire on the brush and tear it out, it will answer very well, I would think, for cattle, sheep or hogs. 'Tis true, the rogue, in catching the animal and removing the tag, would have a *carte blanche*, except the hole; yet he can obliterate an ear mark if disposed, or put a new brand over an old one that will almost obliterate it. 'Tis hard to prevent the expert thief's operations in any thing, whether 'tis stealing a sheep or the contents of a metallic safe on an express car.

What think you, Mr. Editor, of wheat heading out on 24th April? Yet such is the case. Whilst I am writing a friend has handed me a head of Fultz wheat very nearly perfectly formed out of a field on the side of the Blue Ridge. Should no untoward misfortune befall it, it ought to be harvested in May. Did you ever hear of such a thing before? I do not remember that I have. The promise of the wheat crop now in the United States, if it matures and is safely harvested, will afford a surplus sufficient to feed Europe, if they did not have a grain. Visiting my friend of the Belmont Stock Farm a few days ago, just on his return from Westover, where he had been revelling with you and others for several days on the many luxuries our excellent friend Drewry feasted you on, I was surprised to find him fit for business; yet he was filling a big order to Florida of a dozen or more of his fine mares for breeding purposes, that a public-spirited club there had just dispatched their agent for.

RUSTIC.

*Nelson county, Va.*

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[For the Southern Planter and Farmer.]

### HORSE BREEDING.

As the season for breeding mares is at hand, no good judge of a horse will be misled by the many "clap trap" station bills that may be seen sticking up at nearly every blacksmith shop and fork road in the country; nor will he be deceived by the bogus pedigrees published in the bills. Every one who wishes to raise a colt should have a purpose in raising it. Some will want to raise a good saddle horse. Such should select the best thoroughbred horse that is accessible. Do not mind it if you have to send your mare a few miles to his stand, and if you will have to pay a few dollars more; it will be better than to breed to the scrub, even if he is brought to your farm, and the owner is satisfied with a barrel of corn in the Fall, or the enormous sum of five dollars. No man who owns a good stallion can afford to stand him at such prices. Even if your mare is a very common one, a colt out of her, when at the age to put to work under the saddle, will be worth fifty per cent. more than his dam was at his age, for it is generally acknowledged that a large majority of colts breed after the sire.

If you live in a section where you will need a heavy draft horse exclusively, breed to a full bred Percheron, and you will be apt to get what you need. If living in the lower country, and want a horse to do general farm work and to be used on the road, either under the saddle or in harness, breed to a highly-bred trotting horse of good size and quiet temper, and you will be apt to get what you need—a horse that will do a great deal of work on the farm, and when you go on the road with him he will take you along at the rate of ten miles an hour with as much ease to himself as the scrub will take you at the rate of five miles to the hour, and with much more comfort to the driver.

I received a circular a short time since from Mr. S. W. Ficklin, in which he stated that he sold a half-bred Percheron stallion to a party a year or two since, and that they had been standing him as a full blood. He very justly said that it was not a mistake, but a "downright fraud." It will be to the interest of every one who intends to raise a colt, no matter what breed he may want, never to breed to a stallion until he satisfies himself as to the correctness of the pedigree of the stallion that he contemplates breeding to. The case that Mr. Ficklin mentioned is not the only one; there are others that are standing horses with forged pedigrees, and some have been pretty successful at it—so much so that I know of men who profess to know a great deal about pedigrees to be deceived by them. But it was their own fault; had they gone to a little trouble to investigate the pedigree, they could easily have found out that it was a forged pedigree. There are very few thoroughbred stallions in the country that are not registered in the *American Stud Book*, and all, or nearly all, of the fast trotters are in the *Trotting Stud Book*, and there is also a book for registering all pure bred Percheron.

Colonel S. D. Bruce, editor of the *Turf, Field and Farm*, who is the author of the *American Stud Book*, is now preparing for the press a trotting register that will give the pedigree of all of the fast trotters in the United States. The title is *Bruce's Trotting Stud Book*. Any person who desires to know the pedigree of any stallion, and will send the name of the horse, the name of the owner, with the pedigree claimed for him, and a description of the horse to Colonel Bruce, will be promptly an-

swered in the *Turf, Field and Farm*, under the head of "Queries and Answers." By the way, every one who feels much interest in horse breeding should subscribe to his paper. The above does not allude to the Percheron. There are other parties who take an interest in them, and are getting up a Percheron Stud Book. C.

*King George county, Va.*

[For the Southern Planter and Farmer.]

### A FEW FACTS ABOUT "SHROPSHIREDOWN" SHEEP, TENDING TO SHOW THEIR SUPERIORITY TO OTHER LEADING BREEDS OF SHEEP AS "RENT-PAYERS."

About the year 1860, the "Parlington Tenants (Farmers) Club," of England, being desirous of ascertaining which of the various breeds of sheep in England were the best rent-payers, undertook and carried out an exceedingly valuable series of experiments, with a view to determine this point.

In the first experiment six matured sheep were taken, at the close of the grazing season, from each of the seven below named leading breeds, viz.: 1. A cross from the Teeswater; 2. Cheviot or North sheep; 3. Improved Lincolns; 4. Shropshiredowns; 5. Leicesters; 6. Cotswolds; and 7. Southdowns. And the object being to ascertain which of these various breeds would give the best return for the food consumed by them before being ready for market, the greatest possible care was bestowed in the matter of distributing the food, &c., amongst them.

The result of this experiment, which is given with great minuteness, placed the several breeds in the following order of merit: 1. Improved Lincolns; 2. Shropshiredowns; 3. Leicesters; 4. Southdowns; 5. Cotswolds; 6. Cheviots or North Sheep; 7. The cross from the Teeswater. The Lincolns surpassing the Shropshires in the matter of wool; and the Shropshires, though of less size, surpassing the Lincolns in the matter of mutton gained in feeding—a small balance being in favor of the Lincolns.

The second experiment undertaken, because of the fact that there were some circumstances connected with the first which were open to criticism, embraced twelve lambs (the best that could be found of their respective breeds—the promoters of each breed being allowed to make their own selection, regardless of price), and were taken of each of the four below named breeds, viz.: 1. Shropshire downs; 2. Leicesters; 3. Improved Lincolns; 4. Cheviots or North sheep. These lambs were wintered together, and in all respects alike, until the 20th of May, when they were clipped, weighed and brought to pasture, each lot of twelve being allotted  $2\frac{1}{2}$  acres of grass, equally and alike, and none being supplied with other food.

On the 20th of October they were all re-weighed, and then it was found that the increase in weight of each of the several lots was as follows:

1. The Shropshiredowns .....	695 lbs. increase.
2. The Leicesters.....	591 " "
3. The Improved Lincolns.....	542 " "
4. The Cheviots.....	484 " "

In this instance it will be seen that the Shropshire-down sheep far surpassed all others in the matter of increase in weight, where the circumstances were absolutely the same in each case.

The above facts have been gleaned from "Outlines of Modern Farming," by R. Scott Burn, part 3, pages 151-155.

*Goochland, Va.*

OBSERVER.

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[For the Southern Planter and Farmer.]

### A REMARKABLE CALF.

Your postal to Warren & Co., making inquiries about my calf, is to hand.

This animal at nine months of age began making a bag, and before it was ten months old its bag got so large that I began to think it was diseased. I called several stock men's attention to it, and took some friends present to look at it and tell me what I had best do for it. When it was nine months and twenty-five days old, some one suggested that it must have milk in its bag, and upon that suggestion I had the man that attends to my cows to try and see if there was anything in it, and to my surprise it was full of milk. Since that time (six weeks) I have had it milked regularly. It is now giving about five quarts per day. This calf has been kept in a lot to herself all its life; has never been petted by any one; has never had any animal running with it; was weaned at the usual time; was carefully cared for during the Winter, but was not fed any grain—only hay and some little wheat bran. At ten months of age it weighed 545 pounds. I propose weighing it at a year of age. I am satisfied that it will weigh 700 pounds. The mother of this calf will weigh about 1,100 pounds, and is about six years of age, and a fine milker. She is the ordinary stock crossed with the Short Horn or Durham stock, but she shows but little sign of the Durham. This calf was sired by a full-blooded Durham bull, bought in Kentucky by Mr. Robert J. Glendy, of this county. This bull calf weighed 1,400 pounds at a year old. I believe that this calf can be brought to give three gallons of milk per day before she is two years of age. It is remarkably fond of playing, runs about more than calves usually do, and is in good health. I have had the milk strained and set away to see if it had any cream on it, and found it quite rich, and I am satisfied that it is as good as any milk can be, yet have not used it thus far.

I have given you the facts in quite a rough way. I am not accustomed to writing up anything of this sort, but if you can fix this up to suit you, the statements I have made are true, and the calf is here to be seen by any one who wishes to see it.

J. W. WARREN.

*Bath county, Va.*

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**SHEEP—VALUE AND PROFIT.**—In all southern localities our southern farmers and planters should keep as large flocks of sheep as possible for the following reasons:

- 1st. They are very profitable, both for wool and mutton.
- 2d. They speedily enrich the land over which they range.
- 3d. Their number increases with great rapidity when properly cared for and protected, and they will thus make the owner rich in a few years.

4th. A German agriculturist has calculated that the dropping from one thousand sheep, during a single night would manure an acre of ground sufficient for any crop. By using cheap, portable fences, and moving the same from place to place, a farmer may manure his outlying fields with sheep, at a less cost than the hauling and spreading of ordinary manure.

5th. A great deal of the most valuable manure may also be made by a cheap and easy system of night folding, on well littered yards and in sheds which should always be erected on the range to protect the flock against sudden and severe changes in the weather.

A man at Mount Vernon, Ind., is feeding 3,800 geese, 2,800 turkeys, and 1,400 ducks for the market. — Keep no worthless animals unless they are growing in fat or paying their board in service.

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### Editorial—Farm, Garden and Fruits.

CONDUCTED BY DR. THOMAS POLLARD. COMMISSIONER OF AGRICULTURE OF VIRGINIA.

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The month of June is, perhaps, as important to the farmer as any other month in the year. It is *par excellence*, the month for "killing grass," and working corn and tobacco, and vegetables. In our latitude, it is also the month for harvesting wheat, and generally oats. Much tobacco is often set out in this month, though May is to be preferred for this purpose.

*Cultivation of Corn.*—If the weather is dry this month, so much the better for corn, and the old adage of "a dry June for corn" is true, because it enables the farmer to work this crop properly. The "Thomas Smoothing Harrow," where the land has been well prepared, and is not stiff, is an excellent implement for killing the young grass as it puts up, and may be safely run over the corn until it is six inches high. By the time it is that high, or soon after, the land should be well stirred, if it is hard or baked, either by running a cultivator deeply through it, or throwing the dirt from it with the plow. A great advantage of throwing the dirt from the corn is that it kills all the grass in the balks, and pulverizes the soil well and gets it in good condition to throw to the corn, when the time arrives for doing so. No corn crop can flourish and produce anything like a maximum crop under bad cultivation. The land cannot be stirred too often, particularly after considerable rains when it begins to dry off, and get hard, and in droughts, to render the soil porous, in which condition it best absorbs moisture from the atmosphere. Neither will good cultivation alone answer, when the necessary constituents which the corn needs are defective.

A judicious admixture of nitrogenous compounds and of phosphates and potash constitute the important manure for this crop. Of all the cereals, it is the greatest grower and the most rapacious feeder, and never like wheat suffers from over-stimulation, if the necessary mineral constituents are supplied at the same time.

Corn contains much more phosphoric acid and potash than wheat, and a little more than half as much ammonia. Corn-stalks contain a large amount of potash and silica, and should for that reason not be thrown away (or burned as done

by some farmers), but be put in farm pens and composts. Most soils contain lime enough for corn, if the other constituents are in proper proportion—and stable manure, the great fertilizer for corn, contains also some lime. Where any corn is yet to be planted, as may be the case with those farmers who never hurry themselves, or with those who wish to plant after clover or other grass has been cut, or on cold, wet lands, then a quick growing variety should be used, as in Canada, or the Northern States; using manure or commercial fertilizer, unless the land is of very good quality.

*Oats.*—Winter oats promise well. Spring oats rarely yield well, and should not be sowed, except under very peculiar circumstances, or in colder latitudes than Virginia—though it may be that in some of our coldest mountain regions, Winter oats may not stand the Winter. If sowed in August and September they will stand very severe cold.

*Tobacco.*—We have heard much complaint of tobacco fly this year, and the promise of plants is said to be not very good. This may be due, in a measure, to the farmers not using so much preventive means, as they may feel some indifference on account of the low price of tobacco. Probably this may be for the best, and it will be, unless the price of tobacco improves. The season has been early, and we hear of a considerable number of plants being set out at this time (18th May), and some as early as the 6th or 7th of the month, too early for thick tobacco. Our tobacco planters should curtail the quantity of land planted, not only for this year, but at all times, and concentrate their manures and fertilizers on, as a general rule, about one half they are in the habit of cultivating, and raise a really good article, which will command a paying price. We have tried this year the remedy suggested by Maj. Ragland, of Halifax, viz., rags soaked in kerosene oil, and then covered up in potash for two or three hours, and the plaster then sprinkled over the plants; and we think with good effect. Out of three beds, two have been well preserved.

*Potatoes.*—The late crop of potatoes should be planted the last of this month, up to July 10th. The "Colorado Beetle" has not been so bad in the vicinity of Richmond this year as last. The "Paris Green" is certain death to them. It may have to be repeated several times as the new broods appear. Last year we resorted to this remedy in the mode several times mentioned, viz., one tablespoonful (heaping) to two gallons of water, in a flower sprinkler, and did not have to repeat it. This was on the early crop, the late being but little infested. The "Paris Green," may also be used in powder, one part to ten of flour, or gypsum, sprinkled through a piece of muslin fixed in the bottom of a small box, say a cigar box, with a handle to it, standing so that the powder will be blown away from the person handling it, for it is an active poison. In using with water, it must be frequently stirred, for it does not dissolve. But the best implement we have seen, that has lately been introduced to apply the "Paris Green," is Moore's Patent Duster, manufactured in Whippany, New Jersey, (M. J. B. Crenshaw agent for Richmond). This is worked by bellows apparatus, and it is said will sprinkle over an acre in one hour. The quantity of "Paris Green" recommended to be used is one part to twenty of plaster, or a few pounds of rye, or wheat flour in the place of an equal amount of plaster. In planting late potatoes, do not cut them, giving them more distance than when cut for the early crops. When they come up it is better to cut or pull off some of the sprouts, as by this mode, larger potatoes will be produced. Phosphoric acid and potash are important fertilizers for potatoes, particularly potash. One hundred bushels potatoes in tu-

bers and tops contain 51 pounds phosphoric acid and 179 pounds of potash, while 25 bushels wheat contain 26 pounds of the former, and 35 pounds of the latter. The same quantity (25 bushels) of wheat contains double as much ammonia as the 100 pounds potatoes. In the production of potatoes the requisite amounts of these two constituents are rarely applied, and hence this vegetable has become deteriorated on many farms and liable to speedy decay. Ashes and Kainit; if it could be obtained pure, are important for potatoes.

*Hay Crop.*—We should have another good crop of grass in Virginia. Clover, and all the grasses should be cut when in blossom—clover as soon as the first brown heads appear. Great attention should be paid to curing, remembering that grasses, and particularly clover, are injured by becoming too dry. They should be cured with as little exposure to sun and wind as is compatible with their keeping; but we do not think clover can be put away the same day it is cut, as some assert. Where this has been done, the clover was either in small bulk, not packed, or a thin crop from thin land, and not rank and full of sap. The manner of curing clover is propounded by Mr. Julian Ruffin, and practiced by the distinguished Edmond Ruffin, and published and described in the *Planter and Farmer* last May, which we think is the true one. It is to use a stake sharpened and let into the ground by crowbar is best, or mallet and peg), and on this to pack the clover after it has as wilted a few hours. It is to be pressed down gently with the fork as put up, and sharpened up to a point around the stake. In this condition it will resist any ordinary rain, and in three or four days will be ready to haul to house if the weather has been warm and clear. Two or three hours before hauling, the cocks should be opened to complete the curing, but the hay should not be suffered to get dry enough to loose its leaves. If there is any doubt about its being sufficiently cured, some salt, one quart to two quarts, according to size of load, should be sprinkled over each load. Besides the upright stick, some use a stick run under the bottom of the hay, supported by an upright stick (like the triggers of a partridge trap) to raise the hay from the ground, and prevent the dampening from the earth, and it is a very good plan.

*Killing Grass and Weeds.*—This is the month for killing grass, and even wire grass may be killed by two or three plowings in this month. If grass is suffered to survive June, it is very likely to live and give trouble the rest of the year.

*Insects* must be followed up, and particularly the striped bugs on melons, cucumbers, and cymlins, which must be killed early in the morning, before they can use their wings, and soot and fine dust of tobacco must be sprinkled over the plants. This fine tobacco must also be sprinkled over the cabbage plants, which is often so destructive. Since writing of the use of "Paris Green," to kill insects on tobacco plants particularly, we learn that it injures the foliage of our cotton plants if freely used. It is resorted to in the South to destroy the cotton worm. We have not yet noticed that it injures the tobacco plants in the proportion I have recommended it, viz.: one tablespoonful to two gallons of water.

*Replanting Corn* must be attended to as soon as it is thoroughly up, unless it is designed to preserve the corn free from admixture. It is better to use some forward corn, as *Canada Flint* or *Long Yellow Corn*, both having long ears. This has time to mature, and the tassel comes out in time to furnish pollen for the main crop, which sometimes withers the tassel before the silks are impregnated.

June is one of the busiest months in the year. The farmer who does not bestir himself now had as well "hang his harp upon the willows," and trust to luck.

The outlook for the farmer this year, we regret, is not good. Last year money was lost on tobacco, and now comes a terrible calamity on wheat, one of the worst which can befall it, viz. : rust, which is very extensive throughout the State. In many instances, we hear that scarcely more than seed will be raised. A few days since we travelled as far as Farmville, and saw very few fields of wheat which we thought would be worth cutting. It is true much of this land should not have been put in wheat, and would scarcely have produced a paying crop any year. A great deal of the land on this line of travel is worn out by cultivation and by returning nothing to the soil. A considerable quantity has grown up in pines, and in thinking what should be done, it occurred to us that the pines should be cut down, converted into cord-wood and sold, the land limed with *gas lime*, put in corn, to be followed with wheat or winter oats and clover. The lime would be quite certain to produce a stand of clover, and the land would be in a fair way to recuperation. Then, in two or three years more the old land should be turned out to grow up in pines and recuperate itself. The cost of the gas lime in Richmond is two cents a bushel. Transportation as far as Farmville would, we understand, be about five cents a bushel, and to Burkeville probably not more than three to four cents. It could, we think, be delivered on the Danville cars from the Gas Works at two cents a bushel. This would make the cost delivered on the road at from seven to nine cents a bushel. Forty to fifty bushels to the acre would suffice (though sixty or seventy would be better), which would be from \$3 to \$5 per acre for the land, according to distance from Richmond, besides the hauling from the depots and turn-outs. We beg the parties interested to consider the feasibility of the proposition. The lands alluded to are at present worth very little for cultivation. This plan would greatly enhance their value. We may say we have tried the gas lime, and consider it, altogether, the best form of lime to use. When this land is put in corn, at the last working, peas might be sown to turn in for wheat, though we think the better plan would be to sow in winter oats and clover in August or first part of September, running a drag or cultivator through the corn for the purpose, and covering with drag, chopping between the rows of corn with hoes. If the clover did not take now, it could be resowed in the Spring.

In the trip mentioned, we visited Major Venable's stock farm, "Edgewood," one and half miles from Farmville, and were much pleased with what we saw. His herd of Berkshire swine is the finest it has ever been our fortune to see, and suppose it has not its superior, if its equal, in the State, or in the United States. He has ten imported Berkshire sows, imported at heavy expense, and several imported boars, the oldest of which, Tom Punch, is a magnificent animal, weighing six or seven hundred pounds. From these sows, which are very fine, and some of them models of beauty, he has about ninety-eight pigs. His hogs are tended with great care, ample house-room, with lots attached, being provided for them. The houses have plank floors, and the lots have running through them fresh water. The Major is well provided with steam engine and all the fixtures for grinding and steaming the food for his hogs, which consists generally of one part meal, two of mill offal (shorts or shipstuff) and a small quantity of oil cake. This is varied with Irish potatoes and other roots, and peas and clover. No one looking at these hogs, with their short, small legs and heads, and compactness, with small cavity, can doubt for a moment their superiority over long-legged



big-boned and big-headed common breeds with large cavities. Major Venable made a comparison by carefully weighing a Berkshire and common breed, feeding exactly alike, under like care, and at the end of so many months re-weighing. The difference (we forget how many pounds) was much in favor of the Berkshire. That the experiment was honestly and carefully made, no one who knows anything of Major Venable, can doubt,

The Major sells his pigs at moderate prices, considering their excellence of breeding, the perfect condition they are in, and the cost he has incurred in procuring such stock. Our word for it, that Major Venable will deal fairly and squarely with every one ordering stock from him. The Major, besides his Berkshires, has four Essex sows and one Essex boar, as fine specimens as we ever saw. They were running on clover, and received no other feed. They were fat, which shows their easy keep. These he wishes to sell, and devote his time entirely to his Berkshires.

We regret we have not more space to devote to Major Venable's stock of cattle, which, like his swine, is very superior. He breeds both Ayrshire and Jersey. We saw several Ayrshires, fresh to the pail, which were giving six gallons of milk per day. He showed us four Jersey calves—models of this breed—which had cost him \$100 each when fifteen days old. He designs selling off his Ayrshires and retaining his Jerseys, with which to establish a butter dairy. We ate some of his Jersey butter, which was all that the most fastidious could desire.

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## Home Department.

CONDUCTED BY MRS. G. JULIAN PRATT.

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### TWO PICTURES.

An old farm-house, with meadows wide,  
And sweet with clover on each side;  
A bright-eyed boy who looks from out  
The door the woodbine wreathed about,  
And wishes this one thought all day:

“O, if I could but fly away  
From this dull spot the world to see,  
How happy, happy, happy,  
How happy I would be!”

Amid the city's constant din,  
A man who round the world has been  
Is thinking, thinking all day long:  
“O, if I could only trace once more  
The field-path to the farm-house door,  
The old green meadows could I see,  
How happy, happy, happy,  
How happy I would be!”

—Interior.

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A TIMELY SUGGESTION.—Do not keep the alabaster boxes of your love and tenderness sealed up until your friends are dead. Fill their lives with sweetness. Speak approving, cheering words while their ears can hear them, and while their hearts can be thrilled by them. The

things you mean to say when they are gone, say before they go. The flowers you mean to send for their coffins, send to brighten and sweeten their homes before they leave them. If my friends have alabaster boxes laid away, full of perfumes of sympathy and affection, which they intend to break over my dead body, I would rather they would bring them out in my weary hours and open them, that I may be refreshed and cheered by them while I need them. I would rather have a bare coffin without a flower, and a funeral without a eulogy, than a life without the sweetness of love and sympathy. Let us learn to anoint our friends beforehand for their burial. *Post mortem* kindnesses do not cheer the burdened spirit. Flowers on the coffin cast no fragrance backward over the weary days.

TO TRAIN FUCHSIAS.—When a slip has grown six or eight inches high, nip out the top down to the last set of leaves; it will then throw out branches on each side. Let these grow eight or ten inches, then nip out as before; the tops of each branch, when grown the same height as the others, nip out again; then procure a stick the size of your finger, eighteen inches in length; take hoop-skirt wire, twine back and forth alternately, through holes made in the stick equal distance apart; place this firmly in the pot back of the plant, tie the branches to it, and you will have, when in flower, a beautiful and very graceful plant. Having one trained in that way last season, it was the admiration of all who saw it.—*Ex.*

THE last few days of warm weather suggest the necessity of looking up our ice cream receipts, and I send you two which are great favorites in our family:

CHOCOLATE ICE CREAM.—One quart of cream, one pint of new milk, one pound of sugar, two well-beaten eggs, five tablespoonfuls grated chocolate rubbed smooth in a little milk, flavor to taste; heat the milk almost to boiling, pour it by degrees in with the beaten egg and sugar, and freeze.

SPANISH CREAM.—Mrs. T. S. S., of Boston, sends us the following: "One-half box gelatine, one and a half pint milk, soak gelatine in part of milk one hour, add remainder of milk and heat to boiling, stirring frequently, beat yolks of three eggs with one cup of white sugar, add to the milk when at boiling heat, remove from the stove and flavor with lemon or vanilla; beat the whites of the three eggs and stir into the mixture; pour into a mould and set aside to cool."

PINEAPPLE ICE CREAM.—Dissolve one box of gelatine in one gallon of water, chop up and *put through a colander* two quart-cans of pineapple, add juice of six oranges or lemons, one tablespoonful of vanilla, and sweeten to taste. It will require more sugar than ordinary cream, and is better if made of half cream and half water. Freeze in a patent freezer, or else beat well several times while it is freezing. It will require a two-gallon freezer for this quantity.

MRS. M. W. G., Staunton, Va.

LEMONADE.—One of the most refreshing drinks in warm weather is lemonade, but the great secret in making it is to use boiling water and let it become cool, when plenty of crushed ice can be added.

**ZEPHYR BREAD.**—Four eggs, one pint sour cream or “clabber,” one quart flour, one-fourth pound butter, one teaspoonfuls of soda and two teaspoonfuls cream of tartar; bake as egg bread. “MT. NEBO.”

[Having a personal experience with the culinary ability of our “Mt. Nebo” correspondent, would be glad if she would let us hear from her more frequently.—MRS. G. J. P.]

**ABOUT THE HOUSE.**—Bad cooking spoils good food.

Eat licorice to sweeten the breath.

Apply common baking soda to burns.

Bottom heat is not good to raise bread.

Cold corned beef is best for making hash.

Eat what your appetite craves if you can get it.

Do not entertain visitors with your own domestic troubles.

Husbands must not expect their wives to make good, white bread from poor flour.

**WORTH KNOWING.**—A tablespoonful of black pepper put in the water in which grey and buff linens are washed, will keep them from spotting. It will also generally keep the colors of black or colored cambrics or muslins from running, and does not harden the water.

**THE CHILDREN.**—A sweet little girl living on Washington avenue was playing railroad car with her brother. They had the chairs in a row, and the little boy was both conductor and engineer. He called out the names of stations he was familiar with—“Kirkwood,” “Alton,” “Belleville,” and finally, being somewhat at a loss, he called out “Heaven,” at which the little tot at once exclaimed, “Top; I dess I’ll det out here.”

We have seen a picture-book made by a mother for her little folks, which is a gem. It consists of leaves of brown linen, about the size of a sheet of music paper, bound all around the edges with brown ribbon. In the edge of the binding, on one side, eyelet holes are inserted by a shoemaker or corsetmaker. These receive the ribbons that tie the leaves together. The book is wholly made up of pictures neatly cut out of magazines and papers, and tastefully arranged and pasted on the leaves. As a method of preserving the many beautiful pictures now published, the book is unequalled, while it makes the most substantial plaything. Children delight to save and cut out pictures for it. We recommend it to all mothers.

A play-room for children may be prepared very prettily with pictures. This is a work that takes some time, but it is very interesting. A beginning may be made by pasting large sized pictures carefully and neatly at proper positions on the walls. Many pictures in our illustrated newspapers, as well as engravings that have accidentally gotten torn, are well worth preserving in this way. After the larger ones are placed, smaller ones may be placed around them at regular or harmonious intervals. The interest of children once aroused in saving and selecting pictures will give many a happy hour of employment and enjoyment to them, and lift care from the mother’s heart.—*Ex.*

**HOW TO KEEP MOTHS OUT OF WORSTED GOODS.**—At the approach of Spring or Summer, fold up your worsted clothes or goods, and pack them in drawers or boxes with small limbs or switches lately broken from the common cedar tree all among your garments, and the moth will not make its appearance there. Thus you may save time and trouble airing and sunning your clothes.

## Editorial—General.

### THE NEXT STATE FAIR.

It gives us unalloyed pleasure to present to our friends the following address to the people of Virginia, by Colonel KNIGHT, Secretary of the Virginia State Agricultural Society. We see the Colonel almost every day, and know that, as far as the officers of the Society are concerned, the *very best* will be done to make the next Fair the greatest success we have had in that line since the war. The Colonel will have the advantage of the good offices of all the Postmasters of the Commonwealth, in bringing the matter fully to the attention of the people; and it is believed that this will result in presenting a *State Fair* indeed. We want to see every manufacturer in Virginia show his wares there, and every farmer do something to make this gathering attractive. The harder the times are the harder we all ought to work; it will not make better times to spend our days in crying over calamities that we could not prevent.

The premium lists are out, and will be thoroughly distributed. These lists have been carefully revised, and are believed to be as good as could be contrived with the means at the Society's command. Now, let us have a lively competition for every prize that is offered.

We mentioned in our last that the Society had taken new rooms. They are located in Wilkinson Hall, on Ninth street near Main, where Colonel KNIGHT would be happy to receive a call from every friend of the Society, no matter where located. These rooms are very commodious, and will be adorned by portraits of our worthies, and of men distinguished elsewhere as farmers and mechanics. It is proposed also to get together, as rapidly as possible, a library such as should be found in a place like this. In fact, Major DREWRY, who does nothing by halves, will not be satisfied until the Society becomes the power for good in the State designed by the noble men who founded it. Will we not *all* lend him a helping hand? It is a pure labor of love all round—neither President nor Executive Committee, as hard as they work for the Society, receiving one cent's compensation for their services.

OFFICE OF THE VIRGINIA STATE AGRICULTURAL SOCIETY, }  
RICHMOND, May 11, 1878. }

#### *To the People of Virginia:*

The present seems to be a proper time for inviting your attention to the work and objects of *your* State Agricultural Society. I use the word *your* in a legitimate sense, not only in respect to name and purposes, but its property and investments. You will bear in mind that there are no individual property rights involved, but that all the resources of the Society constitute a fund which, under its charter and constitution, is *sacredly pledged* for the advancement in the State of "agriculture, horticulture, and the auxiliary mining and mechanic arts." Each citizen is therefore identified with it, and its benefits are designed for all.

Membership confers *certain privileges*, and the door is open to all, and none should hesitate or wait for the invitation to enter, but claim to do so as a right. The terms of membership are easy to thousands who are not now members, and it would seem that all that is necessary is to arrest their attention, and they will see the advantages which will result to them individually, and to an organization which is laboring for the advancement of the material interests of the Common-

wealth. Twenty dollars in cash, or five dollars annually for five years, constitutes a member *for life*, and entitles the holder of a certificate to free admission to Fairs, together with his wife, unmarried daughters, and sons under twenty-one years of age, and to become exhibitors without charge. It also gives him a sitting and right to participate in all general meetings of the Society, and to such publications as the Society may be able to issue for distribution; and he will have free access to the rooms and records, and all sources of information which they may afford.

At this time new and ample rooms are being fitted up, which will be, as far as means will allow, made attractive and useful. Physical maps of each county in the State will, as far as possible, be procured and displayed, showing soils adapted to particular crops, mineral deposits, market facilities, &c.; and to these will be added geographical, climatological, botanical and zoological maps—all of which will afford to an inquiring immigrant the most reliable information as to the character and resources of our State. Education, religious, social, and other facilities will have proper consideration.

The Society's transactions, for which, it is hoped, means can be secured for the annual publication, will embody not only the general information alluded to, but also much valuable matter in connection with practical agriculture, horticulture, &c., which may be procured from premiums for essays, crops, experiments, &c.

This brief outline of the Society's work will illustrate its objects and give some idea of the means which will be required. The State, so closely identified in time, when relieved of the burden of its public debt by a wise and judicious provision for its payment or adjustment, will and should lend a helping hand; but we should not wait for this when so much can be done without the direct aid of the State Government. The Society makes no appeal for benefactions, but only presents its claim upon the people, as a privilege and duty, to become members on the terms before stated. It would seem easy that each county, and city having the population of a county, should furnish annually ten members, and this would be equivalent to a sum of about \$25,000, which in a few years would aggregate an amount which, safely invested, would yield an annual income ample for the largest range of beneficial work, bringing benefits alike to the citizen and the whole Commonwealth.

I trust that these suggestions will not fall dead on the minds of the people of Virginia, but that I shall have frequent and continuous calls for certificates of membership. It may be mentioned that arrangements are now being made with the railroads, which it is hoped will be successful, to secure *free* transportation to and from the Fairs for all persons becoming members within the preceding twelve months.

I will close this communication by stating that the premium list for the next Fair is now in press, and will in a few days be ready for distribution through the mails, and all persons interested are invited to call for a copy either in person or by postal card.

The next Fair promises unusual attractions:

1. The list of premiums has been carefully revised, together\* with rules and regulations to meet all complaints of exhibitors and protect the good name of the Society.
2. In all the departments care has been taken to keep the exhibition up to a good and improving standard. Premiums for farm, garden, orchard and floral products have been diversified, which will add to the extent and interest in these classes.
3. In the intervals of rest from examination of the general exhibition, visitors will find entertainment in carefully-revised *speed trials*; and arrangements are on foot for characteristic exhibitions of *national games*.
4. Equestrian trials by ladies are also provided for—so regulated that the most fastidious may participate, and visitors cannot fail to witness them without a lively interest.
5. The trials of saddle-horses under the saddle, and paired horses to harness in the quarter-stretch before the grand stand other than speed trials.
6. The annual address by an eminent citizen, hereafter to be selected and announced, and other addresses by distinguished invited guests.
7. The general meetings of the Society each night of the Fair, for business, lectures, addresses, discussions, &c.

As a proper notice to all exhibitors who may see this address, it may be well to state that all entries will close on Tuesday, 22d October, one week before the Fair, and, for good reasons, cannot be relaxed.

To the general public it may also be stated that no tickets of admission will be used. The abuses incident to a ticket system, and the great loss to the Society, have induced the Executive Committee to adopt a plan of payment at the gates and automatic registers, which will be in no way inconvenient to visitors (other than members and guests), except to provide the proper change for the admission fee, which they will deposit in locked boxes as they pass in.

I will be glad for all editors of agricultural, horticultural and mechanical journals under whose eyes this article may fall, to send to the Society's rooms their publications, and the favor will be returned by sending to them all the Society's publications.

W. C. KNIGHT, Secretary.

[From Clarksville Tobacco Leaf of April 18.]  
FAIRVIEW TOBACCO FAIR.

The Tobacco Fair at Fairview, Saturday, was in every way a success and a pleasant occasion.

It was the finest collection of samples that we have ever seen, and denotes the fact that the fine Tobacco is still in the country, and will show up well in the end. The fair was the most systematically managed that we ever witnessed, and the most unanimous award of premiums. There were five judges. Messrs. James Bronaugh, G. V. Thompson, and T. C. Hanberry, of Hopkinsville; Mr. W. H. Jessup, of Fairview, and Mr. J. C. Kendrick, of Clarksville—or what is left of it. And in nearly every instance in awarding twenty-two premiums, an average of twenty-five entries in each class, the vote was unanimous.

There were ninety-six entries, premiums awarded as follows:

SHIPPING LEAF.

First premium—E. D. Boyd, \$25. Second premium—Robt. Kennedy (col.), Todd county, raised on G. W. Jessup's farm, \$20. Third premium—Collins & Bro., Christian county, \$15. Fourth premium—J. W. Fritz, Christian county, \$10. Fifth premium—E. H. Morton, Todd county, \$5.

BLACK WRAPPER.

First premium—G. W. Shaw, Christian county, \$25. Second premium—W. H. Shaw, Christian county, \$20. Third premium—M. A. Fritz, Christian county, \$15. Fourth premium—E. S. Fitz, Christian county, 10. Fifth premium—E. H. Fritz, Christian county, \$5.

SHIPPING AFRICAN.

First premium—W. H. Elgin, Christian county, \$20. Second premium—Collins & Bro., Christian county, \$15. Third premium—M. A. Fritz, Christian county, \$10. Fourth premium—Ben Lane, Christian county, \$5.

GERMAN SPINNER.

First premium—Collins & Bro., Christian county, \$20. Second premium—J. J. Shaw, Christian county, \$15. Third premium—M. A. Fritz, Christian county, \$10. Fourth premium—Stephen Merritt (col.), raised on J. W. Shaw's farm, \$5.

SWISS WRAPPER.

First premium—Collins & Bro., Christian county, \$20. Second premium—T. W. Carroll, Christian county, \$15. Third premium—M. A. Fritz, Christian county, \$10. Fourth premium—E. S. Fritz, Christian county, \$5.

Mr. M. A. Fritz had a sample in each class, all taken from the same bulk of Tobacco, to be prized in one hoghead, and every sample was awarded a premium in the respective classes. Mr. Fritz is one of the best Tobacco growers in Christian county. He tried this experiment to see how many different class buyers he could please with the same Tobacco, and the result shows what neat handling and careful management will do.

Mr. W. H. Elgin, too, is a fine Tobacco grower. His is of the Greenwood variety, and yields from 1,000 to 1,500 hands per acre on sandy, stony soil. His leaf is good for \$15 per hundred when it comes to market.

[We present the above in the hope that we in Virginia will try and do likewise. These Western people have made headway *because they worked for it*. Because Virginia was first in the field, in the tobacco line, does not argue that she will continue to hold that place. While the others (as above) have worked to get up to her, she is bound to work no less diligently to hold her own. The State Agricultural Society should appear here, and see to it that we did our best.—ED.]

THE TUCKAHOE FARMERS' CLUB met at the residence of Col. CHASTAIN WHITE on 23d ultimo. Dr. PURYEAR, President, being absent, Mr. J. A. LYNHAM, Vice President, presided, and a better presiding officer we have seldom seen. The subject for discussion was "Wheat and Oat Harvest," which was introduced by Mr. LYNHAM. He urged that wheat and oats should be harvested in the "dough" state, unless intended for seed. That millers preferred wheat for flour when cut at that stage, and that it would sell for better price, &c. He urged the use of the reaper if the size of the crop and the purse of the farmer justified its use. Mr. CHANNING ROBINSON differed with Mr. LYNHAM, and would cut his wheat when ripe, and with cradles—that it was both more practicable and economical.

Col. A. Q. HOLLIDAY, JOHN L. GRUBBS, ESQ., Dr. BEATTIE, and others sustained the views of Mr. LYNHAM.

The importance of the Gleaner was also referred to (the result of which often pays the expenses of harvesting), but it was conceded that this saving can only be had by starting the gleaner *immediately* after the cutting, and at *once* hauling the gleaned grain *under cover before a rain*. Dr. BEATTIE referred to the great depression among farmers by reason of the rust. He thought there was occasion for this gloom, and deprecated its direful effects. Col. WHITE united with him in this view. But Doctors will differ, for Mr. VAUGHAN thought it entirely over-estimated, that in his experience, and from the information he had from others, and from such intelligent authority as the Hon. JAS. A. SEDDON, he questioned whether the leaf rust was this season damaging at all.

Attorney General FIELD was present, and in a most entertaining and instructive manner, addressed the Club on these several points, and manifested an interest and information with the subject that agreeably surprised the Club. He maintained that it was not the red leaf rust, but only the black rust that strikes into the stalk, that materially effects the quantity of the grain. Gen. FIELD was made an honorary member of the Club. A Committee was appointed to inspect Col. WHITE'S farms. The Colonel is not only a good farmer and lawyer, but the best judge of horse-flesh in the State. We consider him as good authority on the pedigree of our thoroughbred horses, as any of our standard stud-books.

The following resolution was passed:

*Resolved*, That this Club recommend to the people of Henrico and Richmond city and adjoining counties to hold a mass-meeting in behalf of immigration to Virginia, and that a committee be appointed to select a place in the city of Richmond for this meeting, and invite Senator J. W. Johnston, Gen. Fitzhugh Lee, and other prominent citizens, to attend and address the people on this subject, so important to the prosperity of the State.

Senator JOHNSTON and Gen. LEE have done more for the material development of the State in this regard than any other two men in the State—we may say with truth, than the Legislature of the State.

Dr. THOS. POLLARD, Dr. L. R. DICKINSON, Col. CHASTAIN WHITE, Gen.

FIELD and J. A. COWARDIN, were appointed a committee to carry out the above resolution.

The Club closed its work by the appointment of Mr. C. M. Robinson and A. Q. Holliday as a Committee to report the particulars of their heavy county expenses, pay of county judges, treasurer, Attorney, road surveyors, &c. Thus passed a pleasant and profitable day.

#### REPORT ON LISBURN FARM, BY DR. MICHAELS AND MR. VAUGHAN.

*Mr. President and Gentlemen,*—At the March meeting of our Club, which was at Lisburn, the residence of Dr. J. G. Beattie, your committee was appointed to examine and report on the condition of the farm and its management. We now respectfully submit the following :

The farm of Dr. Beattie is pleasantly situated on the Grove Avenue, and its line of extension one and a half miles from the city of Richmond, and contains two hundred and eighty-one acres of arable land.

The soil of this farm is not naturally what may be called rich, indeed much of it was thin and poor, but we are glad to observe evident marks of improvement, and that mother earth, as she always does, is responding to kind treatment.

Since the last meeting of our Club at Lisburn, over a year ago, many improvements have been planned and carried out; large and roomy sheds for the stock have been built and more barn room made for produce. Increasing stock has compelled more fencing to be put up and inclosures made, as young animals must have range for health and exercise, no matter how thoroughly the soiling system may be carried out in the yards and sheds.

The system of thorough drainage, which we observed at our previous meeting, is still in operation, and its beneficial results give encouragement to continue the good work. Much of the land being naturally very wet and swampy, was cut up by deep open drains, their banks grown up on each side many feet with bushes and briers, which, in addition to being unsightly, made proper cultivation or good and judicious plowing impossible. These have been nearly all filled in and their sites only known by the greater luxuriance of the crops growing over them. In all cases where new drains have been cut tile has been used, but in these old drains it would have been almost impossible to use them, hence the adoption of the brush for filling in. The drains were managed as follows: The brush and briers cut close to the ground were laid to one side of the ditch, which were cleaned out and deepened to the hard pan. One man in the drain is supplied with the brush arranged in bundles, which he lays with butts down stream, one bundle thoroughly overlapping the other and pressed down; the briers and smaller spray is forked in and trampled evenly; the thick mat of brier roots cut in masses with sharp mattocks are inverted and well trampled down on the bush and briers already in. When the drain is ready for the plow, a bridge for the team to pass from one side to the other is made by filling in at the outlet with the spade. The team and plow now finishes the work. One man guides the team for a few turns to prevent them from slipping into the drain and disarranging the brush. All roots are grubbed out as the filling in goes on. The plowman gathers the land until the centre and highest part of the ridge is over the middle of the drain, and, as in tile draining, care is taken that no run of surface water may find its way to the drain, but must percolate by the sides. No dead furrow must be allowed to cross the line. Thus the grain is protected from the destructive action of "trash." These drains are running freely, and, with proper precaution, will last many years. The tile drains, of which over two miles have been cut on this farm, average two and a half feet deep and thirty feet apart.



Two-inch egg-shaped tile are used for the common drains, and three- and four-inch for mains. The manufacturer furnishes as many of the large tile as may be required with an opening in the side, so as to receive the two-inch tile, which is made to enter aslant, so as to discharge down stream and lessen the risk of silting up.

Thorough draining, the doctor says, may be considered too costly for general adoption, but it is labor and money most judiciously expended. It is a permanent improvement, that once done is done for all time, the good effect of which begins at once and increases with years, till the soil is deepened and enriched to the full depth of the drain. His experience is that land really requiring drainage, and there is little that does not, will return principal and interest in five years. As a first result, the farmer is nearly independent of the season or weather, as the plow may enter forty-eight hours or less after the heaviest or long continued rains. The surface never bakes—there is no stagnant water to keep the soil cold and to be carried off by the slow process of evaporation. As a consequence, the land awakes early to the genial influence of Spring, stores up air and heat to resist the early frosts of Autumn, and in time of drought, by capillary attraction, draws moisture from below. By the earlier Spring and later Autumn time is gained, and in farming, as in every other calling, "time is money."

Mr. President, we have devoted this much to thorough drainage, because we feel that too little attention has been paid by us to the subject, even in a sanitary point of view. In a malarious climate much could be said in its favor.

As the farm is subservient to stock-raising, wheat and tobacco are but little grown. This year but eighteen acres of wheat have been seeded—sown after corn. The corn land was heavily manured on sod. Wheat was top-dressed with salt—two bushels to the acre, and is looking very fine. (Since badly struck with rust; salt couldn't save it.) Winter oats is here considered a remunerative crop, and is cut both with the mower and reaper. When cut with the mower and cured as hay, all the stock are very fond of it, eating it clean. Oats cut when just out of the milk and turning yellow, cure very easily, and are not found to mould either in shuck or barn, while oats in sheaf mould readily if not particularly well cured. Early cutting is found to be of advantage to the young grass and clover, if seeded with the crop. Seventy acres of Winter oats were seeded last Fall, and are looking very well. At our visit they had just been heavily harrowed, and when seeded with orchard grass and clover, Thomas' smoothing harrow was passed over so as to more effectually cover the small seed. By this practice a good stand is obtained with what we consider a small quantity of seed—one gallon clover seed and a half bushel of orchard grass to the acre. One field so set on the avenue, seeded with oats, which were cut and cured as hay, now presents a fine appearance, and is pasturing a heavy stock. One of our Club said that a very "few years ago the land was too poor to produce even hen-nest grass." Sixty acres have been seeded this Spring with Winter oats, and were all sown by the 28th March. The teams were at work on the corn land; fifty acres being devoted to that important crop. Ten acres were in rye, for soiling and for straw. Five acres each were prepared for golden millet and broadcast corn; ground for both heavily manured with barn-yard manure. Five acres for carrots, mangold and turnips, and one acre to potatoes. The garden contain the usual vegetables. The orchard is not neglected, and contains the finer varieties of fruits. Tree-planting, both fruit and ornamental, has been a labor of love and freely indulged in.

There are eight brood mares—thoroughbred and roadsters, all well bred—representing Planet, Orion, King Lear, Imported Consternation, Deucalion, Mam-

brino Patchur and Morgan. These have been breeding to King Lear, Abdelkader and the Edward Everett stallion, Hugh St. Clair. "Dimple," the handsome daughter of Planet and Maggie Hunter, has two pretty fillies by her side, both bays with star to Abdelkader, giving an inbred "Australian" cross. She will, this year, be bred to Kingbolt, a son of Lexington. The colts from above mares all show their breeding, are well grown, and in time may be heard from subject to the law of chances. The neat stock are mostly grade Jerseys, and have been breeding for two years to the thoroughbred Durham, "John A. Groat," imported from the herd of Wm. Douglass, Anondaga Brant, Canada, get by "Lothair," dam "Annette," and recorded in American and Canada H. B. He is a light roan and a noble looking animal, very docile in disposition. His calves are all jarge and fine.

"Essex pigs" are a specialty on this farm, bred from the importation from the herd of G. M. Sexton, England. As all inferior animals are culled out, the lot look very fine and show judicious selection.

The brood sows and litters took first and second premiums at our last State Fair, but we are sorry to say the Doctor lost heavily by exposure to the contagion of pluro-pneumonia in an adjoining pen, which swept ninety-two head just as he had advertised for sale and expected to reap some profit for two years' care. By this casualty he was not able to fill a single order of the many which he had received. Naturally, he felt very sore about it.

A few sheep are also kept, but an occasional raid very seriously lessens the profits and forbids more extensive venture on sheep culture—by far the most profitable legitimate enterprise that a Virginia farmer could engage in.

[The committee will excuse us for saying that to Master HARRY BEATTIE is due the credit of the excellent management and condition of the *stock*, rather than the Doctor.]

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#### THE RELIGIOUS HERALD.

The continued and growing prosperity of this paper will be less a surprise if people will only acquaint themselves with the material of which its editorial staff is composed. The senior editor, Dr. JETER, a patriarch among the Baptist ministers, stands to-day without a superior, as a sound conservative theologian. He also has the enviable distinction of possessing the undoubting confidence of all who know him, without distinction of sect. As a writer, he is clear, brief and forcible, carrying to the mind of the reader the conviction that he has a clear comprehension of his subject, and is thoroughly convinced of the truth of what he says. As a man, he is far above reproach, so far that the thought never seems to have suggested itself even to those who most widely differ from him, to throw even the shade of suspicion upon his character or motives. The junior, while possessing most of the good qualities of the senior, is the motor power of the *Herald*. With gifts, peculiarly his own, he passes from meeting to meeting, from association to association, always leaving a pleasing impression, and securing scores of friends and subscribers to the *Herald*. In this way it has reached a circulation beyond all precedent among Southern journals, either political or religious, and this fact, known at the North, has brought such a flood of advertisements, that the *Herald* has become what few Southern religious papers have been—a pecuniary success.

The following sketch of the junior, which we clip from the Nashville *Daily American*, will serve to show what they think of him abroad :

Dr. A. E. Dickinson, junior editor of the "Religious Herald," published a

Richmond, Va., is a native of Virginia and a man of varied power. As preacher, pastor, agent and editor, he has proved himself eminently able and successful. Tall and manly in form, his countenance beams with good nature, humor and intelligence. As a speaker, he is singularly pathetic as well as mirth-loving, nevertheless sound sense permeates all his utterances. The baptism of seven hundred persons in two pastorates, extending over a period of seven years, attests his success as a minister. Under the editorial care of himself and Dr. Jeter, their paper, the "Religious Herald," has become a power among Southern Baptists, and, perhaps, has the widest circulation of any Southern Baptist weekly. Born in December, 1830, he is now forty-seven years old. He was educated at Richmond College and at the University of Virginia, afterwards becoming pastor of the Baptist church at Charlottesville; then superintendent of a Sunday-school and colportage work of the Virginia Baptist for nine years; then pastor of the Leigh-Street Baptist church, Richmond, and afterwards joint owner and editor of the "Religious Herald." For this last position he has exhibited remarkable aptitude, succeeding in giving great life and interest to his paper. The degree of Doctor of Divinity was conferred on him by Furman University, of South Carolina.

JNO. O. HARRIS, Esq.—Intelligence reaches us of the death of this most excellent man, in his 85th year, at the residence of his son-in-law, Col. R. J. HANCOCK, of Albemarle county Va. Mr. HARRIS was a valuable and influential citizen, a kind and sympathizing friend and neighbor, with remarkable humorous and social qualities. He was a large and successful farmer, and had accumulated a large fortune by his industry and skill.

THE *Charlottesville Chronicle* has the following just compliment to Colonel McCue, of Augusta county, who has been honored time and again with the highest offices within their gift. He has lately removed to Nelson county, where he has many friends and acquaintances, who, with us, regret that his name was no mentioned earlier in connection with the Commission. No better selection could have been made:

"The name of Major J. Marshal McCue, late of Augusta county, now of Nelson, is mentioned in connection with the position of Honorary Commissioner to the Paris Exposition. The Major would fill the position with credit to himself and the State.

COL. JNO. WASHINGTON says: "I take a pride in reading such an agricultural paper in Virginia. I have read the various monthly agricultural papers for twenty-five years and have no hesitation in saying that the *Planter* is the best for Virginia that I ever read."

IN answer to our correspondents as to the "Johnson's Fine Winter Apple," we will state that Mr. J. D. MOSBY, of the Virginia Nurseries, introduced this variety in Virginia, and is so well pleased with it that he has now growing over 60,000 young trees. We will be pleased to have Mr. MOSBY write us an article on the merits of this apple.

WE are indebted to Gen. GILBERT S. MÈEM, of Shenandoah county, Va., for a specimen of wool taken from a thoroughbred Cotswold ewe. It is the best sample of wool we ever saw.

OUR good friend, Col. J. C. TIMBERLAKE, of James City county, Va., sends us a club of subscribers and \$15, and says: "I think the *Planter* the best agricultural journal that it has been my good fortune to read, and I think it would be a great blessing to our old Mother Virginia if it were in the hands of every farmer in it." Col. TIMBERLAKE has sent us not less than thirty subscribers during the past year.

L. L. DABNEY, will please inform us of his postoffice.

## A VALUABLE WORK.

Modern Dwellings in Town and Country, adapted to American wants and climate, with a treatise on Furniture and Decoration, by H. HUDSON DOLLY, with one hundred original designs, comprising cottages, villas and mansions. Harper & Bros., New York.

"This book is sure to meet a cordial reception. Not only do people who are about to build like to look at designs and plans of houses and study over their estimated cost, but even those whose building prospects are in the distant future take innocent pleasure in planning out what they may do when their ship comes in. The most of this volume is devoted to country houses, although city houses have a share of attention. Mr. HOLLY's designs are not only tasteful, but his plans are arranged with an eye to comfort, plenty of closet room and a convenient arrangement of rooms. A great attraction of his designs is that they allow for a generous hallway, where a fireplace and comfortable chairs gladden the heart of the visitor. The hints are good in household art, and any one about to build will find it worth his while to consult Mr. HOLLY's book."

For sale in Richmond by West, Johnston & Co., from whom it can be ordered.

PROCEEDINGS OF AMERICAN POMOLOGICAL SOCIETY.—Sixteenth (Biennial) Session held in Baltimore, Md., Sept. 12th, 13th and 14th, 1877. Edited by Secretary, W. C. FLAGG.

We have received, through Jno. M. Allan, a copy of the above. It is full of instructive essays and discussions on Pomology in all its branches, and contains a fund of information on these subjects, from which we hope to draw in future issues. The pleasure with which we see that the distinguished President, the Hon. M. P. WILDER, who has so long and ably presided over and conducted this important National Society, still continues at its head, is greatly marred by the announcement of the death of that accomplished Pomologist, W. C. FLAGG, its late Secretary, which occurred March 30th, 1878. The entire Pomological interests of the country will feel his loss, and we subscribe heartily to the tribute of respect paid him by Mr. WILDER in this issue of the Catalogue of the Society.

MR. JOHN M. VAUGHAN has the latest improved steam threshing machine, capable of turning out from six to eight hundred bushels of wheat a day. This machine will be under the immediate control and management of Mr. Vaughan, who is a thoroughly business man in every particular. Any one wishing to communicate with him, will apply by letter, 703 west Main street, Richmond, Va.

## F. W. CHILES, ESQ.

Mr. Fendal W. Chiles, whose likeness we present to our readers in this number of our journal, is a large and successful farmer and stock-breeder.

Mr. Chiles was born on the 23d day of December, 1839, in Louisa county, Virginia. He had good educational advantages; was a student at Professor Benton's Agricultural Institute in Loudoun county several sessions, also Colonel Strange's Military Institute at Charlottesville, Virginia. After the death of his father, he was called home to take charge of the farm, which he managed with skill and success. Two years before the war he moved to the State of South Carolina, where he remained in business until the breaking out of the war, when he returned to his native State.

He was among the first to respond to the call of his State, and repaired to Harper's Ferry on the 17th day of April, 1861. After the organization of the army he was assigned to the Thirteenth Virginia regiment as its ensign, a position he held throughout *Jackson's Valley campaign* up to the seven days' fight at Richmond, when he was severely wounded at "Gaines' Mill" in both legs, and was thought at first that they would have to be amputated. These wounds

necessitated his getting an honorable discharge from the Confederate Army. We remember next to have seen him in the Richmond City Postoffice as a clerk, a position he held but a short time, as he received a more pleasant and lucrative position in the office of Hon. C. G. Memmenger, Treasurer of the Confederate States of America. Here he remained some time, yet as soon as he recovered sufficiently to enter the service, resigned his position in the Treasury and rejoined the army. This time he entered the cavalry, where he did much service as a scout. He was captured while in this branch of the service, and remained in prison until the war closed.

On his return to Richmond, Virginia, after the war, and being like many of our other young men, without money or occupation, he brought to bear energy and industry, and was not long idle. He remained in this city in business two years, when, after his marriage, he located in Louisa county, Virginia, and commenced farming and stock breeding. Mr. Chiles was one of the first to advance the Grange interest in Virginia, and did much to introduce the Order in the State, having canvassed as a deputy, and introduced the Order in many counties for the first time. He was also one of the eighteen Masters who organized the State Grange of Virginia, and was a member for two years of the Executive Committee. He was also for two years Overseer of Virginia State Grange. As a farmer and stock-breeder, we will say that few men have done more to promote the progress and breeding interest of the State.

Mr. Chiles belongs to a class, unfortunately small in the State, whose enterprise and public spirit are far in advance of that of the majority of farmers—men who, aside from any immediate pecuniary advantage, are giving their time and money to the advancement of the best interests of the State in the improvement of all classes of live stock. We are happy, however, to say that the few pioneers in stock breeding, of which he is one of the most prominent, have now quite a number of followers, and the spirit which animated them is gradually diffusing itself through the State. We do not hesitate to say that the general diffusion of such stock as is sent out from Clifton farm would add thousands to the wealth of the State.

Mr. Chiles is, as a breeder, so well known to the Fair-going public, that it seems hardly necessary to say that he is a large breeder of Devon cattle—the most beautiful, as well as the most generally useful, cattle for the general farmer. Mr. Chiles has at the head of his herd a bull recently purchased of Mr. George Clendon, of New York. He is two years old, and promises to be as fine an animal as we ever saw. His breeding alone would place him high in the rank as a sire, being sired by Imported Duke of Fletton 9th (838), dam Imported Cowslip (3.303.)

Mr. Chiles informed us that he had recently sold his old bull "Duke of Clifton" to a gentleman in North Carolina.

My attention was specially directed to a flock of beautiful Southdown sheep; all appeared healthy and in fine plight. The lambs (some thirty in number) were well marked and *very large*. His Imported Southdown buck, "Pride of America," is well worthy the name he bears. He took first prize at Virginia State Fair last Fall. Mr. Chiles breeds largely of swine. The breeds being Essex, Poland-China and Berkshires—we saw splendid specimens of each, and his stock, whenever shipped, have given satisfaction.

In horses, he has both thoroughbreds and trotters of the best qualities and pedigree. We were pleased to see such evidence of enterprise and improvement. His farm is well taken in grass, and everything presented the appearance of care and neatness. He has recently built a convenient and commodious stable with a well of nice water at the door, and has also a race track on his farm.

We wish to remind our readers that Messrs. Dickinson & Chewning are in the real estate business, and desire their patronage. If you have houses to rent, they will attend to it for you; or if you desire to sell real estate, call on them, and they will assist you. They have some nice lots in the western portion of the city, near Monroe Park, for sale. If you have any business in their line, do not fail to call on them. Office 1115 Main street, Richmond.

We will publish in our next issue proceedings of the Keswick and Smythe County Farmer's Clubs.

## J. W. CARDWELL &amp; CO'S THRESHERS AND SEPARATORS.

We reproduce on opposite page a picture of this excellent machine, and we confess that it is with feelings of pride and satisfaction that we do so.

For years this firm has been engaged in the manufacture of farm implements and machinery, and have established a reputation for honest work that will insure a constantly increasing demand for these machines. Manufacturing largely for the home market, their customers are among our best farmers, and their machines are growing year by year in popularity. Farmers and threshermen will readily recognize the importance of having a reliable machine to work with.

The Cardwell Machine is the simplest we have ever seen, being almost free from all complicated machinery liable to get out of order at any time.

The great difficulty with many machines is their complicated character, requiring more skill and care than is usually found among ordinary farm hands. Messrs. Cardwell & Co. have studiously avoided or overcome this difficulty, and have given us a machine that is so free from complexity that any one can manage it. The machines are made in all sizes, from two to ten-horse power, and with a capacity of from 200 to 700, and even more, bushels per day.

Of the firm, itself, we hardly feel that it is necessary for us to say anything. So thoroughly has its reputation for honest work and fair dealing become known to the farmers of Virginia, North Carolina, Georgia and Tennessee, where their Threshing Machines, Corn Planters, and other manufactures are used, that we feel that we can add nothing to it.

We will say, however, that as a Richmond firm, we are glad to see its prosperity, as well as its enterprise, and we believe that the farmers of the States above named cannot possibly do better than to give them their patronage.

In a little circular, which has just been handed us by a member of the firm, we notice this:

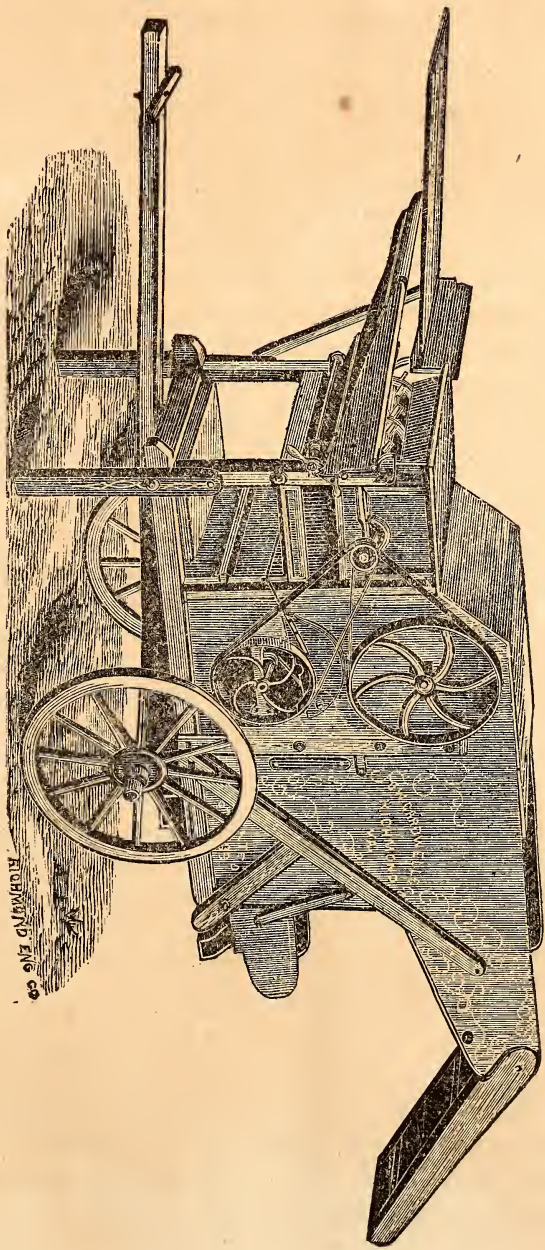
"We would refer to a few points of superiority of our machines. First, their simplicity; they have less belts, less machinery of all kinds about them than any other separator made, and that causes them not only to be easily managed, but renders them less liable to get out of order. With good management they need but very few repairs, and no time need be lost.

"Mr. John W. Alley, of Henrico county, Va., bought one of us in 1869; he threshed over 50,000 bushels grain with it, and his total bill for repairs in nine seasons was not over \$25 for Horse Power and Separator, and his machine was good yet. When his barn was burned this Winter and machine destroyed, he came in and ordered another for this Spring. and told us of the above."

This is certainly a strong recommendation. Farmers who desire to purchase machines, should write at once for a circular and price list. Address J. W. Cardwell & Co., Richmond, Va,

If you buy of them you will get a good Machine.

Cardwell's  
**THRESHER AND CLEANER.**



RICHMOND ENG CO

# LEE'S Prepared Agricultural Lime

FOR THE

## WHEAT CROP.

A Complete Revolution in Fertilizers!

The Lowest Priced proves to be the Best!

It Prevents Smut!

have not heard of a single complaint of Smut where it was used. Whereas, on the same farm, and from the same Seed, the Crop was materially injured where it was not used.

When properly used, its results are superior to fertilizers costing four times as much

I have the results from farmers from the Tidewater and Piedmont sections of Va., and from various sections of North Carolina, showing its superiority over other costly fertilizers **for Wheat.**

Jno. B. Davis, Esq., President of the Planters National Bank, has been using it by way of experiment for the last two seasons, and is so well pleased with its results on all his crops, especially on the various grasses, that he says he will use it altogether this fall in preference to any other fertilizer.

Owing to the Eastern war, foreign freights have advanced, thereby causing an advance in the material; yet, I will not abate one particle from the standard, nor advance the price, but continue to sell it at the low price of \$12 per ton cash.

☞ Farmers will consult their own interest by buying, so as to have it on hand for return loads while delivering their crops of wheat.

☞ Send for Circulars containing certificates as to its results on the last crops of wheat.

A. S. LEE, Richmond, Va.

AGENTS.—N. M. Tannor, Petersburg; Warren Paulett & Co., Farmville, Va.; Moon & Bro., Scottsville, Va.; R. T. Knox & Bro., Fredericksburg, Va.; J. M. Norvell, New Canton, Va.; Acree & Walker, Walkerton, Va.; Wm. A. Miller, Lynchburg, Va.

Aug—tf



# BELMONT STOCK FARM.

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This farm was commenced by me as such in 1847, and has improved with the age. Trying various breeds of horses, cattle and hogs, I aimed to get good breeders and of best kinds, and raised them with tolerable care, often too lean for rapid and popular development, and they are the better for the change of homes and acclimation when sold and sent away. I have owned and bred from the best stallions, thoroughbreds of the riding-horse type; and of them, Granite had fine trotting style and action, Black Hawk of like kind and of Morgan descent and the *best*, leaving me many fine animals and Albanian, a superb representative stallion.

A Percheron-Norman importation of two stallions and two mares in 1866 came at a time after the destruction by war of horse stock, and the changed condition of things made them more needed and popular. I have also five full Percheron stallions one half bred, several under service-age, and a half bred rising four years, out of Dew Drop, thoroughbred, she by Imported Australian, and a Clydesdale stallion rising four years, a rival of the Percherons for draught purposes. Also a young stallion, Granite, Jr., by a thorough, bred and out of a double Black Hawk mare, and promises to be a rapid stylish riding and driving horse of the best trotting cross.

I will sell any of the stallions to clubs, by which they may easily and soon clear first cost of them.

If not sold by March, will let them on safe and living terms, to establish the fact that they are suited to the times we live in, and should be propagated.

My geldings and fillies are grazed on the high table land of the Blue Ridge mountain from May to November, and on an elevation and sod that tends to make the best horse flesh for muscle and endurance.

My cattle are the *purest* Shorthorns of popular families, and too hard fare for successful sales, but they came from such sires and dams, there will be no disappointment in breeding from them. Of these, like the horses, they can be had of any age and at low prices, as compared with like stock elsewhere.

Chester White and Berkshire swine are my favorites; there may be as good of others for our purposes, but I never saw their superiors for the average farmer's wants of our country.

I have bred nearly every animal I own, and will sell those that I *know* to be what they are *represented*.

Persons interested in fine stock can send for catalogues.

S. W. FICKLIN, Belmont Stock Farm,  
near Charlottesville, Virginia.

FALL STYLES, 1874.

# CHARLOTTESVILLE WOOLEN MILLS

## SAMPLE CARDS

Are now ready for mailing. Our assortment embraces  
**TWENTY-FOUR PATTERNS.**

Merchants desiring samples, will please address,

**CHARLOTTESVILLE WOOLEN MILLS** *Charlottesville, Va.*

### SHORTHORN

## THOROUGHbred BULL CALF

FOR SALE.

A Thoroughbred Pedigree Shorthorn Bull Calf of the best strain.

mh—tf

Apply to Proprietor of *Planter*.

### COTSWOLD BUCKS.

I have a lot of fine  
**COTSWOLD BUCKS,**  
one and two years old, for sale. Some  
of them by an imported Buck.

Terms very easy.

JAMES NEWMAN.

may—3t Near Gordonsville, Va.

### FOR SALE.

**FORTY CHESTER AND THIRTY  
BERKSHIRE PIGS.** One for \$10;  
two for \$15; three for \$20; to be de-  
livered before May 20th.

WM. J. FICKLIN,

may— Charlottesville, Va.

### FOR SALE.

Ten Thoroughbred Yearling  
Cotswold Rams, by my Imported  
Buck, "Earl of Warwick," out of English  
and American bred ewes—the last equal  
to the first.

R. B. HAXALL,

may—3t near Gordonsville, Va.




Sold on trial and guaranteed cheaper at its price,  
than any other Hay press as a gift or no sale. Don't be  
swindled by irresponsible manufacturers of infringing  
machines, as the purchaser is liable. It costs no more  
for a good press than an inferior or worthless one.  
Address. P. K. DEDERICK & CO., Albany, N. Y.

may—

### OUR IMPROVED PEST POISON

is a SAFE, sure and cheap destroyer of the  
**POTATO BUG,**

Currant Worm, and all Insects that Prey  
on Vegetation. Warranted to kill Five  
Bugs where Paris Green kills One, yet it  
is SAFER TO USE, and is not injurious to  
plants. Costs only 25c. to 50c. per acre. 1-lb  
box sent free by mail for 30c. Send for circular with  
hundreds of testimonials.

**Our Cabbage Worm Destroyer**  
NOT AT ALL POISONOUS, but sure death to the worm.  
Sample for trial sent free on receipt of 15 cents.  
POSTAGE STAMPS ACCEPTED. Discount to the Trade.  
SHEARNEY CHEMICAL WORKS, J. R. DEY, Agent,  
107 N. 3d St. Office, 16 Cortlandt St., New York.

may—

### THE FARMER and MECHANIC.

An Eight Page Weekly Agricultural  
PAPER.

The Organ of the

DEPARTMENT OF AGRICULTURE OF NORTH  
CAROLINA.

Published at Raleigh.

may—] Price, \$2 per annum.

# WM. L. BRADBURY,

MONTECLAIR FARM.

P. O., Orange Courthouse, Va.

BREEDS

## THOROUGHBRED STOCK.

HOUDAN FOWLS.

The breed of FOWLS best suited to Virginia and the Southern States. LAY LARGE, RICH EGGS, GROW RAPIDLY, FATTEN EASILY. They are THE FINEST TABLE FOWL IN THE WORLD.

My birds won all of the premiums for this variety at the Poultry Exhibition in Richmond.

EGGS ONLY \$2.50 A DOZEN.

SAFE ARRIVAL GUARANTEED.

JERSEY RED

PIGS.

### THE GREAT FARMER'S PIG!

This pig was originated by the farmers of Southern N. J., and by them has been bred to its present high standard of excellence.

Mine are from the best and oldest breeders in New Jersey. In order to introduce them into Virginia I offer young pigs, when two months old, at only \$12 a pair!

ALSO

JERSEY CATTLE AND SCOTCH COLLIE (Shepherd). ENGLISH, BASKET, BEAGLE AND SETTER DOGS. All from Imported Stock.

ap]  SEND FOR DESCRIPTIVE CIRCULAR. 

## EGGS FOR HATCHING.

No more Fowls for Sale this Season

I can furnish EGGS to HATCH fresh, true to name and carefully packed of the following:

Light Brahmas and Dark Brahmas, Black Hamburgs and Brown Leghons, Plymouth Rocks. Also, Imperial Pekin, Rouen and Cayuga Ducks.

This is strictly high class stock, and each breed is kept separate. My fowls were awarded first, second, and special premiums at the State Agricultural Fair in 1877, and at Virginia Poultry Show in 1878. Always write your name and address plainly.

H. THEO. ELLYSON,  
RICHMOND, VA.

ap—3t

## DAMAGED GUANO

FOR SALE.

We offer for sale at Ten Dollars per ton at the store in bulk or Eleven Dollars in bags, about 200 tons, Phosphatic Guano from the Bahama Island, damaged by the flood in James River last November. The water rose in the store to the second floor and drained off, and the water has now nearly dried out. It is the opinion of Dr. Taylor, State Chemist, that "it has probably not been much affected by the water." We make allowance for the weight of water in it. It is in good order for use. Please send orders before we haul it to store.

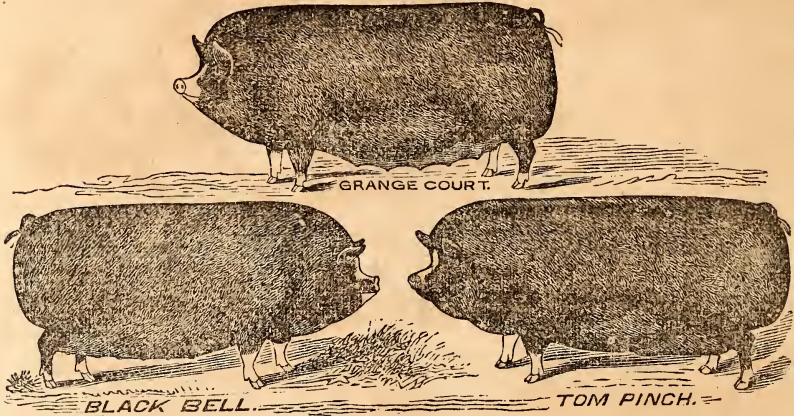
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THOMAS BRANCH & CO.

# EDGEWOOD STOCK FARM.

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PREMIUMS FOR 1878.



## FIFTY DOLLARS

Will be distributed to PURCHASERS OF PIGS from me during  
1878, as follows:

\$25 for the 1st; \$15 for the 2nd; \$10 for the 3rd; Provided five  
Pigs are exhibited at the

### VIRGINIA STATE FAIR.

Premiums to be awarded by and under the direction of the Va.  
State Fair at Richmond. The age of the pigs to be considered.

40 Pigs, 4 months old, now ready for shipment. Price \$15.

20 Pigs, 4 months old, from Imported Stock. Price \$20.

10 Pigs, from Imported Premium Sows and Boars. Price \$50.

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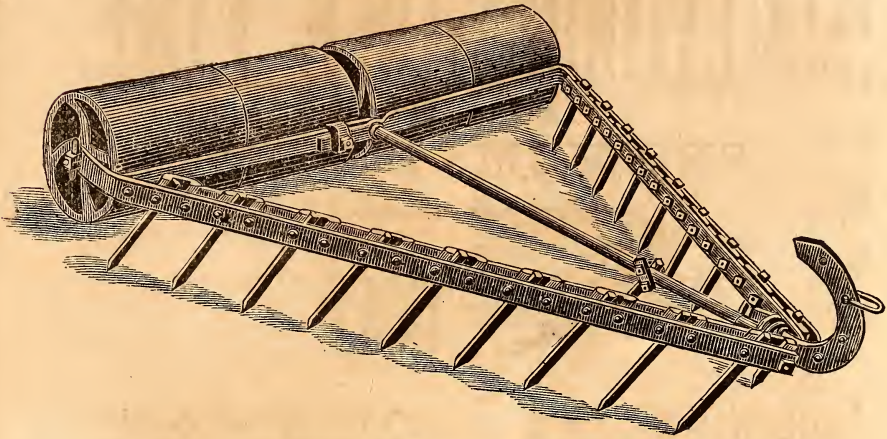
### FOR SALE.

Wishing to discontinue the breeding of ESSEX HOGS, I offer for  
sale my PREMIUM ESSEX HERD, consisting of one Boar and four  
Sows—supposed to be in pigs—for \$250.

They can't be excelled in the South. Correspondence solicited.

**A. R. VENABLE, Jr.**

# STEHLEY'S



## IRON HARROW AND ROLLER.

This is a triangular Wrought Iron Harrow in combination with a four-section cast-iron Roller.

The invention embraces three implements.

1st. As a cutting harrow the teeth can be made of any depth, as they are clamped so as to be removed or changed in a few moments.

2nd. As a smoothing or grass-seed harrow it has no equal, having the roller attachment, which is of great value. The harrow being hinged in the centre, adapts itself to any inequality of the surface; as each half, with the two corresponding sections of the roller, act independently of the other. In harrowing grass seed on wheat surface, the roller replaces the wheat which has been distributed, and covers the grass seed at the same time. The harrow can be changed from a cutting to a smoothing harrow in a few moments by putting the teeth (which are the best steel) in the rearward slots.

3rd. As combined it is a superior implement, for being made entirely of iron, it is almost imperishable, and will last a lifetime. Rolling after harrowing performs one of the most important functions in preparing a good bed for the reception of the seeds. Rolling after seeding effects a purpose equally important, as the roller brings finely pulverized soil in contact with the seed, rendering germination certain and rapid. Land seeded down to meadow is made level and in admirable shape for the mower and horse rake. In season of drouth, land that has been thoroughly rolled will suffer far less than that of the same quality unrolled, for it better resists evaporation. The roller can be detached and the harrow used without.

Lastly. The work of the Harrow and Roller saves the farmer the cost of roller, team, driver, and time consumed by them in every operation.

We have endeavored to bring the prices so low that all may buy, giving a first-class Harrow and Cast-Iron Roller for \$35.00, which is less than the price of any Iron Roller now in the market.

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Also a fine litter of **THOROUGH-**  
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terms are a commission of 4 per cent.,  
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Nov-tf

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- Bleached and Unbleached Shirtings retailed at the lowest prices, even if it is less than cost. We keep all of the best brands, such as Wamsutta, Davol, New York Mills, Fruit-of-the-loom, Androscoggin, Auburn, &c.
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First Premiums on Two, Three and Four-Horse Plows at last Virginia State Fair. First Premiums on One, Three and Four-Horse at Lynchburg. Seven First Premiums at last North Carolina State Fair, over all competitors, being the Fifth successive year that these Plows have swept the field there. First Premiums on One and Two-Horse Plows at Weldon, N. C. First Premiums on One and Two-Horse Plows at South Carolina State Fair. First Premiums at Atlanta, Ga., Orangeburg and Cheraw, S. C.

They are guaranteed to work in *sandy, clay and hard land*; in *sod, stubble*, or *weeds* of the heaviest growth, and with

### Less Draught than any Plow in Use.

In buying duplicate castings for Watt Plows, all parties are warned to use only those bearing this TRADE MARK.



All genuine Points, Slides, Moulds, and Standards have it. All without it are SPURIOUS, and are made and used in *violation of law*. All genuine are warranted.

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PRICES GREATLY REDUCED! EVERY RAKE WARRANTED.

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The only complete Machine for drawing water with a bucket. THE CRANK DOES NOT REVOLVE WHEN THE BUCKET DESCENDS. Prices lower than any other.

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The only Mill grinding corn and cob successfully, that will grind Shelled Corn fine enough for family use. GRINDS TWICE AS FAST as any other mill of same size and price. Send for Illustrated Catalogue and Price List of Implements.

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THE TOWANDA EUREKA MOWER, which took a diploma at our last Fair, and we believe superior to all others now on the market. It tedders the hay after cutting it, which causes it to cure in one-third less time than after other mowers, and is remarkable for its ease of draft.

RUSSELL'S CELEBRATED MASSILLON THRESHER, worked either by steam or horses.

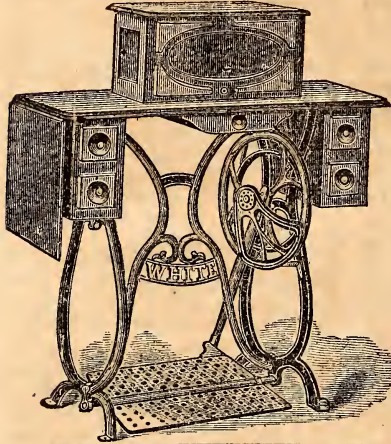
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The superior Light Running, Durable and Cheap

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PATENT B.E.D SPRING AND  
TAYLOR'S CHURN.

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The largest and best warehouse in the city, in view of the hard times and low prices of tobacco, has determined to offer the following liberal inducements to planters sending their tobacco to this market :

Any Planter sending over three hogsheads, I will send the Weekly *State* newspaper (free) for twelve months.

Over five hogsheads, I will send the *Planter & Farmer*.

Over ten hogsheads, any periodical published in the United States, or any one of the English reviews ;

In addition to the above premiums, I will receive your tobacco free of drayage.

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It will make your hens lay.

It will keep away the cholera.

It is a preventive of the gapes.

It strengthens young chickens.

It operates on the liver, and keeps your fowls in a healthy condition.

It gives the fowls a beautiful plumage.

Every poultry breeder should have it. Price 25 cents a package.

FOR SALE BY POLK MILLER & CO., Sole Agents,  
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april—4t

# The Buffalo Lithia Waters

FOR THE PECULIAR AFFECTIONS OF WOMEN.

—:—

EXTRACT FROM LETTER OF DR. WILLIAM T. HOWARD,

*Of Baltimore, Professor of Diseases of Women and Children in the University of Maryland, dated August 1st, 1873.*

Dr. Howard compares these Waters with those of the celebrated Greenbrier White Sulphur, West Virginia, and adds the following:

"Indeed, in a certain class of cases, *it is much superior to the latter*. I allude to the abiding debility attendant upon the tardy convalescence from grave acute diseases; and more especially to the cachexia and sequels incident to malarious fevers in all their grades and varieties, to certain forms of atonic dyspepsia, and **ALL THE AFFECTIONS PECULIAR TO WOMEN** that are remediable at all by mineral waters. *In short, were I called upon to state from what mineral waters I have seen the greatest and most unmistakable amount of good accrue in the largest number of cases in a general way, I would unhesitatingly say the Buffalo Springs, in Mecklenburg county, Va.*

—o—

EXTRACT FROM A LETTER OF DR. HUNTER MCGUIRE,

*Professor of Surgery in the Richmond, Virginia, Medical College.*

RICHMOND, VA., February 1, 1877.

"We cannot safely determine the therapeutic value of any mineral water by its chemical analysis. Chemistry has not discovered any element of sufficient quantity, or any combination of elements in the Buffalo Lithia Springs, which led us to believe the Water to be valuable in the treatment of **DISEASES PECULIAR TO WOMEN**, and yet I have repeatedly found it to be of positive and permanent value in many of these cases. I think the good results obtained by its use are frequently due to its *tonic effects* upon the *nervous system*. In my hands it has shown itself a *decided 'nerve tonic'*, and I frequently advise its use in cases requiring such a remedy."

—o—

*Extract from letter of Dr. HARVEY L. BYRD, of Baltimore, late Professor of Diseases of Women and Children in the College of Physicians and Surgeons of Maryland. Dated Baltimore, September 21st, 1877.*

"During my stay at the Buffalo Lithia Springs, as resident physician, for the season just closed, I had ample opportunity for observing the action of the waters of the several Springs on different constitutions and the two sexes, and I have no hesitation in expressing the opinion that, in the large majority of chronic **FEMALE DISEASES**, and especially those connected with the Uro-Genital Organs, *they have no equal as a medicinal agent in the whole range of Therapeutic application*. In Leucorrhœa, Amenorrhœa, Dysmenorrhœa and Cystorrhœa, their action may be regarded as almost specific."

—o—

EXTRACT FROM LETTER OF DR. JOEL WATKINS,

*Of Charlotte Court House, Va., of April 1st, 1877.*

"I have been acquainted with the Buffalo Springs, in Mecklenburg county Va., for a number of years, and have frequently witnessed its healing powers. It is efficacious in as many different conditions of the human system as any mineral water or medicinal agent of which I have any knowledge, *but its crowning glory is its efficacy in FEMALE DISEASES*; in the obstructions and irregularities to which young females are subject, particularly when connected with or dependent upon indigestion, I consider it *almost a specific*.

Waters in cases of six gallons, \$5 per case at the Springs.  
Springs open 1st day of June.

THOMAS F. GOODE, Proprietor,  
Buffalo Lithia Springs, Va.

ALLISON & ADDISON'S



# FERTILIZERS.

As the season is at hand for ordering fertilizers for the Tobacco crop, we beg to announce to our friends that we have discontinued the sale of Pacific Guano, and will confine our business in Fertilizers to the sale of our own manufacture, viz :

COMPLETE  
TOBACCO MANURE.

COMPLETE  
WHEAT MANURE.

PURE  
FLOUR OF RAW BONE.

Thirteen years experience and extended experiments having satisfied us that the use of fertilizers prepared especially for each staple crop is sound policy and true economy, we will hereafter confine ourselves to the manufacture and sale of the above special manures, which several years trial has shown to be all that could be desired for the crops for which they are made.

We also keep on hand a large stock of

No. 1 PERUVIAN GUANO,  
Potash, Ground Plaster, and other Fertilizing Materials,  
Which we offer in large or small quantities at lowest rates.

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OFFICES AND WAREHOUSES :

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38 SYCAMORE STREET, . PETERSBURG, VA.

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**RALEIGH,**  
*(Rose of Sharon).*

Breeders of high-bred Short-horns will do well to avail themselves of the services of this magnificent young bull at twenty-five dollars a calf. Good care taken of cows at one dollar and fifty cents per month; but all risks entirely with the owner.

I have a constant apprehension, that some Kentucky man will offer a price for this animal which we cannot decline. Address

**N. BERKELEY**  
Farmer, Virginia A. & M. C. Farm,  
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**VALLEY CHIEF**  
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STRONG, DURABLE AND LIGHT DRAFT.

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*Richmond, Va.*

april—1yr

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HIGH-BRED AND TROTTING STOCK FOR SALE AT FAIR-LAWN STOCK FARM, LEXINGTON, KENTUCKY.

I offer, at private sale, eighty head of High-bred Trotting Stallions, Colts and Fillies from one to five years old, most of them sired by Almont, who has sired more winners of contested races than any trotting stallion of his age that has ever lived.

*Fairlawn* is strictly a *Breeding Farm*, with seventy Highly-bred Trotting Brood Mares used for breeding, with the noted Trotting Stallions Almont and Cassius M. Clay, Jr., in use as private Stallions.

The Southern States should diversify their industry and the breeding of highly-bred stock, for which their soil and climate offer peculiar advantages—should be largely engaged in, and will constantly pay large profits if properly conducted.

Liberal terms of payment will be given responsible parties.

For Catalogues, which give descriptions and pedigrees of the stock and *lowest prices*, or other information, apply to

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feb—1yr

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ELLERSLIE FARM.

THOROUGHBRED HORSES

AND

PURE SHORTHORN CATTLE

OF THE LARGEST AND BEST FAMILIES, FOR SALE.

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R. J. HANCOCK,  
*Overton, Albemarle Co., Va.*

april—1yr

**DEVON CATTLE**  
AND  
**Shropshire Sheep**  
FOR SALE.

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**Thoroughbred Young DEVON BULLS and Young Rams of  
the SHROPSHIRE BREED.**

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Several of the young bulls were sired by the Imported Bull, "Master James," the winner of several prizes in England, amongst others the first given to his class at the show of the Royal Agricultural Society of England, held at Birmingham in July, 1876.

The young rams were all sired by imported rams purchased at high figures from one of the very best flocks in England, and several of them are out of ewes recently imported from the same flock of the rams—the others being out of ewes obtained from the celebrated flock of Mr. T. Conger, of Waldberg, near Haverstraw, in the State of New York. Also one Imported Shropshire Ram now a little over three years old.

Particulars, as to pedigrees, prices, &c., may be obtained by applying to

**Mr. W. N. KENNON,**  
June—6t                      Sabbot Island postoffice, Goochland Co., Va.

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**SOUTHDOWN SHEEP.**

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I am happy to announce to my friends and the public generally that in addition to my own choice and select flock of Southdown Sheep, I have made arrangements with Mr. John D. Wing, of New York, by which the larger portion of his celebrated "Maple Shade Flock" has passed into my hands to be bred jointly by Mr. Wing and myself. This flock has long enjoyed the reputation of being the most noted flock of Southdowns in America, and Mr. Wing is ever on the alert for the best rams he can find. The first prize yearling and two-year old rams of the Centennial Exposition, as well as the first-prize ram of the Royal Show in England for 1876, have done the service in the flock for the last two years. The sheep are of the "Walsingham type," and are noted for their well-sprung ribs, heavy quarters, good fleeces, short legs and hardy constitutions. The Southdown is pre-eminently the sheep for the Southern States, and I think I can confidently say that my advantages for supplying first-class specimens of this breed are equal, if not superior, to those of the best breeders in America. At the last Virginia State Fair all the prizes on Middle Wool Sheep (except two second prizes) were awarded to me. I have also some choice young

**SHORT HORN BULLS AND HEIFERS,**

AS WELL AS

**BERKSHIRE, POLAND-CHINA AND ESSEX PIGS,**

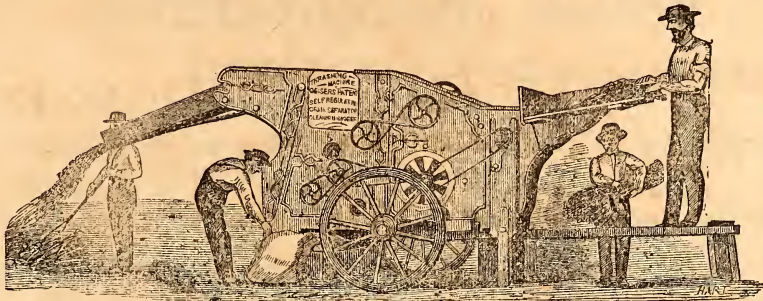
as well bred and as choice specimens as can be found anywhere. Safe arrival guaranteed. Write for what is wanted, or come and see.

je—tf

A. M. BOWMAN,  
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## GRAIN SEPARATOR CLEANER AND BAGGER.

THIS MACHINE

Is Simpler in its Construction,  
More Thorough in its Work,  
Lighter in its Draft, and  
More Durable in its Build,  
and better proportioned than any machine with which we are acquainted.

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For small farms, where it is desirable to do the threshing and other work requiring power, with only one or two horses, we recommend the HEEBNER MACHINERY as the *very best in use*. We shall keep samples always in stock, and can sell them with the same guarantee that we do our own manufactures.

Our experience in 1877 with the Giant Threshers and Cleaners, driven by Richmond Down-Power, was such that we recommend that combination as the most perfect that can be made for threshing small crops. The following is from a customer who bought the Richmond Down-Power and the No. 2 Little Giant:

HALIFAX Co., VA.

*Gentlemen,*—The facts compel me to speak in the most favorable terms of the Little Giant, No. 2, as being the best thresher and cleaner that has ever been introduced in this county. I have threshed 3,600 bushels of wheat, and no breakage; have run all around larger machines, and done my work better. Am under obligations to you for your good selection.

ZAC. T. COLLINS.

Mr. Tinsley to whom we sold a No. 3 "Little Giant," claims to have threshed and cleaned 300 bushels in 10 hours. Mr. Richard Archer, to whom we sold a one-horse outfit, says he threshes with ease 200 bushels of wheat per day. Mr. C. C. Jones of Halifax, says the Little Giant is more than satisfactory. In every sale of these machines we have made, the purchaser claims far more for their performances than our warranty calls for.

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For large operations we have the

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Also *just published*, our **New List** of Gladiolus and other **Spring  
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april—5m

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My flock of ANGORA GOATS has now been kept in Virginia for eight years. are thoroughly acclimated, prove hardy and prolific. They are very fond of weeds, brush, briars, &c., and will therefore live and thrive on the poorest of land, and in clearing and improving such land, they prove invaluable. They shear yearly from four to eight pounds of mohair as white as snow and as fine as silk. Specimens from my flock have never failed to take first premiums at all Fair, where they have been exhibited. Goats bred in this country are even superior to those imported from Asia Minor, which proves how thoroughly they are adapted to this country and climate. To any person wishing to procure stock of this kind, strictly pure and first class, I offer an opportunity at a lower rate than can be had any where else in the United States. Address, **F. S. FULMER**, Importer and Breeder of Pure Angora Goats, Spring Mills, Appomattox Co., Va. Please state that this notice was seen in the *Planter and Farmer*. dec-1y

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I am breeding Thoroughbred Devon Cattle, Merino Sheep, Poland-China, Essex and Berkshire Hogs. Also Light Brahmans, White-faced Black Spanish, White Leghorns, Pekin Ducks and Bronze Turkeys.

My stock took many first premiums at the Piedmont and State Fairs.

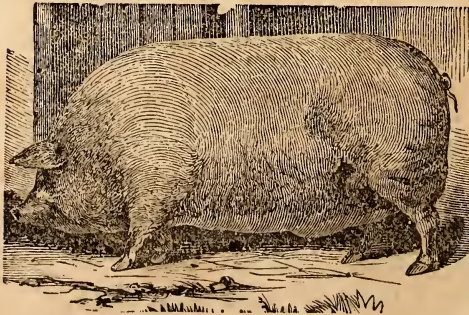
I have selected my stock with great care from the best herds in the United States, and intend to be excelled by no one.

I have just added to my stock a flock of SOUTHDOWN SHEEP.

Orders solicited and satisfaction guaranteed. Address

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jan—1y



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White, Berkshire and  
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Also Fancy Poultry.

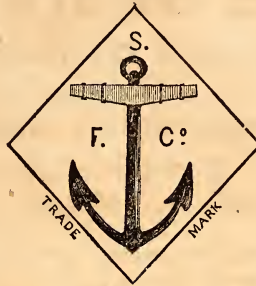
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Apply for Catalogues to Wm. Wertenbaker, Secretary, P. O. University of Virginia, Albemarle county, Va.

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**Co-Operative Stock Farm and Poultry Yards,**

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The best of stock; some prices on page 438 November number, 1877; special rates on large quantities. Correspondence solicited. New Catalogue now ready, free; send for one.

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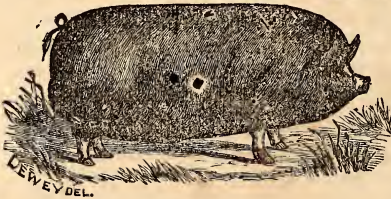


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jan-4t.

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I am breeding  
DEVON CATTLE, LEICESTER,  
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SHEEP, POLAND-CHINA,  
BERKSHIRE AND ESSEX PIGS.

My Cattle, Sheep and Hogs took many first premiums at Piedmont, Lynchburg and Richmond Fairs. All bred from the most noted and fashionable strains of Prize Winningstock. Selected with great care from the best herds in the United States. Send for price list. Address

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REGISTERED JERSEYS from choice stock Bulls, Cows and Heifers. Calves of both sexes. Prices reasonable.

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Of the following varieties: Bronze Turkeys, Pekin Ducks, W. F. B. Spanish Partridge Cochins, Silver Spangled Hamburg, White Crested, White Polish, Brown and White Leghorn, and Game Fowls of the leading varieties. Write for Price List of eggs; chicks after first of June.

m2y-1yr

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A Southern Cultivator and Horse Hoe for Corn, Cotton, Tobacco, or anything that grows in hills or drills, which has received the first premium at 45 exhibitions at State and County Fairs.

The cut is readily adjusted to any width from 15 inches to 4 feet, or any depth from  $\frac{1}{2}$  to 9 inches, doing away entirely with the use of the hand hoe, saving on each plantation the time of from 4 to 6 men.

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