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THE SOUTHERN

PLANTER AND FARMER,

DEVOTED TO

Agriculture, Horticulture, and Rural Affairs.

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

RICHMOND, VA. OCTOBER, 1878. No. 10.

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AGRICULTURE, HORTICULTURE AND RURAL AFFAIRS.

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

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

Vol. XXXIX. RICHMOND, VA., OCTOBER, 1878. No. 10.

[For the Southern Planter and Farmer.]

COL. WASHINGTON'S REPLY TO DR. ELLZEY ON THE ANALYSIS OF MANURES.

[We very much regret that the discussion of so interesting and important a subject to our readers should be marred by personalities. Our good friends, Col. WASHINGTON and Dr. ELLZEY, are too intelligent and public spirited in all that pertains to our farming interests, for us to believe that they are not ardently desirous of finding out the truth, and we hope that in their further discussions all unpleasant personal allusions will be avoided.—ED.]

Prof. Ellzey says I am ignorant of this subject. Ignorance is a misfortune, to which I plead guilty. To be wise in one's own conceit is a greater misfortune, to which I plead not guilty. It is gratifying to all Virginians to be informed that they have among them a gentleman, who, in scientific attainments, has reached, with one bound, an eminence so exalted that he can, with complacency, look down upon the State Chemists of Virginia, Georgia, North Carolina and of other States, and even upon Dr. Voelcker, the great analytical chemist of England, with cool disdain, and in pity say to these gentlemen, distinguished at home and abroad, Why, you do not understand your business! I, Prof. Ellzey, the chemist, will instruct you. Pity it is Virginia is so poor that she can't appreciate and provide for such magnificent ability. Mr. Editor, neither unsustained assertion, egotism or personalities, with so much self-satisfaction indulged in by Prof. Ellzey, will divert me from the issues. Farmers of Virginia have lost millions by paying over-value for manures. My sufferings, interest and convictions are with them, and not with the Professor.

You have frequently requested me to write my views on any subject I deemed of interest to the farmers for your able and

useful journal. I have responded when practicable to do so. I had not supposed to courteously express an opinion different from that entertained by one or all of your editors, would provoke the displeasure of any one. If aught I have written can justly be considered offensive to the fastidious, I cheerfully disclaim any such intention. My motive has been single—to get at a proper conclusion—the truth. You will therefore pardon me for a brief recital. During the Winter of 1877 and Spring of 1878, a series of editorials, extracts and comments, under "Stock Department," appeared in *The Planter*. About the same time there were distributed among the farmers a number of pamphlets and circulars. These papers I thought tended to shake the confidence of farmers in, and to discredit, the analysis of manures, no matter by whom analyzed. In some of them, attacks, directly or indirectly, were made on the laws of Virginia enacted as a protection and benefit to the farmer; and whether designedly or not, I think on the State Chemist and Commissioner of Agriculture, both high State officials, appointed peculiarly to promote the interest of agriculture. The circulars and Prof. Ellzey's productions appeared to run on all fours. Their authors seemed to be in the same boat. All of them, I think, whether so intended or not, were against the interest of the farmer. One short article only appeared in your paper, over the signature of "Farmer," in opposition. Also an extract from a letter of Dr. Voelcker. It was at once intimated, under "Stock Department," that only "the nature of the contents of that" had been published; whereupon the whole letter appeared. So complete was its vindication that chemistry will analyze a manure—that analysis is beneficial to the farmer, and that no manure manufacturer, with a good conscience, can entertain a different opinion; so crushing was it to all the comments and editorials of the "Stock Department," that Prof. Ellzey at once opened fire on Dr. Voelcker at long range. Under these circumstances, in May last, I offered my views on this subject from a farmer's stand-point, hoping to elicit from abler farmers their views, in order that both sides might be heard. I made no allusion to any of the preceding papers—none whatever to Prof. Ellzey. A criticism in "note by the Editor" was appended to my article. Supposing this criticism to emanate from the Editor, I thought it appeared partial, that the first paper from the farmers' side, of an issue involving the repeal of laws and the abolition of offices, that they thought *good*, should be met with a criticism by the Editor of *The Planter*, when you had printed so much on the side of the guano dealers. I addressed you a note as follows: (See June No.)

1st, "Do you mean to say the analytical chemist is unable to ascertain the quantity of ammonia, soluble phosphoric acid and potash in agricultural manures? Again, What do you mean by commercial valuation?" To these a reply in another foot-note as follows: "The articles published in this journal, from the pen of Dr. Ellzey * * * answer fully the questions propounded by Col. Washington." Still supposing you the author of these foot-notes, I replied in August No.

to Dr. Ellzey's views on the latter point, and concluding that you denied the proposition in the former—the basis of my article in May—I attempted to maintain the affirmative. With what success the public can judge, and I think Prof. Ellzey can feel. Prof. Ellzey says "he has never *intimated* the opinion that chemistry will not analyse a manure." Did the Professor "intimate" this in June last? If not, why did he not answer, *No?* My reply of August frankly stated I did not know what were his views. If I "put up a man of straw," so easily knocked down, why did the Professor occupy five pages of your valuable journal in September to knock it down, when in June a word of two letters would have done so? Verily the Professor has abundance of leisure, or a marked fondness for much writing. When a strong man cries out so long and loudly as did the Professor in September, his friends will think he is hurt, even by "a man of straw;" and of this injury he had strong apprehensions. At the close of his lugubrious "Stock Department" editorial, he says, "We will *correct* the statement, for we never meant to convey that impression." Did you not? Then why did you not say no to the direct question asked in June? Let us see what the Professor's views were, and the impressions conveyed prior to June. In January No., p. 28, he says: "We have no where stated that the amount of *inert* material in a fertilizer cannot be ascertained with reasonable accuracy by the chemist." On p. 31, after forcing sundry conclusions from an extract from Professor Johnson, he triumphantly writes: "What, then, is the use of these analyses and these figures resulting from them?" Again, December 1877, p. 776, he says: "*The only thing, then, left* to the farmer will be to try these two fertilizers, side by side, in his field and note the effect; * * * he will have sense enough to take that which will pay him best for his outlay, and will pay not the *slightest regard thereafter* to the opinion or *analysis* of the *chemist.* Certainly the chemist *may discover* how much material *known* to be *positively inert* exists in any given fertilizer, and he *may discover* that it is an article *positively fraudulent* in its character. *Further than this, in our opinion, he cannot go.*" So wrote the Professor in December—italics mine. The chemist *may discover* how much of material *known* to be *positively inert*, and may discover an article *positively fraudulent.* "Further than this he cannot go." Are you sure of this now? Is ammonia, soluble phosphoric acid or potash "positively inert?" Are they "positively fraudulent" in a manure? Does the Professor intend to charge "positive fraud" on the part of all the dealers who label their manures, with analysis giving per cent. of ammonia and other ingredients, not "known to be positively inert?" Does Prof. Ellzey, who plumes himself as a chemist, mean to say that he can go no further than to "may discover the known-to-be positively inert and fraudulent" matters in a manure? I admit my ignorance, but by no means admit such a display of it as this. Certainly, if this is all chemistry will do, Prof. Ellzey, the chemist, cannot expect the farmers to "pay the slightest regard to his opinions on analysis." And I opine, on fertilizers, he will not be disappointed.

Again, Do not these extracts, if they show anything, plainly show that the Professor, at their writing in December last, was convinced that chemistry could not analyze a manure; and that analysis was of no value to the farmer? By September he has changed. Hear him, p. 508, "We have never said a chemist cannot analyze a manure; we have no where said analysis is of no use to the farmer." And further on, "no body that we know of has ever assumed the position that no chemist can analyze a manure." If analysis is of use to the farmer, why advise the farmer "to pay not the slightest attention to analysis?" If chemistry will analyze a manure and can go no further than to "may discover" the material known to be positively inert and positively fraudulent, is this analysis? Is this the ascertainment of the quantity of ammonia, soluble phosphoric acid and potash which "no body now denies" and which constitutes "a man of straw?" I leave these questions to the Professor. Whether Prof. Ellzey expressed his opinions in December or September, I am still unable to say; certainly my "not understanding his meaning" should have excited no surprise. The Professor says, "field results" are the only test. Suppose I use a manure in 1878 with good results; how am I to know that the maker has not changed his formula? also, the ingredients, by 1879? Some farmers think this has been done. How am I to know that for blood your pet leather shavings have not been substituted, or the per cent. of ammonia and phosphates reduced? What are "field results" worth with these changes? A farmer's life, under your advice, will be one of trial of manures "side by side." If the Professor knew half as much about practical farming as he does about chemistry, he would change this opinion as quickly as he has done that about "analysis of manures." It is just here that the analysis comes to the aid of the farmer and helps him all the way. It removes the *lottery* from this business, certainly to a great extent.

If we understand Prof. Ellzey, he now admits chemistry will analyze a manure and analysis is beneficial to farmers. But that chemistry will not show the sources from which the valuable ingredients are derived; therefore, farmers must rely on field results alone. This looks like sitting on both sides of the fence; but about as definite as the Professor seems able to express his views. We will examine it: Suppose A makes a manure, taking as basis of ammonia and phosphoric acid, blood and animal bone, the cost is $30 per ton. B makes one taking leather shavings and South Carolina rock as basis. B's cost $20. Allow $5 to each as profit. Each sells at $50 per ton. Assume that by analysis each reveals the same per cent. of nitrogen producing ammonia and phosphoric acid, and their values are computed at $30. The farmer is by analysis informed that neither manure is worth over $30, and an excess in value of $20 is charged. Analysis thus exposes extortion. But, says the Professor, it does not show that B is overcharging $30, and only shows that both overcharge $20. It proves extortion in both, but fails to prove the robbery in B. This gives to the Professor all he can pos-

sibly claim for his theories. Still for months he has labored to break down the analysis of manures, and advised farmers to "pay not the slightest regard to the opinions or analysis of chemists." He also admits analysis to be of benefit to them and should see that it will protect them from extortion, so easily practised. The fact is, the Professor thinks commercial valuation is "but the money a manure will bring," and holding this opinion, it conflicts with all plans to expose an excess of charge. In short, excess of charge or extortion are impossibilities under this theory. Farmers have felt them and will be excused for not adopting such a theory.

Again. Cannot all the Professor, and those on his side, have said be reduced to this. Analysis is of benefit to the farmer. It will save him $10 to $20 per ton. It will expose the extortion practiced. It may not do so to the full extent in every case. And as it does not reach "absolute certainty"—perfection—in every case, and the analyst will "not swear to it," farmers must "not pay the slightest attention to it." My dear sir, if you expect perfection, you will have to travel outside of your own and all other professions, and absolutely leave this world.

On p. 503, the Professor assumes to quote from me as follows: "No analytic chemist of reputation has ever denied it." "If any were doing it they are not chemists and interested." Please, Professor, put on your glasses. The latter sentence is your work—and I have no occasion to borrow of you. In this connection, I cheerfully disclaim all personal allusion. My reply was intended for the Editor, not the "Stock Department." Having flown the world over for words and figures with which to knock down "a man of straw," the Professor at last finds firm footing on "forcible re-adjustment, and orchard grass seed," and in great glee aims a personal blow from behind. As usual, he is in error as to the former, which I will excuse, as he obtained his information second-hand, or had none. I might, for impertinent personalities, become offended, but think I can afford to be generous. As to the orchard grass seed, his second-hand information was more fortunate. Yes, I sold my crop of orchard grass seed of 1878, after only one advertisement in the *Planter and Farmer*, for $2 per bushel. Had orders for hundreds of bushels more, and regretted my inability to supply them. They came from several States South—from Washington City, Maryland, and Virginia. Why? Because I sell none but fresh or new seed. They are threshed with the wheat machine; hence only the ripe are threshed. They are cleaned with the wheat fan; hence all foreign matter is blown off. Inspection shows their ripeness and cleanliness and freeness from mould. My statement has always been taken for their freshness. The Commissioner of Agriculture of the United States sent me an order for 200 bushels at $2 per bushel, of 12 pounds, delivered at my depot. Why? He had compared a sample with others (it may be with yours at $1.25); had subjected them to the microscope, and I presume thought them cheaper at $2 than others at $1.25. I have not the arrogance to suppose that Gen. Leduc

had ever heard of me, or my orchard grass seed, or of their "field results." No, no, Professor, Gen. Leduc purchased because he supposed "they were worth the money paid." Just the way we want to purchase manures.

A little less lottery, if you please! I charged the United States Government by the quantity the price charged a farmer for a single bushel. Again: There resides at Saltville, not far from Blacksburg, where those valuable orchard grass seed of the Professor's can be had for $1.25, a real, live and distinguished farmer, Col. Palmer, for years the leading seed merchant of Richmond. Reference to my farm book recalls the fact that a few years ago Col. P. purchased at Richmond and carried to Saltville my seed at $2.25 per bushel, when he could have gotten the Western seed at $1.50. From these I also learned that he had raised an abundance for his use, whereas he had so repeatedly failed by the use of those recommended by the Professor as to abandon them. It may do no harm for the Professor to call on Col. P., and take his first lesson in orchard grass seed.

Reader, who put up "the man of straw?" Let the foot note to my inquiry in June, so easily answered *no*, respond.

Upon whom has this "man of straw" fallen? Let the extracts from Prof. Ellzey's writings of December, 1877, January, 1878, and September, 1878, answer. He who knows the Professor's views on the analysis of manures and their usefulness to the farmer, is a wise man. Little did I suppose the vaunting knight (not Don Quixote) of chemistry, mounted (not on Rosinante) on a charger of his own selection, in full armor clad, would so soon be unhorsed by a "man of straw." I restore, Sir Knight, your plumed and broken helmet. I lend you a friendly and helping hand. I brush the dust from your soiled armor, and, with hat in hand, bid you an affectionate adieu—as to analysis of manures.

The "Stock Department" has displayed great egotism with reference to immigration. For years the Legislative and Executive branches of the State government have striven to induce immigration to Virginia. Money has been more than once appropriated. Farmers, individually and in societies, have labored to this end. Hundreds of our public-spirited men have given their time, talents and means. Everywhere throughout Tidewater Virginia the farmers are anxious for immigration. In their poverty they see plenty if only their over-abundant and to them useless lands can be sold. The credit of the State is suffering because of the low price of these lands—the large part of her taxable values. Richmond city, which so nobly arose from her ashes, has increased her population fifty per cent., and with her concentrated learning and wisdom still with open arms invites immigration. The State Agricultural Society has sent her Sutherlin to Pennsylvania. At this writing, Gen. Lee and Senator Johnston are addressing the people of New York on this subject. Notwithstanding, in July last, page 381, in "Stock Department," the following appears: "The outcry is for immigrants, immigrants, people, people of any sort—paupers, thieves, criminals, outcasts,

tramps, anybody to settle and develop the country. Heaven defend us from the realization of such *wild vagaries.*" Whence comes this outcry? Who but the Professor heard it? May we not hope it is the child of a wild imagination? But what more triumphant reply can be made to the addresses of Sutherlin, Lee and Johnston than the reading of this editorial? Are we to be informed that the Agricultural Society of Virginia, the local societies, the Senators of the United States and the thousands of farmers whose families need the necessaries of life, while they are overburdened with useless lands, hold convictions as to their interests and the interest of Virginia that are but "wild vagaries?"—that Prof. Ellzey, as the guardian of their rights and interests, is necessitated to invoke the powers of Heaven to "defend them from the realization" of their wishes and convictions? All Virginia is overwhelmed in ignorance with one exception! Alas! alas!

That I be not misunderstood, I take occasion to say that nothing written by me is intended to disparage any dealer in manure. I know many of them personally, and for them entertain the highest respect. That some manures are sold at prices so high as to preclude all chances of profit to the farmer, I believe; that others are sold at a fair profit to the dealer, and can be used to advantage by the farmer, I also believe; that the analysis of the State chemist is the only safe guide the farmers of Virginia have, I am convinced. I cannot understand how the farmer can in security invest in any manure, when the dealer is afraid to have it subjected to analysis by the State chemist. If correct in any of these opinions, it is of the first importance to farmers to see their representatives and guard them against any and all efforts that may be made to repeal the existing laws, requiring fertilizers to be analyzed and labeled with printed or stamped analysis. Equally so to preserve the offices of State chemist and Commissioner of Agriculture. With these distinguished gentlemen I have no personal acquaintance. Their works I have read; and with the means at their command, they have accomplished much. Their work is just begun, and is characterized with ability and fidelity. To repeal these laws and abrogate these offices, without waiting to see their full effects, will be unwise in the extreme. With an exercise of diligence, farmers can prevent it. They were enacted for their benefit. I understand foreign dealers send manures into Virginia and sell them, with no labels or stamps, and no analysis. This is an imposition on the farmer, a violation of law, and an injustice to the home manufacturer—a triple wrong. I think it can be corrected by so amending the present law as to require all manures before they can be sold or bartered in the State to be analyzed by the State chemist and the analysis published. These analyses should be selected by the State chemist in such way as to secure the greatest possible fairness and impartiality—not from samples furnished by the dealers. They may be partial, possibly doctored.

Caroline Co., Va. JOHN WASHINGTON.

[For the Southern Planter and Farmer.]

A WORD TO DR. ELLZEY AND COL. WASHINGTON.

I have been much interested in the discussion of the matter of fertilizers in your Journal, and have been often reminded of a saying of a relative of mine when I was a boy, during the time when party politics ran high between "*Whig and Democrat.*" "*I'll be burnt,*" said he, "*if one side isn't good until you hear the other.*" So of Col. Washington and Dr. Ellzey.

I think they both are right in this, that analysis or no analysis, commercial manures are not to be relied upon by our farmers of small means, with any assurance of profit or success. Upon this subject, the present writer *feels keenly;* having been sadly gulled and disappointed by the use of several of "*the very best*" of these so called fertilizers. That in some cases, and under certain conditions, they act well, there is no question; but, that the farmers' pockets have been as surely depleted, while even making good crops with the aid of fertilizers, needs no proof. What is the remedy, then? Just this, let alone *all* of *them.* They may be good, but they are sold so high as to preclude any hope of profit to those who use them. By sad experience I have found out this, and am now applying the remedy in the shape of home-made manipulated manure and so far successful; and for the benefit of my brother farmers, I give my formula. I purchased twenty bushels of oyster shells, burnt them into lime, slaked them and added a heavy cart load of old and leached ashes, a heavy cart load of the clearings of fowl houses and a sack of coarse salt; these were thoroughly mixed and spread with a long shovel by standing in the cart and throwing them as far as possible, covering a wide land; spreading them thinly and evenly, over not quite two acres of ground, which was rather thin soil and had previously received some coarse farm pen and-hog pen manure, preparatory for tobacco. The season here has been a good one,but no fertilizer of whatever brand has ever had such a showing in the tobacco crop as has this manure of my own preparation. It is said by all who have seen it, to be equaled by none grown by any other preparation, and I verily believe the same preparation will make, with good season, any crop. Thus I have as fine a crop as can be seen in a day's ride on land some of it very thin, sandy soil, at the following cost:

20 bushels oyster shells	$1 00
Cutting wood, hauling same, and kilning	1 00
Salt $1.00 and mixing 50 cts	1 50
Total	$3 50

Hauling the shells was just the same as hauling any other fertilizer and the labor of spreading a great deal less; of course the ashes and manure are worth something, but they were not bought, they were only utilized. Thus, for tobacco, any small farmer may prepare a manure at half the cost of any other and as everybody knows of far more permanence. Then, I say, away with commercial and utilize home-made manures.

Fluvanna Co. W. W. Kay.

[For the Southern Planter and Farmer.]

MY EXPERIENCE IN WHEAT CULTURE IN 1878.

Mr. Editor,—Not having threshed my crops when I wrote you in July on the culture of wheat, I write now to give you more fully the practical results of the crop, it having been threshed. In Essex county I had in cultivation about seven hundred and twenty-five acres, more than one-half corn land, and made seven thousand bushels wheat; no fertilizer on the fallow, and less than an average of one hundred pounds to the acre on the corn land. I had straw enough for twenty-five bushels on the fallow and fifteen on corn land, but the yield was very poor, owing, most persons think, to rust on the blade. I accord with those views, that the rust entirely destroying the blade, the lungs of the plant, just as it was heading, before blooming, curtailed the number of grains in the head, but the weather changing more favorable, and no rust appearing on the stalk, the grain, the little that was in the head, was perfect in quality. This crop was half Fultz, half Lancaster. The Fultz was sowed three pecks to the acre, the Lancaster one bushel; all drilled. The yield from the Fultz far the best. The wheat was certainly thick enough. On my home and adjoining farm in Fauquier, I had three hundred acres in wheat; one hundred and twenty of it corn land, drilled in after the corn was cut off, without replowing or even harrowing (the latter ought always to be done—to make a smoother surface for the drill), one bushel Fultz to the acre with two hundred pounds raw bone, mixed with one hundred pounds "Sea Fowl," a manipulated fertilizer manufactured by Wm. L. Bradley, and sold by G. S. P. Triplett, of Fauquier county. The yield was twenty-one bushels to the acre, with straw enough for twenty-seven or twenty-eight. I had one hundred and sixty acres of what we call "stubble fallow," (that is, wheat stubble from which a crop has just been harvested), plowed up and put in wheat again.

This one hundred and fifty acres was composed of three fields. The first, sixty-five acres, was a field cleared out of the forest in 1850, and had been in corn or wheat twenty-one out of the twenty-seven years; had been, at different times, six years in clover, but since the war had but one year's rest. This was sowed with Fultz wheat, one bushel to the acre, with two hundred pounds Raw Bone and one hundred pounds Sea Fowl, and made twenty bushels to the acre. Stubble fallow, No. 2, contains sixty acres; was in corn two years successively in '75 and '76, in corn land wheat in 1877 sowed five pecks Fultz wheat to the acre, and treated with same quantity and kind of fertilizer, made twenty-three bushels wheat to the acre. This year being stubble fallow, was sowed one bushel Fultz to the acre, with same application of fertilizer as last year; made thirty-three bushels to the acre. Fallow No. 3 contained thirty-three acres; treated and cultivated exactly as No. 2, except that it was sown in Lancaster wheat in 1876 or 1877—five pecks to the acre—and made 22 bushels to the acre after corn. Last year was sowed in

Fultz, one bushel to the acre, with two hundred pounds Raw Bone and one hundred pounds "Sea Fowl;" made thirty-six bushels to the acre. The crop of straw was enormous—full enough for forty bushels to the acre. My crop of wheat in Fauquier was seeded, all with the drill, from the 28th September to the 18th October. It should have been all in by the 10th. I attribute the good results very much to thin seeding, the kind of fertilizer used, especially Bone, and the variety of wheat sown. These stubble fallows were seeded down in the Spring in orchard grass and clover, both of which are now eighteen inches high and the clover in bloom. I never sow grass seed after corn land wheat, because I can't get the cultivation as smooth and perfect as I like it to receive grass. Just here I beg to state that I do not believe any manipulated fertilizer suits, or is beneficial on all soils. "Sea Fowl" has done me very little, if any, good in Essex county, on the Rappahannock river. Experiments only can teach to what soil the various compounds are adapted, but I have yet to see the soil to which Raw Bone, finely ground, is not beneficial; also as to lime, it seems to be entirely valueless on the red lands of Albemarle and Orange, yet on white-oak clay lands it is invaluable as a fertilizer, and my observation is, that in proportion as the white-oak obtains or predominates as the original growth of the forest, so lime is beneficial. I have already made this communication too long. It was only intended to give the results of thin seeding of wheat, which I advised in your September number, and I repeat my opinion expressed in that article, that wheat should never be covered more than one-half to one inch deep; that the land should be well plowed and pulverized by repeated harrowings, but to get somewhat compact by lying sometime after plowing, or by rolling, or by frequent rains before seeding, so that the drill will not deposit the seed too deep. I would never flush up corn land with the big plow for wheat; it makes the land too light and allows the slightest freeze of Winter to penetrate the roots of the plant. For that, among other reasons, stiff clay land is universally considered better wheat soil than light land.

Fauquier Co., Va. ROBERT BEVERLEY.

[For the Southern Planter and Farmer.]

ONE BUSHEL PER ACRE.—Had I known the object of your postal in reference to wheat seeding, I would have written more in detail.

My belief is that one bushel of wheat sown by drill, with teeth six inches apart, is the best standard for seeding productive soils, and the richer the land, the less seed required, on account of increased stooling. While the tap root of wheat may run down from twelve to fourteen inches, the lateral roots rarely extend more than three inches on each side.

Roanoke Co., Va. R. B. MOORMAN.

[For the Southern Planter and Farmer.]

HARD TIMES AND THE REMEDY.

The times are hard, sir, exceedingly hard! We hear this from a majority of people in most all the vocations of life, and one would think their lines have surely not fallen in pleasant places, and we are living in the midst of the worst of times, to listen at their sad tales of failures to get along, or even to make buckle and tongue meet. Now, this is nothing new; it is an old song, sung more or less ever since man entered into organized communities. It is true there are extraneous causes, such as wars and failures of crops that depress for the time the industries of a country; these are rare and exceptional causes. But this continuous cry of hard times by so many—what are the causes of it? Why are a majority of people ever hard up and in arrears in their pecuniary affairs? Such a perpetual crying evil should not afflict so large a portion of mankind if there is wisdom sufficient on earth to remove this chronic malady.

But, alas, there is no balm in Gilead that will heal it, from the simple fact, the sufferers will not follow the curative prescription that would soon bring healing on its wings. As long as cause will produce effect, so long will hard times afflict a majority of the human race. Now, let us get at the cause of this perpetual clamor, and the remedy will suggest itself.

There are, with nearly nine in every ten, a lack of sufficient moral firmness to restrain self-indulgence, and the gratification of those factitious wants we all are inclined to have more or less, even when our means will not justify their enjoyment. Sufficient unto the day is the evil thereof, from being misapplied, has been a hurtful precept to a great many. So few of the poor are frugal and self-denying, to appear better in the eye of the world than we can really afford and vie with the rich, is a common weakness. If all would make an inviolate vow to live within their means, be it ever so small, there would be no hard times with any one after a little. We know, in a majority of cases, it would take the firmness of a stoic to hold on, but if you wish to see easy times, and they getting better every year, you must keep your resolve, and if you will go a little further and lay by a moiety of your yearly income, you can, by the time old age begins to creep upon you, be in a condition to glide smoothly down the hill of life and only know hard times by hearsay. Hard times being produced by an inflation or contraction of the currency, except to speculators and those who trade upon fictitious capital, is all fudge; it is a tune sung by politicians to ride into office by your votes. In a majority of cases, each individual makes his own hard or easy times. Not all the legislation of the united wisdom of the world can legislate a people into prosperity when the expenditures of a majority of them exceed their incomes. A sets out in early life upon the principle above recommended; he starts poor; he finds it hard at first to keep in this groove; he finds, however, it becomes easier year by year. After awhile he can indulge his reason-

able tastes and inclinations in a wider range, yet stick to his old maxim, "Pay as you go." He has now reached the meridian of life; he has reared his family bountifully, yet with frugal habits; they make a good show at home and abroad; he has never allowed them to indulge in expensive fashions by aping the rich. And now he reaches a green old age, and, by a life of frugal industry and attending to his own business, has money to put out. His neighbors B and C borrow of him from time to time; his honored State wishes to build a railroad for the general good of the people; he lends her all the money he can spare, and takes her bonds for its payment. It is true his lands are enhanced in value thereby, but those of his neighbors B and C much more so. Although he is called an old grip by the thriftless, yet his word is considered as good as his bond wherever he is known, and these very traducers will call upon him to arbitrate upon matters to be trusted only with those whom they have the utmost confidence in. Such men as this never see hard times. Now, the said B and C started life at the same time, and with comparatively ample means, but pursued just an opposite course. Soon they commenced borrowing money. B's house needs general repairs; the work is done with A's money. C wishes to make a doctor of his son; the money is borrowed from A for the purpose. After some years the credit of these men runs out; A thinks it time to have a settlement with them; whereupon he is summarily paid by a bankrupt notice from each. B having been an active politician, now runs for the Legislature, and, on account of the hardness of the times, becomes a readjuster—a soft word for repudiating the State's honest debts; and C is his staunch friend. Having shirked their own debts, they now wish to drag the State down into the same foul category, and thus cause A to lose the last of his hard-earned money. And these are representative men of that class, to a very great extent, who, having helped to create hard times, would to-day dishonor the old Commonwealth by a forcible readjustment of her just pecuniary obligations. And those who may not be bankrupts, yet advocating readjustment, you will be apt to find, in a large proportion, upon close scrutiny, a screw loose somewhere.

We do not say that all who go into bankruptcy do it from dishonest motives, but, at the same time, there are too many who do.

Hanover Co., Va. E. P. MEREDITH.

IRISH POTATOES.—I send you the following account of a crop of Irish potatoes raised in Gloucester county, on the farm of Mr. John T. Perrin by Mr. Nash. From one barrel and a bushel of potatoes planted there was dug and sold one hundred and fifteen barrels, besides the small ones, and about a barrel of the large ones used by the family. They were of the Early Rose variety, and many of them weighed three pounds. Can the truckers around Richmond beat this? G.

[For the Southern Planter and Farmer.]

THIN SEEDING OF WHEAT.

On reading the interesting and instructive discussion, in your September number, of the question of thick or thin seeding of wheat—a subject I have been examining by experiment and otherwise for ten years or more—I am moved to express my coincidence with the views of Col. Knight, Col. Beverley, Judge Christian and others as to the good results in increased yield, improved quality and saving of seed—an important item in a large crop—obtained by *thin sowing*.

As late as 1870, following the advice and example of my agricultural preceptor—an energetic and successful farmer of the old *regime*, my practice was to sow two bushels per acre with the drill. (And just here I would add, *en parenthesis*, my emphatic endorsation of Col. Beverley's high opinion of the wheat drill as the most complete, durable, reliable, easily managed, readily and cheaply repaired and satisfactory labor-saving agricultural machine, both as a wheat seeder and corn planter, ever invented).

Without recounting my experiments and observations, I will simply say they all, without exception, lead directly, and I think unerringly, to the conclusion, that at least one half of the wheat heretofore sown by the farmers of this country is absolutely thrown away, as regards loss of seed, and operates much more seriously in damage to the quality if not quantity of the crop. The course of my experiments was to steadily reduce year after year (on experimental lots, of course), the quantity of seed from two bushels to as low as three pecks per acre, and I had about settled down to one bushel, broadcast, as certainly sufficient, and perhaps the proper quantity per acre, when last Fall, as if not only to confirm the conclusions above drawn, but to convince me of the advantage and safety of a still further reduction of seed, by force of circumstances similar to those described by Col. Knight and Judge Christian, I had two acres seeded with but a little over three pecks of wheat—on the two acres. The wheat crop in this part of the State suffered from rust to an extent scarcely if ever before known, and was, perhaps, the poorest crop ever harvested here. My two acres escaped the rust entirely, tillered magnificently and produced a crop believed to be not less than twenty-five bushels per acre of fine, plump grain, weighing fully sixty pounds to the bushel.

Of course this is an extreme case; still, I believe, if carefully and evenly distributed, three pecks per acre, broadcast, will produce a crop fully up to the capacity of the best lands, and with a drill nicely adjusted and skillfully managed, one half a bushel will produce the same result.

I would respectfully suggest that intelligent farmers all over the State make careful and accurate experiments this Fall to settle this important question for themselves and fraternity, and report the result through the *Planter and Farmer*.

I. O. McGehee.

Nottoway county, Va.

In roasting coffee, none of the caffeine is lost, but it may be more completely removed from the grains if they are strongly roasted.

[For the Southern Planter and Farmer.]

EXPERIMENTS OF R. BARTON HAXALL, Esq., AS TO BEST VARIETIES OF WHEAT.

In compliance with your request of the 19th ultimo, I can now express my preference of five varieties of wheat I experimented upon in the last crop. First and decidedly the best is the German Amber, making, by several bushels per acre, the greatest yield and the best quality, though the last harvested and the last threshed, therefore longest exposed to repeated rain storms. The second is the Lancaster, not much behind the Amber, and upon low ground I will sow it in preference. The third in quality and productiveness is the Fultz. Very irregular from different parts of the field, high ground producing much the best grain; fell very much before harvest; was the first threshed and therefore the least exposed to rains. The fourth is the Boughton, moderate quality and very poor yield. The fifth is called Crawford White, a new variety about here, beautiful looking wheat; ripened late; fell suddenly; was difficult to shock; sprouted very much and made a very bad yield, of very inferior quality. If cut at right moment and threshed promptly, may be a desirable wheat. The yield of the best was moderate, not over 19 bushels per acre, if quite that, and each variety about three bushels per acre less than the preceding, in the order mentioned.

I doubt if the product of the whole State is more than seventy-five per cent. of what it was last year.

I will sow mainly the German Amber, of which I have none for sale, and the rest of Lancaster, with exception of small quantities of several varieties I may procure out of the State to experiment with.

In a recent conversation with Major Drewry, he said he knew of no wheat superior to the German Amber, and about the same time I talked with Major Sutherlin, who has a white wheat, combining all good qualities, has cultivated it 12 years, named it "My Own," and will sow no other this Fall, for a very large crop.

Richmond, Va. R. B. Haxall.

Salt or mint weed—*Iva axillaris*, Pursh.—Mr. William Budge, of Paris, Utah, has sent to the Department of Agriculture at Washington a specimen of "a very obnoxious weed, called by the farmers in this section salt or mint weed." Mr. Budge says that its roots penetrate sometimes as much as fifteen feet into the earth, and it increases so fast and is so injurious to crops that it threatens great damage to that section of country. It is a low, insignificant plant, very abundant in the valleys of Utah. It also occurs in Colorado. The Department solicits further information respecting it.

[For the Southern Planter and Farmer.]

"THE ENDING OF THE HARD TIMES."

With great pleasure I read the letter of Hon. Alexander H. H. Stuart in the *Planter* of August, upon the "Ending of the Hard Times," and in the main I endorse it. The letter carried me back to the great events in the financial and political world of half century ago, and brought up many reminiscences of that day, in which both he and the writer were active participants. The note by the Editor on the "State Bank System" I also endorse, for I firmly believe that State banks ought to be again established in this country, *and will be*, and the power of the present banking system of the United States should be curtailed. This is my conviction; I may, however, be wrong. But, Mr. Editor, "The ending of the hard times" (if they are about to end, and I trust such is the case), is not to be attributed to banks or banking, nor to the resumption of specie payments, or the possible repealing of that act, or to any legislation on financial affairs, but to the determination of the people everywhere, especially of the South, to economise in every possible way, in order to save themselves from abject poverty and want. The people of the South, of the Cotton States especially, had so long enjoyed the monopoly of the great staple, cotton, which had induced extravagance and idleness; and then the war, with its great volume of paper-money, followed by extravagant prices for cotton after the war, induced speculation, extravagance and debt, and consequently ruin.

This state of things was not brought about for want of banking facilities; if there had been ten times the amount the result would have been all the same, or even worse. As it was, the country was ruined.

The farmers were bankrupted, which ruined the merchant, who nearly swamped the banks, and then the farming community had to take care of themselves. It has been a hard struggle for three years for them to do it, but they are now nearly "out of the woods," and the crop now being gathered (I mean in the Cotton States, especially in Georgia), will enable us to snap our fingers in the face of banks and bankers, and the whole army of money-changers and shavers. I say again, this has not been accomplished by any laws or banks, but by raising our own grain and much of our meat at home, and in wearing our old clothes and riding in our old carriages and attending rightly to our own business. There are banks plenty. Farmers and planters need no other banks than those every man should have in his own barn-yard, and I trust the *Planter* may show all others as an enemy. I trust the day may come, too, when individual debts may be debarred of collection by statute, except such as are made for orphans. Extravagance leads to debt, and debt to ruin, and in many cases to dishonesty.

A GEORGIA PLANTER.

[For the Southern Planter and Farmer.]

A LETTER FROM GOVERNOR WM. SMITH.

Yours of the 7th inst. came duly to hand and has been waiting for my conclusion as to your request to review Mr. Stuart's article. I rather think I shall decline to do it, as age and occupation press me sorely. But I must say that after our sad experience of more than half a century, Mr. Stuart's letter (with whom I am pleased to believe I am on excellent terms) surprises me no little. The whole history of paper-money establishes beyond a peradventure two propositions: 1st, That it makes the rich richer, and the poor, poorer; and 2d, That it corrupts and demoralizes our people. Every thing that is produced by or made available *by labor* is capital, whether it be land, the fruits of the earth or minerals, or any thing else; the legitimate price of which is the cost of production, with a very moderate profit, for man should not make haste to get rich. The price of production under a well regulated economy, would literally depend upon supply and demand, subject to some fluctuation, which is well illustrated by the way of the pendulum of the clock, to which society would easily, certainly without distress, if not beneficially, conform capital thus produced and distributed in its thousand forms to meet the wants and tastes of men, and to obviate the cumbrous operations of barter, must have a currency; but that currency must be as stable as the yard stick, and government must supply it. So our ancestors understood it, for the Constitution provides in the 5th division of the 8th sec. that Congress shall have power "to *coin* money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures."

The whole clause is designed to secure measures of value, of fixed stability and uniformity.

The effort to make paper-money answer in place of coin is a gigantic failure. The whole history of paper-money shows periodical expansions and contractions—expansions in which the worst elements of our nature are pampered and invigorated; and contractions in which the consequences of such indulgences are frightfully developed in the perpetration of every crime known in our vocabulary, and which are clearly traceable to our paper-system—a system under which we have spent our annual income, exhausted our credit, and mortgaged our posterity, (have we a right to do it?) with a frightful debt of over some five thousand millions of dollars. But where am I going. I must stop. WM. SMITH.

(For the Southern Planter and Farmer.)

HOME-MADE FERTILIZERS.—This is the only year for the last fifteen that I have used no commercial manures, but instead, stable, farm-pen, hog-pen and wood ashes, the scrapings from under the hickory, dog wood and other trees, and all composted and thoroughly intermixed. A portion composted with cotton seed at the rate of about one-eighth of seed, and applied as nearly as I

could, about three hundred pounds to the acre, and I have never had a crop to give me as much satisfaction. With the exception of about one acre, a very badly drained bottom that has the rust, there is not another hill thus infected, whilst every one of my neighbors, on the same grade and character of soil who used bought manures is literally eaten up with rust, whilst up to date (13th September) my crop retains its green and healthy color, and notwithstanding there was some shedding, I think I shall make nigh on to one bale to the acre, and that, too, on old land, which has been cultivated for at least sixty years.

I allude to this subject in which I am a party interested, that I may elicit from others the cause of this condition of things. It was certainly not owing to seasons, for the rust attacked crops alike both in the wet and dry streaks of this section of the State alike.

Allington, Ga. S. WYATT.

[For the Southern Planter and Farmer.]

SEEDING OF WHEAT.

I feel highly honored in being called on to take part in the *wheat-seeding* discussion, along with so many gentlemen of skill and experience in farming—a business it was once my honor and pleasure to follow, and from which neither the change of place or time have weaned my heart and mind.

The year I commenced farming was one when wheat was at a low ebb. I have recorded the account of sales of my wheat crop for 1847. I hauled it forty miles to Petersburg, and sold it for seventy and seventy-five cents per bushel—the lowest price I ever sold at. But, about 1851, began the "Golden" period of Virginia agriculture, lasting till the war. I think it was in 1852 that Mr. Edmund Ruffin published, in the *American Farmer*, a most valuable article on the management of the wheat crop, from which I derived more practical information than any one article I ever read. I well recollect taking the number of the journal out to the field and moving step by step as directed, till the cap sheaf of the shocks was put on "with rejoicing." A few were put up under my special direction, and I never had any more trouble in saving my crop. If you have space to record a little incident which occurred in the famous "Nottoway Farmers' Club" (I say "famous," because I believe it contributed more practical articles to the old *Southern Planter* than any other in the State), I will give it: At the next meeting of the Club after the article appeared, a number of the members who had done as I had, were expressing their great delight at their success in saving their wheat. One of the members, not now a resident of the State, remarked that "*he never knew any other way*," and considered it strange that myself and the others were so far behind the times. The next year, just after harvest, I happened to pass his wheat field, and I found his shocks were "shocking" indeed, and not according to "the book." Meeting his overseer, I said, "How is this, Mr. S? Mr. B. told us at the Club that Mr. Ruffin could not learn him anything about shocking wheat, and I found he

had as 'shocking' a set of shocks as I ever saw." "Oh," said he, Mr. B. never knew anything about how his wheat was put up, for Mrs. B. came to me just as harvest commenced and said to me, 'Do pray, Mr. S., have the wheat put up right this year, for I never saw it put up here as good as other people's.'"

But this is not answering the inquiry about seeding wheat.

My rule was to seed one and a half bushels on the best land and one and one-fourth on ordinary. My average yield was generally from ten to twelve for one. I do not think that the variation of a peck or so would make much difference in the product. If an implement could be devised that would put each grain in its proper place, I think that one bushel would be amply thick, and probably less would be better. But there were few No. 1 seedsmen then, and I judge they are not more numerous now. Nature kindly provides, to some extent, that the thin wheat shall expand by tillering, and where it is too thick some will die out. So, I think, that with average seedsmen, the quantity seeded was, in main, nearly right.

I had many discussions on this matter with my uncle, Wm. B. Irby. On a tobacco lot, of a very stiff red soil, and highly manured, one year he seeded over two bushels to the acre, and measured up, from six acres, about thirty-six bushels to the acre—the heaviest yield I ever knew to be raised in the county. The variety was the "Woodfin" white wheat—the best, I think, ever seeded in my recollection.

My brother, William Irby, was also a very successful raiser of wheat, and attended closely to his farm. He had the best seedsman I ever knew. His rate for seeding was about the same as my own. His land was very different from our uncle's, being a gray soil with red subsoil.

I found it worth the trouble (more to be counted than the expense in money) to pour the wheat slowly into strong brine, thus ridding it of faulty grains and foreign seed, and then stirring into it lime or good ashes. The effect was to get more perfect seed and prevention, wholly or partly, of smut—one of the worst fatalities incident to the crop.

I hope to see the fields of our dear old State waving, as of old, and still more abundantly, with this most beautiful and useful of all grains.

Ashland, Va. RICHARD IRBY.

N. B.—Seeding wheat on imperfectly drained land, is throwing seed and labor away.

[For the Southern Planter and Farmer.]

GAS-HOUSE LIME.

Mr. Wm. Brown, of Westmoreland county, Va., in a private note, says: I notice from a late No. of the *Planter* that Dr. Pollard recommends the use of gas-house lime on some worn-out lands *en route*

from Richmond to Burkeville. I purpose liming a green fallow (buckwheat) this Fall for wheat, and shall use fertilizers for the wheat. The experience of our farmers is, that *oyster shell lime* (about the only kind we use), does not act well in connection with guanos, &c., from the fact that we cannot properly slack it; and this process going on after its application, liberates the ammonia of the fertilizer used. Will the gas-house lime perform the same functions, with the exception of freeing the ammonia as oyster shell lime?

[We will be pleased to publish the experience of our farmers on this subject.—Ed.]

[For the Southern Planter and Farmer.]

THIN SEEDING OF WHEAT.

An attack of illness is my apology for my tardy compliance to your request to communicate to you the facts in my possession on the question of the "Thin Seeding of Wheat."

Soon after I commenced farming I became satisfied that the quantities of seed generally used were entirely excessive, and that a considerable reduction of it would not only be that much saved for market, but in all probability would, at the same time, be productive of increased yields. I have, accordingly, for the last five years, been making occasional experiments of one peck to the acre, drilled in rows sixteen inches apart; and in every instance the yield of such seeding has exceeded that of the same land seeded at one bushel per acre. These uniformly satisfactory results convinced me that one peck per acre could safely be depended on for economical culture, and last year I used that quantity for a portion of my crop, some 100 acres. This wheat, soon after it began to tiller, assumed a more vigorous look than the rest of the crop seeded at two and one and a-half pecks respectively, and it preserved its superiority until it was overtaken by the rust, which ruined all alike, as it did most of the wheat in this section. My crop being mostly Clawson and another variety closely resembling it, suffered still more than the Fultz generally seeded in this neighborhood; and I have made up my mind to confine myself in the future to the Red Bearded varieties exclusively, they being the only ones, as far as I have been able to ascertain, that have made any approach to a satisfactory yield.

I have invariably found the above mentioned way of drilling wheat, one peck per acre, with the rows at 16 inches, to cover the land completely at harvest time, but the plants, with that quantity of seed, being still crowded in the rows, I had two plats, one of 150 kernels, the other of 500, planted at 6x6 inches; the first on the 25th of September last, the latter beginning of the following February, to test both the distance that plants will cover and the percentage of seed that would fail to produce plants. Of the above 650 kernels, two only failed, the plants being destroyed by insects after the blade had appeared above the ground.

It became evident, as soon as these plants had started in full growth, that they were crowding one another, and I had them consequently thinned to 12x12 inches, at which distance they completely covered the ground before rising and the plants looked all along so much more vigorous than thick seeded wheat does, that several farmers inquired "what new variety of wheat that was."

For the plat planted in September I had selected purposely a poor spot that, with ordinary cultivation, would certainly not have produced the seed, and it evidently yielded, with the exception of a few experimental acres of German Amber, the only good wheat I had, but unfortunately my object in testing very poor land, was defeated by an application of manure made to it early in March, without my knowledge. The second plat was not expected to and did not mature seed, having been planted entirely too late to produce any—the object in view, as stated before, having been different.

These experiments, confirmed as they have been by numerous measurements of isolated plants in the fields, have brought me to the conclusion that under favorable conditions the wheat-plant will cover a space of one square foot, and should not be given much less in practical culture. This idea, I am fully aware, will seem startling to most farmers, but that this allowance is not inconsistent with a large yield will become evident to them if they will only reflect, that supposing one peck to be seeded to the acre, and each seed to produce merely three heads of thirty grains each, not a very sanguine estimate certainly, the yield would be $\frac{3 \times 30}{4} = 22\frac{1}{2}$ bushels. From calculations I made recently on two samples of wheat, Fultz and German Amber, I found that seeding one bushel of Fultz per acre, would give $17\frac{63}{100}$ plants to the square foot, and of German Amber, for the same quantity of seed, $13\frac{84}{100}$ plants per square foot. Anything more irrational than such an overcrowding of a plant of strong tillering habit naturally, it would be difficult to imagine.

Considering the immense importance of this question to the agricultural interest of Virginia, under its present circumstances particularly, I would most earnestly urge our wheat growers to make this very fall a few experiments in *wheat planting*, and to lay off, every one of them, say two or three small plats, 12x12 inches, 16x80, 16x6 inches respectively; plant from two to three inches deep one sound kernel of wheat in each check, and to give the plats a couple of good harrowings, beginning as soon as the plants have begun their spring growth. By weighing each crop after harvest, it will be easy to come to a satisfactory approximation of the yield per acre for each mode of planting, and in that way to secure most valuable information for the cultivation of the next crop. The result, no doubt, will be a surprise to farmers who think that anything short of a bushel of seed to the acre is insufficient. From my own experiments I am led to believe that rows 16 inches apart, with plants 6 inches in the row, would be a perfectly safe planting, for in cases of accidental destruction of a plant, the two next would be still sufficiently near to close up the vacancy. I intend, at all events, to plant my crop this fall at

that distance. Of a large grained wheat that space would require about four quarts of seed to the acre (with a drill altered for that purpose). Admitting each plant to have eight heads of thirty kernels, each, the yield per acre would be, $\frac{8 \times 30}{8} = 30$ bushels; an estimation I should suppose, not excessive for fair wheat land; for in the two experiments already mentioned, that on poor land averaged twelve stalks, and that on good land fifteen stalks, notwithstanding the overlate planting of the latter. The few acres of German Amber, already alluded to, averaged, on repeated countings, over twelve heads in the plants less affected by the rust, and 100 from amongst the best heads, averaged 44 grains.

It is my firm belief that the adoption by our farmers of a persistent system of grain manuring in order to bring up their land to a condition of remunerative wheat production, and the substitution of the process of wheat planting to that of wheat seeding would, in a very few years, serve to throw the means to the diversified agricultural productions within the possibility of our unsurpassed climate, and inaugurate for the State a new era of substantial and lasting prosperity. Sooner or later her vast natural resources must conquer for Virginia a place among the foremost States of the Union, and it lies with the farmers more than with any other class of her population, to place the State in the pathway to the future that awaits it.

Amelia Co., Va. A. GERARD.

[For the Southern Planter and Farmer.]

SUCCESS IN RAISING CHICKENS.

Two statements of success with fowls have appeared in the New York *Tribune*, in the last few weeks. One the result of a lady's care, sent to the *Tribune* by Dr. Dickie; the other Mr. A. A. Lawton's account of his own yard. By comparing my day-book with these statements, I find my returns greater than either. For instance, in the month of July from 25 hens I gathered two dozen eggs. Up to the 1st August 85 chickens, hatched this Spring, have been consumed at table. The fine condition of these fowls may be judged of by their weight. The 25th of July a pair hatched the last of April, when dressed ready to be cooked, weighed, one three pounds, the other two and a half pounds. My yard is still full of fine chicks, and the hens continue to lay regularly. If you can tell me what to do with the old hens, I will be obliged for the information. [We hope Mr. Bradbury, of Orange, will answer in our next number.—ED.]

My Brahmas are so handsome that I am anxious to send them to the State Fair, but the cost of transportation and the risk will most probably prevent.

Lexington, Va. LELLA PENDLETON.

Raising Poultry in England.— When a boy, I helped my mother attend to her poultry. In the part of England we lived in, it was customary for the farmer's wife to have the entire care of the poultry of all varieties, and the eggs and young ones sold brought her in a nice acceptable sum of "pin money." My mother sold her eggs to a poultry higgler who came around once per week, and he also took all the young fowls she did not dispose of otherwise; but as she kept the speckled Dorkings, she had several first-class customers among the gentry. She was a very liberal woman, and made presents of a good many to relations and friends who did not keep poultry.

I went often to the gamekeepers' on the Sezingcote estate, and became acquainted with their plan of raising pheasants, partridges and wild ducks, from the eggs which would be found among the grass mowed for hay. These men were more fortunate than any others I ever heard of, and although it was thougt to be very difficult to raise wild birds, they lost less little ones than any of the farmers' wives did of the common chickens. Knowing this, I took as much notice of the proceedings as I could do, and I applied the same treatment, with such modifications as circumstances required, and have always ever since been able to raise any number of chickens desired.

The art of raising young stock of any feathered tribe, is to put them on sound fresh ground on which no fowls of any variety have ever been before, and to have coops with no bottoms to them, so that by daily moving them on clean ground, they are all the while on sweet, fresh turf. These gamekeepers would have several acres fenced off with strong hurdles to prevent cattle or any animal from disturbing the coops and all attached. In their wild state, the parent game birds always take their young to where they can get congenial food, therefore a man with a horse and cart went daily into some woodland where there were ant hills, which he would bring to the breeding pheasantry, and these ants and eggs of the ants, would be speedily devoured. Likewise pieces of meat would be put on the wire basket-work which inclosed this movable pheasantry, and which had to be used to keep hawks from descending to pick them up, and to prevent them from straying away. This wire caging, and all other necessary protection, cost probably several hundred pounds, and of course a great deal of it would be unnecessary for raising common poultry.

As might be expected, I used to tell my mother of all these contrivances and arrangements for promoting health, as well as for giving suitable food, and I did not forget to say that the meat put on the wire caging was done that maggots might drop to the earth to be picked up by the young birds. Some of the meat would be given fresh and some cooked, for variety, to the larger birds. As they grew up and could take care of themselves against common enemies, they had their liberty, but would be fed with grain in places where they would be likely to find it, and they would stray away to the turnip fields, which were near. As turnips grow very luxuriantly in the English climate, they made an excellent covert for them, and in the shade of the large leaves will be found all varieties of slugs, and a great many very small shell snails, &c. From the continued success attending the raising of game in this way, those who kept great quantities of domestic poultry learned that it is essential to raise chickens on ground which has not been contaminated by any droppings from the old and general stock. My mother

and myself (after I had poultry of my own) were always particular to spread fowls over as much space as possible, and give them unlimited range whenever it could be done. And here I will say that from above half a century's experience with poultry, I have proved that keeping large numbers in one place, on small, confined areas, for any length of time. is disastrous. Disease is certain to attack any crowded resort, or any poultry house, however clean it may be made, if the stock numbers hundreds. They may look well for a short time, and in the fattening of fowls which only occupy pens, &c., in succession, and then are dressed, they will do well for the two or three weeks they are kept.

If farmers wish to keep as many fowls as can be done without having them unhealthy, they should not have many together. This may be managed by having roosts situated as far apart as the premises make it convenient for them. In case they should all frequent the same premises, they will not interfere with each other's roosts, and the outsides of the yards in the lanes or the fields will be used only by the fowls belonging to that side.

I do not know how it should be so generally the case that farmers in England ignore poultry, leaving the management and everything connected with them to their wives; but so it is, excepting in very few instances. There is another fact which is difficult to understand—the women of England never pluck feathers from living water fowls, as is done in America. There was a pratice of plucking geese on the Lincolnshire Fens some 30 years ago, but the society for the prevention of cruelty to animals put a stop to it by punishing the perpetrators. In England, even if allowed by law, tenant farmers' wives would be ashamed to do any such thing.—G. G., *In Country Gentleman.*

Stock Department.

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

THE ADDRESS OF DR. SOUTHALL.

We have before us the address of James C. Southall, A. M., L.L. D., delivered at the opening of the Lewis Brooks Museum at the University of Virginia. To deal with a vast subject and a weighty argument in a brief address, is perhaps the severest test of intellectual capacity. The subject of this admirable essay was, by request, the recent origin of man. A subject which, as all the world knows, Dr. Southall has treated in an exhaustive and, as we think, entirely unanswerable manner in his well known work. Perhaps the fact that we have never, for one moment, wavered from the belief which Dr. Southall has completely established, adds to our enthusiastic admiration for the very able and triumphant manner in which the learned gentleman has performed his task. Even in this brief and necessarily merely suggestive address, the author's enor-

mous reading and research, and perfectly digested learning and thought' shines forth. We hope this essay will be extensively read, and that it may lead to the more general reading of the works of the learned author. We have long ago reached the conclusion in our own mind, that the doctrine of evolution, as taught by the scientific thought-leaders of the day, derives no support whatever from paleontology. It is beyond dispute that recent progress in that great science is all in a direction diametrically opposed to the theory. This, the able and sagacious Huxley was among the first to discern, and he has been disposed to claim that the most convincing evidences of this truth on the doctrine are to be found in the study of existing life, and especially in the wonderful simplicity and unity of the plan of generation and development which obtains throughout organic nature. It is, however, certain that the main light which must be shed on this theory is to be derived from a study of the rock-graven records of ancient life. All that has been written of the origin of species by evolution, is but an infinite multiplication of special pleadings. The real substantial facts of biology are all opposed to the theory, and none of them favor it. What has been put in a very clear light is, that no amount of morphological variation is sufficient to establish specific distinction in the animal kingdom, and the more light we obtain in that direction, as in the case of paleontology, the further we shall be from the proof of the truth of the doctrine of descent with modification. Certain it is, that if the argument of Dr. Southall, which establishes that man appeared upon the earth with all his distinctive attributes which separate him from and elevate him above the brute, suddenly and recently, is ever to be answered, new facts will have to be discovered first, and the results of the most recent research will have to be reversed. For his great and patient and well performed labor, christendom owes Dr. Southall a great debt. He has made it clear, that if ever the foundations of human faith, as laid in the Sacred Record, are to be shaken, the intellectual artillery which shall shake them, is yet to be fashioned and invented. How great a thing has been done by this learned Virginian, is as yet by no means generally appreciated. But he that sheweth the truth, no less than he that "doeth the truth," "cometh to the light."

We will not leave this subject without referring to the occasion of the delivery of this address—the opening of the Lewis Brooks Museum. This magnificent and complete donation of a free-hearted and enlightened philanthropy, puts our own University on a footing with the foremost institutions of the world, in illustrative material in one of the most important departments of modern science.

Mr. Brooks did not live to see the museum opened, nor to know that his good work had been supplemented and given full force and effect

by another wise and noble benefactor of Virginia, nor of Virginia only, but of the rising generation and of many coming generations throughout the country; for a great fountain of truth opened in our midst is a blessing, whose influence will, in no wise, be bounded by the horizon of Virginia. Mr. Corcoran has endowed a chair of natural history. So that the Record is to have a competent interpreter, and the names of these two great benefactors will go down to posterity, not only associated with each other, but with the great name of the immortal founder of the University of Virginia. Jefferson founded our great school and Brooks and Corcoran have infused into it a new life and laid the foundations of a new departure, upon which we may hope, by our own energies, when the days of our tribulation are over, to rear a superstructure worthy to perpetuate the memory of Jefferson, Brooks and Corcoran. Before what we are writing is in type, the Corcoran Professor of Natural History will be elected. As a Virginian profoundly grateful to the wise and good benefactors of our native State, we venture to hope that the selection may be worthily made. Let the man who fills this high and responsible trust be fully worthy, not merely eminent in science, but possessed at once of humility and boldness as a minister and interpreter of nature; a teacher and dispenser of truth. For be it known that the man who fills this place is capable of incalculable good or enormous mischief. In the name of every thing which men hold dear, let us have no blaspheming atheist exalted to this high seat. We would have been more than pleased to have seen Dr. Southall the first Corcoran Professor, and it is our judgment that the chair should have had its development precisely in the line of his studies, but we have regretfully learned that he declines to become a candidate. When the organization of this school is completed, the trustees of the University should make provision for the proper teaching of medico-legal science. The strange neglect which that superlatively important field of investigation has experienced, throughout the world indeed, but especially in America, is hard to account for. This is not as it should be, and we hope soon to see the matter effectually remedied at our University. The neglect of this great branch of modern science in our institution of learning, is unquestionably a great defect.

Each great subject must have its own professor in a complete University. No man can teach as they ought to be taught, mineralogy, geology, botany and zoölogy. This does for high schools and colleges. Such smatterers are out of place in the University.

GOAT-SUCKERS.

Goat-suckers (*Caprimulgidae*) are a peculiar family of birds, having extraordinarily small bills and enormous gapes, and formerly supposed

to steal the milk of goats, for which purpose their cavernous mouths were supposed to have been specially formed by nature—hence, called goat-suckers. Two genera are familiarly known: First, the genus antrostomus embracing the chuck-will's-widow and the whippoorwills. Second, the genus chordeiles, embracing the bull-bats. It is very commonly supposed that the whippoorwill and bull-bat are identical. This is, however, quite a mistake.

The chuck-will's-widow is a native of the Southern States—from North Carolina southward. It is named from its very peculiar cry, which is a very exact articulation of the words as written in the name. The whippoorwill is also named from its wild, strange cry. The whippoorwill may be at once distiuguished from the bull-bat by the peculiar bristles protruding on each side near the base of the bill, and by the absence of the white spots on the wing feathers—characteristic of the bat. The bull-bat derives its name from the loud booming sound which it utters as it swoops downward near its mate, and this is evidently its love-call. The bats are commonly called night-hawks, but they feed and migrate to a large extent in the day time. Besides the species common hereabouts, there is a Texas night-hawk, differing from ours, the Virginia night-hawk, and there is a variety of the Virginia species common in the prairie country of the West. During the months of August and September, and usually in the afternoon, vast numbers of bull-bats are seen wheeling in circles over some favorite hillside or skimming above the meadows in pursuit of gnats and various small moths and beetles, and then passing rapidly out of sight, and perhaps after lingering about the locality for a few days, they pass on to the South, and are succeeded by other companies of the same great migrating host. When not feeding or flying on their southward journey, they alight on trees, couching close on the top of a large limb, and, seemingly asleep or blinded by the glare of the sun, seem to be unconscious of the presence of the sly small boy, who climbs up to within a few feet of him, when he silently and suddenly takes wing to alight again, usually on a neighboring tree. Among our minor game birds, none afford better sport than the bull-bat, and they are usually very fat and juicy, and there are few better birds to eat. It requires a quick aim and a prompt response to the will, by the muscular system, to make a successful shot at a darting goat-sucker. We have seen many excellent shots at partridges fail signally on these birds. Their flight is by no means slow, and they dart to one side in the suddenest, most unexpected manner, which is peculiarly apt to take place just as the shooter pulls his trigger. We have sometimes shot from twenty to thirty in an hour, frequently having to change guns or wait for the barrels to cool down sufficiently to be handled without burning the hands. No one need to doubt that a dish of bull-bats, well broiled, makes a delicious breakfast.

THE VALUE OF MANURE FROM DIFFERENT FEEDING STUFF.

There is a general impression among farmers that the manure produced by any animal is of nearly the same value upon whatever food the animal may be fed. Such is, however, by no means the case. Under no circumstances is the value of the manure produced by a young and rapidly growing animal equal to that produced by a mature and fully grown beast. In the young animal, a large part of the nitrogen and phosphate of lime are withdrawn from the food to form bone and soft tissue, and these are the two most important ingredients of manure. Let it be remembered by the practical man, that the valuable constituents of manure are not furnished by the animal, but exist ready formed in the food and are simply left over unconsumed by the vital processes in passing through the animal's system. It is certain that nearly all nitrogen, potash and phosphate of lime, existing in the food of a mature animal, are recovered in the solid and liquid excrements of the animal; and hence it is perfectly clear that the value of the manure depends essentially on the nature of the food. The manurial value of a food will depend upon its contents of nitrogen, potash and phosphate of lime. The oils, fats, sugars, starch and all hydrocarbons are consumed by respiration or stored up in the system as fat, and they need not be taken into account. If cotton seed are worth $30 per ton for manure, then the manure which results from feeding a ton of cotton seed is worth $30, if it be carefully saved and applied to the soil without waste. As the nitrogen, phosphate of lime and potash exist in all foods in forms which are about equally available as plant food, it follows that a simple inspection of the analysis of any feeding stuff gives a safe indication of the value of the manure it will yield, as compared with equal amounts of any other sorts of feed. In this connection, the following table is of interest. Foods rich in nitrogen, are always rich in phosphate of lime and potash. We give in the table the quantity of three chief ingredients of manure—nitrogen, phosphoric acid and potash—found in 100 pounds of each of the feeding stuffs named:

	Nitrogen.	Potash.	Phosphoric Acid.
Cotton Seed	6.50	3.12	7.00
Linseed	4.75	1.65	4.92
Indian Corn	1.80	0.35	1.13
Oats	2.00	0.50	1.17
Wheat Bran	2.55	1.45	7.95
Meadow Hay	0.90	1.11	0.88
Clover Hay	2.50	1.30	1.25
Turnips	0.18	0.29	0.11

Perhaps in practice, with intelligent care and skill, 90 per cent. of all the elements in the table above are recovered in the manure. A ton of manure from cotton seed is worth nearly four times as much as a ton from Indian corn.

NORFOLK, VA., AS A SHIPPING POINT FOR LIVE STOCK.

The importance of establishing a regular shipping point at Norfolk for live stock, to go to the British market, will readily be appreciated by every Virginian. The great harbor of the Atlantic Coast is in direct connection with the great grass regions of Southwest Virginia, Tennessee and Kentucky. There is no manner of reason why, at any depot along the line of the Atlantic, Mississippi and Ohio, or of the Chesapeake and Ohio Railroad, through bills of lading may not be given to Liverpool or London on car loads of stock, nor any reason whatever why this may not be the safest, cheapest and quickest route between the two countries. The section of country, tapped by the great railway lines named above, can produce, in vast supply, first-class horses, beef, mutton and pork, cheaper than they can be produced anywhere else in the known world at this time. And this product having, through existing lines, the shortest communication with the best harbor in America, the only thing necessary to encourage and develop this trade to vast proportions, is wisdom and liberality on the part of the transportation companies. They must be prompt to seize the occasion before the tyrannical power of capital has created irresistible monopolies at other points. It seems to require only promptness, liberality and energy on the part of those having control of the situation; and from what we have heard, these seem not to be lacking. No movement, promising such vast results, has been inaugurated in Virginia since the introduction of railroads. May our people prove equal to the occasion. One, more, in view of the probable expansion of this great trade, the gap between the prices of inferior sorts of stock and those of the best blood widens. Why will the owners of grass lands perpetually stand in their own light by permitting them to be occupied by the scrub and the scallawag? From Kentucky and the West comes the information that the demand for good bulls was never so active, notwithstanding the very low prices now prevailing—notwithstanding the absurd, perverse and utterly unskilful methods that have been pursued by the leading breeders of Shorthorns. If anything could have killed off so great a race of animals it would have been the subordination of individual merit to pedigree; the subordination of quality to color; the subordination of the value of top-crosses to those so very remote as scarcely to exercise an appreciable influence upon the character of the individual. Farmers in their turn ought to be shrewd enough to take advantage of this state of matters. The cheap animals are often better for their purposes than the higher priced ones. Farmers can get all the bulls they want, and as good as the best, at from $100 to $150. They may often trade for them animals which they do not need; they can unite and buy or hire the service of excellent bulls at a cost very much less than this. It is time to move in this matter now. When the West and Northwest have met the demand and monopolized the trade, it will be too late.

ITEMS.

We take from the *Country Gentleman*, August 15th, the following about wood ashes as a fertilizer. A correspondent of that much esteemed paper asks, "What is the real agricultural value of wood ashes, analysis as follows:

Potash,	3.01
Carbonate of lime and magnesia,	51.34
Bone phosphate of lime,	6.72
Phosphoric acid,	3.08

Would they be a good fertilizer for flat turnips, and how many bushels per acre?"

Answer by Prof. S. W. Johnson:

"The 'real agricultural value' of wood ashes is a wide, general subject on which a small book might be written, and nothing less than a book would suffice to present the matter fully. But the best answer to that question would be a discussion of it, and the completer the discussion, the further removed would the question be from the possibility of a direct answer, such as would satisfy the immediate practical wants of your correspondent; that the chemical elements of wood ashes are essential to all agricultural plants, and most of them are liable to be or to become relatively deficient in most soils, are fundamental facts on which the general question must be considered, but whether the particular field on which Mr. B. proposes to raise turnips has any serious dificiencies which wood ashes will economically remedy, that is another narrow, particular question which it would be hazardous to attempt to answer. That wood ashes are a good fertilizer, is well proved; that they often do well on all kinds of crops and a great variety of soils, is a perfectly authenticated fact; that they often show no influence on this or that crop, on this and that soil, is another fact no less thoroughly authenticated; that in a multitude of cases wood ashes would give good crops, but some other fertilizer would give better ones, at less cost, may fairly be inferred from the recorded experience of careful experimenters. In the face of these uncertainties, Mr. B.'s second question—ashes on turnips—is evidently a special problem that no one, unacquainted with the special culture, manuring and products of that particular plat of ground, can attempt to resolve. Local experience is the best guide in such a case, and if there is none to appeal to, Mr. B. had better acquire some by making a trial." Now we ask the very careful attention of our readers to the above letter of Professor Johnson, with every word of which we fully agree. It will be observed that Mr. B. sends to Professor Johnson the analysis of a fertilizer—wood ashes—and says, please tell me what is the "*real agricultural value.*" Professor Johnson replies: That is a wide, general question, to be answered best by discussion, and the more

you discuss it the further you are from a practical answer. Then says Mr. B., tell me, "Is ashes good for turnips?" Professor Johnson: That is a a narrow, particular question, which it would be hazardous to attempt to answer. So whether the question be wide or narrow it is equally unanswerable. Now, Dr. Voelcker, in the celebrated letter to Dr. Pollard, declares "Chemical analysis, in fact, is the only means of ascertaining, with certainty, whether a manure is good or worthless." Professor Johnson says: "Local experience is the best guide." Speaking, with the analysis before him, to Mr. B's question, What is the "real agricultural value of ashes?" he replies, that is too wide, I can't answer. Well, says Mr. B., is ashes (as per analysis) good for turnips? Really now, says Professor Johnson, that is too narrow, I can't answer that. "Local experience is the best guide." "Make a trial, Mr. B." We are happy to concur most entirely with the learned Professor; that is our doctrine precisely. "Make a trial, Mr. B." "Local experience is the best guide." We have the victory in this business. *It is bound to be universally admitted that the best and most accurate analysis does not afford sufficient data for either a commercial or agricultural valuation of any manure.* Professor Johnson is the first agricultural chemist in America, and for him and his opinions, we entertain the profoundest respect. He is not only a learned and eminent chemist, but a gentleman of eminently sound, practical views on all questions he has handled before the public. He has never announced sounder doctrines than in the above very wise and prudent advice. "Local experience is the best guide to the agricultural value of any manure in any given case." "Make a trial, Mr. B." Now, we have the pleasure to turn over this distinguished witness to the other side.

THERE is a certain sadness in all farewells. When the birds which have reared their young about our dwellings gather in busy, noisy flocks at the approach of Autumn, they mean good-bye; they are going South. The chimney swifts have gathered thus in the chimneys of our dwelling the past few days. But at each chimney stands an old lightning rod with three sharp and burnished points. Just now two little boys, four and six years old, at play in the yard, were watching the birds as they circled above the chimney tops and tumbled headlong down by the dozen, when suddenly a heedless little fellow, in his headlong hurry, flew against one of the sharp points and impaled himself. The little boys were much distressed and shook the rod with all their might in hopes to release him, but in vain. A faint, low screech and a convulsive flutter, and the dusky winged swallow was dead.

A FRIEND sends us a marked copy of the *Maryland Farmer* containing a very extravagant article from a person named Sotham, who differs very

emphatically from our very moderate opinion of Hereford cattle, which is natural, as he has those animals for sale. We have no intention of attempting to answer the hysterical and extravagant mouthings of an advertisement. We never take notice of the writings of a person who is ignorant or unmindful of the decent proprieties of respectable discussion. Our opinion of Hereford cattle is before our readers. We certainly shall take no notice of William H. Sotham.

CATTLE.

"A bull out of a scrub cow by Brahmin bull, 3 years old, a fine animal, exhibited by D. G Holdbrooks.

"A bull out of Durham cow by Brahmin bull, 22 months old, weight 1100 lbs., measures 78 inches around the girth and 53 inches from shoulder-blade to root of tail, exhibited by T. L. Martin, and was considered the handsomest animal on the grounds. Ayreshire cow and calf, calf sired by Brahmin bull, considered by judges the premium calf. Ayreshire and Brahmin cow-calf calf three-fourth Brahmin, adjudged the prettiest calf on the grounds, and we suggest the name of "Beauty." Ayreshire and Brahmin heifer, 18 months old, voted the premium. If a "thing of beauty is a joy forever" her owner ought to be happy. Ayreshire and Brahmin cow three years old, milk six gallons. Brahmin bull six years old, imported——Smith, of South Carolina. Bull three-fourth Brahmin, one-fourth Ayreshire, thirty-four months old, weight 1100 lbs."

The above, taken from the North Carolina *Farmer and Mechanic*, gives some idea of the success which has attended the crossing of the Brahmin and native cattle of the Southern States and also some of the improved breeds.

Judging from the great and curiously exaggerated variation of the Brahmins from the type of the common cattle, it might have been supposed that there was undoubted specific distinction, and that if offspring could be had at all by crossing the two sorts they would have been genuine hybrids; but we find no trace of infertility. The Brahmins possess many very desirable qualities, and we predict that a mixed race will be had which will prove more valuable in our Southern States than any cattle ever known there. Observe above a 22 months old Brahmin grade, out of a Short horn cow, weighs 1100 pounds, very promising for beef. "Ayreshire and Brahmin, three years old, milk six gallons." Very promising for milk. Now, for work, the Brahmins are as speedy, active and enduring as horses, and they are natives of a hot, malarious climate. Every thing points to the successful formation of a most usefull cross-breed for the Southern States and perhaps other localities.

A Field Trial setter dog has been sold in England for fifteen hundred dollars. We have some of the same dogs for which we will take less.

The European migratory quail have been successfully acclimated in Massachusetts and about six thousand of them are breeding there this

year. These are the birds on which the Israelites fed in the wilderness. We hope they may be extensively propagated and spread over the United States. They make very extensive migrations, but always return to breed near their native spot. Very different from most of the quails, they are capable of extended flight.

We have received from our friend, Col. M. B. Hardin, of the Virginia Military Institute, a very interesting paper describing the discovery in his laboratory of a mode of detecting very minute quantities of silver, by means of the volatilization of the metal in a Bunsen flame and the deposition of a film on porcelain. Col. Hardin is an able and accomplished chemist and we wish he could be heard from oftener. Whenever we do hear from him he has something useful and important to communicate. We are not acquainted with any scientific man whose ability and skill and the soundness of whose judgment we hold in higher estimation. There is no school in the United States where chemistry is better taught than at the Virginia Military Institute, which is in all respects, indeed, one of the best and most useful schools in this or any other country.

Our Friend, F. S. Fulmer, of Appomattox county, Va. writes, enclosing a sample of mohair from cashmere goats owned by Mr. Fulmer, which is a very pretty article. He also inquires concerning grub in the head in sheep, and thinks mature larvæ in the head argue that a sheep is more than a year old. The larvæ of the sheep soon attain their full size and thereafter undergo little or no change for about ten or eleven months, when they emerge from the nostril, and bury themselves, soon to come forth in the form of the fly. There is no reason why a lamb may not be affected with grub in the head; and the larger breeds of sheep are more likely to be injured than the smaller and more active kind, which can more dexterously avoid the attempts of the fly to deposit its eggs in the nostril. We think, however, grub in the head is very seldom fatal to sheep.

Mr. William F. Page, of Lynchburg, recently put a large number of bass in Pea Creek, at Martin's Station, in Pulaski, for Col. McDonald, Fish Commissioner. It cannot be long now before this elegant fish will abound in all the upper waters of New River and its tributaries. The Greenbrier has been abundantly stocked by the West Virginia Commission; and if we are to depend upon precedent, in a few years more the fishing will be good.

We are very much gratified to learn that the sheep sale of Gen. Meem proved a handsome success. Six hundred persons from various States were present. We had promised ourselves the pleasure of being present, and regret that circumstances prevented. The sheep sold well, as the times are, and the sale aggregated some $4,000 for about two hundred

sheep, most of them bred by Gen. Meem. We are confident that Virginia is bound to take a prominent position in the business of stock breeding, and we have anxiously awaited the result of this pioneer enterprise on the part of Gen. Meem. It has proven a very satisfactory success; one reason for which, we think, was the liberality of the transportation lines, both as to bringing persons to attend the sale at low rates and furnishing facilities for prompt and cheap shipments of stock sold. In no direction is liberality so sure to pay as in the matter of fares and shipping rates by transportation lines. Whatever be the wares offered, the merchants will sell much or little according as the price is high or low. If railroads will reduce fares one-half, four times the number of people will travel. We hope that others of our leading stock breeders will follow the example set by Gen. Meem, and profit by his enterprise. There are Shorthorn breeders among us who can furnish an attractive sale catalogue. Breeders may at first combine their means and bring to bear upon their enterprise the power of associated capital, which is indeed a wondrous power and little known among farmers. Gen. Meem will repeat his sale next year and has already purchased some of the best Cotswolds in Canada.

Editorial—Farm, Garden and Fruits.

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

WHEAT SEEDING is the great work for the month of October, though no doubt much wheat has been seeded in the Valley and Piedmont, and there is a general disposition to earlier seeding throughout the State, as far as we are informed. Many judicious farmers think it safer to get the advantages of stronger rooting by Winter to avoid killing by severe cold, and earlier seeded is less apt to have rust. These two advantages, outweigh, in the minds of many, the damage of "fly," which seems of late years less prevalent. As to the kinds of wheat to sow, we presume that farmers in Lower and Middle Virginia, and in many other portions of the State will sow principally Fultz and Lancaster. Some think well of Amber, and we know of one field of 40 acres, in Henrico county, which yielded of this 20 bushels to the acre. The land was very good, and only $100 worth of fertilizer was used. In the northern portion of the Valley, particularly in Shenandoah, the "Early Prolific" is reported to have yielded best.

The farmer must be up and doing now, as he has no time to lose in this important crop. It is presumed the fallowing is done. The land

must be put in fine tilth by dragging and re-dragging. If the fallowing was done early, re-plowing with one-horse plow may be necessary to kill the grass, but it is the opinion of many good farmers that this should be avoided by occasional dragging to keep down the grass, for wheat likes a compact soil, and loose land and continuities of soil prevent the roots spreading and getting good hold by Winter. The quantity to sow per acre has been considerably discussed recently. The general result of inquiries, we think, has been about one bushel by drill, and one and a quarter broadcast. This quantity should be modified to some extent by the locality, size of the grain of the different wheats, and time of seeding. Some farmers, in the Valley and Piedmont, sow as much as one and a half bushels, and some, in other sections, sow this quantity, if the seeding is late and the grain large. Some few sow as little as three pecks with the drill, and, perhaps, some that quantity broadcast. We should be afraid to trust the latter amount broadcast, unless the seeding was in September, and the ground in excellent order. Some object to having the ground too fine, as small clods protect the wheat from freezing, and this was the doctrine of the late Edmund Ruffin, who was a successful wheat raiser. He generally left his land in what would be considered a rather rough condition. For the same reason, the roller is objectionable after wheat, as it leaves the surface flat, with no protection from cold. If it is necessary, from any cause, to use the roller, then it would be preferable to run the drag after it to rough up the surface some.

Eastern and Middle Virginia is not pre-eminently a wheat region, for the failures here on good land with good preparation are very frequent. We have had but one really good crop since the war—that of last year—and it becomes a question whether the farmers should not cultivate Winter oats, or some other crop in its place. The causes of this failure in our wheat crops may be various. Mr. Hill Carter expressed the opinion that the want of lime in the soil is one great cause of the failure of the wheat crop so frequently. We suspect that the want of phosphate of lime—phosphoric acid and nitrogen being the first principles exhausted from soils—has been a more frequent cause of failure. At the same time, seasons and climate have much to do with the failure and success—as witness the last year's crop. There is no doubt but what "phosphoric acid" is deficient in most soils, at least in a soluble form, and this and nitrogen are the great *desiderata* in the wheat crop. It may be, and it is very probable, that the imperfect crop of wheat for many years, has been permitting an accumulation of plant food for wheat, and that a favorable season has enabled the wheat plant to seize on and appropriate this accumulated food. We know that nitrogen accumulates in land when not cropped much, and particularly where there has been a

good growth of artificial or natural grasses. The bones of all animals, and the seeds of all plants, have a large proportion of "phosphoric acid" in an insoluble form. Thus "phosphoric acid" accumulates in soils, as well as ammonia. Now, ammonia renders this insoluble phosphoric acid soluble, and thus may our opinion and theory be true, that "plant food" of wheat, on account of bad crops, has been accumulating in the soil. Phosphoric acid of the mineral constituents, most often required for plant food, is the sparsest, and the most locked up in an insoluble condition. Lime, ammonia and salt and sulphuric acid particularly, make it soluble. England, recognizing the necessity of "phosphoric acid" for wheat, applies it largely on the turnip crop, which is eaten from the fields by stock, and then the land is seeded to wheat. The constant cropping for wheat without returning the necessary ingredients for its growth to the soil in the "Gennessee country" of New York, reduced the crop from more than twenty bushels to the acre, to eight or ten. The farmers were forced to change this, and by proper fertilizers and manures, we are told that they are bringing their lands back to something like their original productiveness. As pertinent to this question, we introduce the following from the *Country Gentleman:*

Sheep and Turnip Husbandry, p. 440—"Are our wheat soils running out?" At the close of this truthful communication, it is asked, "What may we look for fifty years hence?" Sheep and turnip husbandry carried on as near to the system pursued in England and Scotland as the climate in the United States will permit, would rescue the soil from the exhaustion existing, but even this escape is rejected, and the dogs are allowed to be a bar to any recovery of fertility by such means, and Southern men in the cotton States persist in growing cotton without profit, and buying fertilizers, when the Commissioner of Agriculture in Georgia collected evidence that in 1873, while cotton paid nothing, wool gave a clear gain of 63 per cent. on the capital employed, after an average loss of 15 per cent. by the killing of sheep by dogs. The Southern States could all grow crops which would fatten sheep by feeding them on the land in the open air without shelter, and whenever a good fair trial of English sheep husbandry is made down South, some cute mind will invent means of shelter which will give the North a chance to follow suit.

Potash, however, is not to be overlooked in the wheat crop. It is important, and particularly so in all our old lands which have been much cultivated. Of the ash of the grain of wheat, 31 per cent. consists of potash, and 46 per cent. of phosphoric acid. (Johnson—"How Crops Grow.") New lands contain a considerable quantity of potash.

Whatever kind of seed is selected, let it be as clean and free from impurities of all kinds, as far as possible. It is folly to sow indifferent wheat, as much so as to attempt to raise good stock from stunted, diseased parentage. It is poor economy for the farmer to save his own wheat for seed, unless it is really good. He had better sell it and buy

good seed, even if the difference in price be doubled by doing so. It is also very unwise to sow wheat on poor land, without fertilizers of some kind, or on land insufficiently drained. After seeding, water furrows should be run wherever needed, and the plow alone will not answer for this. Follow with hoes or shovels, opening thoroughly, so that no water will rest on and sob the land.

Winter Oats.—It is not too late to sow Winter oats. They will yield well, gotten in the 15th or 20th of October, if the land is tolerably good, but not so well as if gotten in earlier, particularly from last of August to last of September. One and a half bushels to the acre should be used when seeded as late as this, as they have not the same chance to tiller, and are more liable to be winter killed. Try to get clean seed, for the Winter oat is probably filthy, and will foul the land, unless pains be taken to get clean seed. All corn land had better be put in Winter oats than in wheat. Indeed, as we have said before, we believe Winter oats a more profitable crop than wheat, one year with another. They are quite a certain crop if ordinary pains be taken, while wheat, with the greatest care, and on the best land, is a very uncertain crop. Very few good crops of wheat have been raised in Virginia and North Carolina for ten or fifteen years. Winter oats may be seeded between the corn while standing, by running a long-tooth cultivator or one-horse drag, hoe hands following and chopping the oats in, which have fallen between the corn, or the corn may first be cut down, removed, the land broken up, seeded and dragged. We prefer the first method, if there is not too much grass on the land, as it enables us to get the seed in much earlier, and this crop is good, in proportion to the earliness of seeding. When raised for market, we think Winter oats should be baled in preference to threshing and selling the grain. If baled, there is much less loss from rats.

Gathering Crops.—This is the month for housing many crops. The tobacco raiser has now to look out for "Jack Frost," and cut his tobacco in time to avoid this great enemy of all late tobacco. Corn may be gathered the last of this month, particularly if the farmer is hard pushed for this important feed for his hogs and horses. If not well dried, it should be put in pens and carefully covered over, to keep out rain. Fodder, if not previously done, should be housed or stacked. Potatoes—Irish and sweet—should be dug and carefully put away. Some prefer to put them in mounds out of doors, though sweet potatoes are safer in properly-prepared cellars or top fodder stacks. Our Hanover friends dig them in *dry* weather, put them in cellars or out-houses, or in the fodder stacks, carefully covered with "pine-tags" and boards to exclude air, using also sometimes dirt in addition. Last year we put them in a fodder stack in a hole three feet deep, placing "pine-tags" at

the bottom, and also lining the sides with them, and after the potatoes were carefully placed in they were well covered with the "tags." Then some boards were put on, the joints being broken with other boards; these were then covered with "pine-tags" and then with dirt. The air was thus effectually excluded, and the potatoes kept remarkably well. We are certain if this plan be adopted, and the hole well covered up each time the potatoes are gotten out, that there will be no difficulty in keeping this excellent and useful vegetable. All cut or injured potatoes must be carefully picked out before putting the crop away. We would say, also, that the potatoes should be handled as little as possible, and put away the evening of the day they are dug. Pumpkins should be put away in fodder stacks or cool cellars.

Hogs must be put up now and be freely fed, that they may be fat before cold weather. If this is delayed, we shall find the quantity of corn necessary to fatten will be much increased.

Ditches may be profitably dug in dry weather, which usually occurs this month, and the old ones cleaned out.

Fallowing.—After wheat and oats are put in, and the crops secured which should be put away this month, fallowing should be commenced for corn and tobacco and Irish potatoes, and the land which has the most cover on it should be first plowed.

Preparing for Planting Fruit and other Trees.—As the next month is an important one for tree planting, we advise those intending to plant to look out and engage the trees wanted, endeavoring to make a wise and judicious selection of the kinds to plant. Upon this point, we shall have something to say next month, as we feel anxious that our patrons should be posted in this matter, and not make the mistake that is yearly being made by so many, of planting useless and unprofitable kinds. Though not pretending "to know all about it," we can at least give them our advice and opinion, founded on experience and observation for a considerable period.

Strawberries may well be planted this month and the next whenever the ground is moist enough. For market, plant "Wilson;" for table use, the Charles Downing, Triomphe de Gand and Lady's Finger, will be found the best, though the Triomphe de Gand is a poor bearer.

We are trying the "Great American" in a small way. This is said to be the largest of the strawberries.

Some persons set out fruit and forest trees last of October, but November is soon enough.

The prospect for the corn crop for the State is good. In some portions, as usual, it has suffered from drought. Tobacco has improved very much with the late rains. At one time on the Southside, it was

very unpromising. The crop was less in acreage than an average, and we suppose it cannot be an average crop. North side of James river the crop is generally good.

[For the Southern Planter and Farmer.]

FRUIT PROSPECTS OF VIRGINIA.

SYNOPSIS OF THE REPORT OF THE COMMISSIONER OF AGRICULTURE OF VIRGINIA ON THE FRUIT CROP OF THE STATE.

The number of counties of the State is 99, since West Virginia has been sliced off. Of these, 68 only reported on fruits. The 17 peach counties *this year*, or those having from an average to full crops, are Accomac, Gloucester, Stafford and Prince William of the eastern portion of the State, on Tidewater; and Franklin, Henry, Montgomery, Wythe, Grayson, Washington, Russell, Wise, Lee, Patrick, Smyth, Highland and Tazewell in other portions of the State, but principally of Southwest Virginia. The counties having half crops or one-fourth, or no peaches that reported, are 82. Two counties—Stafford and Nottoway—report fair crops of *seedling* peaches.

It is well known that trees raised from good seed or natural sorts, are much more hardy and equally as fine flavored as the best budded varieties, although, as a general thing, not so large or so showy. We think those who have frosty situations should profit by this experience; and have, at least, a fair portion of *seedlings* in their orchards. The same applies to apples, although comparatively few seedlings are really good, except for cider, for which they are superior to most grafted sorts. There are a few varieties of peaches—such as the Columbia, Taft's Rareripe and several others, that produce exactly the same from the seed. These are generally propagated by budding, but they had better be raised from good seed by those having frosty situations, as the trees are produced with less trouble, and such trees are much more hardy and durable than grafted sorts.

As a general thing, wherever the peach has succeeded, the reports show a fair average crop of apples and pears. In some counties where the peach has partially or entirely failed, there are good or full crops of apples. For instance, such counties as Alleghany, Rockingham, Amelia, Augusta, Chesterfield, Halifax, James City, Prince William, Roanoke, &c.

From Mr. Pollard's valuable "Report for June," we have compiled the above statement and information in regard to our fruit crop for 1878; from which we learn that small crops of fruit have been or will be gathered in Virginia. In our vicinity, the fruit was mostly destroyed *in the bud* on the 8th of January. In many counties southwest of us, the peach buds were killed by frost on the 16th of May. About the only peaches we had (except on high hills there were a few) were those saved by *pinning* the lower branches of low-headed trees to the ground without any covering, the warmth of the earth being sufficient protection. In connection with the extreme cold of January the 8th, the unusual high temperature, up to this spell, caused a slight swelling of the buds of our fruit trees, the result of which was fatal to the peach crop,

and apples and pears, we believe, were greatly injured at the same time. So severe was the shock, that not only the buds of the peach were destroyed, but the extremities of the branches, including the last growth, were killed, and many large and vigorous trees succumbed and died during the Spring and Summer.

In giving this account of our fruit prospect, we do not wish to intimate that Virginia is not, in most seasons, among the first of fruit-growing States, but that capricious seasons sometimes deprive us of our wanted share of these delicious and healthful products of our soil.

For the information of those who cultivate in unfavorable situations, according to our observation, the Winesap, Limbertwig, Rawle's Genet, Sheepnose and the native seedlings were the only generally productive sorts. Instead of being discouraged, every farmer who has no orchard should plant one *this fall*, or, at least, a few trees. Now, October, is a good time.

J. Fitz.

Keswick Depot, Albemarle Co., Va.

[For the Southern Planter and Farmer.]

THE HOG.

"The Hog—The Varieties to Raise, General Management and Diseases. By Dr. Thomas Pollard, Commissioner of Agriculture of Virginia."

It may not be improper to state that it is not the object of the writer to make a critical review of this publication, which the Commissioner tells us is an "Essay on an important subject, presented to the farmers of Virginia with the view of stimulating the production of pork and inducing them to raise a supply of this most essential of all meats for their families and laborers;" but I propose to notice and comment on certain questions in Circular No. 9 and the replies thereto by his correspondents. In the preface to his Circular, the author gives us some very interesting statistics, and also in the history of the educated hogs shows us that the animal instinct is capable of far more cultivation than most persons would believe their pigs capable of receiving. His description of "pork killing" time takes us back to our boyhood days, when, during winter, my father, a bacon merchant, slaughtered several thousand hogs annually, to be cured into Smithfield bacon for the Richmond market. Charles Lamb should have visited our summer camp-meetings in this section, to have enjoyed roast pig, where never a wedding supper is given *without that roast pig* with a red apple in his mouth. Of the uses of the hog, the doctor has given us a very fair description, except that, perhaps, he forgot to mention the delicious *sausage*, the lard oil, stearine candles, animal matter and bones used as fertilizers so extensively from the slaughter-houses in the Western cities. In reference to hog manure, our truckers and melon growers in this section regard it as equal in value to stable manure. I regret to see that so good a farmer as the doctor threw his ashes (unless they were coal ashes) in his hog pens, since we prefer woods mould or dry

muck for that purpose. If the ashes contained potash, and there was not abundant absorbing earth over the corner of the pens, where the animals usually make their deposits, we should apprehend loss of ammonia. Besides this, wood ashes are *too valuable* and concentrated a fertilizer to be thus used.

The author has saved his readers and myself much labor by his admirable summary of "information collected from circulars," and as every reader of your journal is not supposed to have in hand the Essay itself, I will repeat some of the more important questions.

1st. What breeds and crosses do you prefer, and what breeds are you keeping and have kept, with your opinion of their merits and demerits? Now, one of his correspondents, an old gentleman, Mr. Sharpe Carter, who has had forty-seven years' experience in breeding and raising hogs, gives the very best answer, at least in my opinion, to this question, when he says, "I have tried almost every breed known in this country, but have no particular preference for any particular one, believing one *better for given circumstances and localities*, and *another for different ones.*"

I well remember when my father, who, himself, raised and fattened mostly on peas and sweet potatoes over one hundred hogs every fall, was offered pigs of sundry breeds by the Kentucky and North Carolina drovers, each claiming his *pet breed* as the best. His reply was, "There is more in the raising—the corn and the feeding—than in *the breed itself;* give me an abundance of food, and I can make any breed profitable."

In the summary of the replies we find seventy-eight per cent. in favor of the Berkshire as the best breed. There is no question of the fact that *this is the most perfect hog in form we have*, and the best fixed in type, hence impresses itself markedly on the natives and other made-up breeds. In my experience of several years with this breed, starting with a pair received as a present, and said to be direct from imported stock, I found the following objections to the pure bloods: While young, they did not grow like the grades; both boar and sow were wild and vicious, and while the grades, the Jersey Reds and Poland-China, were, as pigs, easily made *gentle as kittens*, the pure bred Berkshires would never let me handle and scratch their backs when feeding. There is no breed so widely disseminated in our State as the Berkshire, which is one reason for the preference here given, and I question if the object be to raise pork from native sows, one can do better than to use the Berkshire boar. For pens and small lots with contracted range, I am satisfied the Jersey Reds (which apparently are nothing more than red "White Chester") and the Poland-China, perhaps also the small Yorkshire, are by *all odds to be prefered.* I have seen Jersey Reds pigged and grown to maturity in the same pen, never out of it, sleep, eat and grow right along, making one hundred and fifty pounds at six months old, so gentle, that the owner could hold them in his arms, and they would eat out of his hand. The Poland-China is also docile, and *nearly as perfect in form* as the Berkshire, and, in my experience, most ex-

cellent nurses and breeders. The question, then, as to which is the best breed for the farmer, must depend very much on his food supply, his range, and whether for pork or bacon. He must or ought to have some large hogs for lard and to feed the negroes; for slop hogs and to make manure, the Poland-China or Jersey Reds are the best pen hogs for the reasons already stated.

3d question. Age at which breeding may be permitted? Here, again, it is a question of growth and development, and depends much on whether the pigs have or have not been steadily pushed forward—kept in good growing condition, not too fat. The pelvis of the sow must be sufficiently developed to permit her to bring forth her young, and her body of sufficient size and strength to nourish her offspring. Within two years I have seen three young sows, running at large with the boar, die from inability to bring forth their pigs. In general, a well fed sow pig of any breed is able at one year old to nurse five pigs. This would make her about eight months old when she took the male.

There is no question in my mind that the improved breeds are less prolific than natives, and this is one reason why, for the farmer's hog, the majority prefer grades from pure bred boars on native sows. As "rambunctious" as a boar shoat, is a common expression among the people, and applies to the native boar, but not in my experience to the improved breed to such an extent. A pure bred Poland-China boar was raised in my rear lot, in town, with several other pigs. I never saw him manifest any desire for the other sex until he was six months old, and would weigh over one hundred pounds gross. Then a gentleman brought two sows in heat to be served. It was *some hours* before *they could, by teasing him*, get up his amorous propensities.' After one day and two nights these sows were taken away apparently unsatisfied. Both *proved* with and had pigs. Subsequently this boar was kept two years in close quarters, and stood regularly for the neighborhood. It has repeatedly occurred that sows were brought from a distance, served once and taken home, almost invariably one service has proved sufficient. A sow brought fifteen miles was taken from her box, and the boar served her while the farmer was at tea, after which she was replaced in her box and taken home. The result was nine pigs. The time to keep a boar depends much, in my opinion, on how he is kept. Mine, at two years old, grew so heavy that he was useless for my young sows and those of my neighbors, and was sold for twenty-five dollars to a breeder who had old and large sows. *No boar* of any improved breed ought ever to be allowed to run at large or with the brood sows. Independent of the fact that he will probably become mischievous by trying to break into neighbors' fields after sows in heat, he is apt to stray off and be lost or stolen. *Then again, he will degenerate in form.* Nature will give him longer legs to run; hunger, a thin belly and sharp back; and if he lives long enough, in hunting his food, dame nature ever ready to accommodate animals to their circumstances, his nose will grow so as to dig roots and hunt food. Sows vary very much

as to the time when they will take the boar after farrowing. In general *native sows sooner* than *improved breeds.* Of nine sows on the farm, two are native. These—both sisters—have for three years past invariably taken the boar within ten days after farrowing, and consequently have had three litters in fifteen months. Two litters annually is all that should be permitted, and this can only be *regulated* by keeping up the boar.

4th. At what time do you prefer the pigs to come? While I prefer to have all the pigs come in March and April, June and July pigs, by extra care and feeding, make good family pork in December. My experience with October and November pigs is, that they *eat their heads off in corn during the winter* at present prices of pork and corn. It is always well, however, to have a dozen shoats kept over winter to make large hogs for lard and the negroes.

5th. Time to *alter* hogs is well answered; boars should be castrated very young, a month old, when they don't appear to mind it; sows ought to be at least two months old, and not too fat, else the operator will have trouble in finding the pride or ovaries. Some of our farmers, who kill at eight months, never spay all at.

6th Question is well answered. There is no doubt about the policy of keeping brood sows and pigs separate from the other hogs, and especially from the boar until his services are wanted. Before, as well as after weaning, pigs should be fed *better* and separate from all other hogs.

7th Question: What are the advantages and disadvantages in your experience of cooking, soaking and souring food for hogs?

In reference to the advantages of cooking food for fattening hogs, I find that on the farm, in the fall, we can gather up a great deal of food that is more digestible and palatable to the hogs cooked than raw; besides varying the diet, the cooking will make them enjoy their corn when given alternately with cooked food.

The food on which hogs are fattened has a very marked influence on the pork and bacon, as witness the pork from the swill of distilleries and the soft pork and bacon from the exclusive feed of peanuts. One secret of the excellence of the so-called *Smithfield* hams was, that the hogs ran at large the greater part of the year—their muscles hardened by exercise like that of game; then after gleaning the fields in the fall, were fattened *exclusively on uncooked corn and meal.* Cooking food increases the bulk and *apparently* saves food and aids digestion; and while admirably adapted to *fatten hogs for pork* and lard, to be salted and used as such, I question the policy of cooking even *corn-meal,* during the last two weeks of the feeding, for *bacon*-pork. When the fattening hogs have had field-peas to run on, at the same time they are consuming the *peanuts* left in the ground after harvest, we find a very short time after penning and feeding on raw corn is required to harden the tissues so as to make *tolerably good bacon.* Even in the coldest weather we can, however, detect in cutting up the hogs, the peanut fed pork from that fattened on corn and meal alone. The only disadvantage that I know of, except that

stated, is the expense of the labor of cooking. My hog man, who has been feeding hogs for 40 years past, pursues this plan. He prefers to collect his wood and feed every Saturday evening, and in a kettle, set in masonry, that will hold over 100 gallons, he first pumps about one-third full of water; next he adds sweet potatoes, apples, cabbage-leaves and then corn-meal, often ears of corn chopped up, frequently pumpkins, turnips, anything he can gather up, *never* omitting the *corn-meal.* The hogs are fed once, often twice daily from this mixture, alternately with corn *shelled* in water in the troughs. In general, he expects his kettleful to last the twelve hogs a week. Ten days or two weeks before the hogs are killed, I think *all cooked food* (for the reason stated) should be omitted and the feed be confined to corn and corn-meal dough. Ashes frequently added to the cooked feed, and not unfrequently fire coals from under the kettle are given to the hogs, which they appear to enjoy.

If we do not raise our pigs we are not apt to find such as *would* be profitable to *feed* in the market. The reason why grades are preferred by a decided majority over pure breeds is, I think, because the *industry* of the natives makes them better foragers in gleaning our fields of oats, peas, peanuts and sweet potatoes. The cheapest pork the writer had the past year, was a lot of hogs, grades, fed only a week on corn during Christmas—fifteen hogs made 2,800 pounds. The last of August they went into the melon field of six acres, sown in field peas, where water was abundant, then into sweet potatoes, then gleaned the corn field where peas and peanuts had been grown. The corn-fed pork cost about double, having consumed over thirty barrels of corn, and I question if the pork would have brought anything like its cost to grow it, but I had a large bank of manure from the pens for Irish potatoes and melons. Inadvertently I have answered a number of questions and those of the most importance.

The "Relative value of different food for hogs" gives us a great deal of information which the author has collected from various sources, and the farmer can see at a glance in the following analysis of the "*flesh and fat* producing material" the comparative value of the different kinds of food.

Thus in 100 per cent. we have of

Corn, . . .	80.1	Peanuts, . . .	87.71
Sweet potatoes,	31.27	Chufas, . . .	63.05
Peas, . . .	60.55		

In addition to this, he shows very clearly that their are a number of crops "superior to corn in nutritive value, taking into the calculation the production per acre." While all must admit that corn is essentially the *best known food to fatten hogs*, and has, in general, been the principal food on which they were raised from pighood, yet it is our true policy to plant other crops, especially for growing the hogs, not omitting a plenteous supply of corn to fatten them. While the writer agrees with him in his plan of keeping a boar, he must

express his entire dissent from his method of curing bacon, as too *expensive* in time and labor.

Our Smithfield hams are acknowledged to be the very best, and the following is our plan: We rarely or never cut up the hogs the same day they are killed; we want the hog *well bled* at the killing and the animal heat *entirely gone* before we salt. In general, we use equal parts of Liverpool blown and ground alum salt, moistened with water in a salt box; the hams after being nicely trimmed, are first rubbed with saltpetre, powdered fine, on the flesh side, from a teaspoonful for a small ham to a tablespoonful to a twenty-five pound ham; then each ham is rubbed with sugar or molasses, over the saltpetre; now it goes to the salt tray and is well rubbed, skin and flesh side; packed with the middlings and shoulders, the latter also saltpetred, all the *meat skin down*. Unless the pork is very large or the weather turns very warm, *there is no further handling* of the meat for twenty-one days. The *bloody pickle must be permitted to run off*. The flesh shrinks and shows to the experienced eye that it is safe and *salt enough*. When ready to smoke it is washed clean in hot water, and the hams and shoulders are heavily powdered on the flesh side with *black pepper*; it is then hung up in a dark smoke-house, allowed to drip until next day; then smokes are made with green hickory or red-oak wood, smothered with damp, rotten wood—corn-cobs do very well; we smoke daily until colored a light orange brown; kept in a *dark*, *clean* (often white-wash the inside of our smoke-houses) house, we are rarely troubled with the fly and worms.

Diseases of Hogs.—About two years since this neighborhood suffered severely with diseases among the hogs, losing forty myself, which in writing about, I called "Hog Plague." If memory serves me correctly, I made eight *post mortem* examinations, all of which, without exception, showed inflammation of the lungs or pneumonia. Many facts convinced me that it was an epidemic and contagious disease, with true blood poisoning, little amenable to any kind of treatment by physic. Those most doctored died. Hygiene or attention to the health of the hogs, regular and proper feed in lots, with fresh water, is more to be relied on, I think, in *preventing* the disease than the use of physic in curing it. Charcoal, lime, wood-ashes and salt, are dyspeptic remedies for hogs, and all very well if they will eat. The trouble we had was *from the first*. The hogs attacked went coughing about, with their noses to the ground, and would not eat—rarely would drink; and many of the remedies ("sure cures") mentioned by the Doctor were tried in vain. Turpentine was mostly used, soft-soap, poke-root, and various teas and compounds. Carbolic acid was freely used on the hogs and pens, and about that time it appeared to cease and none others were attacked. This was a mere coincidence I presume. The disease had, like most epidemics, expended its force, killing the first attacked quickly, and was milder afterwards.

It is not only my own but the opinion of hog raisers in this section

where the "hog plague" has paid us repeated visits, that more can be accomplished in avoiding the disease, keeping the hogs in pastures with running water, feeding regularly, supplying such condiments as salt and ashes in their troughs, avoiding, when the disease is prevalent, all *contact with hogs on infected farms*, and such measures as we doctors call hygienic, *than by any kind of medication.* In fact, we have the same plan to pursue here that is done by boards of health and quarantine in our cities to prevent the introduction and spread of contagious diseases.

If hogs are salted regularly, I doubt if they will be attacked with worms; spirits turpentine, easily administered, is doubtless the best remedy. The *mange* or red rust, (as our people call it) is, in general, the result of *carelessness*, attacking mostly penned hogs. While I never had a hog affected with it, I would suggest a thorough washing with soft-soap and warm water, and applying an ointment made of lard and carbolic acid.

Nansemond Co., Va. G. W. Briggs, M. D.

Comment.—The writer of the Essay on the "Hog" did not forget to mention "the sausage," but praised it (see page 5); or the "lard oil" spoken of in the form of fat, used by perfumers, &c. (page 7). We apprehend little loss of ammonia by putting ashes in hog pens, as there is only one corner where the manure of the hog is deposited, and the ashes were advised for increasing the manure, keeping the pens dry, and keeping off vermin, and for these two latter purposes particularly, were used about the bedding where the hogs sleep. In this way, nothing valuable from the ashes is lost. White hogs are generally condemned. See the almost unanimous opinion of our correspondents on this subject. White seems in hogs and horses to be a defective color, particularly in hogs, which, as a general rule, have less hardy constitutions, and are more subject particularly to skin diseases than dark ones.

Berkshire hogs seem not hard to make gentle and tractable (as see Major Venable's management of them, page 40). I witnessed his handling them and remarked on their tractability.

As to curing bacon, if the Doctor had said that the "Smithfield hams" were the best cured on a large scale for market, I could have agreed with him. But they are not comparable to those cured by many Virginia farmers for their own family use. They are smoked too much for the taste of many persons. The plan I adopt is not an expensive one for hams cured for one's own use. It was not intended to be recommended for curing for market. Almost every family keep their hams for the table and sell other parts.

The remedies mentioned for "hog cholera," let it be remembered, were not recommended by me as "sure cures," but only as what were advised by other persons. The Doctor's, it must be conceded, is a very interest-

ing article, and I regretted I did not send my questions to him to have embodied his replies in my essay. I did not know of his being such a hog-raiser, having thought of him more in connection with "fruits" and vegetables.

[For the Southern Planter and Farmer.]

DR. POLLARD'S VALUATION OF FERTILIZERS.

In Dr. Pollard's "Valuation of Fertilizers," published in the *Dispatch* of the 13th inst., there is, I think, a very considerable mistake, and one which not only injures certain manufacturers, but also the farmers, by misleading them. He says:

"I have not attempted to state the commercial or the money-value of the fertilizers—that is, I cannot say to the farmer 'this fertilizer is worth so much money to you, and thus influence him to buy it on my "*ipse dixit.*" The value of a fertilizer is dependent on other things than the cost of the ingredients, as the mode and skill used in combining them, the adaptation to particular soils, mechanical condition, &c. (See this subject in my first annual report.) I have, however, given the commercial value of the important ingredients, as near as I can ascertain them, as follows:

Available phosphoric acid . . .	12½ cents per pound.
Ammonia . . .	18 cents per pound.
Potash . . .	8 cents per pound.

"The *soluble* and *precipitated phosphoric acid together make the available phosphoric acid.* Some authorities put the insoluble phosphoric acid at four cents a pound, but this is doubtful, as it may be a long time in dissolving.

"Then, to calculate the money-value of the phosphoric acid in a fertilizer, add the soluble and precipitated together, and multiply that amount by 12½ cents (the value of one pound), which will give the value in 100 pounds, and this product by 20 (twenty times 100 pounds makes 2,000 pounds, or one ton), and we have the cost of available phosphoric acid in a ton. And so of the cost of ammonia and potash."

According to this rule, I take a fertilizer, which gives of "available phosphoric acid" 8 per cent. soluble + 2 per cent. precipitated = 10 per cent., which, at 12½c., makes $1.25 per cwt. It also gives 2 per cent. insoluble phosp. lime, at 4c. per pound, = 8c. per cwt., or in all $1.33 = per cwt., or $26.66 per ton, value of the phosphate.

I take another fertilizer, say, of steamed and ground bone, which has never been treated with sulphuric acid, and has, therefore, none of what Dr. Pollard calls available phosphoric acid, but whose phosphoric acid is all pronounced "insoluble," and therefore worth only four cents a pound, "but *this* is doubtful." This places it at only one-third the value of the "available," and the total value is only 56 cents per cwt., or $11.20 per ton, or but little over one-third of the other.

Now, I happen to know at least one case (I can easily find more) in which a soluble phosphated fertilizer containing 3 per cent. ammonia was used by the side of a steamed ground bone, and therefore an insolu-

ble phosphate, containing 4 per cent. ammonia; and though the results of both were the same (and unfavorable) the first year, yet the second year the clover on the boned land was two or three times as good as that on the land treated with the soluble phosphated fertilizer—in fact, it was the difference between a good stand and a comparative failure. And I know numerous cases in which that style of bone, at a less price than the so called soluble phosphate fertilizers has given equal or greater satisfaction. Hence I say Dr. Pollard makes a mistake when he gives a formula which rates such a fertilizer at a lower value than the soluble phosphates. I think it is worth as much for a present, and more for a future, result.

I have no interest in any fertilizer, but I am only a

September 23, 1878. FARMER.

COMMENT.—If "Farmer" is correct that undissolved bone "is worth as much for a present and more for a future result" than dissolved bone, it only proves what I admit and have acted on—that the commercial value of a fertilizer is not the agricultural value. If insoluble phosphoric acid is worth on the market only four cents a pound, that is not my fault. This is the valuation of the chemists to the North Carolina Department, and a little less than that of the Connecticut Agricultural Experiment Station. Prof. Johnson, the Director of the Station, says he adopts the *trade-values* recently found (September 18, 1878) in the Connecticut and New York markets, viz.:

Insoluble in fine bone and fish guano,	7	cents per pound.
In coarse bone, bone ash and bone black,	5	" "
In fine ground rock phosphate,	3½	" "

Or an average of about five cents a pound, and taking the two last together, an average of four and a quarter cents.

In making the remark that the "valuation of four cents was doubtful, as it may be a long time dissolving," I had in my mind the insoluble phosphoric acid left after the use of sulphuric acid, which phosphoric acid failed to be made soluble by this active agent. I had no reference to fine ground bone, which I believe to be a very good fertilizer, but I probably should have been more explicit.

I gave the *commercial* value of the fertilizers, expressly declining to state that this was the *agricultural* value. As to ground bone being worth more than dissolved bone—such is not the general belief. Chemists in advising formulas for fertilizers very generally advise dissolved bone. Whether the undissolved bone acts well depends upon some contingencies. Prof. Pendleton (Scientific Agriculture) says, if "unadulterated bone phosphate lime be applied as a fertilizer, in a soil with but little organic matter, it would produce but little more than the soil without it." And again, "one reason why superphosphates act so well is, the complete breaking up of the mass into such fine powder as to have every part of it exposed to the action of natural solvents in the soil * * but their main value lies in their great solubility."

Other farmers have had experience with these preparations different from that of a "Farmer"—probably on account of different condition of lands. I, myself, applied some five or six year ago, some ground bone, not very fine, obtained from a reliable Richmond manufacturer, on a piece of land sowed with oats and clover at the same time of the application of the bone (the land being staked off). No effect was visible on the oats or clover, the clover standing for two years, and no effect has since been observed on corn, or on tobacco, the latter crop being on the land now. I have pointed out this experiment on the land to several farmers.

THOS. POLLARD.

Home Department.

CONDUCTED BY MRS. G. JULIAN PRATT.

MOTHER'S WAY.

"OFT within our little cottage,
As the shadows gently fall,
While the sunlight touches softly
One sweet face upon the wall,
Do we gather close together,
And in hushed and tender tone
Ask each other's full forgiveness
For the wrongs that each have done.
Should you wonder why this custom
At the ending of the day,
Eye and voice would quickly answer:
"It was once our mother's way!"

THE true hospitality of the home is never loudly demonstrative. It never overwhelms you with its greeting, though you have not a doubt of its perfect sincerity. You are not disturbed by the creaking of the domestic machinery, suddenly impelled at unwonted speed for your accommodation. Quietly it does its work, that it may put you in peaceable possession of its results. He is not the true host, she is not the best hostess, who is ever going to and fro with hurried action, and flurried manner, and unnatural zeal, which implies forced effort to effect a hospitable appearance, but rather the one who takes your coming with quiet dignity and noiseless painstaking; who never obtrudes attention, yet is very attentive all the while; who makes you, in a word, "at home."

OH, THE BURDENS.

To an ordinary observer, the mass of people one meets seem happy and joyous. Here and there, perhaps, we see a careworn, sad face, but the multitude pass on as sunny and smiling as if there was no trouble in the world. But could we lift the veil and look beneath this gay ex-

terior, we should discover many a hidden grief, so many hearts there are that ache and make no sign, and that is not the bitterest sorrow that the world sees and knows. Those griefs are the sorest and the hardest to bear which must be kept concealed and never spoken of.

Mourning and crape may well be termed "the luxury of woe," for they invite sympathy and permit the tender of friendly help and consolation. Even the world hushes its gay laugh and ceases its jest at the sight of the veiled mourner.

But the deeper grief must be hidden as much as possible from mortal sight, because the sensitive and agonized sufferer cannot endure the harsh comment of the world, nor the well-meant but torturing pity of friends. Only in secret, and when no eye but God's can see, can these sad ones weep.—*Christian Intelligencer.*

The First Stain.—Did our young readers ever think how little it takes to stain their character? A single drop of ink is a very small thing, yet dropped into a tumbler of clear water, it blackens the whole; and so the first oath, the first lie, the first glass, they seem very trivial, yet they leave a dark stain upon one's character. Look out for the first stain.—*Ex.*

TRUST.

Make a little fence of trust
Around to-day;
Fill the space with loving work,
And therein stay.

Look not through the sheltering bars
Upon to-morrow;
God will help thee bear what comes
Of joy or sorrow.—*Ex.*

A Woman's Question.—Which is the most economical for farmers—to attend to their meals promptly, at the ring of the bell, or defer it from fifteen to thirty-seven and a half minutes, and keep a hard-working woman in a fret that length of time?—*Godey's Lady's Book.*

MATS AND RUGS.

Mats and rugs are such indispensable accessories to the comfort of a home and are so easily made that no one who has ever had them will be willing to do without them. For the outside door one can be made out of corn-husks, nicely braided and sewed together in a round or square form, and is so nice for the men and boys to clean their feet on and save the wife and mother a great deal of labor in cleaning with broom and mop. If one does not want a carpet down, a rug is indispensable here and there and gives the room an air of cosy comfort and warmth. Almost any house-keeper can make them, and, with the help of children to cut and sew rags, the ragbag is a fruitful source of material. This same receptacle usually swallows enough to furnish a whole house, if properly economized, with mats, provided you have the foundation to work upon. A common coffee-sack is very good material and inexpensive. Tack it into a frame. (I made mine of common lath.) Mark

out your plan then with rags stripped as for rag-carpet, about an inch wide. With a rug-hook draw them first down from above, then up from below, and draw the rag tight underneath, leaving it an inch or more high on the upper side, to be trimmed when finished. I have one two and a half by five feet. The border is black and deep. Then several alternate rows of calico and red flannel. Then the center filled in, in diamonds of red, brown, and light shades. This for hall, front of bed or stove, is very handsome and durable. It is some work to make it, if you make it alone and do your own work, as I did. If one prefers to sketch her pattern, the center can with little more trouble be made to imitate the Turkish rug patterns. Another is a square rug, the foundation of any firm old cloth. An old salt-sack is very good. Take your rags of any desirable color. Wind them on a long flat stick. (Mine I took from the lower end of the window shade.) Fasten the rags at the end. Now lay a cord of wrapping-twine on one edge, and sew firmly over this through every turn of the rags, which will hold them firmly in place. Then with a sharp knife cut the rags on the opposite edge from one end to the other of the stick. Lay aside the fringe, and proceed in your work till you get enough fringe for your mat. Then form your plan, and with a strong thread sew the fringe on to your foundation. You can bind the edge of your foundation first.

Another one is made from square pieces of odds and ends of refuse rags of any material, laid four or five together and tied with strong thread, placed thickly together on any foundation, and will be very satisfactory to place before a toilet-table. Braided rags make very pretty mats, sewed together in any pretty fashion, for hall or bedroom. I have made them by crocheting the rags, and it is very easily done and they are very substantial.—*Lady's Floral Cabinet.*

Setting Hens.—There is no expression in the English language in the use of which the people make more mistakes than in speaking of sitting hens, or hens that sit, or desire to sit. These errors arise from an imperfect knowledge of the use of the verbs *to sit* and *to set.* To sit, as we all know, is the act of sitting, as in a chair or on a nest; but to set is the act of placing a thing in some place or position, as eggs in a nest; so we can correctly say a *setting* of eggs. We can also say, "I have *set* a hen," because it required either some act of ours to place her on the nest, as putting eggs in it and setting the hen thereon, or she went upon voluntarily, by which act she set herself upon the eggs; but as soon as she adjusted herself in the nest she becomes a *sitting* hen. We should, therefore say, "A hen sits, is sitting, or desires to sit," and "a setting of eggs for a hen I am going to set that wants to sit;" and in no case can we properly say "a setting hen," or "a hen that wants to set," etc.—*American Dairyman.*

Toilet Mats.—One set, having pretty effect, is made from gray and white striped single-faced Turkish toweling, each piece—bureau, stand, bracket, and cushion-covers—edged with crochet work in blue worsted, and a row of cross-stitch in blue work on the cloth as a head to the border. It may be any color to suit the room.

Smilax.—You can best raise smilax from seed, of which any seedsman can supply a paper. Sow the seed in a pot in spring and transplant

the young plants to pots of rich sandy loam. They will grow rapidly and from thick, fleshy roots somewhat resembling those of asparagus. These roots are perennial and the plants grow stronger every year. The roots should be dried off in summer, but not be so dry as to shrivel. The flowers are white and delightfully fragrant. The fruit is a dark-red berry. Smilax will not grow from slips.

DOMESTIC RECEIPTS.

Quince and Apple Butter.—*Ingredients.*—Five pounds of quinces, ten pounds of sour apples, seven and a half pounds of sugar. Pare, core, and quarter the fruit; boil the quinces, barely covered with water, until tender, then add the apples; when soft add sugar, and boil slowly several hours, or until as thick as desired. Stir occasionally, and towards the last very often, to avoid burning.

Grape Catsup.—*Ingredients.*—Five pounds of ripe grapes, two and a half pounds of sugar, one pint of vinegar, one tablespoonful of cinamon, one tablespoonful of cloves, one tablespoonful of allspice, one tablespoonful of pepper, half a spoonful of salt. Boil the grapes in enough water to prevent burning, strain through a colander; add the other ingredients, and boil until a little thickened. Bottle and seal.

Scalloped Oyster Plant.—*Ingredients.*—One and a half pound of stewed plant, three ounces of butter, half a gill of milk, two tablespoonfuls of salt, a pinch of Cayenne pepper. When the oyster plant is boiled tender, rub it through a colander; add part of the butter and all the other ingredients. Mix well, put in a baking dish, cover the top with grated bread-crumbs and the rest of the butter. Bake it a delicate brown, and serve hot. Celery salt may be used for half the quantity of salt, and gives a delicious flavor.—*Godey's Lady's Book.*

Snow Sponge Cake.—One cupful of flour, a little heated, one and one-half cupfuls sugar, two tablespoonfuls cream tartar, mixed with flour (no soda), whites of ten eggs. This makes a very white, beautiful cake.

Floating Island.—Set a quart of rich milk to boil; when it does so, stir into it two small tablespoonfuls of white sugar, and the beaten yolks of six eggs; flavor with lemon or rose, or peach water; whip the whites to a high froth; when the custard is thick, put it into a deep china dish and heap the frothed eggs upon it; it may be finished by putting spoonfuls of jelly or jam over the frothed eggs, and serve.

Exchanges.—The blanks in our last number ought to have been filled in as follows: *Ladies' Floral Cabinet,* number 46 Beekman st., New York. Terms $1.20 a year.

Our ladies could not secure a better guide for Floracltuure and fancy work.

Editorial—General.

THE STATE FAIR.

Remember, dear friends, that the State Fair is near at hand, and that every one of you is expected to do something towards making it a great success. Of what avail are the continued efforts of Major DREWRY and Col. KNIGHT, and the Executive Committee, in this behalf, unless you second them with all your might? We complain that the agricultural interest in Virginia is in a bad way; it certainly will never improve if we spend our time only in groaning over it. The harder the times are the harder we must all work to make them better. Let us attend more *to our own business*, and let those awful people, the "money-changers" and the "bondholders" alone. We have been worried quite long enough with them; a change now would do us good. It is plain that they are going to hang on to those bonds though we rail at them until our breath is gone. The world owes no man a living; he owes it to himself, else he should forthwith cut that beard off of his face. That beard is the mark of *a man*, and not a slave.

Come to the Fair. The State Agricultural Society was instituted for your benefit. The patriotic men in charge of it have worked, in season and out, to make this benefit an absolute reality; let not then their strife be in vain.

The Society, for the greater convenience of the people, have most commodious rooms, and an ample showing to accommodate a large meeting every night during the Fair. These rooms are located in Wilkinson's Hall, on Ninth Street, a few doors north of Main Street. The buildings at the Fair Grounds have all been put in complete order, and every arrangement necessary to the comfort of the exhibitor provided. The boys and the girls, as well as the father and the mother, must be on hand, and more than that, put there some evidence of their industry and thrift. We can all exhibit something.

You will go back to your homes with more cheerfulness in your hearts than when you left, and the belief, which is true, that the Commonwealth of Virginia may yet hold her own in the race of progress and prosperity.

A SPECIAL WORD IN REFERENCE TO THE TOBACCO TAX.

As soon as Congress convenes, Mr. RAN. TUCKER will open the fight with vigor on the tobacco tax. We understand he was twitted last session by members from the North and East, with observations like this: "How is it, Mr. TUCKER, if this tax bears so grievously on your people, why don't they say so, and not leave you to do it all? If our people deemed themselves aggrieved, in any di-

rection Congress was held competent to remedy, petitions, and plenty of them, would be found here as long as the moral law." It was the truth; *the Virginia planter had nothing to say.* The condition of the tobacco market this year certainly ought to convince the most stupid man that this bow-string, drawn a little tighter, will strangle the interest to death.

Winter before last, Mr. TUCKER'S committee examined, under oath, a number of large tobacco manufacturers. Among them was Mr. CATLIN. In answer to Mr. TUCKER'S question as to the effect of this tax on low grade tobaccos (and unfortunately too much of our crop is of that sort), Mr. CATLIN said: "The present high rate of tax is driving the low grades of tobacco out of the market. The producer can't dispose of it at any price." We see the perfect realization of this statement in the accounts of sales now returned to planters by their merchants; good lugs, the like of which several years ago brought $6 to $8 per hundred, have sold this season as low as *fifty cents* per hundred. Of course, men can pay debts and support their families with a vengeance on such prices!

What now is to be done? The planters, *in every tobacco county in the State*, must see to it that a meeting is called for next court day, to petition Congress to relieve us at least in part, of this most onerous and tyrannical tax. These petitions sent to MR. TUCKER, (his postoffice address is Lexington, Va.) and presented by him, in a lump, as soon as Congress opens, will prove more effective than all the speeches he can possibly make. He and MR. CABELL did all, at the last session, that men could do; it is time now for the people they are working for so zealously to lend a hand; and these petitions will do the work.

It is certain that, if we do not look out for our own interests, we should not complain if they flounder.

A convention of tobacco men will be held this month in Cincinnati, to consider the matter of the tax, and a representative of the Internal Revenue Bureau has been invited to be present. Let the work of our people, as we have indicated, be added to this effort for their relief.

THE TUCKAHOE FARMERS' CLUB.

The September meeting of the Club was held at "ELLERSLIE" the residence of Dr. THOMAS M. DEITRICK, on the James river, eleven miles above Richmond. This is one of the most beautiful and valuable estates on the river. It contains 750 acres, and is well timbered. The low grounds are very rich, producing sometimes sixteen barrels of corn to the acre, and thirty bushels of wheat. This land produced last year the best tobacco we ever saw. The Doctor has greatly improved the high lands, and in a few years it will be as rich as the low grounds. The farm is enclosed by a good plank and rail fence. The low land has been improved by thorough draining, and is now well set in orchard, timothy and herds grass. A very large crop of hay has been cut this year, and is now being baled for market.

The principal crops raised are tobacco, wheat, corn, oats and hay. The improvements consist of a large brick dwelling, situated in a beautiful grove of oaks, maples, elms, &c., commanding a magnificent view up and down the James for miles. The outbuildings are good, and suitable for such a farm.

Dr. DEITRICK devotes all his time to his farm, and its great improvement shows he understands his business. Particular attention is paid to his stock and making manure. His horses and mules are fat, and cattle in good condition. He is pursuing the right course in crossing them with the Jersey. He has had the mis-

fortune to lose many of his fine hogs this summer by cholera, but he has succeeded in arresting the disease. His industry and enterprise is worthy of imitation.

The Club discussed at length the proper quantity of wheat to be seeded per acre, after which a resolution was adopted stating that, in the opinion of the Club, from four to five pecks broadcast and three to four pecks drilled, was the proper quantity—amount varying as to the tilth, time of seeding and size of the berry.

BENDOVER.—Recently we had the pleasure of visiting this magnificent James River farm, some twenty miles above Richmond, owned by MR. JAMES MURRAY of London, England. It contains about fourteen hundred acres, two hundred of which is fine bottom land, the remaining portion is in good tilth and is being rapidly improved under the intelligent supervision of MR. WILLIAM U. KENNON, who has, for a number of years, been managing it in the absence of MR. MURRAY. The principal crops cultivated, are corn, wheat, oats, and hay. "Bendover" however, is more of a stock than a grain farm, and besides the large crops of grain, we noticed eleven acres of mangel wurtzel, ruta-bagas, and carrots, as fine as we ever saw. The farm is stocked with a fine head of forty-five thoroughbred Devons, equal to any in the country, a number of these having been imported by MR. MURRAY. At the head of this herd stands "Master James," a four year old bull' which took the first two prizes at the Royal Agricultural Society, Birmingham, England in 1875 and 1876, and the first premium at the Virginia State Agricultural Society in 1877. "Nella," the second on the English Stock Book, four years old, also took two first premiums in 1875 and 1876, at the Royal Agricultural Society. We might mention others of equal merit. MR. KENNON has some eight or ten yearling bulls of great beauty at reasonable prices.

Equally as attractive are the Shropshiredown Sheep of "Bendover." They number some eighty-five, and a finer breed of sheep we doubt can be found in the State. The Executive Committee of the State Agricultural Society at a late meeting offered special premiums for this herd of sheep, and we hope MR. KENNON will be on hand with them at our next fair. The sheep and cattle sheds of "Bendover" are most conveniently arranged. MR. KENNON will please excuse us for saying (for he is a very modest young gentleman) that we have never seen in our extensive travels among the best farmers and stock raisers of the State a better managed farm or better kept stock and teams than we saw at "Bendover."

Mr. R. PETERS, the great thoroughbred stock-raiser of the South, has sent to Colonel GEORGE WATT, of this city, a package of pea vines grown on his plantation in Georgia. *One* vine of the number sent weighed, green, $4\frac{3}{4}$ pounds, and measured $16\frac{1}{2}$ feet in length. This seems to be incredible, but such is the fact, the Colonel and ourselves carefully measuring the same together with a tape line.

Mr. PETERS calls this pea the "Couch" variety, and says that "if planted 4x4 in June, *one* pea in a hill will, in thirty days, cover the ground." Mr. PETERS has promised us an article for the *Planter* on the cultivation and varieties of peas as an improver. We will be greatly obliged to him for it. No subject would be more interesting to our readers.

WE are indebted to DR. JOHN R PAGE for his valuable report of "Experiments in Wheat and Beet Culture" on the experimental farm at the University of Va. DR. PAGE is doing a good work in this behalf, and we wish this report could be read by all our farmers.

"Thistlewood."—During a recent visit in the neighborhood of Gordonsville, we drove out to this beautiful farm, owned by our friend, Mr. Arthur Davenport. It was formerly known as "Egypt," on account of its productiveness. Mr. Davenport is strongly in favor of permanent pastures, and has most of his cleared land in a good orchard and meadow oat grass. We saw his flock of grade ewes, with which he has taken several premiums at our State Fairs. With them was a fine yearling Oxfordshiredown ram, obtained from Mr. Harrison, of Maryland (who purchased several of the imported specimens of that breed at the Centennial exhibition). We also saw that favorite English fowl, the Dorking, of which Mr. Davenport has some extra fine specimens—bearing off first premium whenever shown. We could only note that plowing was going on for winter oats and wheat, and get a distant view of some grade Shorthorn heifers, by a bull of our friend Ficklin's raising. Mr. D., however, thinks the Devon would suit this locality better.

Imperfect as was our inspection, we saw enough to show that under the present policy of Mr. D., "Thistlewood" will soon become an excellent little stock-raising farm. Our friend, Mr. Davenport, is an Englishman, and we would rejoice to know that all of his countrymen were as well satisfied with their adopted State, and doing as well as he.

During a recent visit to Charlottesville we noticed with great pleasure the splendid improvement of the road leading from that place to Monticello under the supervision and direction of Mr. H. L. Lyman. Had we a man in every neighborhood of the same public spirit, intelligent zeal and activity as Mr. Lyman, who would follow his example in this regard, in a few years the prices of our lands would almost double their present value.

Mr. Geo. W. Palmer has recently sold to Mr. J. G. Meem, Jr., his Shorthorn Bull, "Albert Edward." Mr. Palmer has filled his place by purchasing another bull of very superior excellence.

We have received from the publishers a new work "Talks on Manures," by Joseph Harris, Morton Farm, Rochester, N. Y. The author's "Walks and talks on the Farm" have probably been more widely read than any other Agricultural writing of the day. The work on manures is in a similar style, in which the results of scientific investigation and the best farm practice are given, divested of all technicalities, in a pleasing, colloquial manner, just as a knot of intelligent farmers would talk when they come together. In its practical teaching, and the common sense reasoning that pervades its pages; it is not only unlike any other work, but is a really valuable addition to the small class of books that give the best practice based upon the best science. For sale by Orange Judd and Co. New York, at $1.50.

From the National Journal of Education, Boston, Mass.—A movement in the right direction has been inaugurated by Dr. Virgil W. Blanchard, who has been a contributor of several valuable papers to the *Boston Medical and Surgical Journal*, and now is engaged in the advancement of the Food Cure System, designed to supplant the use of drugs in the treatment of all debilitated conditions. The system is a series of concentrated liquids, manufactured principally from the wheat kernel, concentrated and artificially digested by processes well known to science. We have not space to go at length into the common-sense theories,

but have pleasure in saying that the evidences of the value of these Foods are conclusive. Our well-known Rev. Dr. Austin Phelps, of Andover, endorses the Life Food highly; Prof. John Clark, of Oberlin, has received great benefit; numberless physicians from all parts of the country, as well as hosts of private individuals, testify to the curative effects of the Blanchard Foods. See advertisement.

It gives us pleasure to call the attention of the readers of this paper to an article of such merit as the Ayres' Hernia Truss, because, in the first place, of its intrinsic value to those needing such things, and in the second place, it is made in our own State, where money paid for them recurs to the benefit of our own citizens and the payment of our own taxes. This truss stands in the front rank as a superior appliance for reducing difficult hernia of any kind, as is shown by the many certificates from the best physicians and surgeons in the United States. Should any one want anything of the kind, apply to Mr. Samuel Ayres, maker, Richmond, Va.

PARTICULARS OF A FARM FOR SALE
IN THE PIEDMONT SECTION OF VIRGINIA.

The Farm contains 513 acres, of which all but about 80 are cleared. It is situated in a most healthy neighborhood, at the foot of the Southwest Mountains. The property adjoins Gordonsville, a rising town of nearly 2,000 inhabitants, with churches, public and private schools, numerous stores, hotels, &c., and is within half a mile of the railway depots of the lines of railway running to a ll points, which pass through the town. Gordonsville is seventy-six miles from Richmond, ninety miles from Alexandria, ninety-seven from Washington, and one hundred and thirty miles from Baltimore, at all of which places there are good markets for all kinds of produce.

The buildings on the farm consist of a comfortable house, very prettily situated in a grove of trees, fronted by a lawn and flower border, and contains 10 rooms, with large entrance hall, verandah and 2 cellars; a tenant's house, with outbuilding; 3 laborers' houses, poultry, wood, ice, tool and carriage houses; stabling for 10 horses; corn-house, granary, meat-house, one large barn (80x60 feet); one smaller barn, together with cattle and sheep yards, surrounded by covered sheds. Adjoining the barn is the engine shed, containing a twelve-horse power stationary engine, with shafting and belting complete, together with the following machinery worked by it: Corn Mill, Feed Cutter, 2 Cord-wood Saws, 1 Rip Saw, Grindstone. Grain Separator, Grass and Clover Seed Thresher. All the above are in good working order.

Near the House is the Kitchen Garden and Orchard of Apple, Peach, Cherry and other trees in full bearing. The property is well fenced and drained, and is divided into enclosures of about 50 acres, each field having a never-failing stream of water running through it. There is a pump of spring water near the house, one in the stock yard, and another in the engine-house. The farm is bounded on the south by the high road to Orange Courthouse, and on the west by the high road to Liberty Mills and the Valley District; it adjoins the vineyard of Dr. Cadmus, and much of the land is well suited to the growth of vines.

Nearly all the land is in Grass and Clover, and the property is admirably adapted for a Stock or Sheep Farm.

With the property the purchaser will be required to take, at a fair valuation, the Live Stock, Implements, &c., about 120 tons of well-cured hay, a quantity of other feed, together with the growing crops. The purchaser will have the option of taking the House Furniture on the same terms.

The price of the land and buildings is $30 per acre (less than two-thirds of the cost to the present owner within the last four years), and $1000 in addition for the engine and machinery as above.

The purchase money, in all $16,390, may be paid as follows: $4,390 cash, and $800 a year for fifteen years, with interest at the rate of 6 per cent. per annum on balance unpaid. These terms will remain open until December 31, 1878.

It might be arranged to divide the property into two farms of about 313 and 200 acres, with necessary buildings on each.

Any further particulars can be obtained by applying to

DICKINSON & CHEWNING, Richmond, Va.

We are well acquainted with this farm, and think it very cheap.—D. & C.

THE BLANCHARD
Blood and Nerve Food

is a pure concentrated liquid food prepared directly from the Wheat Kernel, without fermentation, and retaining all of its Blood, Nerve and Brain restoring elements in a natural state of vitalization.

Nervous debility, which underlies all forms of chronic disease, is speedily overcome by the use of this Food.

"For the year past, I have constantly prescribed THE BLANCHARD BLOOD AND NERVE FOOD to my patients of all ages, from eighteen months to eighty-three years. In every case the result has been exactly that claimed by you. It is, by far, the most valuable and reliable tonic I have ever met with."

EDWARD SUTTON SMITH, M. D.,
20 Irving Place, New York.

Food at Last a Substitute for Drugs.

Food is made a curative agent by concentration and artificial digestion, and it is so simple in its application that the advice of physicians is not required.

Thousands of recoveries from chronic diseases are reported, where the best medical skill has failed.

Many of the best physicians throughout the country are discarding drugs and using the BLANCHARD BLOOD AND NERVE FOOD with the most gratifying results, permanently relieving all forms of physical and mental debility. The Dyspeptic and Consumptive patient, sufferers from Malarial or Blood Poisoning, together with the entire list of complaints peculiar to the female sex, find in the use of this Food sure and speedy relief.

NEW YORK, November 26, 1877.

DR. V. W. BLANCHARD: During the past year I have prescribed your various preparations of Food Cure, and feel happy to say they have met my most sanguine expectations, giving to patients long enfeebled by blood poison, chronic disease, or over drug dosing, the needed nutrition and nerve force.

PROF. CLEMENCE S. LOZER, M. D.,
Dean of Hom. Med. College and Hospital for Women, New York City.

Hundreds of cases of Bright's Disease of the Kidneys have been reported cured. For Neuralgic and Rheumatic Diseases, it is almost a specific. Physical and Mental Debility from the use of Alcohol, Opium and Tobacco, or from any unnamable cause, find in thsi Food a natural and potent remedy. For the intellectual worker,

The Blanchard Blood & Nerve Food

affords a certain and natural means of supplying the waste of the brain, resulting from labor, that will enable him to do better and more work than ever before, without danger of mental strain.

As a remedy for the loss of appetite and want of vigor, physical and mental, in children, this Food has no rival.

$1 Per Bottle, or Six for $5.

SOLD BY ALL DRUGGISTS,

Or sent by Express on receipt of Price.

ANDOVER THEOLOGICAL SEMINARY, Andover, Mass., March 29, 1878.

Your Life Food is an excellent thing. I have no hesitation, after a thorough trial of it, in recommending it in cases of chronic dyspepsia and nervous prostration. REV. DR. AUSTIN PHELPS.

THE BLANCHARD FOOD CURE SYSTEM now receiving such popular appreciation, is clearly set forth in a sixty-four page pamphlet, which will be sent to any address on receipt of 25 cents. Address

BLANCHARD FOOD CURE COMPANY,
oc—4t **27 Union Square, New York.**

WATT & CALL,

Manufacturers of and Dealers in

AGRICULTURAL IMPLEMENTS,

1518-20 Franklin Street, - Richmond, Va.

Sole Manufacturers of WATT PLOWS and WATT'S PATENT FLEXIBLE HARROW.

WATT PLOWS THE BEST AND CHEAPEST IN USE.

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.

SOLE AGENTS FOR

WANTWORTH'S PATENT WATER DRAWER.

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

BIG GIANT CORN MILL.

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.

The McSherry Improved

FORCE FEED GRAIN DRILL,

Warranted to sow

Wheat, Rye, Oats, Barley, Timothy & Clover Seed.

CAN BE REGULATED IN A MOMENT.

THEY NEVER CHOKE UP, WHILE FOR REGULARITY AND EVENNESS IN SOWING THEY ARE UNRIVALED BY ANY OTHER DRILL NOW MADE.

ILLUSTRATED CATALOGUE sent to any address. Liberal discount to merchants.

oct— **WATT & CALL.**

LEE'S

PREPARED AGRICULTURAL LIME.

FOR THE

WHEAT CROP.

Pronounced the **Best Fertilizer for Wheat** by the largest and most practical and intelligent farmers in Virginia and North Carolina. Among them, Dr. R. H. Stuart, of King George county, Virginia, and Col. Thomas M. Holt, President of the North Carolina State Agricultural Society. It has been tried on every variety of soil, and proved not only beneficial to the growing crops, but those who used it two years ago say they never had such crops of Clover and Grass on the same land as they had this year, and that without the application of any fertilizer since the prepared Lime was applied.

Price, only **$12 per ton.** Prepared and sold by

A. S. LEE, Richmond, Va.

oct

The Mapes Formula AND Peruvian Guano Co.

CHARLES V. MAPES, General Manager,

158 FRONT STREET, NEW YORK.

AGRICULTURAL CHEMICALS A SPECIALTY.

MURIATE OF POTASH (80 per cent.) price per single ton, $35. This is equal to but 3½ cents per pound for actual potash, while in Kainit at fifteen dollars per ton, the actual potash costs nearly six cents per pound.

Nitrate of Soda, Sulphate of Ammonia, Dissolved Pure, Fine Bone, High Grade Sulphate of Potash, Genuine No. 1 Peruvian Guano,

direct from Government Stores, *all at lowest cash market prices.*

Manufacturers of Mapes' Complete and Special Manures—Tobacco, Corn, etc.—Prof. Villes' Formulas, etc.

☞Experimental Sets of Fertilizers for Testing Soils—Price $5 per set of four bags.—*See American Agriculturist, August number, pages* 282 *and* 311.

MAPES' COMPLETE MANURE for Corn produces 75, 90 and 100 bushels *Shelled Corn* per acre. See Address of Dr. HENRY STEWART, Asst. Ed. *American Agriculturist*, before Farmers' Club, American Institute, New York (weekly Ed. *New York World*, July 31st).

☞Very low rates of freight both by Steamer and Sail from New York to Richmond, Va., Wilmington, N. C., &c.

BELMONT

STOCK FARM.

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 thoroughbred 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.

an—1y

CHESAPEAKE AND OHIO RAILROAD.

GENERAL PASSENGER DEPARTMENT,
June 7, 1878.

On and after SUNDAY, June 9, 1878, passenger trains will leave and arrive at Richmond as follows:

WESTWARD.

No. 1—7:20 A. M.—Leaves—FOR HUNTINGTON: Daily except Sunday; stops at all regular stations; arrives at Gordonsville at 10:40 A. M.; Charlottesville at 11:25 A. M.; Staunton at 1:35 P. M. (dinner); White Sulphur at 6:50 P. M. (supper); and Huntington at 8:30 A. M.

FOR WASHINGTON: Arrives at Gordonsville at 10:40 A. M.; leaves by Virginia Midland at 4:50 P. M.; arrives at Washington at 9:15 P. M.

FOR LYNCHBURG: Arrives at Charlottesville at 11:25 A. M.; leaves by Virgina Middland at 11:35 A. M.; arrives at Lynchburg at 2:20 P. M.

No. 3—9:45 P. M.—Leaves—FOR CINCINNATI: Daily; stops at Hanover Junction, Noel's, Beaver Dam, Frederick's Hall, Louisa, Trevilian's, Gordonsville, Cobham, Keswick, Charlottesville, Lynchburg Junction, Ivy, Mechum's River, Greenwood, Afton, Waynesboro', Fisherville, Staunton, Swoope's, Goshen, Millboro', Clifton Forge, Williamson's, Lowmoor, Covington, and all Stations west of Covington. Arrives at Gordonsville at 1:20 A. M.; Charlottesville at 2:25 A. M.; Staunton at 4:25 A. M.; Covington at 7:20 A. M. (breakfast); White Sulphur at 8:45 A. M.; Kanawha Falls at 1:30 P. M. (dinner); Huntington at 5:45 P. M. Steamer arrives at Portsmouth at 9:30 A. M.; Cincinnati at 6. A. M., and connects with the lines for the West, Northwest and Southwest.

FOR WASHINGTON: Arrives at Gordonsville at 1:20 A. M.; leaves by Virginia Midland train at 3:35 A. M.; arrives at Washington at 8 A. M.

FOR LYNCHBURG: Arrives at Gordonsville at 1:20 A. M. (change cars), and Virginia Midland arrives at Lynchburg at 4:32 A. M.

No. 5—3:45 P. M.—Leaves—FOR GORDONSVILLE: Accommodation, daily (except Sunday). Stops at all stations, and arrives at Gordonsville at 8 P. M.

EASTWARD.

No. 2—8:15 P. M.—Arrives—FROM HUNTINGTON: Daily (except Sunday); leaves Huntington at 6:30 P. M.; White Sulphur at 8:45 A. M.; Staunton at 1:35 P. M.; Charlottesville at 3:50 P. M.; Gordonsville at 4:45 P. M.

FROM LYNCHBURG: Virginia Midland leaves Lynchurg at 12:55 P. M.; arrives at Gordonsville at 4:45 P. M. (change cars); Chesapeake and Ohio leaves at 4:45.

FROM WASHINGTON: Virginia Midland leaves at 6:35 A. M.; arrives at Gordonsville 10:45; Chesapeake and Ohio leaves at 4:45.

No. 4—6:45 A. M.—Arrives—FROM CINCINNATI: Daily; steamer leaves Cincinnati at 4 P. M.; Portsmouth at 3:30 A. M.; Chesapeake and Ohio train leaves Huntington at 10 A. M.; White Sulphur at 7:30 P. M.; Staunton at 12:25 A. M.; Charlottesville at 2:30 A. M.; Gordonsville at 3:30 A. M.

FROM LYNCHBURG: Virginia Midland leaves Lynchburg at 12:20 A. M.; arrives at Gordonsville at 3:30 A. M. (change cars); Chesapeake and Ohio leaves at 3:30 A. M.

FROM WASHINGTON: Virginia Midland leaves Washington at 9:35 P. M.; arrives at Gordonsville at 1:25 A. M.; Chesapeake and Ohio leaves at 3:30 A. M.

No. 6—9:00 A. M.—Arrives—FROM GORDONSVILLE: Accommodation, daily (except Sunday); leaves Gordonsville at 5:15 A. M., and stops at all stations.

W. M. S. DUNN, Engineer and Superintendent.
CONWAY R. HOWARD, General Passenger and Ticket Agent.

jy—tf Richmond, Va.

Edgewood Stock Farm Berkshires,

REPRESENTING THE CELEBRATED

"Sniper," "Sallie," "Primrose," "Robin Hood," and "Cardiff" Strains

I have been breeding for the past two years from the best stock money would buy, and with such a Boar as "ENGLAND'S PRIDE," whose record has no superior in the world, at the HEAD OF MY HERD, assisted by "SAMBO XX" and imported "TOM PUNCH," together with the class of SOWS which I own, I have been able to breed some grand pigs. The following sows have farrowed this spring:

Imported	SNIPER IX,	7	pigs by	imported	England's	Pride.
"	BLACK BELL,	11	"	"	"	"
"	LADY MAUD,	12	"	"	"	"
"	HEROINE II,	4	"	"	"	"
"	RANGER III,	6	"	"	"	"
"	STARLIGHT,	6	"	"	Sambo	XX.
	STAR-SALLIE	7	"	"	Tom	Punch.
"	ZULEIKA,	7	"	"	"	"
"	MARY B.	7	"	"	"	"
"	ZOBEIDA,	6	"	"	Sambo	XX.
"	GRANGE COURT,	7	"	"	"	"
"	LADY CHESIL,	7	"	"	"	"

Together with the above pigs, I have some fine Boars and Sows, both imported and of my own breeding, which are ready for service at prices to correspond with the stock and times. I can furnish almost any aged pig, either for breeding or show, and persons wanting imported Berkshires need not send to England for them when they can be furnished nearer home, without the risk of crossing the ocean, and at less cost for transportation. I have made arrangements with the Express Companies, by which charges are greatly reduced.

My Herd was awarded ALL OF THE PRIZES at the North Carolina and Virginia State Fairs in 1877.

Imported "England's Pride" is a grand Boar, weighing 780 pounds in working order. He was awarded 1st prize at the Hamilton Fair, Ontario, in 1876, and at the Provincial Show in London, 1877, and 1st at Virginia State Fair. 1877.

Sambo XX is a grand young Boar, son of the famous "Lady Liverpool"—a sow who has won more prizes, and bred more prize animals than any other sow in the kingdom—says Mr. Russell Swanwick, her herder.

Tom Punch is of the celebrated Robin Hood family—a boar who sold for $1,400 cash.

Sniper IX one of the grandest sows in the world, and weighs in show condition 750 lbs., 1st prize Ohio State Fair 1876. Sweepstakes at Indianapolis in 1877, and 1st prize at Virginia State Fair in 1877.

Ranger III and Grange Court III were selected as the best in a pen of thirty imported sows, and have proved wonderful breeders. Both received 1st in their respective classes in 1877.

Star-Sallie is a splendid representative of the Sallie family.

I have several very fine Registered Ayrshire Bull Calves for sale at $25 each.

Walsingham South Down Sheep, also bred from imported Walsingham Rams—Buck and Ewe lambs now ready.

For Pigs	2	and	3	months	old,	freight	prepaid,	$15	each.
"	"	4	"	6	"	"	"	20@$30	"
"	"	6	"	8	"	"	"	30@ 40	"

My Pigs are not excelled in this country. I have recently bought a young sow 6 months old, from the most extensive breeder in the country, which cost me over $50, and I guarantee to deliver at the above prices as good or better pigs.

Orders solicited. Safe delivery and satisfaction guaranteed. Address,

A. R. VENABLE, Jr.,

EDGEWOOD STOCK FARM,

oct—tf Farmville, Prince Edward Co,, Va.

DEVON CATTLE
AND
Shropshire Sheep
FOR SALE.

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

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.

SOUTHDOWN SHEEP.

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.

A. M. BOWMAN,
je—tf Waynesboro, Va.

AGRICULTURAL IMPLEMENTS.

I offer to the public the following choice selection:

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.

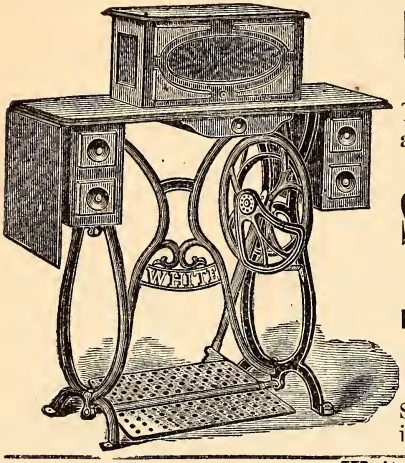
THE FARMER'S FRIEND DRILL, which has superior attatchments for fertilizers and small seed sowing.

RHOADS & MCCOMB'S SUPERIOR OAK-TANNED LEATHER BELTING.

MOORE'S PATENT DUSTER for applying paris green to potatoes.

J. YEARSLEY'S CELEBRATED SUPERPHOSPHATE.

PLOWS, HARROWS, CORN SHELLERS and FARM IMPLEMENTS in general.



FOR THE LADIES.

The superior Light Running, Durable and Cheap

WHITE SEWING MACHINE.

GREY'S

PATENT BED SPRING AND TAYLOR'S CHURN.

JOHN B. CRENSHAW,

Sample Merchant and General Agent.

ie-6m] No. 16 Ninth St, Richmond, Va

Write to

A. P. or M. B. ROWE,

Co-Operative Stock Farm and Poultry Yards,

FREDERICKSBURG, VA.

For Herd-Book Jersey or Ayrshire Cattle, bred from stock selected in person from best Northern breeders, and from "Centennial" Stock Exhibition. Cotswold, Leicester, Shropshire and Southdown Sheep, all bred from best imported stock, and Lambs of each breed for sale in August. Herd-Record Berkshire Swine of best strains, and Essex surpassed by none. Poultry—Choice, well-marked young fowls from all of our varieties will be for sale this Fall. Orders for eggs from all classes have closed, except Leghorns. We will continue to fill orders for Leghorn eggs, of either the brown or white variety, at $1.50 per dozen. More premiums have been awarded to our stock at the Virginia State Fairs, than that of any other exhibitor in the State. my-1y

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UNIVERSITY OF VIRGINIA.

The session begins on the FIRST OF OCTOBER, and continues until th THURSDAY before the 4th day of July ensuing.

The Institution is organized in separate Schools, on the Eclectic System, embracing FULL COURSE OF INSTRUCTION in Literature and Science and in the professions of Law, Medicine, Engineering and Agriculture.

THE EXPENSES of the student (except such as enter the practical laboratories), exclusive of the cost of text-books, clothing, and pocket money, are from $365 to $391, according to Schools selected; or for those who economize by messing, these expenses are from $266 to $300. No charge for tuition to candidates for the ministry unable to meet the expense.

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

may—6mos **JAS. F. HARRISON, M. D.,** Chairman of the Faculty.

OLIVER CHILLED PLOWS.

H. M. SMITH & CO.
GENERAL AGENTS,

THE BEST PLOW IN USE.

The following is a sample of the letters we receive from those who have used the Oliver Chilled Plows:

To the Farmers of the South:

I have been farming, and have held the plow handles, for over fifty years. The first plow I used was the Peacock Plow, a cast mould board, with wrought share and coulter, very expensive—the coulter and share being soft, beam low, and choked badly. The next plow was the Beach Plow, all cast iron, low beam, choked badly, and difficult to regulate. The third plow was the Prouty & Mears, a splendid plow for clean land. The fourth plow, the Watt. This plow I have used for several years, but it is expensive—all the castings wearing out very quickly, and costly to replace. This plow inclines to run on the point, the shaft is severe on the team, and in clay and adhesive land will not clear itself. The fifth is the Dixie; this plow is expensive—the castings wearing out very fast, and expensive to replace—inclines to run on the side, and, like the Watt, inclines to let the furrow stand on edge and fall back. This is a great fault. Its draft is severe on the team, and it is laborious to guide. The sixth plow is Oliver's Patent Chilled. This plow I cannot praise too highly. For ease of draft for team it has no equal; for ease to plowman it excels any plow I have ever used. I am plowing a ten-acre field of stiff timothy and clover sod, which has been standing for five years. This plow takes a much wider slice than either of the former plows, and will cut eight inches deep with all ease to the team. There is not a single misplaced sod in the whole field. The furrows are 400 yards long. I can start the team at one end of the field, and walk between the handles, and not put a hand to the plow in the whole distance—the plow cutting the same width and depth of furrow the whole distance. It has no tendency to run on the point, and one point will outlast two of any other plow.

For ease to plowman and team, and thorough plowing, there is no plow to equal the Oliver Chilled. It is the first plow I could ever trust servants to work with any surety of having my fields plowed a regular depth, and with uniform furrows. R. M. Thorne, *Stony Run Road, Henrico Co., Va.*

H. M. Smith & Co.:

Dear Sirs,—I have tried the Oliver Chilled Plow, and am delighted with it. It beats anything I ever saw. I wish now I could get rid of my old Farmers' Friend Plows. Very truly,

R. T. Lacy, Jr.

Messrs. H. M. Smith & Co.: Edge Hill, Charles City Co., Va.

Gentlemen.—In answer to your inquiries of the Oliver Chilled Plow which I purchased of you last Spring, I think it is the best plow I ever saw, having used almost every plow put on the market for the last ten years. It is free from choking, very light draft, and no soil will stick to it.

Yours very truly, S. D. Turner, *Master of Clendale Grange, No.* 372.

[From Scottsville paper.]

We, the undersigned committee of farmers, selected to examine the merits, workmanship and plowing done by the Oliver Chilled Plows (sold by Z. Lee Gilmer, at Scottsville) do hereby certify that we saw three three-horse Oliver Chilled Plows at work, and tested by the side of one of the best plows in use, upon the farm of Isaac R. Barksdale—hard, gravelly, hilly land, with running briars fifteen to twenty feet long, interwoven with weeds and grass—on flat land covered with weeds five feet high. &c., and that it turned the land far better, freer from choking and clogging, with more ease to team and teamster, and with less wear to plow than any we ever saw, and after this fair trial upon different soils, decide that it is the cheapest, most simple [so simple that any plowman can put it together and regulate it] and best plow of the age, and so recommend it to our brethren of the plow. [Signed]

P. P. Gantt, Howell Lewis, Z. R. Lewis, Jr., R. S. Carter, John Alexander

W. C., VIRG. MIDLAND & G. S. R. R.

JOHN S. BARBOUR, Receiver.

On and after Sunday, June 9, 1878, Passenger Trains will run as follows:

SOUTH BOUND.	MAIL.	EXPRESS.
Washington..... le	6 35 a. m.	9 35 p. m.
Alexandria.....	7 00 "	10 00 "
Gordonsville	10 44 "	1 25 a. m.
Charlottesville.....	11 34 "	2 15 "
Lynchburg..... ar	2 20 p. m.	4 32 "
Danville	6 07 "	6 52 "
North Danville.....	6 15 "	6 55 "
NORTH BOUND.	**MAIL.**	**EXPRESS.**
North Danville..... le	9 25 a. m.	10 00 p. m.
Danville	9 33 "	10 13 "
Lynchburg.....	1 20 p. m.	12 23 a. m.
Charlottesville.....	4 02 "	2 45 "
Gordonsville.....	4 52 "	3 35 "
Alexandria ..... ar	8 50 "	7 35 "
Washington.....	9 15 "	8 00 "

The MAIL SOUTHWARD connects at Gordonsville with Chesapeake and Ohio Railroad for Staunton, White Sulphur Springs, and all the watering places on that line; and Eastward to Richmond and South. At Lynchburg, connects with Atlantic, Mississippi & Ohio Railroad through Southwest Virginia to Nashville, New Orleans, Memphis, Little Rock and Texas; and at Danville, with Richmond & Danville Railroad for the South and Southwest.

The EXPRESS Southward connects at Gordonsville to all points East and West on Chesapeake & Ohio Railroad, and at Danville with Richmond and Danvile Railroad for the Carolinas, Georgia, Florida and via Atlanta to New Orleans.

Passengers for MANASSAS LINE leave Washington at 6 35 a. m. and Alexandria 7 00 a. m. *daily*, except Sunday, arrive at Strasburg at 12 00 a. m., connecting with the Valley Road to Orkney and Rawley Springs, and all the line East and West. Leave Strasburg at 3 20 p. m., Front Royal at 4 00 p. m., connecting at Manassas with north bound mail train for Washington and North.

For WARRENTON leave Washington 6 35 a. m., and Alexandria 7 00 a. m., *daily*.

All trains make good connections at Washington, to and from North and West.

New Orleans sleeper leaves Washington at 6 35 a. m., running through without change.

Through sleeper for Savannah, Ga., leaves Washington 9 35 p. m.

Through tickets sold at the lowest rates

aug *J. M. BROADUS, G. T. A.*

PURE HIGH GRADE FERTILIZERS

FOR THE

Wheat and Grass

CROPS.

ANALYSIS GUARANTEED. WARRANTED PURE

MANUFACTURED BY

ETIWAN PHOSPHATE COMPANY,

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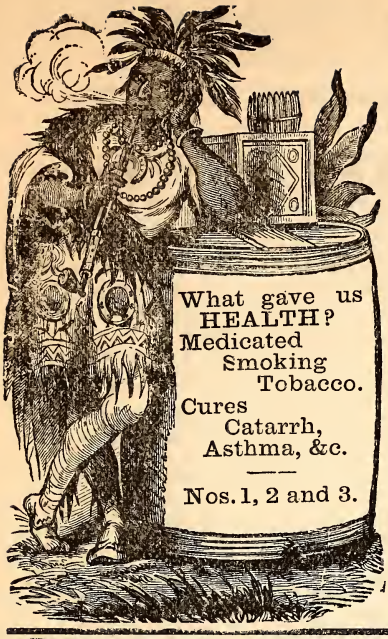

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FARMER'S REFUGE,

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Angora Goats,

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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, briers. &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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THOROUGHBRED HORSES

AND

PURE SHORTHORN CATTLE

OF THE LARGEST AND BEST FAMILIES, FOR SALE

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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.

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A TRUE BIRD GUANO,

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THE BEST FERTILIZER FOR

WHEAT AND GRASS.

$25 PER TON CASH AT BALTIMORE.

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Spottsylvania County, Virginia.

I am breeding Thoroughbred Devon Cattle, Merino Sheep, Poland-China, Essex and Berkshire Hogs. Also Light Brahmas, 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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HOLSTEIN CATTLE.

Judge William Fullerton has consigned to me the agency of his **Holstein Cattle**, probably excelled by no herd in the United States. Those familiar with the characteristics of this breed pronounce them unquestionably superior to all others for dairy and fattening purposes combined. Only bulls, one and two years old. for sale at present. Prices furnished on application.

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100,000 Fělton's Early Prolific Reliance Raspberry;
200,000 Cinderella and Continental Strawberry Plants, direct from the original stalk.
Millions of other Plants, Trees, &c.
New Descriptive Circular now ready.
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Awarded the "FIRST PRIZE" by the Boston Horticultural Society. "GOLD MEDAL"

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$1 FOR 25 CTS.

Seven new and wonderful articles at one-fourth the retail price. Examine the list.

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The above seven articles are shown in cuts, and will be sent in neat cabinet, post-paid, for 25 cts. At retail they would cost $1. We make this reduction to obtain new names for our Fall Catalogues. Postage stamps taken same as cash. Address,

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This advertisement will not appear again.

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has a very fine and varied stock true to name. Send for catalogue. Address E. P. ROE, Cornwall-on-Hudson, New York. oct—1t

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$5 to $20 per day at home. Samples worth $5 free. Address STINSON & Co., Portland, Maine.

$66 a week in your own town. Terms and $5 outfit free. Address H. HALLETT & Co., Portland, Maine.

GOLD Any worker can make $12 a day at home. Costly outfit free. Address TRUE & Co., Augusta, Maine.
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BERKSHIRES.

FINE LOT OF YOUNG PIGS.

YOUNG BOARS, six months old, and YOUNG SOWS, heavy with pig, for sale at moderate prices.

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SOMETHING NEW.

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 ½ 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.

We are agents for the following first premium Machinery:

Gaar, Scott & Co's Steam Engines and Threshing Machines, Grand Centennial Gold Medal Separators, Mounted and Down Powers, Saw Mills, &c.; D. M Osborne & Co's Celebrated Reapers, Mowers and Self-Binding Harvesters, the only successful self-binder manufactured. Premium Buckeye Chilled Plows, &c., and have for sale, or will procure on short notice, all of the most improved implements and machinery. Our stock of Machinery has thus far met the approval of the most successful planters and farmers of the South. We shall keep the most improved stock of seeds and best fertilizers in the market. Sole Agents for Virginia for Andrew Coe's Fertilizers. Call and see us. It will be to the advantage of every one in need of our goods, as we keep the best quality and sell at a very small margin from cost.

There will be a trial of Messrs. D. M. Osborne & Co's, Self-Binding Harvesters at Maj. A. H. Drewry's, Westover, Charles City county, Va. at Capt. Robert Carter's, Shirley, Charles City county Va., at Mr. J. H. Crenshaw's, Berkeley Plantation, Charles City county, Va., at Mr. Baker's, Curls Neck, Henrico county, Va., at Mr. R. A. Allen's, Tuckahoe, Goochland county, Va., on or about the 10th of June, also at Dr. Tate's, Falls Plantation, near Manchester, on the 10th of June. Competition is respectfully solicited. Mr. D. M. Osborne will be present at Maj. A. H. Drewry's.

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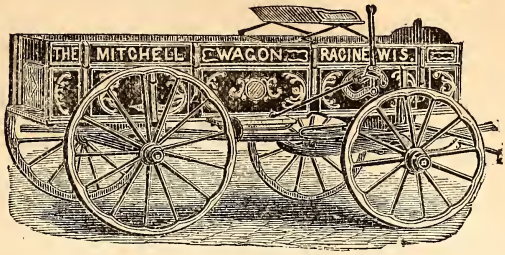
Mitchell & Studebaker's Farm and Freight Wagons.



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GENERAL AGENTS,

1532 Main St., RICHMOND, VA.

We keep on hand the Best Assortment of Farm and Freight Wagons in the South.

In putting on the market the Farm and Freight Wagons which were introduced here by us, we know we are offering those which will, in all respects, fully equal the recommendations of the manufacturer and the expectations of the purchaser. In regard to the prices, we have only to say that the wonder is that so good a wagon can be sold for so small a price.

N. B.—Our Price List *includes Brake and Seat.* Most lists are for wagons plain, and $4 extra is charged for seats, and $4 more for brake. In comparing prices, note this, and remember that if either brake or seat are dispensed with, a reduction in price is made of $4 for each or either.

We warrant every Wagon we sell to be made of *good seasoned timber* and well made. Any breakage within one year, from defect in either material or workmanship, will be made good free of cost to the purchaser.

NOTE TO FARMERS.

We have sold upwards of four hundred of these wagons in the last two years, and the perfect and absolute satisfaction they have given in all cases is an assurance that we have not too highly recommended them. From the Price List, which we regard as very low, we make a discount of ten per cent. to cash buyers.

Some of the Reasons why our Wagons are Liked by Farmers and Teamsters.

They are made by the best wagon mechanics in the world.

None but the *best* Ohio, Indiana and Canada hickory are used for axles, and all other materials are of the best quality.

Both Lower and Top Boxes are ironed on top.

Tongue Houns are double braced.

The Patent Coupling prevents the wearing and weakening of the hind axle by an Iron Box Coupling bolted to the hind axle and bolster.

Bottoms are matched and painted, and have six supports, thereby securing the end from breaking when loading heavy weights.

The Spokes are driven in glue, and never work loose.

All the stakes are bolted in the bolster, and not driven in, as many are, which soon work loose.

Extra Sizes, not mentioned in Circular, Furnished Promptly.

The prices quoted in our Special Wagon Circulars are for Wagons delivered on the Cars at Richmond, Va.

We decidedly recommend for general farm purposes the THIMBLE SKEIN WAGONS as lighter running and more durable than the Iron Axles; but we can furnish either Iron or Thimble Skein Axles of any desired size, and of either the STUDEBAKER or MITCHELL manufacture. The prices of the different makers are uniform.

N. B.—There are plenty of *lower-priced* wagons in the market, but none cheaper. In wagons, more than in any other article required in the outfit of a farm, the *best* is the *cheapest*.

HARD TIMES MADE EASY BY PURCHASING YOUR DRY GOODS OF LEVY BROTHERS

AT LOWER PRICES
THAN EVER KNOWN SINCE THE WEARING OF FIG-LEAVES.

Black Gros-Grain Silks at $1 worth $1 25, at $1.10 worth $1.35, at $1.25 worth $1.50, at $1.35 worth $1.75, at $1.50 worth $2.
Colored Silks at 75c., 90c., $1, $1.10, $1.25., and $1.35 per yard—the cheapest ever seen.
Striped Silks at 60, 75, 80, 90c., and $1 per yard—all very cheap.
Plaid Silks at 75, 85c., and $1—much below regular prices.
Black Alpacas at 16⅔, 20, 25c., and up to $1 per yard. Don't buy your Alpacas before examining our stock.
Black All-Wool Cashmeres at 60, 65, 75, 85c., $1, and $1.25—the bes goods for the money ever offered.
Black Australian Crepe at 40, 50, 60, and 75c. per yard.
Colored Alpacas at 16⅔, 20 and 25c. per yard, worth 20, 25 and 30c. per yard.
Wash Poplins at 6¼, 8⅓, 10 and 12½c. per yard.
Black Grenadines—Stripes, plaids, brocaded and plain.
Fancy Dress Goods at 10, 12½, 15, 16⅔c., and up to $1 per yard (we show all of the novelties as they appear).
Ginghams at 10 and 12½c. per yard worth 12½ and 16⅔c.
All kinds of Dress Goods suitable for mourning.
Printed Percales—the best quality—at 12½c. per yard, would be cheap at 16⅔c.
Linen Lawns in great variety.
New styles of Calicoes at 4, 5, 6¼ and 8⅓c. per yard.
Soft-Finished Cambrics at 10, 12½ and 15c. per yard.
Colored Piques at 7 and 10c. per yard worth 10 and 12½c.
Swiss Muslins at 10, 12½, 15, 16⅔, 20 and 25c. per yard—the cheapest ever seen.
Checked Nainsook at 16⅔c. worth 20c. per yard.
Checked Muslin—large plaid—at 25c. worth 35c.
Victoria Lawns at 12½, 15, 16⅔, 20 and 25c. per yard—all cheap.
Cheviot Shirtings at 10, 12½, and 16⅔c. per yard worth 12½, 16 and 20c. per yard.
Bed-Tick at 8⅓, 10, 12½, 15, 16⅔, 20, 22 and 25c. per yard.
Striped and plain Awning Duck in all qualities.
10-4 Bleached Sheeting at 20c. per yard worth 30c.
10-4 Unbleached Sheeting at 18c. per yard worth 25c.
Full-width Pillow-Case Cotton at 12½c. worth 15c. per yard.
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.
Carpets, in great variety, now sold at less than cost, so as to close out the entire stock.

We enumerate but a few articles we keep, but state that we have the largest and best assorted stock ever offered by any one house in this State.
Prompt attention given to orders. Samples sent upon application.

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We are now preparing our usual stock of Standard Fertilizers for Wheat Crop.

SOLUBLE SEA ISLAND GUANO

Well known and of undoubted excellence.

EMPIRE GUANO

A high grade fertilizer of known merit.

Ammoniated Alkaline Phosphate,

An article especially prepared for corn and tobacco, and sold on satisfactory terms to Grangers. Endorsed by the patrons who have used it for the past four years.

For sale by Grange Agents at Richmond, Norfolk, Petersburg, Alexandria and Baltimore.

RAW, STEAMED AND DISSOLVED BONES,

POTASH SALTS

In store and for sale.

☞Special compounds prepared on orders.

R. W. L. RASIN & CO.,

Southwest Cor. South and Water streets,

Baltimore.

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