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DEVOTED TO

Agriculture, Horticulture, and Rural Affairs.

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

RICHMOND, VA.,

MAY, 1877.

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CONTENTS.

PAGE	PAGE
Recuperation of Exhausted Soils— by Gen. Ransom..... 297	STOCK DEPARTMENT..... 315
The Old Dominion..... 301	By the Editor:—The Dairy; Stallion, "Success"; The Race-horse; Items; Book Notices.
Immigration to Virginia..... 304	Gen. Meem tells Mr. Nicholson about Sheep..... 324
Underdraining—Clover..... 306	Disease in Sheep..... 327
Drainage..... 307	To Gear your Horses..... 328
Suggestion Concerning Soil Exhaustion..... 307	EDITORIAL—FARM AND GARDEN... 338
Drainage..... 309	EDITORIAL—GENERAL..... 343
Marl and Muck as Fertilizers..... 310	The War in the East; Peace; Tobacco in Virginia and North Carolina; Very Wise Counsel; The Bill Establishing "a Department of Agriculture for the State;" The Carpet baggers; Stick to your Farms; The Old North State; Arlington; Agricultural and Mechanical College; The National Bank of Virginia; The Summary of Virginia's Resources; The Canal Lease; M. Ville's Papers; The Civis Pamphlet; Judge William Fullerton; Prepare for the Fair; University of Virginia; The Richmond Enquirer; J. W. Randolph & English.
Agricultural Society of Dinwiddie county..... 311	
Crawfish..... 312	
Keeping Farm Accounts..... 312	
Preventive for Rust in Wheat..... 330	
Senator Johnston's Article, asking Information pertaining to Immigration..... 331	
County Agricultural Society..... 311	
The Irish Potato (Solanum Tuberosum)..... 332	
How to Make the Tobacco Crop Pay..... 333	
Can the Planters of the South Afford to Raise Cotton at Present Prices and buy Corn, Bacon and Hay of the North?..... 335	
Can Cotton be Raised with Profit at Present Prices..... 336	

THE SOUTHERN PLANTER AND FARMER.

This journal enjoys the possession of a corps of contributors not found in connection with any other publication of the kind in this country. It discusses, with freedom, all questions of importance to the Southern country; in fact, it is the exponent not only of Southern agriculture, but of Southern opinion. No effort is spared to make it of absolute value to all of its readers.

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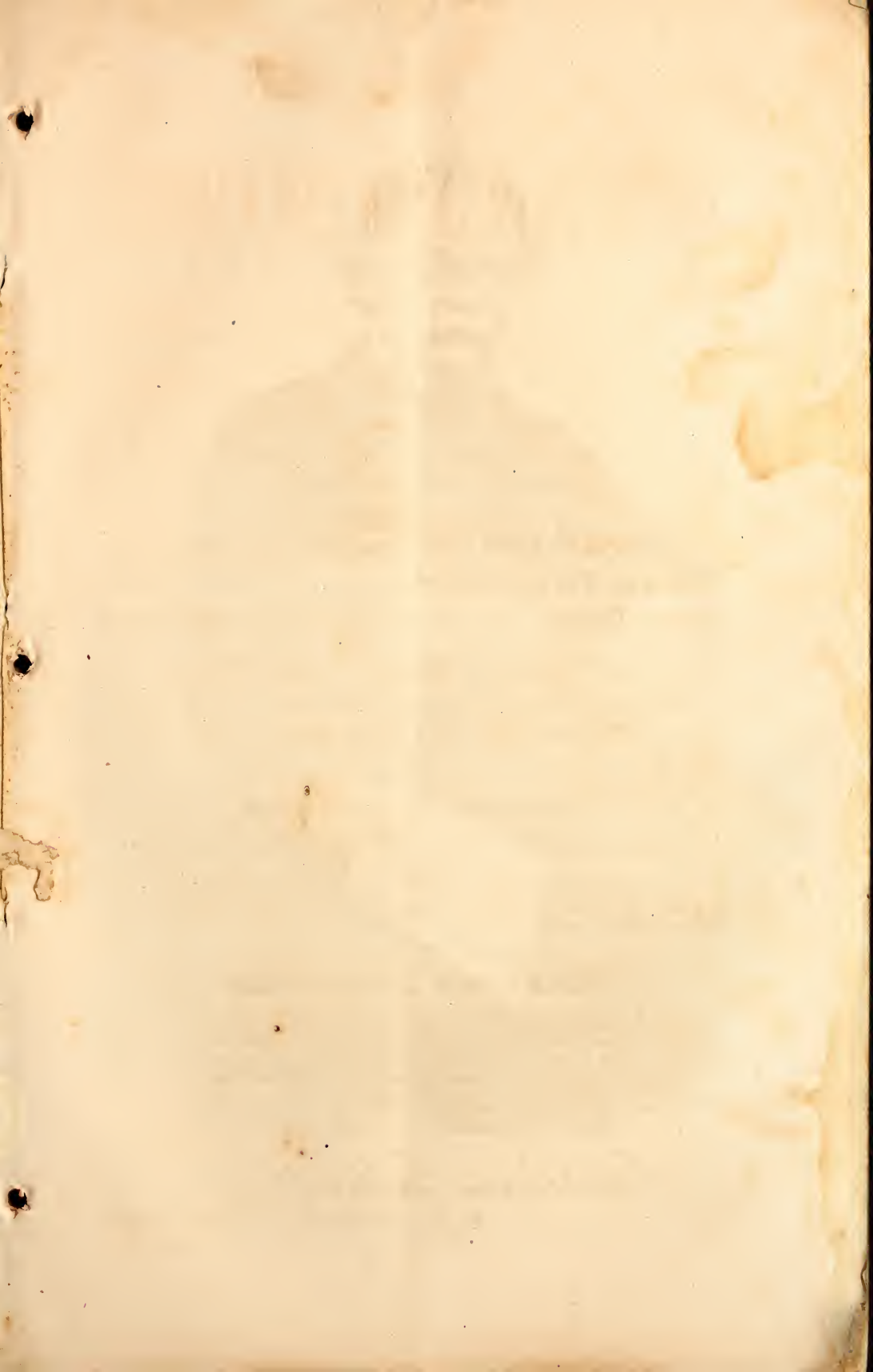
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DEVOTED TO

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. XXXVIII. RICHMOND, VA., MAY, 1877. No. 5

[For the Southern Planter and Farmer.]

RECUPERATION OF EXHAUSTED SOILS—BY GEN. RANSOM.

In closing the article, published in your April number, I conditionally promised to say something more upon the exhaustion of soils, or rather to make some suggestions, practical and economical, for the restoration to fertility of our generally worn-out lands. The firmest resolution hesitates before attempting such a task, and the most thorough conviction almost subsides into doubt when contemplating the extent of application, the force of established custom, and the time necessary to produce results.

Planting and farming are operations of detail, constantly repeated from season to season, and requiring years of patient industry and intelligent management to insure success, but affording the daily enjoyment of a life, the comfort and contentment of which, can be found no where else. I am aware of all the cares, anxieties and perplexities which have continued since the changed condition of our labor, and I know too that there is not or should not be found in the agriculturist's pursuits, the excitement of gold mining, stock gambling, or railroad wrecking. Such speculations among other classes, and sometimes the same spirit and similar attempts upon the part of the cultivators of the soil, have done much to unsettle the condition and to destroy a healthful interest in the noble and solid pursuits of agriculture; and it is the highest duty of the hour to fix principles and establish methods upon which will permanently rest individual contentment and general prosperity.

I should insult the intelligence of your readers if time were consumed to demonstrate that, if our lands could be made to produce grass, the problem of how to make agriculture pay would no longer demand solution. In our climate, all grasses do not thrive; upon some soils, even in high fertility, they cannot be produced, and the fact that most of the Southern farmers have, from time immemorial,

been destroyers of grass, is fully recognized. But the chief difficulty is, that now nineteen-twentieths or a larger proportion of our lands are too poor to produce grass, and quite as large a proportion of the cultivators and owners of them are too impecunious to apply artificial fertilizers so as to change this sterile state. It is demanded that cultivation shall pay, that exhaustion shall be stopped, and that fertility shall in a reasonable time ensue. These are conditions which we must accept and provide for. Following the heads presented in my first paper, I repeat, that the lands must be stirred less, for two reasons—first, to save expense, and next to prevent leaching the soil. And here, let me say, that the reluctance with which agricultural people adopt new processes, and the slowness with which they introduce new industries being fully understood, it is hoped that the suggestions which follow may be found practicable and profitable without material jar to the usual routine upon farms and plantations.

To fulfill the conditions which necessity imposes, and which the best interests impress, the small grains must supplant the crops of corn, cotton and tobacco, now and for all past time so extensively and expensively produced. Positive assertion must be tolerated to some extent, for surely the light of so much experience will not require argument to supplement it upon this point. Wheat, with the change in our climate and time of our seasons is upon rich land now an uncertain crop, and frequently when the yield is satisfactory, proves unremunerative, owing to the great production of the Northwest. It would be worse than waste of time to put it upon poor land. Spring oats can hardly be produced under most favorable circumstances with any profit. Rye and barley love a cooler climate than ours, but fortunately experience, that unailing test, has proven that over our whole Southern territory, there is one grain which is suited to different localities, climates and soils—*winter oats*. With this grain and the field pea, I believe a revolution in the agriculturist's affairs can be wrought, which will transform every feature subject to industrial influence. This change, too, will come in a much shorter time than has been required to destroy forests and waste fertility, and at a far less expenditure of patience, muscle and means. And now to some details and calculations, for these are practical.

Before proceeding further, I will give the statement of several practical farmers and intelligent gentlemen, to the effect that winter oats have been grown upon the same fields successively for from four to nine years without manure, and each succeeding crop has been better than the one immediately preceding.

The value of the field pea, both as a food for man and beast, and as an improver of the soil, is too well-known and generally understood to require more than an allusion to the fact.

We are to take hold of poor land, and with limited means make a crop which will pay and at the same time improve the land cultivated. And he who is not prepared to be patient, to be diligent and industrious, and to live with fair economy, may as well not attempt

farming in the South or anywhere else with a reasonable prospect of success.

To illustrate partially, it will be assumed the present season is so far advanced that every one has his plans already determined for this year. There is hardly any farm of fifty or a hundred acres which will not have ten acres lying out. Let the owner fallow ten acres of such field, and seed it by the 20th of May with field peas. I assume that such land will produce *now* not more than five bushels of corn, and to cultivate it in that grain would not pay half the expense of production. At the risk of being tiresome, I will resort to figures:

Fallowing ten acres, one man, two horses, four days, . . .	\$ 6 00
Fifteen bushels peas, sowing and dragging,	15 00
	<hr/>
Cost,	\$21 00

But it is proposed to gather enough peas from the field only to repay this, making this year's crop balance the expense. Having sown at the time indicated, the peas may be secured, and the vines, with what is left upon them, should be turned under early in October and the field seeded with winter oats.

Fallowing ten acres as above,	\$ 6 00
Twenty bushels oats \$10, sowing and dragging, \$3,	13 00
Harvesting,	6 00
	<hr/>
Total cost,	\$25 00

Now land which would bring only five bushels of corn, after having the pea fallow, would surely produce 750 pounds of oats to the acre. Ten acres, 7500 pounds oats at 50 cents per hundred, \$37.50 The product from ten acres. Deduct cost, \$25, and we have a net profit of \$12.50 upon an outlay of \$25; but the land is worth \$50; and we should charge interest upon that and the \$25 outlay, which would at 7 per cent. be \$5.25, which, taken from \$12.50, leaves clear gain in money, \$7.25.

I have in this statement charged a reasonable rate for labor, such as we all know is paid upon our farms. I have estimated the cost of peas and oats at such price as they can be had one year with another, and I have put the value of the product at a like reasonable figure. What is to be the next step? Immediately after harvest, fallow the same field. Sow upon it Winter oats, and with them one bushel of peas to each acre. Again let us have the table of cost:

Fallowing,	\$ 6 00
Seed oats, peas, sowing and dragging,	14 00
	<hr/>
	\$20 00

Here is a slight novelty. The peas growing with the oats. I wish a larger experience would allow me to be as positive in assertion as I am satisfied in belief as to its beneficial results. Its object

is two-fold. First, to supply a protection during winter to the oats, so as to prevent the injury resulting from "freezing out," and second, to continue to add fertility. The pea sowed in July, and even in August, attains considerable growth; not enough to smother and destroy the oats, but sufficient to keep back the oat growth, so as to prevent injury by frost to a too forward state, and to furnish a good mulch. To make the best use of these peas, it would be probably necessary to roll them down late in the Fall, which operation would entail an additional expense of \$3. For harvesting \$6; and we have a total cost of production, \$29; interest upon \$79 (7 per cent.) \$5.43; total expense, \$34.43. It will not be assuming too much to believe that this crop will be far superior to that which preceded, and as I placed the former product of the ten acres at 7,500 lbs., this one may be put at 10,000 lbs. At same figures, we have for gross product in money, \$50. Deduct gross expense of production, \$34.43, and there remains a net profit of \$15.57.

We have now come to the end of the second oat crop. If the result be as assumed, the same operations and seeding should be pursued. The cost of production remains the same; the net profit increases yearly, and by the end of the fifth crop, the field will be in a condition to produce clover. This is the goal towards which we have been working. Having reached it, our end is secured, and no further reasoning is necessary.

The seeding of peas with oats may not result as my experiment upon a very small scale has led me to believe it will. If it should fail, then alternate yearly with peas and Winter oats. Possibly, some may ask how are we to live raising nothing but peas and oats? To such I must answer that this is written to those who have fair judgment and some practical business capacity. It is not intended to intimate an abandonment of all other crops. This plan is suggested as a *means to recuperate worn-out lands* with the very smallest expense—in fact, at no expense; for I have shown that there will be a clear and annually increasing gain. And I will here add, that while there would be in my judgment greater certainty of near and ultimate profit by feeding all oats and peas, in fact, all grain upon the farm, yet, I believe oats as a crop for market, would clear more money one year with another, than either wheat, corn, cotton or tobacco. This last remark, of course, will not apply to very small and highly improved farms where there are the facilities and means of keeping them up to such condition, but if the lessons of the past teach anything, it is that the constant production of either or all the crops last named, results in certain exhaustion to the land and poverty to its owners.

It is claimed, under the general plan above outlined, that a *paying* crop will be produced at the smallest expense upon land otherwise utterly unproductive; that the leaching shown to be so disastrous to soil, if not prevented, will be checked as far as the present state of the poor land will admit; that *fertility* will be added by the peas, and incidentally, that the means are afforded by which a larger

amount of stock may be kept, thereby enabling manure in more abundant quantities to be accumulated, and last, not least, that *meat*, for which there is a constantly increasing demand, and at higher prices, can be supplied to the greedy and ever-absorbing markets.

Richmond, Va.

R. RANSOM.

[For the Southern Planter and Farmer.]

THE OLD DOMINION.

One approaches this subject as he would the most delicate of worldly things, but necessity forces it before the mind like an uninvited guest. The real condition of this State offers but little encouragement for hope in the future, and notwithstanding his attachment for the land of his birth—the surroundings of his childhood and the home of his mature and old age—a truthful consideration of the matter is undertaken.

Once the name of Virginia indicated its standing mentally, morally and politically—*primus in primis*—and its name was appropriate. But “*tempora mutantur et nos mutamus in illis.*” Is this the Old Dominion of history? Now the fourteenth State in the American Union, and by the next census of 1880 it is not improbable that there will be twenty States taking precedence of the old State in population, wealth and power. Unless the tendencies of the times are changed, this result is as certain as the laws of nature. The laws of trade cannot be violated by States or by individuals with impunity; and just so long as the balance of trade continues against Virginia, there will be no prosperity. The times will continue to be bad—money scarcer than ever, property depreciating and emigration of her rising generation to other regions to escape general bankruptcy. Before the war the mass of the people lived beyond their means, and the sale of slaves to the amount of eight or ten millions of dollars supplied the deficit; but since then there is nothing available for this purpose. Thousands of families continue to spend more than they earn, and, as a matter of course, they live on the industry of other people and help to break them down. The books of the most energetic and upright merchants show how misspent has been their lives—striving vainly to overcome the calamity of crediting too lavishly, and when near the portals of the grave an auctioneer’s flag hastens the approach of death with accelerated footsteps.

Is there never to be any other state of affairs for the people of the State? and could not such changes in the laws and customs be made without further misfortunes?

The aggregate savings in many things would show a balance-sheet full of hopeful promise in the future, and the sooner a commencement is made in this direction, the sooner will prosperity return to our people. Other States make changes for the better, and inaugurate laws to meet the times. In one State one progressive law is

passed, and in another State some other improvement is made, and by-and-by other States follow in their wake. But in this State the incubus of a large negro population and of sectional interests generally, retards everything, and progress is slow, if any at all.

By way of contrast many of the Northern States are making great progress in many respects, and it would be wise to follow the examples before us. The city of New York, some few years since, was like a ship in full sail to the breakers, but under the leadership of giant energy the Brotherhood of Thieves was divided and scattered to the winds, and justice partially meted out to the villains. As Governor of the State one-half of the expenses of the State was saved, and taxes reduced eight millions of dollars per annum, while real estate increased in valuation over two hundred millions of dollars, and under his wise and salutary laws the State will pay its last dollar of public debt in three years. It may be going outside of the subject to add this lamentable reflection—that gratitude and reward of merit has no existence in politics, and this great Reformer of the age was slaughtered in the house of his friends—the great shame of the present century. His own city perpetrated the deed, and Radical iniquity is triumphant, at least for a brief season.

A glance at the pecuniary condition of the Old Dominion is by no means encouraging. The State debt exceeds thirty millions of dollars. The whole products of the State amount to fifty millions of dollars, which is about forty dollars annually for every man, woman and child. The taxes are as follows, varying some little annually :

\$5,074,263	from a State valuation of	-	-	\$336,686,433
7,318,015	internal revenue taxes.			
5,976,401	customs,	-	over valuation,	- 50,000,000
<hr/>				
\$18,368,681	on a valuation of	-	-	\$286,000,000

or one dollar in fifteen of the whole real estate.

The above internal revenue taxes are first paid by the Virginia tobacco trade, and, of course, the tax paid back on the sale of the drug, but which operates against the raising of it and requiring much more capital in its manufacture. Without this the drain from the people's pockets is a heavy one, and accounts greatly for the great poverty of the State.

The expenditure of this large sum shows the cost of our State Government in a time of peace.

The Governor's Message reports the expenses of the State to be \$2,679,339, of which amount \$1,553,715 are for the ordinary and extraordinary expenses of the State; \$443,000 for public schools, and \$1,105,305 for interest on the public debt, which is put down at \$33,000,000, not including the West Virginia portion of over \$15,000,000. It was hoped that the late Legislature would provide some way of lessening both the principal and interest of the State; but it remains for the next year to prove it in actual figures, which do not lie. There are many ways of improving the condition

of the people ; and if all were faithfully carried out, the change for the better would soon be seen. The soil—the basis of all prosperity—must be improved ; but this requires time and capital. Another plan is the curtailment of all expenses, and every taxable article be brought within reach of the assessor. In order to keep up the honor of the old State, not a blot of repudiation should be allowed ; and the bonds of dying parents, bequeathed to widows and orphans, should be gratefully paid, as well as those of the foreigner, who advanced his means to enable the old State to carry on its internal improvements. The sectional interests must be abandoned and the combined tax on oysters, dogs, liquors, tobacco, silks and satins, and on other luxuries should be freely allowed. Other nations have freely taxed these various articles, and the people of this State should interpose no objections to raise funds to pay all honest debts without further delay and contention.

The reduction of railroad discriminations against Virginia farmers may save over a million of dollars ; and if the inspection of fertilizers reduces the price and enhances its real value—as in the State of Georgia—there will be another large item going to the farmer's credit.

While the people generously voted to raise their poll taxes in the shape of an amendment to the Constitution, it was supposed the law would go into effect at once, but it somehow or other happens that "the best laid schemes of mice and men do often fail." But this is a subject the people will engraft in the Constitution of the State, and the poll tax should not be less than two or three dollars.

The substitution of the greenback for the national bank note is almost universally demanded, and some way devised of lessening the burdens of the people by a greater increase of paper money among Southern and Western people. Yet it must be conceded that these plans would hardly keep in the State any kind of currency when the balance of trade is so largely against these regions. While the New England and Middle States have economized to the amount of five hundred millions of dollars in three years by lessening their European importations, yet the South and West continue to import from the North the same amount of goods. As a consequence, almost the whole circulation of money, like the waters entering the Mediterranean, show but one current, and always flowing to the North. Just so long as this is the fact, no prosperity can be expected. Any people dependent on another for nearly every article in doors and out of doors, must necessarily continue poor in money ; and unless the capital of the Southern States is embarked in all kinds of manufactures, and building up towns and villages, to be consumers of its agricultural products, there need be no hope of change for the better. The money-lender can doubtless make more by loaning to an impecunious borrower at heavy interest to stave off certain bankruptcy ; yet there is no real good to the people at large.

A change of party, or of representatives of the same party, avails nothing against the laws of trade. The poverty of the people will

still remain, and the future offers no bright hopes of the good time coming. But poor or rich, the honor of the old State must be upheld and its good name restored, and this can only be accomplished by every section of the Commonwealth being willing to contribute to its revenues and to aid in reducing all unnecessary expenses and favoring every reform calculated to add to the general welfare of the whole people.

C. R. C.

[For the Southern Planter and Farmer.]
IMMIGRATION TO VIRGINIA.

A meeting to advance immigration to Virginia, was held in Washington city in February, at which I was present. The proceedings were noticed generally by most of the Northern journals of prominence, and the fact that I was called to preside brought me numbers of letters of enquiry from Northern people. The writers generally asked for information from me directly, or desired to know where they could obtain it. But I could neither give nor furnish it, and this led me to consider what was best to be done—essential to be done—to enable any society to attain even moderate success in attracting emigrants to our State.

The first thing, is to procure and put in a clear, compendious form, accurate and not overdrawn accounts of all the great interests of the State. To accomplish this, I suggested to the meeting, that instead of getting one man to write a general description of the whole State, the work should be apportioned, and gentlemen known to be practically familiar with a particular subject should present a contribution on that subject, and thus, in a brief time, all the resources and interests of the State could be described by those who knew and understood them best.

For example: These are the points upon which proposed immigration would want to be informed, viz.:

1. Health and climate.
2. Education. And herein, of our colléges, high schools, common schools, public libraries, giving some data as to cost, &c.
3. Labor.
4. Tobacco. And herein, of the counties of the State best adapted to its culture, the price of tobacco lands, the product per acre, the cost of fertilizers, and the best soils for use, the modes of preserving the fertility of the soil, the facilities to market, the manufacture of tobacco, &c.
5. Cereals, such as corn, wheat, &c. Under this head might be given some general description of the farms, lands and crops of the State, the best system of rotation and of improving exhausted soils.
6. Minerals—their character, location and quality, &c. Notwithstanding a good deal has been said and written on this subject, the ignorance at the North in regard to it is something astonishing: I have more than once met apparently well informed Northern men who denied positively that either salt or plaster were found in Vir-

ginia, and looked incredulous when I stated that both existed in inexhaustible quantities in the county in which I lived.

7. Mineral Springs, which, as a source of wealth and health to the State, are not at all properly appreciated.

8. Grass lands and grazing interests, describing the parts of the State best adapted to the production of meadows and pastures, their approximate values, the stock, &c.

9. Transportation Herein both of railroads and navigable streams.

10. The fruits of Virginia, embracing not only apples and peaches, but grapes and small fruits.

11. The fish and fisheries, their present extent and probable future capabilities.

12. Timber. Since the war we have been furnishing, and have the means of keeping up the supply, large numbers of ties for Northern railroads, lumber, bark, staves, &c.

13. The growth and progress of the State since the war and especially statistics as to the increased trade of Richmond and Norfolk. Among the delusions as to the South, which possess the minds of many well informed Northern people is, that the South generally, including Virginia, is nothing more than a sluggish pond; that the people are without industry, energy or enterprise, and that there is no progress, and that no man of vigor ought to come here. Actual and reliable statistics, showing what real and wonderful progress Virginia has made within the last ten years, would certainly tend to correct, in a large degree, this false impression. No city could have recovered from her disasters more rapidly than Richmond, or increased more in population, business and wealth than she has done, under such adverse circumstances. And I believe the fact can be demonstrated, that the business and commerce of Norfolk have expanded more than any city in the United States—certainly more than any Atlantic city within the same time.

14. Manufactures and water-power. The United States have not been able to compete with Europe and especially with England heretofore, in manufactures, for the reason principally, that labor was cheaper there than here. Labor was cheap there because the supply exceeded the demand. It was dear here because the demand exceeded the supply. But the large emigration, which has been going on for some years past from European countries to the United States, has tended to equalize wages to make the supply and demand somewhat the same on both sides of the water. As labor became scarce in Great Britain, wages went up; as it became plentier here, wages went down. The question of manufacturing supremacy must now depend, in a great degree, upon other sources than the price of labor. Water, as a motive-power for manufacturing purposes, is cheaper than steam. The cheapness of the motive-power, and the transportation of the raw material, will now be the things to regulate the success of manufacturing enterprises.

But England transports her cotton vast distances at considerable

cost. We have it at home. England uses chiefly steam. We have unlimited water power. The victory must in the end remain with us; and the elements that tend to give the United States success over England exist to give Virginia success over her sister States. Her water-power is without limit, and at Richmond and other places, water-power and navigable water are found in juxtaposition.

A pamphlet of this sort, each subject written upon by some citizen of the State, who has special information in regard to it, would, I think, disseminated through the North and Europe, and sent to people who write for information, and noticed in the Northern papers, be the best means we could adopt to induce immigration to the State.

I have not had the opportunity of seeing the "Summary of Virginia," prepared by Major Hotchkiss, but as he is a gentleman of ability and well acquainted with the State, very likely he has anticipated these views and made such a work as I suggest unnecessary.

Abingdon, Va.

JOHN W. JOHNSTON.

[For the Southern Planter and Farmer.]

UNDERDRAINING—CLOVER.

The following is a cheap and expeditious way to blind a ditch, where there is but little water passing down; but the land too wet in Winter and Spring to sow clover or grass seed. Cut your ditch $2\frac{1}{2}$ to 3 feet deep as you see proper; take two boards, 16 feet long, 1 inch thick, let one board be 7 inches wide, the other 6 inches, so nail them together with 10*d* nails that you make a trough 5 inches deep, square the ends so as to make a good joint, turn this trough up side down in the bottom of the ditch, using three sticks, one at each end and one in the middle, for the trough to rest on, to prevent its sinking too deep into the mud. Throw a handful of fine straw on the joint so as to keep the dirt from falling in when the joint is not perfect. Then run a plow on either side till your ditch is covered, as near level as the plow can do it; then finish with hauling up the dirt 12 inches higher over the ditch than it is on the sides. These boards will last, if good heart-pine, for 30 or 40 years. In one of my lots of 18 acres, there was a wet, miry bottom 400 yards long, the soil very good, an open ditch had been cut through this bottom years ago; but the best land was lost, each year, from the fact of turning at the ditch, and there, too, were briers and broom straw growing on each side. This ditch was blinded as above; and on the 12th and 13th March, clover seed, at the rate of 15 pounds to the acre, and orchard grass seed at the rate of three-quarters of a bushel, were harrowed in, and then rolled with my home made two-horse roller. There is now (1st April) a fine stand of clover and grass. I may add in conclusion, that this 18 acre lot produces fancy peanuts; but not another peanut will be planted on that lot for many years to come with my consent. I am preparing,

sir, for war. This clover, together with more extensive sowing next Spring, is intended to fatten my Southdown lambs and Jersey calves. You shall, however, hear from them in due season.

Franklin Depot, Va.

MENALCUS.

[For the Southern Planter and Farmer.]

DRAINAGE.

In looking over the March number of the *Planter and Farmer*, I saw an article on drainage by Mr. W. N. Berkeley, in which he says, "Knowing that a want of drainage is one of the greatest evils with which our State, and particularly this portion of it is afflicted, I will call attention to a substitute for drain tile." Just at this point, as a manufacturer of drain tile, I paused for reflection; for I had thought that there was no substitute for tile. He says his substitute is simply plank boxing, made in the following manner. Then he goes on to describe the manner in which he makes them. He makes a box of four planks, two of 7 inches wide and two of 5 inches wide, 15 feet long. He says seventy thousand and forty feet of plank will lay a mile; seventy thousand and forty feet of plank at \$14 per thousand will cost \$98.56—the nails and workmanship to be added. I will furnish enough two-inch tile, delivered on board of boat or cars in Richmond, to run a mile of ditch for \$62.92. I think one man would put down 30 or 40 feet of tile while two were putting down one section of the box 15 feet long. The water goes in at every joint, he says. I am careful to fill in around and over the boxing with brush, straw, leaves, or anything that will act as a filter and exclude sediments. I have not been putting down tile for 20 years, but I have been putting them down for 17 years, not as a farmer, but as a business; and my experience in putting them down has led me to believe that it is not necessary to go to the extra expense to put in a filter to exclude sediments. My plan is to put the dirt on them 8 or 10 inches deep, then tread it down tightly. He says, Where you have soft bottom, I think it superior to tile. In my experience I never found it necessary to use a plank bottom. Wherever I have found a soft bottom I have managed to give that point plenty of fall, and by letting the ditch stand open a few days the water runs off, so that it leaves a bottom sufficient to receive the tile and the weight of the dirt just at this point. I ram it instead of trampling it. These tile will stand any and all changes, and will last indefinitely. I think tile drainage the most economical, even where there is timber and saw mills in the neighborhood.

I hope Mr. Berkeley will pardon me for having said a word on tile drainage, when I say I have a large stock on hand and the season for laying them is drawing rapidly to a close, and the season rapidly approaching to commence making them for the next Fall and Spring season. He pressed my corns so hard I was bound to speak.

S. D. ATKINSON,

Manchester. Va.

Drain Tile and Terra Cotta Pipe Maker.

[For the Southern Planter and Farmer.]

SUGGESTION CONCERNING SOIL EXHAUSTION.

The articles in your December, January and February numbers by Profs. Johnson and Lawes were alike entertaining and instructive; it is somewhat in connection with those articles that I submit these remarks

to direct your attention to an important section of the question which is not occupied directly by either of the gentlemen. From long practice and continued observation, connected with some reading, I am of opinion that soil exhaustion, under continuous cultivation, may be best prevented by rendering the great amount of mineral matter and nitrogen now, in the soil in an inert condition, active or soluble; and what is very important to our country, this may be done, to a great extent, without sending so much money abroad.

I would further state, that the great success of the Edgecomb Agriculture is based upon rendering the nitrogen and minerals, now in the soil in an inert condition, active or soluble. As to the extent of the supply, I submit the following tables from Pendleton's Agriculture

Amount of minerals in the soil at half foot depth and the number of years the same soil would continue to produce an average crop of seed cotton, considering 750 pounds an average :

	Pounds.	Years.
Potash,	17,833.....	2,595
Lime,	12,500.....	4,671
Magnesia,	16,000.....	6,413
Soda,	6,000.....	6,090
Sulph. Acid,	3,400.....	4,000
Phospheric Acid,	3,080.....	465
Chlorine,	500.....	943

Also on page 240, same authority: "Krocker analysed 22 different soils and found nitrogen in all of them. An unfruitful sand contained a hundred times more nitrogen than was necessary for a good crop. In all arable soil there were present 500 to 1,000 times more nitrogen than was necessary."

He further states that soil, rich in organic matter, have from 5,000 to 35,000 lbs. of inert nitrogen.

Admitting the above statement as true, then we have a vast supply of material to work upon.

If God had rendered all these materials soluble, there would have been but little occasion for man to earn his bread by the sweat of his face; in fact, we should not have an accumulation of many of them, because if they could have been permanently soluble, they would soon have washed away.

Now the great task before us is of rendering them soluble. That this has been done to some extent in the county of Edgecomb, is the only reasonable suggestion yet made in accounting for the very valuable results from composting earth and clay which seems to be valueless.

We think it is a species of weathering down. The soil, subsoil or clay, is mixed with cotton seed, stable manure, lime, or marl. This mixture generates a heat in the heap, which seems to materially change the soil or clay used, rendering it much more friable.

I will here note that we universally prefer to mix stable or animal manure or cotton seed directly with the lime or marl.

Weeds, or any vegetable product, which will easily decompose, acts well. I have on my farm several pits simply for the purpose of excavating clay for compost. I much prefer the red clay to any other color; after it has once weathered down, it ceases to be clay. If six inches of soil has the vast supplies exhibited in the above table, then how great is the entire supply. I have found the clay, when thus treated, from the deepest wells valuable.

I would further add, as a general rule, that the second or third composting carries the soil to as high a state of improvement as it ordinarily arrives at under this system; for our system of reducing the inert minerals and nitrogen is exceedingly rude.

I have designedly confined my remarks to the use of soil and clay without referring to green crops and chemical fertilizers, for there has been much written about them; but I consider the question of rendering the inert valuable ingredients in the soil and subsoil one of the most important, if not the most important, now before the agriculturist.

All can readily see with what rapidity many fields recuperate when they are turned: Hence we see that the atmosphere, working alone on soils, exhausted for the present, are rapidly restored. The system of composting aids the atmosphere in its work; the materials become much more porous, more friable, and lighter. Under this system of manuring, fields have been continuously cultivated in cotton for over thirty years, excepting the war.

Now, if such men as Professors Lawes and Johnson would turn their attention to soil composting, I think we should see more rapid and more practical results from scientific farming. The farmers are not scientists, but they nevertheless ought to furnish their facts and observations to those who can interpret them.

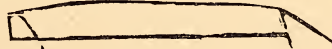
Edgecomb N. C.

JOHN S. BRIDGERS.

[For the Southern Planter and Farmer.]

DRAINAGE.

Will Messrs. Dulany & Berkeley excuse one who can sit at their feet and learn the science of agriculture, for suggesting a better substitute for "draining tile" than the box of plank used by them? It is simply one-half of a plank box on two pieces of plank nailed together at right angles—or a sheep trough inverted thus:



If bottom of drain be soft, nail on short pieces of plank occasionally. Its advantages are less than half cost, and its triangular shape will prevent the choking of the drain, besides admitting of a heavier pressure of earth, and therefore more desirable. Having no plank or casing at bottom of drain, the water can enter and collect the whole length of the drain. I have used it several years, and it has met my expectations and wants.

Caroline county, Va.

JOHN WASHINGTON.

AN inventor may devise a machine which is to revolutionize the industry of the world, yet he may not be able, on account of deficient mechanical skill, to construct his machine in such a way that it will work.

[For the Southern Planter and Farmer.]

MARL AND MUCK AS FERTILIZERS.

Man is not content in his present condition, it matters little what may be his situation or surroundings. Hence, the agriculturist, stimulated by the laudable spirit of enterprise, and prompted by the hope of coveted finances, is ever on the alert seeking means to force abundant crops and the largest returns for his capital and labor.

Periodicals and newspapers furnish the tinder as well as the percussion match to set his hopes all aflame, exhorting him to "fertilize! fertilize!" This is all right thus far, and then, on the principle of all extremes seeking equilibrium, the demand being established, there immediately springs up the thousand screechers with their everlasting supplies of foreign and domestic manures.

We must hail these gentlemen as disinterested friends, all of them of course, for it would be suggestive and might give offence to say that their only object is money, money! They furnish wonderful fertilizers, at wonderful prices, from wonderful countries, at wonderful distances, and at wonderful self-sacrifice. Thus it is, the farmer is guanoed, phosphated, ammoniated, potashed and salted, kainited, chloralunned and stassfurted till his heart aches at the mighty words and weird sounds, and if he patronizes each in turn, he may gaze for the end with tearful eye—his whole life a doubtful experiment.

We do not deprecate the use of many of these fertilizers, nor do we doubt that advantages may accrue from their judicious use, but what we want, and every farmer to secure success *must have*, is a plentiful, convenient and cheap fertilizer.

Having traveled through Virginia, and examined the soil, permit me to suggest a practical, philosophic and successful means of enriching the soils of Virginia and North Carolina, with the most efficient and inexpensive manures—fertilizers at the hand of every man.

Nearly every farm in the district mentioned, contains a peatbog or muck bed. Now these swamps are the sepulchres of dead plants, containing most of the elements of our cultivated crops. Analysis shows that muck contains nearly the same elements as cow droppings. It contains nitrogen in considerable quantity, which furnishes plants nitric acid and ammonia—the most costly elements of all fertilizers. Indeed, it is demonstrated that muck contains three times as much of these chemicals as is found in stable and yard manures. A ton of dried peat contains 30 pounds of nitrogen, equivalent to 36 pounds of ammonia, worth at 20 cents a pound, \$7.20 a ton. This muck also absorbs water and holds it a long time, being useful in this way. Also, the inorganic elements of muck are very valuable, furnishing the soil considerable quantities of lime, sulphuric acid, magnesia, phosphoric acid, potash and soda. Again, very many of the farms in this district possess also a marl bed. The valuable properties of marl as a fertilizer, consists of phosphoric acid, potash and lime. Marl supplies the soil with every essential for the growth of vegetation, with the exception of nitrogen, and this, as has been seen, is furnished in abundance in muck.

The use of marl as a fertilizer, as demonstrated by actual tests, can be made as active and lasting as the best superphosphate sold in the markets.

Now, my kind, struggling agriculturist, why not put into stock raising

the money expended for costly fertilizers, and use the above key by which you may unlock nature's grainary, long smiling at your own fire-side. Spend your winters in heaping up a compost hill, of about equal quantities of marl and muck, commingle them as much as possible together, place them under cover and let them freeze. In due time, scatter broadcast over a few acres, plow it under, sow again, and then cross plow. Then drill in wheat with phosphate, and seed to clover to furnish more nitrogen. Lands which you cannot thus treat at the same time, and to which you plant corn and peanuts, place in each hill as much of your mixture as your supply will admit, and another year treat it to a generous supply. Continue this course. Take the *Southern Planter and Farmer*; learn all you can and persevere, and you will have no cause to lament your scanty products, nor desire to chase after foreign fertilizers with mighty names.

Throopville, N. Y.

B. E. OSBORN, M. D.

[For the Southern Planter and Farmer.]

AGRICULTURAL SOCIETY OF DINWIDDIE COUNTY.

The life-members of the State Agricultural Society residing in Dinwiddie, have made the following provisional organization for a County Society: President, E. A. Wyatt; Vice-President, J. J. Mitchell; Secretary and Treasurer, H. E. Smith. Executive Committee, Sapping District, J. L. Scott; Daniel's District, Elisha Hardy; Namquin District, Mallory Southerland. Committee to draft a Constitution and By-Laws: John Dodson, T. A. Bass, and Frederick Cabiness—to report at May court. This County Society is to be auxiliary to the State Society. In this connection I send you an extract from the proceedings of the Farmer's Club, near Newberry Inn, in this county, which was organized in May, 1871.

“Your committee, upon a close examination of the history of Virginia, find that some sixty years ago our State stood in the front rank of her sister States, now she is in the tenth rank. Your committee also find that during that time the agricultural interest has omitted two things. First, that the farmers of Virginia have not set apart one day in the year to recognize publicly and collectively the wisdom and goodness of God in giving or withholding the fruits of the earth.”

Second. “Your committee also find that during the same time the farmers of Virginia have had no organization where they could discuss and act on all questions which affect and control their interest.”

This report was signed by the committee, Messrs. Benjamin Watkins, W. W. Anderson, T. G. Chambliss, M. D. Parham, Eugene Sutherland, and adopted by the Club, whose proceedings are penned in a book kept by the late Secretary.

Agriculture is a progressive science, and annually develops more latent truths than in by-gone days were conceived in a generation.

[For the Southern Planter and Farmer.]

CRAWFISH.

Recent and former necessities have taught me a lesson of value, which, though differing from the opinions of all others, as far as I know, at this time, are literally true, and therefore, I desire to speak in regard to the much-abused *crawfish*, which I regard as one of the best *underdrainers* known on earth; and is strictly one of *man's indispensable co-laborers* in the cultivation of the soil.

Crawfish can *only be found* in wet lands where underdrainage is needed, and they do the work to a degree of perfection not yet attained by the skill of man. In the richest alluvial mud lands there they do their work to perfection; were it not for these natural underdrainers the water would lie in *mud, alluvial bottoms*, year in and year out, because water cannot filter through the fine tenacious decomposed soil of which this is formed—so also is it with *clay* and pipe clay soil, where they are ever found busy boring holes through the earth in all directions, through which the water is continually passing to lower places, until it notches into ditches, then into branches, then into rivers, and on to the sea. I have been amazed of late in tracing their holes from point to point; in the superior skill they exhibit as engineers of the first class in draining wet lands, never to be equalled by mortal man; they never fail, but the best skill of man does, and will fail *often*.

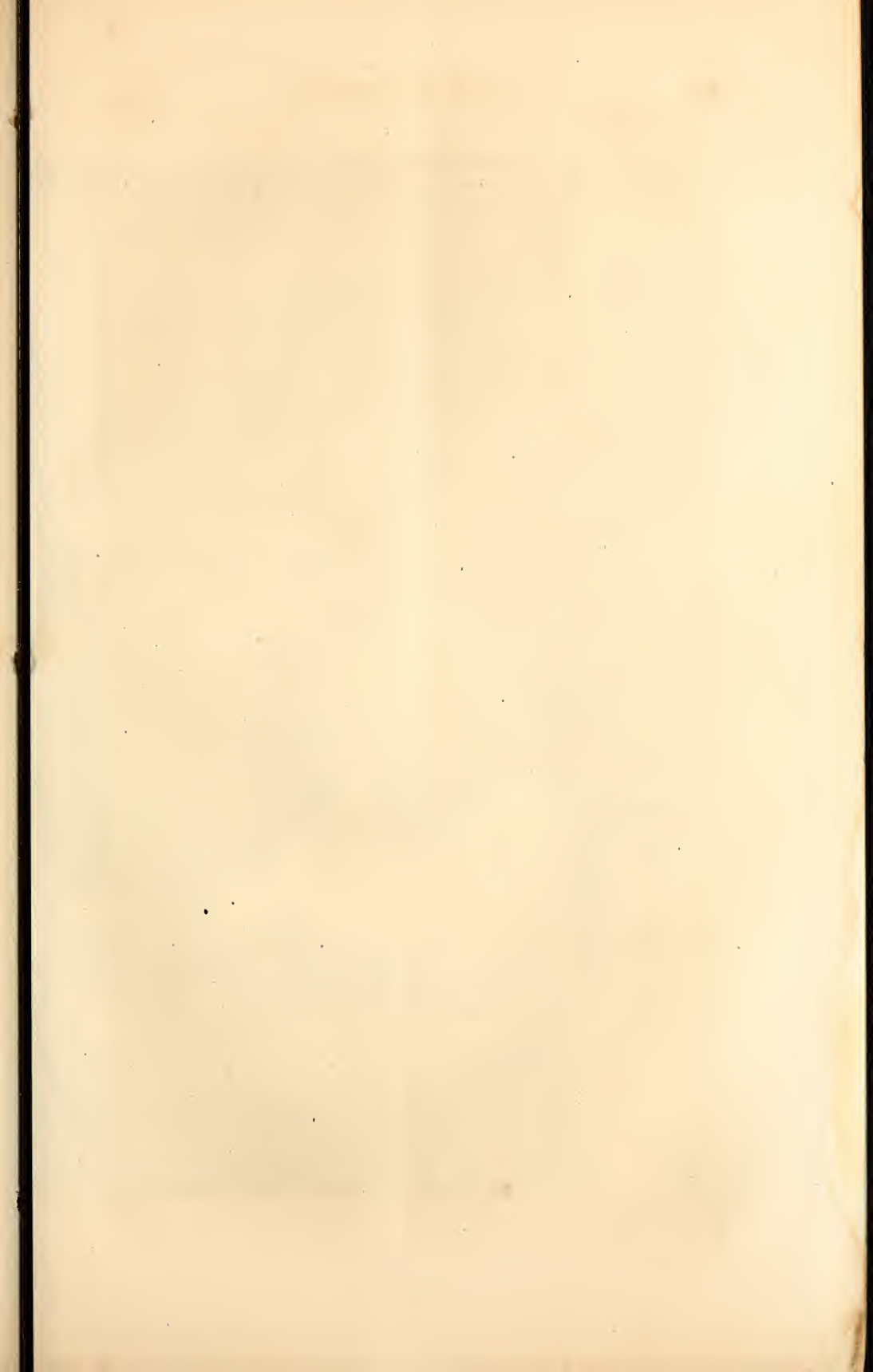
How would it have been if there had been, as is supposed, no provision by Providence of this kind, to carry off the surplus water that is sent by Omniscience to make the earth fruitful for man. *Reader*, ponder this matter, and if you doubt what has been here written, test it for yourself and see what you will see as the result.

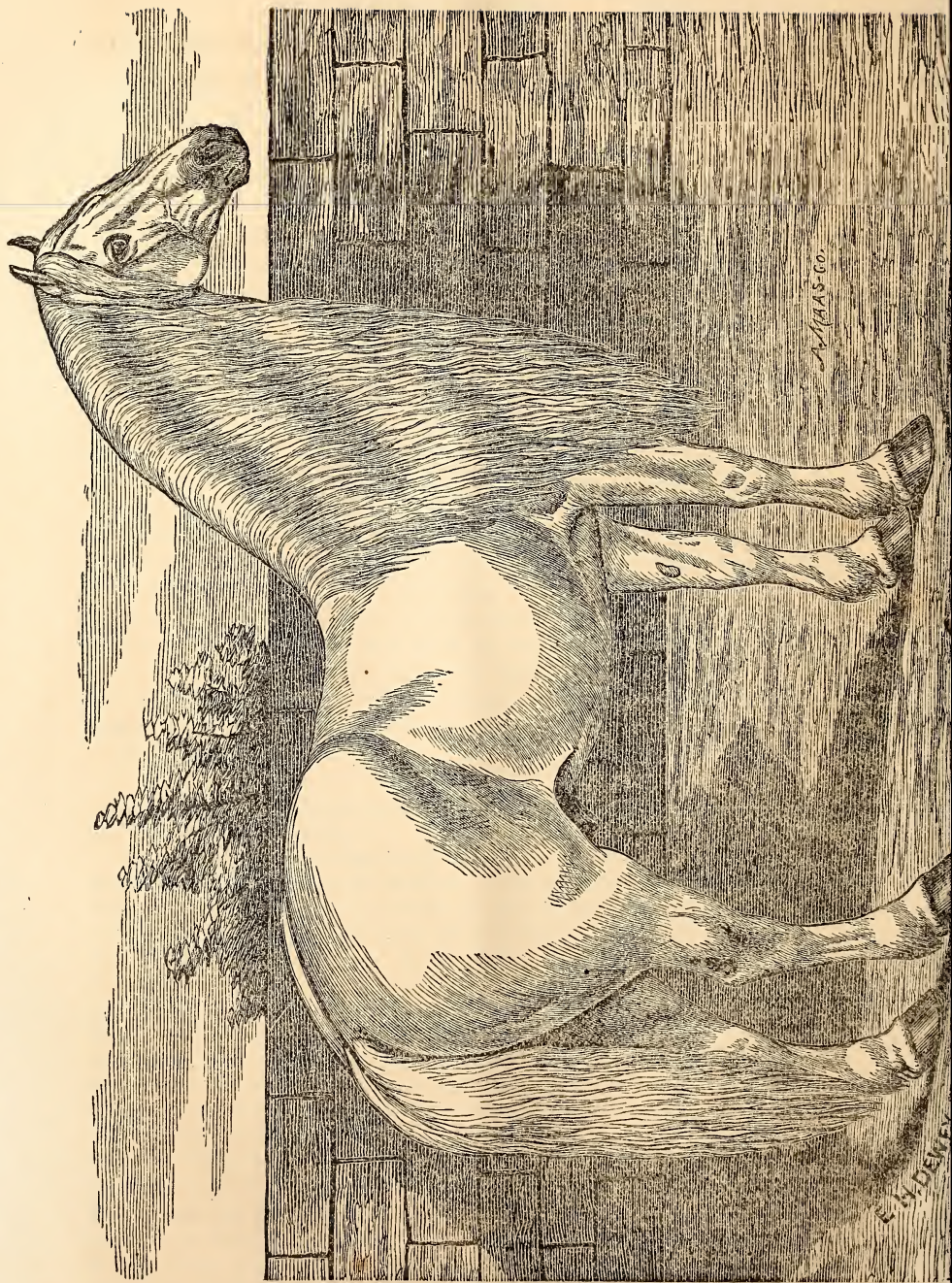
Richmond, Va.

G. W.

KEEPING FARM ACCOUNTS.—Upon this topic, the *Western Rural* has the following good advice:

"It is essential to success in all kinds of business that a record shall be kept of expenditures and receipts. The merchant or mechanic who fails to keep an accurate account of his business transactions will, in nine cases out of ten, find that he is losing money; and in a few years finds himself a bankrupt. It is only a question of time. It is true that a farmer makes fewer exchanges of property than a merchant, but still there is an outgo constantly, as well as receipts for products sold. These should be noted down daily, for in this way only can any accurate knowledge be had whether the farm is paying or not, or at the end of the year, whether this crop or that has paid any profit, or whether or not the whole farm is a satisfactory investment. Generally, farmers work hard enough, and are economical enough in their expenditures, but, still, many of them do not get satisfactory returns for their labor. There are so many small items of expense—a little thing here and another there—that in aggregate make up no inconsiderable sum. Now, if a system of accounts is kept, it is not difficult to find out where the leakages are, and to stop them. It induces a little more thinking and figuring, but that is something that pays in farming as well as in mercantile and mechanical pursuits. Brain is quite as essential as brawn in the management of farm work."





Stock Department.

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

THE DAIRY.

No branch of rural industry affords a better prospect of good returns than dairying. No section of Virginia, no part of the United States affords superior natural advantages for the pursuit of this business, to the Piedmont district of the State, extending from the foot of the Blue Ridge, to the head of tidewater. With a gentle undulating slope, and exposure to the East and South; with a large area of soil of great fertility and natural adaptation to the production of the best grasses and forage plants; free from poisons, contagions, and miasms; luxuriously watered by myriads of the purest springs and rivers and creeks and rivulets, whose waters converge as they descend from this splendid plateau, to form the great Atlantic flowing rivers; free from the rigors of Northern winters and the periodical droughts and parching suns of other less favored sections—Piedmont Virginia stands unsurpassed as a dairying district. The same natural advantages are possessed by Southwest Virginia. We propose to enter upon the discussion of the merits of different breeds of cattle for the production of dairy products, and other matters pertaining to this great interest, and we invite practical men to express their views through these columns. Let us have the pros and cons, not merely the enthusiastic special pleading of men who have been successful where others have failed. Let us hear from the unfortunates, that their doleful experience may deter the rash and hasty. Let us hear from the achievers of brilliant results, that their success may cheer the enterprising, and stimulate the successful to aim at still higher results. We give below some facts and moderate calculations, which may prove of interest.

RESULT OF ENGLISH EXPERIMENTS.—*Milk of different breeds of cattle; percentage of cream; feed, hay and grass only:*

Pure Brittany.....	19.27 per cent. cream.
Pure Jersey.....	18.65 " "
Pure Shorthorn.....	15.32 " "
Pure Ayrshire.....	13.47 " "
Pure Devon.....	14.87 " "
Jersey, Shorthorn cross.....	17.95 " "

A good Shorthorn grade cow, served by a pure Jersey bull, will produce a dairy cow, which will yield 1,000 gallons of milk in a year, producing 300 pounds of butter.

1,000 gallons of milk.....	\$120 00
300 pounds of butter at 40.....	80 00
800 gallons skim milk at 10.....	6 00
100 gallons butter milk at 6.....	5 00
One calf.....	\$211 00
Expenses 20 bushels corn at 60 cents.....	\$12 00
Expenses 1½ tons hay at \$15.....	22 50
Expenses 6 months pasture at \$1.50.....	9 00
	\$ 43 50
Net profit.....	\$167 50

Manure will pay for attendance. Expenses of marketing will vary.

Including interest, taxes and all expenses, a good cow, in a butter dairy, with fair management, will pay one hundred dollars a year.

STALLION SUCCESS.

We have received from Mr. M. W. Dunham, Wayne Du Page county, Illinois, the portrait of his stallion, Success. We regret to have received it too late for the illustration of the review of the Percheron-Norman Stud Book in our last number. We now present it to our readers as a model of a draught horse, that it appears well-nigh impossible to improve. Success is 16 hands high, and weighs 1750 pounds. From Mr. Dunham's catalogue, we learn that he has, in the past two years, sold two hundred thousand dollars worth of Percheron-Norman stock, and he still has on hand a large number of select males and females for sale; he is, in fact, the largest dealer in this stock in America, perhaps in the world.

Mr. Dunham states that the average age of all the colts of Success sold, is about two years and eight months, and the average price obtained, \$450. During the year 1874, thirty-six thousand dollars worth of his get were sold. He appears to have been well named Success. These horses have undoubtedly had an immense popularity in the West. However, we notice in the last number of the *Western Stock Journal*, that two speakers at an Iowa Farmer's and Stock-breeder's Convention, give their views as to the sort of horses their farmers need. The first says, "Keep good horses, such as will weigh 1100 to 1150 pounds, with good bottom and speed. No necessity for large horses, the active, well-muscled horse of 1100 pounds will do all the work of the farm." The other says, "We need a horse weighing 1200 pounds, that can be driven over the road fast or slow; that can plow or do any work required on a farm." The model we have so often urged upon our readers for the agricultural horse, is an active, well-muscled, well-bred, good tempered beast, 15½ hands high, weighing 1200 pounds, and we know our head is level about that. We here repeat, that we know of no better way to establish a breed whose average form shall be in that model, than by using Percheron mares and trotting stallions. We are perfectly satisfied, on the other hand, that no well formed and uniform type of any size can be reached by breeding the mares of the country, averaging less than 900 pounds, to any sort of stallions averaging 1800 pounds. Exceptionally large common mares may be bred to such animals with some prospect of good results. Our advice to the breeders of the Percheron-Norman stock would be, to produce as many mares as possible, in their best form, and give them select stallions of the racing or trotting breeds. Money can be made faster the other way for the time being, but more good will come of what we here suggest. The stallion had better be a trotter, but if of the right temper, he may be a thoroughbred; he need not and had better not be above 15½ hands high; he need not weigh over 1200 pounds; let him have the most rangy and stylish Percheron Norman mares that can be produced. Thence, by inbreeding and selection, you may produce what you want, an incomparable general-purpose or agricultural horse. We are bound to say that a system of breeding horses in which the selection is simply for the greatest size and weight is, in our opinion, erroneous in theory, and must prove pernicious in practice. The selection of the Percheron-Normans should be for the best action, and highest symmetry of form, and for a reduction of size; they are too big for all ordinary purposes as bred at present.

THE RACE-HORSE.

There are at least two distinct breeds of the race-horse, one of them very ancient, and the other of modern origin. Of the ancient breed, there are several well-known sub-breeds or varieties. This ancient breed originated probably in Central Asia, at a period certainly very remote, and therefore we designate them as the Oriental race-horse. The modern breed originated in England, and is known as the English race-horse—sometimes unfortunately designated as the thoroughbred horse, and sometimes the blood horse or blooded horse. It is to be hoped that this breed may come to be known by its correct designation, the English race horse. Of the sub-breeds of the Oriental race-horse, those best known are the Arabian, the Barbary, the Persian and the Turkish, all belonging unquestionably to the same ancient race, modified only by the influences of climate and conditions of life peculiar to the locality where they have so long been kept. The English breed, however, was formed by crossing and admixture of blood. Previous to the introduction of the Oriental racing stallions by the patrons of the race-course, the native horses of Britain had been modified by various importations from the Continent, of the large draught horses, and later, by the introduction of German running horses, which last had a large percentage, probably, of the Oriental blood. Still later, the royal mares, belonging to the stud of King Charles, were imported at various times from the Continent and from Spain. The precise history of these mares cannot now be authenticated, but they also were largely of Eastern blood. The blood from all these importations had been diffused through the native stock of the country to a greater or less extent. Then followed, lastly, the introduction and general use on the best mares, the product of this mingled blood of the so-called Arabian stallions, of which the best known were the Godolphin and Darley Arabians, and the Byerly Turk. It is, however, believed that the Godolphin and Darley horses were both Barbs. Besides these were Lud's Arabian and Place's White Turk, occurring frequently in the old pedigrees. From this complex mixture, in which, however, the blood of the Oriental race-horse largely predominated, was developed the English race-horse. However interesting it might be so to do, it is not our present purpose to descend into more exact and detailed statement. The pen sketches, and at least in the case of the Godolphin, the painted portrait by a celebrated artist, give no very flattering idea of the individual excellence of these celebrated stallions. Godolphin was knocked about France as a cart-horse, and when old, was kept as a teaser for another stallion, which refusing a mare, she was covered by Godolphin, and the excellence of the result of that joke led to the discovery of the magic influence of this Eastern blood. The smallest and most beautifully formed of the Oriental stock are the Arabs; larger and perhaps both stouter and feeter are the Barbs; taller and more leggy the Persians and Turks; while the English race-horse, of complex origin, and having had no selection applied to him, save the test of speed only, varies accordingly between wide limits of color, size and form. It is undoubted that the English race-horse surpasses, in both speed, strength and endurance, all the ancestors entering into his complex pedigree, and consequently, all attempts at further infusion of Eastern blood proves useless and disappointing. This, the greatest of all the breeds of horses, has suffered great detriment from having been bred solely with a view to the single quality of speed, leading breeders to select winners for sires, regardless of form, constitutional soundness, or temper, and to the minor bad practice of breeding undersized mares to overgrown horses, and these, perhaps, diseased in important or-

gans. It would, indeed, be difficult at this time to lay down a model of size and style for this breed. We find them big like Longfellow and Tenbroeck; medium sized like Lexington and Planet; while others of almost equal renown are scarce above 14 hands in height. We wish now to point out that to breed draught horses for size only, or race-horses or trotters solely for speed, must lead inevitably to great detriment to the breed so treated.

Our friend, Gen. Withers, of Fairlawn, tells us that he means to breed trotters, and that he depends for success upon the breeding and personal performance of his brood-mares and stallions. He does not admit a mare to his harem unless she has good trotting ancestry, and can, besides, trot in three minutes or less herself. If he would now say they shall not exceed 16 hands, nor fall below $15\frac{1}{2}$ in height; that not one shall be admitted known to possess any trick or vicious habit, or any disease of eye, foot, tendon, bone, joint or ligament; not one incapable of trotting three or four miles in succession in three minutes or less, he will find his brood-mares hard to keep up to a standard number; but if he will thus extend the basis of selection, besides speed, he will have endurance, uniformity of type, soundness of constitution, and docility of temper—qualities never yet found characterizing the produce of any breeder of horses in any noticeable degree. A careful study of the origin of the English race-horse has led us to the conclusion, that he has, upon the average, three-fourths or a larger percentage of the Oriental blood, from which cause the leading characteristics of the Eastern horse remain predominant in the English breed, modified by the slight infusion of other blood. How often do we find in the history of the various breeds of domestic animals, that the infusion of a small proportion of the blood of a different type modifies without impairing, but rather increasing and intensifying the prominent characters of a long established race.

It would seem that three-fourths of the racing blood is sufficient to insure in the new mixed breed, the possession of the great qualities of speed, endurance and longevity, which may be modified by the outcross, and by long continued selection and education in any desired direction. Three-fourths or more of the Oriental blood, modified by outcrossing to larger horses, and improved by selection and the education of many generations, for the race-course, resulted in the English race-horse. Three-fourths or more of the same Oriental blood, modified by a different outcross, and developed by selection and education in a different way of going, produced the Russian Orloff trotter. Three-fourths or more of the blood of the English race-horse, modified by a proper outcross, with selection, education and development in the new gait, gave us the American trotter. In all these modern breeds, we find speed, endurance and longevity, as the leading characters; the same great characters that conferred, of old, immortal renown upon the ancient and noble blood of the race-horse of the desert. If, then, we have three-fourths or more of the blood of some of the great old four-milers, modified in the desired direction by a judicious outcross, then by inbreeding within limits, and vigorous selection and education, can be produced any desired type or breed of horses, whether it be the counterpart of the English hunter, able to carry 200 pounds across country, and keep with the hounds in a run of twenty miles, clearing at a bound fences, ditches, hedges, streams and fallen trees, as they in turn obstruct his path, or of the Russian Orloff, compact, powerful and able to drag a Russian sledge over the icy road at 2.30 trot; or the American trotter, able for a single mile to rival the speed of a bird on the wing; or the high-bred saddle horse, such as is bred in Kentucky and some parts of Tennessee, Virginia and Maryland, who will take a lady or gentleman over the

road at twelve miles the hour, and scarcely shake the rider in the saddle. For high intelligence, beautiful form, magnificent action, speed, endurance, longevity, except as merely accidental and individual in their attachment, we must have recourse to the racing blood. With these great and brilliant qualities furnished to his hand, and means to carry out his views, the breeder who fails to accomplish his desire, whatever he aims to produce, must fail for want of skill. "Even in the plow," said the celebrated John Randolph, "the long slouching walk of the thoroughbred will tell."

Horse breeders are one-idea men mostly; they seldom aim at more than one prominent quality, and almost never think of uniformity of type. The rage for fashionable pedigrees is introducing the same evil into cattle breeding, and, in fact, the breeding of all other sorts of domestic animals, even to fowls. It is a great evil. We would most earnestly urge upon breeders and trainers for the turf, to make ability to go long distances, and repeat at brief intervals the first point. We know that the idea has prevailed with some that great speed and great endurance are nearly incompatible, which is very far from the truth; and even if it were true, we urge that a little more endurance and a little less speed would be more desirable than increased speed at the expense of endurance. We confess to a longing for the return to favor of the great old four-milers.

ITEMS.

"The graziers and stock breeders are only in danger so long as they remain supine and make no effort to reduce the vast incubus of middle profit that is weighing them down."—*London Live Stock Journal and Fancier's Gazette*.

The above, from the leading English authority, is pretty good grange doctrine. Indeed, the reduction of middle profit in every department of business, is what most interests both producer and consumer, and is most essential to the restoration of a healthy tone to the business of the country, and the commerce of the world. During flush times, middle profits are naturally advanced, but when the wave of prosperity recedes, middle-men resort to trades-unions, with all their tyrannical and coercive machinery to hold on to the big figures justified by general prosperity. Intelligent and calm discussion of this whole question, by letting in the light on dark and hidden places, cannot fail to result in reaching a just and proper adjustment between the three great classes of mankind, producer, middleman, consumer. Let the light shine. We are glad to see a journal of such high character taking up this subject for discussion in England, feeling assured that whatever result of value is reached by that enlightened and eminently practical people, will soon find its way to this side of the Atlantic. In all that affects their prosperity, the British farmers, the most skilled and enlightened agriculturists of the world, have our sympathy. We are not of those who can find it in their heart to rejoice at the prospect of any temporary advance in American produce at the expense of disaster to our brothers beyond the sea.—ED.

THIRD DUCHESS OF THORNDALE died on the 27th ultimo, at Mr. B. F. Vanmeter's, in the 19th year of her age.—*Kentucky Live Stock Record*.

A CORRESPONDENT of the *Main Farmer* gives a statement of a Jersey cow which produced in one year, 401 $\frac{3}{4}$ pounds of butter.

WE ARE indebted to the Hon. Jno. W. Johnston, to whose calm, dignified wisdom Virginia conservatism owes much, for copies of publications of the Depart-

ment of Agriculture, over which, has presided the past four years, a person, perhaps the most inefficient of Grant's many bad appointees; and now Mr. Hayes has turned it over to a colored person, which is the last of it, if not the worst of it.

MR. GEO. W. PALMER, Saltville, Va., has acquired an interest in Maj. Cowan's Renick Rose of Sharon females, on private terms. Rosebud 8th, and heifer calf, Duchess 9th, and Duchess of Kent are included in the agreement.

MESSRS. SHIELDS', of Bean's Station, Granger county, Tennessee, have sold to MESSRS. Carrol & Shields, of Tennessee, the Rose of Sharon bull, 3d Duke of Clinchdale. These gentlemen find that the demand for improved stock is increasing in East Tennessee. They make frequent sales of Shorthorns, Berkshires and Cotswold. Their Shorthorn herd is a fine one; their females are good ones of the Rose of Sharon, Nelly Bly, Adelaide and other families, and the Renick Rose of Sharon, 2d Duke of Kent, bred by Major Cowan, at the head of the herd.

London Live Stock Journal and Fancier's Gazette copies a long article from Mr. Arnold Burgess, in *Chicago Field*, setting forth that he has observed that in the case of dogs, where dog and slut fall in love with each other, the puppies will excel in vigor and instinct. That what is called a "nick" is due to the intensity of love of the matched pair. How the blind old hero of Woodburn farm must have loved the daughters of Glencoe, and how much larger induction there is from small facts in this world of ours!

FROM various sources, worthy of confidence, comes the endorsement of Prickly Comfrey as a forage plant, yielding, it is said, from 20 to 60 tons per acre of green food, much relished by animals, nutritious and wholesome. Dr. Voelcker's analysis gives it a high rank as nutritive food. It is well worthy of trial.

THE FISH COMMISSIONERS have been legislated out of office. The number of them was thought too great, and three, although they received no salary, were considered too expensive, and hence they were wisely and economically reduced to one, and this ends our career as Fish Commissioners. The correspondence we have had in connection with that office, indicates that the people have begun to take much interest in the question of the practicability of rearing fish as a common industry. As a food supply for their own tables, there is no sort of doubt of the fact that farmers may generally raise carp, bass, trout, and perhaps salmon of the land-locked sort; whereas, many more favorably situated may rear a surplus for market. We believe that even brook trout may be reared successfully on corn bread. Though not Fish Commissioner, we expect to continue to give the same attention to the subject as before, and will be happy to afford any information in our power to any farmer wishing to try his hand at fish culture.

THE Legislature of North Carolina has passed an act to establish a Department of Agriculture, Immigration and Statistics, and for the encouragement of Sheep Husbandry. The Department is to be controlled by a Board, of which the Governor, the President of the Agricultural College and State Agricultural Society, and the Master of the State Grange are to be members. Ex-officio mem-

bers are bad. These gentlemen appoint a Commissioner of Agriculture and employ a Chemist, and the State Geologist is to co-operate with them, and be also a member of the Board. We had hoped, that before now, there would have been found a way by which the State and State Agricultural Society of Virginia might have been brought into harmonious co-operation in working out the physical survey of the State, which must be accomplished as preliminary to any effective efforts in behalf of immigration and the development of the languishing industries of the State. Among other duties assigned to this Board, is the work of stocking the waters of the State of North Carolina with fish, and of introducing, protecting and multiplying useful varieties, and for this purpose, they are instructed to seek the co-operation of the United States, and of adjoining States. The Department of Agriculture of the United States being degraded to a political machine and totally worthless for the purposes for which it was established, and being further degraded and rendered odious and contemptible by the appointment of a negro to be Commissioner, ignorant of the whole subject, and totally removed from all sympathy with the great mass of the farmers of the country; therefore, it becomes more important that the States should themselves take measures to establish such departments, and should thereupon instruct their representatives in the Federal Congress to abolish the nuisance in Washington. This appointment on the part of the person who occupies the seat that Samuel J. Tilden was elected to fill, shows on his part an act of capacity to understand that he is thereby throwing contempt in the teeth of the most numerous class of citizens of the United States. Doubtless this negro will make a better Commissioner than Hayes will President; doubtless he has more character and more sense. If this is a specimen of the skill of this modern Solomon and latter day saint in the art of conciliating democratic farmers, he will scarcely draw unto himself any hordes from this branch of the democratic household.

FROM various sources comes the report of enormous mortality among the cattle on the Kansas and Colorado buffalo ranges. Death sweeping whole herds from exposure and starvation. Eaten into the earth in the Fall and Winter that poor wild grass makes a late start this cold and backward Spring. Thousands of the cattle are dead; thousands must still die; owners are powerless to help them. It is a sad story of brute suffering and human loss. It is no more than what we expected, but that does not make it the less distressing. We would be glad to know the fate of the numerous Shorthorn bulls, taken out there last Fall. This breed of cattle readily succumbs to starvation and exposure. Breeders had better make steers of their surplus Shorthorn bulls, than to send them to such a country to breed up such herds.

"THE ANGLO-VIRGINIAN LIVE AND DEAD-STOCK EXPORT COMPANY," has for its object the export to Great Britain of first-class horses for the hunting field, the road, cavalry and artillery remounts, and beef and mutton on the hoof and in the carcass.

That horses, live cattle and meat may be profitably shipped across the Atlantic, is already demonstrated by the large and increasing trade from Canada and Northern parts.

Virginia's advantages as a buying place for horses, best suited for above named purposes, are many and well pronounced. From the early colonial days she has been stocked with some of the best blood in the English Stud Book as sires, and Virginian bred has always been in the States a synonym for style and breeding in horse-flesh.

The voyage from Richmond or Norfolk, is no longer than from Canada or

New York; the transit of stock from the best horse and cattle districts to these points less expensive, and more direct.

The City of Richmond is peculiarly well situated for the depot and headquarters of a horse and stock export business, many droves from the Valley, West Virginia, Southwest Virginia and Kentucky finding a market here, and others continually passing through to Eastern, Northern, and Southern markets. Convenient premises and grazing can be had at reasonable rates; forage good, abundant and moderate in price. If desirable, stock could be shipped from the heart of the city.

From Richmond, the Valley, West Virginia, the breeding and grazing districts of Southwest Virginia and Kentucky, can be easily and directly reached. Stocked with the descendants of Priam, Glencoe, Margrave, Eclipse, Trauby, and many other noted sires, from which an abundant supply of power, well shaped, up-standing horses, with plenty of bone and quality and good feet, can be derived; blemishes are scarce, and such infirmities as roaring, &c., very rare; prices also compare favorably with those of the North; money being scarcer, and the plethora caused by the over stimulation to breeding of the late war still having its effect on the home market.

Stout, well-actioned, sound horses, from 15 hands to 16½, and of good ages, can be placed in Richmond at an average of \$110 per head; the cost of shipping across the Atlantic averages about \$50 per head, which prices in the present state of the English market, the prospective demand for army purposes, the French trade (expositions tramway and 'bus horses) leave an ample margin for profit.

Such a company as one proposed, could find its account in the standing in above named districts of several well-bred stallions, would find them profitable, and another advantage in purchase of their get.

As regards beef and mutton, the statistics of prime cost, transit to shipping point, suitability of quality of merit for British markets, slaughtering and packing in Richmond will compare favorably with those of Northern export trade.

The Shorthorn interest in Kentucky, Southwest Virginia and the Valley, is a powerful one, and the fat cattle there produced are in quality second to none in the States, the price *ad valorem* no greater than for the coarser Western beasts, and the cost of landing at the point of embarkation very much less indeed.

Richmond, right on the seaboard, is bound to compare favorably with Chicago or St. Louis, in which markets much of the beef now exported is bought.

Mutton of fair quality is bred and grazed in West Virginia and Southwestern counties of Virginia. The sheep are native stock, crossed with Cotswold, Leicester, South and Shropshire-downs; the weights from 15 to 25 pounds per quarter, those best adapted for the English market, and the meat in grain and flavor much resembling Scotch wether mutton.

The export of game (notably quail) and fruit (especially peaches and melons) could also be done profitably—prices, quality, &c., all favoring Virginia as a buying place over the North.

The above contains so many important facts, so well stated, that we offer it without comment for the consideration of our readers. It was sent to us by Mr. J. A. Lefroy, Exchange Hotel, Richmond, Va., not with a view to its publication. This matter is worth the attention of Virginia capitalists.—Ed.

BOOK NOTICES.

We have received from the publishers, Messrs. D. Appleton & Co., New York, a copy of Darwin's new work, "Cross and Self-Fertilization in the Vegetable Kingdom." Differing radically from the view which Mr. Darwin takes of nature; holding that there is no direct or indirect evidence of the derivation of man's physical structure from other organisms, but that the meaning of all evidence is precisely the reverse; holding, as candor compels us to add, his inductive powers in small estimation, yet we feel that it would be difficult to exaggerate the value of the facts which with unexampled patience he has dug out with laborious, ingenious minuteness of detail. Realizing that the great breeder, like the poet and the orator, must be born not made; knowing how men of surpassing

genius grasp truth by inspiration, and demonstrate by the unexampled splendor of the results they obtain, their superiority to men of common mould; yet, we venture to say, that there is no practical breeder of animals, however commanding his genius or extensive his experience, but will derive much advantage from the study of all the works of this remarkable author; and in order to derive this advantage, it is not essential that the reader and student shall agree with the writer in his conclusions. The immense, almost immeasurable accumulation of detail upon a single point, renders it, at times, tedious to follow the author, while from want of vigorous condensation and positiveness of statement, the conclusions which he has himself reached, does not at all times readily appear. But whatever topic may engage the attention of the breeder, in the various works of Darwin, he will find numerous and reliable facts to aid him in his reflections and guide his judgment to a correct conclusion, for no author was ever more entirely trustworthy in his statement of facts.

In the work before us, Darwinism exhibits no new characteristics, but there is a wonderful accuracy in the experiments, and the results appear to be conclusive upon the main questions examined. The leading proposition is, that seedlings from cross-fertilization will be superior to those from self-fertilization in size and constitutional vigor, a proposition fully and powerfully demonstrated in the body of the work by a multitude of experiments, which it appears impossible to criticize hurtfully. Breeders of animals had long ago reached the nearly unanimous conclusion that inbreeding is injurious to constitutional vigor, but that judicious crossing increased the size and vigor of the offspring. Darwin now shows that the same principle demonstrably holds good in the vegetable kingdom—a fact of which agriculturists, nor horticulturists, nor even comparative phynologists had been generally aware. In the animal kingdom, the evils of inbreeding are, especially in the case of some species, very slow to manifest themselves, and there is no evidence whatever that in any case the offspring of the nearest relations has suffered any detriment in the first generation, whereas, Darwin shows that the first act of self-fertilization in plants is followed by prompt and decisive mischief. Of course, no form of interbreeding among animals can be as close as the fertilization of a flower by its own pollen, but making due allowance for this case, there is still a marked difference in the two kingdoms in the promptness of the evil result. In the work before us, Mr. Darwin himself states that no instance is known among animals of evil resulting from the closest interbreeding in a single generation. And upon that topic of so great interest to mankind, the marriage of first cousins, he states that his son George has concluded, from careful investigations made with the aid of competent assistance, that no mischief, or if any, certainly very little, results from such marriages. The fact that this impression was so deeply seated among men as to lead to the enactment of prohibitive statutes in various States, shows to what an extent erroneous and unfounded ideas may have the sanction of general belief. Another important fact accidentally brought to light in the progress of the experiments is, that when self-fertilized plants are reared under uniform conditions, an absolute uniformity of tint is reached in the color of the blossom without any selection to hasten the result, which uniformity is destroyed and great variation introduced by the first outcross; and this, by analogy, serves to strengthen the confidence of the breeder in his aphorism that inbreeding fixes the type, and an outcross fatal to uniformity. In this connection, the author also concludes that plants exhibit the same tendency as is known to exist in animals to revert to the ancestral forms under the influence of an outcross.

The results brought to light with so much pains in this volume, are valuable chiefly in showing that laws long known or suspected to exist, affecting the reproduction of animals, govern as well the analogous processes in plants. Extending, therefore, the dominion of these laws, Mr. Darwin, at the same time, strengthens and extends the inductions upon which they rest.

In his chapter of general conclusions, the author believes that he has demonstrated that the ill-effect of interbreeding does not depend upon the accumulation of morbid tendencies common to both parents. Upon this point we cannot quite agree with Mr. Darwin. That there may be evil tendencies developed from interbreeding alone, and beyond the accumulation of such morbid tendencies is possibly true; whereas, nothing can be more certain than that any such tendency common to both parents will, as a rule, be intensified in the offspring—and this, most undoubtedly, does account for a very large percentage of the evil attendant upon the practice of too close interbreeding. The author, however, states that he does not believe the evil to be due to a merely mysterious malign effect of mere consanguinity, in which conclusion we quite agree with him, and had arrived at it a long while ago. Mr. Darwin argues that in order to perfect a healthy generation, there must be some differentiation of sexual elements, and that the uniformity of conditions under which close inbred parents are kept, tends to produce a uniformity of the sexual elements, and a corresponding degree of sterility.

Mr. Herbert Spencer has also argued that side of the case, with his accustomed extraordinary power and clearness; nevertheless, we cannot give our assent to this plausible theory in the wide sense in which it is applied.

Mr. Darwin comes to a rather hasty conclusion as to the sagacity of some breeders who have kept flocks of related animals at different points, in order that the varying conditions under which they were kept might supply the necessary sexual differentiation. The explanation might more probably be found in the fact that by separating their animals into smaller flocks, a greater number could be kept in health and a wider selection obtained for breeding males. Of course this view of the case has an important bearing upon the evolution philosophy, which is not itself in any condition to support the weight of any theoretical dependencies.

We consider the present work the most complete and satisfactory of the author's writings we have had the pleasure of examining, and we commend it to the favorable attention of breeders. It can be had of the publishers, Messrs. D. Appleton & Co., New York, or we presume of booksellers generally. At some future time, we propose to notice other of Mr. Darwin's works.

[For the Southern Planter and Farmer.]

GEN. MEEM TELLS MR. NICHOLSON ABOUT SHEEP.

[We thank Gen. MEEM for the following valuable paper.—ED.]

In your March number you compliment me very much by supposing that I could answer the several questions on sheep husbandry which were propounded by Mr. John C. Nicholson, of Montgomery county, Ala. I do not feel competent for the task, and yet am not willing to decline, from the fact that I believe it to be a *duty*, as it is always a pleasure, to communicate any experience I may have to a brother tiller of the soil.

In my judgment, the "new departure" of Mr. Nicholson is right, for no farmer or planter can safely depend upon uniform yearly receipts

where all his time, labor, and capital is given to the production of one crop. The best conditioned and most prosperous farmers of Virginia live in those counties where mixed husbandry has been followed, and I presume the remark will apply to Alabama. I have no doubt those planters who have cultivated the cereals with the cotton are much better off than those who have confined themselves exclusively to the production of the latter. A farmer or planter's life is far more attractive to himself, his family, and the labor he supervises, when diversified by the production of mixed crops. Where the raising of stock becomes a prominent feature, the life, the animation which it gives to the dull plodding routine of a planter's or one-crop farmer's place, is the "new departure," which, if successfully followed, causes it not only to bloom and blossom with increased fertility, but adds to the personal estate and puts money in its owner's purse.

But to Mr. Nicholson's questions: 1st. "How much uncultivated old field will it take to keep in good condition 150 sheep?" Not knowing what kind of green food grows on the uncultivated fields of Alabama, I cannot answer it. 2d. "How much wheat, rye, or oats should be sowed for that number, provided you wished them to run altogether on small grain pastures?" This is a question equally as hard to answer, for the want of knowledge of the productive capacity of the lands of his section; but the experience of this county is that rye is the best crop for grazing in early Fall and Spring, and that Winter oats could be used in combination with it, and as far south as Montgomery a good pasture might be maintained the entire Winter by judicious grazing—that is, by keeping the sheep off when the ground is wet, permitting the fields to recuperate by changing to others, or, which would be better still, by providing good, dry rough food with grain, under shelter during the three Winter months, that his sheep might be sheltered, and reserving the grain pastures for early Fall and Spring grazing.

Many persons believe that it is necessary for the health of sheep that they should be permitted to run on the fields in Winter in order to get something green. This is all a mistake, which I have demonstrated this Winter to my entire satisfaction. My sheep were put into their barns, or rather sheds, the first day of December—that is, each shed closed up on three sides, with the fourth opening to the southeast into a yard with racks and troughs running around the three sides, into which hay is thrown down from above into the former, and grain or bran fed in the latter. I have 325, divided into four flocks, and they have never been out of their yards, except to go daily about five hundred yards to a river for water, and up to this period (the last of March) they have been perfectly healthy, have brought forth unusually fine lambs, only four having died from natural causes, and their condition is first rate, having improved in flesh since they were penned. Their racks have been kept filled with clover and timothy hay, except one month with oat straw, and from half to three-fourths of a pound of bran a day, has been their treatment. Their yards and sheds have been kept well littered with straw, and the amount of manure in them would be gratifying to any farmer who knows its value. Now, why cannot this be done in Alabama, where they have only three Winter months, while here we have six—or the number that stock should always be kept off of pastures if a good growth of grass is expected from them the following year?

3d. "It is my intention to increase the number to 200 by selling off

the common bucks and wethers, &c." If it is the purpose of Mr. Nicholson to breed from ewes of his own raising, and sell the wethers and cull ewes, he will find that this arrangement will run his flock up to 600; or if he keeps his wethers until the Spring they are two years old, his flock will be 800, viz: 200 ewes, 200 yearling ewes and wethers, 200 lambs, and 200 for sale, comprising the wethers and cull ewes. He will find this a large flock, requiring a great amount of food, demanding his close personal supervision, and the constant attention of a man and a boy (both should be reliable) if the sheep are penned or driven to a point of protection at night. For their improvement, they cannot have too much *gentle* attention. This is the best way to make the business profitable. His receipts will be the wool of 800 sheep and 200 for sale. I would respectfully suggest that it might be best to reduce his number to 100 of his selected ewes for breeders, instead of 200, and breed them at the rate of 50 to each thoroughbred Cotswold ram. They will serve more, but 1 to 50 is the safest. I should think there would be no difficulty in getting thoroughbred yearling bucks in Kentucky (the nearest point to him, ranging in price from \$40 to \$75. I do not know where the American Spanish merino is to be had.

4th. "I wish to prepare shelters for them in Winter, &c., and the principal object I have in having a large flock of sheep is for enriching my exhausted land; therefore, I have been thinking of portable shelters." I think he will find a portable shelter very objectionable. If he desires to make manure he might build permanent shelters out of plank near his other farm buildings for Winter use, and by keeping the yards well littered with straw, corn stalks, leaves, or other absorbents, a large quantity of most desirable manure will be made, which he can haul to any part of his plantation for distribution. This, I think, he would find far preferable. If, however, he thinks to the contrary, I am satisfied cotton duck would be but slight protection from wind and rain, as all who have campaigned will tell him, and that it would be better to have the posts and boards framed with a view of moving and putting up rapidly. In the Summer he could use a portable fence and pen his sheep at night upon the poorer places, changing whenever necessary.

5th. "How much space should be allowed for each sheep in constructing the shelter?" This depends upon the size of the sheep; but I find my sheds, which are 20 by 30 feet deep, will shelter 100 common ewes when a severe storm is prevailing, which causes them to huddle close, about 80 Cotswold grades and about 60 thoroughbreds.

6th. "How shall I manage to have my lambs drop in the last of November or first of December?" This is a most difficult thing to have done with the sheep of our country. They will not take the buck early with anything like regularity. If the buck is permitted to run with the flock all the time, lambs will be dropped from the first of November to the 1st of June. There is but one breed of sheep that I have ever read of that breed early with uniformity, and that is the Dorsets of England, and this peculiarity is attributable to the calcareous soil they are raised on and the aromatic plants they eat. If lambs are to be raised for the improvement of the flock, and not for the butcher, they had better come when the early Spring commences, for they will thrive and improve at once upon the early grass; and, besides, it is death to a ewe to raise a lamb in Winter, unless well protected and fed very highly on grain and hay. By putting the bucks with the ewes, say the 1st of October, and

taking them away the 15th of November, the lambing season will last from the first of March to the 15th of April. The lambs will be nearly of one age and size—a most desirable feature—and the anxious care in lambing season will only last six weeks—a very important matter to one who is careful of his lambs. Those ewes failing to get with lamb should be fattened, being slow breeders and not desirable.

7th. "Where can I find a pretty, well trained shepherd dog, and at what probable cost?" Such dogs are frequently advertised in the *Country Gentlemen*, but if Mr. Nicholson desires a gentle, tractable flock of sheep, the trained collie or dog of any kind should never be permitted to come near them. A trained dog is no doubt a useful animal where large flocks are kept in mountain ranges, or in plains without enclosures, but in fenced lands they only irritate and keep excited the flock, which is always detrimental to their improvement.

I have endeavored to answer Mr. N's questions, but I know in a most unsatisfactory manner. I have not the faculty of expressing what I feel upon this important branch of a farmer's life; and, besides, if I had, the subject is too extensive for the space you can spare in your valuable journal to this one branch. If he can be so successful as to show the people of Alabama that all the wool they need can be raised and manufactured in their own State as well as cotton, a "new departure" will have been made which will cause new industries to spring up and help to break the chains that have so long bound the Southern States to Northern industry and enterprise, and his name will be ever cherished by a grateful people.

Mt. Jackson, Shenandoah county.

GILBERT S. MEEM.

[For the Southern Planter and Farmer.]

DISEASE IN SHEEP.

I have just read in the April number of the *Planter and Farmer* an article, by Maj. Wm. N. Berkeley, on Disease in Sheep, in which he takes the ground that the so-called "worm in the head" is simply an affection of the brain, caused by severe constipation.

I have lost eight ewes this Spring out of a small flock of 32, all exhibiting pretty much the same symptoms. They were well sheltered and well fed during the Winter on hay and turnips; and had a path opened for them to a spring which never freezes, while the snow was on the ground, which they visited often during the day, and they showed no symptoms of disease until the latter part of March, when the grass had started enough to give a good deal of grazing. They had lambed in February, and were all ewes 4 or 5 years old. Thus all the conditions most conducive to the constipation, which Maj. Berkeley says is taken for worm in the head, were avoided.

The first two or three sheep that died showed, on a *post mortem*, nothing amiss, either with brain, stomach or intestines, but on a closer examination of some of those last dying, a large white grub, about the size of a quill and about half an inch long, with a small dark head, was found in the cavity back of the eyes—not in the brain, but very near it; some had one behind each eye, and there may have been more; as I am not a skillful dissector and was well

enough satisfied as to what had caused the death of the sheep, not to pursue the, to me, disgusting search any further. The large intestines were certainly *not* filled and impacted with hard, dry fæces, as was the case with those Maj. Berkeley examined. The symptoms exhibited by the sheep affected were what is called "blind staggers"—jerking the head about, with a gritting of the teeth. Some died within 24 hours after we first perceived they were sick, and some lived as long as three days. The sheep last Summer seemed much pestered by the flies or gnats, as they would spend the whole day huddled up with their noses stuck into the ground, under the fence, or under each other; whence they would sometimes jerk them out and run to another place. It was then, I suppose, that the mischief was done. And, judging from my experience, it must be at that time that the remedy is to be applied.

Charlottesville, Va.

H. M. MAGRUDER.

TO GEAR YOUR HORSES.

BEFORE CHANGING THE SET OF THE PLOW SEE THAT YOUR TEAM IS GEARED RIGHT.

It will be seen from the accompanying cut that there are five separate lines diverging from one point on the hame. A A represents a perpendicular to the horizontal line on which the horse stands; C C and D D horizontal lines of belly and back; E E the rear perpendicular line of body; F F the inclined line of the shoulder; G G is a line drawn at right angles to F F and is the true line of draught or power line of every horse and mule.

I I is an experimental line, so also is J J: K K is a line diverging from G G and so is H H, at or about the back and belly bands. It is obvious if the traces, represented by the line I I, were first fastened at the rear end and the horse were to go forward with sufficient power he would inevitably fall over on his head, the point on the hames where the trace is attached being the pivot. If the traces were then raised to the line J J and fastened at the rear, and the horse were to go forward he would pull himself on his back. The effect of both results show how powerless the horse is when pulled on either of these experimental lines.

If, therefore, the effect of pulling on I I is to throw him down in front, and of pulling on J J is to throw him over backwards, it follows that the right angle line, G G, to F F, his shoulder line, will do neither, and, being at right angles to his shoulder, must be his natural power-line.

In hitching to a wagon, however, the point of attachment to the wagon is much above his power-line, as shown by the line K K diverging upwards from a point just at the belly-band, which holds the trace in a crook at that point, and keeping the trace from the belly-band to the hame exactly square with the shoulder line, F F.

In hitching to the plow, the point of attachment to the same is

is always the point that will cause the hames to press equally on every part of the shoulder ; this must be determined by the owner closely watching each horse and seeing for himself where the pressure is greatest.

Now that your team is geared right, *never* alter the gear to suit the plow, but *always alter the plow to suit the team*, which with a Watt Plow is very simple and effective.

[We take the above article and cut from the catalogue of WATT & CALL. It is evidently the production of that genius—GEO. WATT "THE PLOW MAN."—ED.]

[For the Southern Planter and Farmer.]

PREVENTIVE FOR RUST IN WHEAT.

In your August number, your type made me say that I sold eleven and $\frac{25}{100}$ dollars worth of corn stalks, and that they would have been worth forty dollars if I had cut and steamed them and fed them in barns. They should have said, that I sold eleven hundred and twenty-five dollars worth of corn stalks, and that they would have been worth four thousand dollars, &c.

In your August number, a correspondent enquires, what will prevent rust in wheat? I believe that if he will take a mixture of one-third each (by weight) of common salt, wood ashes, and fine ground plaster, and sow broadcast as a top-dressing, soon after the wheat is sown, that he will prevent rust; add one-fourth to the yield of wheat and insure a set of grass. Timothy seed should be sown when the wheat is sown. I sow the clover seed in early Spring, as soon as the ground is in condition that I can harrow the wheat. Almost any farmer can try a few acres of wheat with this mixture, obtaining the ashes from his own fire, and I am sure that the result will be satisfactory.

The extreme low price of beef cattle this Summer makes the graziers of our Southwest somewhat despondent, but the raising of beef will still pay at the present low prices, provided, that we have well-bred cattle, and give them the best of care from the time they are calves until they are sold. We cannot afford to feed scrub cattle at all, even if they were presented to us at one year old.

We have had a fine season for grass and corn. Wheat does not yield well. We have plenty of straw, and many supposed that they had a fine yield of wheat. A friend of mine, when he cut his wheat, estimated that he would surely have fifteen hundred bushels, but on threshing it, only had six hundred and twenty bushels. We must find a remedy for this or must abandon the raising of wheat altogether.

Washington Co., Va.

GEO. W. PALMER.

[The above article was mislaid, otherwise it would have been published sooner.]—ED.

[For the Southern Planter and Farmer.]

SENATOR JOHNSTON'S ARTICLE, ASKING INFORMATION
PERTAINING TO IMMIGRATION.

The proprietor and editor of the *Planter* having handed to me the manuscript of the article quoted above, with a request that I would suggest some mode of collecting the information desired, I have to say that when I enter upon the duties of my office 1st July, that I will endeavor to obtain statistics bearing on, and answering as far as practicable these enquiries, which will be embodied in a "report" I hope to make and have published by the close of the year. But I cannot promise too much. The time will be limited, and I shall have to work under difficulties, with very small means at my command. I hope hereafter to collect information on all matters which may be of service to persons seeking homes in Virginia, and to keep in my office specimens of minerals and soils of every county in the State, if the Legislature of Virginia will give me the room to contain them, and sufficient means to collect them.

We take this opportunity of saying that Senator Johnston is an ardent friend of agriculture. Would there were more such friends of the farmer in our National Councils. If there were, and fewer politicians and lawyers, and of men who never think of agriculture, we would hope to find our government much more the patron of the great interest of the country. Why cannot the United States imitate Germany and other European countries, and establish "Agricultural Experimental Stations" throughout the land? The Stations are yielding untold blessings to the farming interest. If they were not producing great fruits, we might know that such a calculating, practical people as the Germans would not continue to pay so much money to support them.

THOMAS POLLARD,

Commissioner of Agriculture.

[For the Southern Planter and Farmer.]

COUNTY AGRICULTURAL SOCIETY.

The following preliminary arrangements have been effected in Charles City county for the organization of a County Agricultural Society; President, J. M. Wilcox; Vice-President, Robert R. Carter; Secretary, Isaac H. Christian. Executive Committee—Harrison District, J. L. Wyatt; Tyler District, Jno. Lamb; Chickahominy District, Ottway Beirns. The Committee to draft Constitution and By-Laws, Dr. Wade, Gardner, Tyler and Geo. Truax, will report at next Court. C.

THE farmer has no need of popular favor—the success of his crops depends only on the blessing of God upon his honest industry.—*Franklin.*

[For the Southern Planter and Farmer.]

THE IRISH POTATO (*SOLANUM TUBEROSUM*).

The Irish potato, as it is now called, has become to be a very important article of food in many parts of the world, and especially in Ireland and Switzerland; and not only is it important as an article of diet, but it constitutes an important item in the marketable products of our own country. It belongs to the genus *solanum*, of which there are several species, some of which are medicinal. As different as they appear to the eye, the Irish potato and black nightshade belong to the same genus of plants.

The *Solanum tuberosum*, or Irish potato, is a native of America, and was probably introduced into Europe by Sir Walter Raleigh about the latter part of the sixteenth century, where it is now extensively cultivated, and upon which the poorer classes in some of the countries of Europe are very dependent for their means of support, and in our own country it is extensively used as an article of food, and forms an excellent substitute for bread.

Great improvements have been made in the potato by sowing the seed, by which new varieties have been obtained; and also by careful selection of planting tubers. Formerly the Long John, as it was called, was very much cultivated; then we had the White Mercer (which is one of our best now, so far as taste is concerned), and the Blue Mercer, the California potato, the Monitor, the Early Rose, the Early Vermont, the Peach Blow, the Late Rose, &c.

I think I have cultivated all of these, and have found considerable difference in their productiveness. The California and Monitor potatoes are productive, but are coarse, and I have dropped both of them. The White Mercer (called with us Bedford, I believe) is one of the nicest potatoes for the table, but I do not think it a productive potato. I have given the Early Vermont a single trial, and, alongside of the Early Rose, it did not produce as well as the Rose. I intend to give it another trial.

I have given the Late Rose but one trial, and under rather unfavorable circumstances, but was much pleased with the result. From my own experience, I am inclined to give preference to the Early Rose as an early potato, and the White Peach Blow as a winter potato, both producing well and keeping well; and the Peach Blow, being late in sprouting, may be used late in the Spring for table use. I think it best not to keep too many kinds, as they are not very easily kept from mixing.

PLANTING—SELECTION OF LAND.

I think potatoes may be raised successfully on almost any kind of soil, under my plan, provided it be not wet. For late potatoes, I would prefer a northern exposure, as the potato requires constant moisture and not a very high temperature, both of which conditions are best secured on a northern exposure. The Irish potato does not succeed well in very warm countries, except in northern exposures.

PREPARATION OF SOIL.

Most crops grow best on rich land, and it is eminently so with the Irish potato. Plow or fork deep, and if the land is not quite rich, give it a heavy broadcasting with good stable manure.

MODE OF PLANTING.

Harrow well, and lay off the rows two and a half feet apart, with a single plow, running it twice in each row. For early planting (and I would not plant very early), select medium-sized potatoes; roll well in plaster and plant whole, and at a distance of fifteen inches; put a moderate covering of good manure over the potatoes, and then draw about two inches of earth over the manure. When the potatoes begin to sprout, mulch the whole ground heavily, say ten or twelve inches deep, with leaves, and sprinkle enough straw or cornstalks over the leaves to prevent the winds from blowing them off. This done, I think with a good season there will, without some unusual preventing cause, be a good crop.

As to the potato bug (the Colorado beetle), I can say but little. I go over my potato patches with a paddle or shingle and strike them as hard as I well can, regardless of any injury to vines, and I have but little trouble in conquering the bugs. I consider the old-fashioned potato bug much more to be dreaded than the Colorado beetle, but I think these may be conquered by a good sowing of air-slacked lime and ashes.

I generally follow my early potatoes with turnips, and have for a number of years made two crops a year on the same land.

Irish potatoes will keep well in cool cellars, or in banks out of doors, if they are covered well with straw and seven or eight inches of earth, and planks laid over the banks.

C. QUARLES.

Inglewood, Va.

[For Southern Planter and Farmer.]

HOW TO MAKE THE TOBACCO CROP PAY.

If we wish to make any business pay we must give it our attention; and as a general fact, a business pays in proportion to the amount of attention given to it, more especially is this the case in growing tobacco for a profit.

It may be safely asserted that two-thirds of the tobacco growers never count the cost of raising a crop, but are content to barely live under the operation, though at times it would take a skillful judge to tell how they managed to survive.

Growing tobacco profitably requires energy, forethought, judgment and bull-dog perseverance; so much so is this the case, that few men are willing to undergo the toil and self-denial requisite to reap profits.

In order to grow the crop successfully, we must make large yields of tobacco of good quality from our acres, and to do this we must raise all the manure we can from our farm pens, apply it liberally, roadcast, and in connection, use some established brand of fertili-

zer, without stint or grudge; and if we fail to reap a good crop of tobacco we still have two chances to get our money back, in the wheat and grass crops, which should always follow tobacco.

If we are liberal toward our land and have plants in time, we may confidently expect a paying crop nine years out of ten—a crop that will pay twice the profit of one planted on land of equal fertility and manured with a grudging hand, and a crop that will bring more money per pound in market; as it is a settled fact, that the larger the tobacco grows in season the better is the average quality.

Below you will find a comparative estimate of two lots of tobacco fertilized differently.

We will take, for instance, 10 acres of ordinary land and treat it liberally, and compare it with 20 acres, of same kind, fertilized at half the cost per acre:

Ten acres of land, treated liberally with such manure as we can make by hauling out ditch banks, mould from fence corners, and leaves put into our farm pens, at a cost of \$10 per acre,	\$100 00
Four hundred pounds best fertilizer per acre,	130 00
Cultivating with plows and harrows,	55 00
Planting and replanting 10 acres,	20 00
Hoeing 10 acres three times,	22 50
Suckering and worming,	120 00
Cutting and housing,	75 00
Stripping and prizing,	75 00
Whole cost,	\$597 50
An average season, 10 acres thus treated will produce 1100 pounds per acre and bring not less than ten dollars per hundred, 10 acres, 11,000, at \$10,	\$1,100 00
Deduct cost,	597 00
Net profit,	\$503 00

Twenty acres, same kind of land, treated with half the quantity of home-made manure, at a cost of \$5 per acre,	\$100 00
Twenty acres, 200 pounds fertilizer,	130 00
Cultivating with plows and harrows,	111 00
Planting and replanting 20 acres,	40 00
Suckering and worming “ “	200 00
Cutting and housing, “ “	125 00
Stripping and prizing,	97 50
Hoeing crop three times,	55 00
Whole cost,	\$858 50

Average season, 20 acres thus treated would produce 700 pounds per acre, making 14,000 from 20 acres which would probably bring in the market not over an average of \$8 per hundred.	
14,000 at \$8,	\$1,120 00
Cost of raising,	858 00
	<hr/>
Net profit,	\$261 50
Difference in favor of liberal manuring,	\$241 50

With your leave I will close and let my fellow-planters ponder and re-adjust the above figures at their leisure. MICAH.

[MICAH is one of the most successful tobacco raisers in Louisa Co. We hope he will tell us in an early number of *The Planter* how he manages to get such large prices for his tobacco.—Ed.]

[For the Southern Planter and Farmer.]

“CAN THE PLANTERS OF THE SOUTH AFFORD TO RAISE COTTON AT PRESENT PRICES AND BUY CORN, BACON AND HAY OF THE NORTH?”

The above query you propound to me and ask me to give my views.

I can answer you with two letters of the alphabet. *No.*

Why then pursue such a policy? you may ask.

For the same reason which an old cotton speculator of Augusta once gave when he constantly complained of loosing on his shipments.

Some one asked him, “Why then do you persist in buying?”

He impatiently replied, “How the devil am I to support my family.”

In his case the loss fell upon friends who lent him the means to buy, and just so with the planters.

The white planter advances for the negro, the factor advances for the planter, the banks advance for the factor. The negro tenants fail to pay the land owner—he fails to pay the factor, the factor fails to pay the banks, and all are broke or badly crippled together.

This is plain enough, is it not?

Cotton cannot be raised profitably at present prices, even though we had no bacon, corn or hay to buy, unless we had land in its native fertility that would produce a bale to the acre. But you cannot persuade the average planter of its truth; and if you do, the old speculator’s query comes up, “How, then, am I to support my family?” Well, I leave them to work out the problem for themselves.

I really regard cotton now valuable, mainly for manurial purposes. I mean, of course, in the old Cotton States.

Cotton seed is the best manure for any and all crops known to man, and were I a farmer in Virginia, I would cultivate cotton for the seed.

A bale of cotton of 300 pounds will make 1,500 pounds of seed. These seed, composted with three times as much of stable or farm-pen manure, or rich dirt from fence corners, roads or ponds, will make three tons of manure that is intrinsically worth more than double that quantity of the best manipulated fertilizer (*so-called*) that can be bought, Mr. Noland, in the April number *Planter and Farmer* to the contrary notwithstanding. I have bought of almost every "standard" (save the mark) fertilizer from Boston to New Orleans, and they have all lost me money save two, E. Frank Coe and Stonewall, the former made in Boston, and the latter in England, owned and sold by Fannagan, Abell & Co. But they are much too high, and I now go back to my woods, swamps and fences, and shall make cotton mainly for manure and not much at that.

At present prices of labor in Georgia and present prices of provisions, every bale of cotton made sustains a loss to the producer of not less certainly than fifteen dollars.

There is a way and only one way out of this Slough of Despond—that is, to make all our provisions at home, reduce the acreage, make that rich with home-made manures, with hired labor, at prices much lower than at present; do away with all fences except to pasture one's own stock; raise all the best stock that you can feed well, and no more, remembering that a fine blooded colt or bull, ram or boar, will sell for four times the price of a common one. *Live at home*, and stay at home, and in a few years we shall be rich again.

Allington, Ga.

S. WYATT.

[For the Southern Planter and Farmer.]

CAN COTTON BE RAISED WITH PROFIT AT PRESENT PRICES?

The question of raising cotton at present prices is often asked by the cotton planters. My answer to the question is, That under our present way of raising cotton with the labor we have and our loose way of management, it is both ruinous to ourselves and the laborers, when we take into consideration what it costs us to raise cotton. We must look at all the expenses in every way. Our country has been buying all of our provisions from the North for the last six to eight years, and the result is, nine-tenths of our farmers are to-day bankrupt, and we are still pursuing the same policy, with a few exceptions. When a farmer has to mortgage his crop to make it, and pay 50 to 100 per cent. on time, he not only ruins himself, but at the end of the year has to turn over all of his half-starved stock with his short crop; and the result is, that he not only breaks himself but breaks the merchant that has made the advance. That is the reason of such tight times and scarcity of money. Nothing to sell but a

little cotton; and that often for the want of good attention is in very bad order, and necessarily brings a very poor price.

A few days ago I took a trip of 120 miles, and saw a good deal of the farming interest. As I traveled along and talked with a good many farmers, I noticed every one that made their business a success, had good fences, good gates, and fat stock. These men made every thing at home. You could see thrift plainly. Now my idea is, that we of the South should make our farms self-sustaining and a sufficiency of everything that our climate will allow us to make that we use, and plenty to pay off our laborers, then we can afford to make cotton at a low price. As cotton is a crop that does not conflict very much with the making of provisions, and the gathering comes off at a time when we have very little to do, and therefore there is very little conflict in the way of gathering, my opinion is, that cotton is the great moneyed crop of the South; but it should be made to cost very little. My plan now is, to plant about three acres of provisions to one of cotton; then I make my cotton a surplus crop, which plan I have adopted this year, and I find that I am doing better than any year before; and my freedmen much prefer the home-made provisions. When we have anything to buy from the North, we always buy very sparingly, and that is one of the reasons why our mules are so thin when they ought to be fat; and they are more subject to diseases when in such low flesh, and they are so often not attended to as stock should be, and consequently many die; and that is a great drawback to our people. We have to buy so many mules every year, and often at very high prices, which have to be paid for with low-priced cotton, all these things prove to us that we ought to be more independent and raise everything at home. Last Winter I bought thirty dollars worth of sheep, raised fourteen lambs, sold off the males, and have the wool on hand to exchange for winter goods, which will be in value to me 100 per cent. on my investment; besides, I have a fine lot of manure in my sheep houses; so you see what a source of income from so small an investment.

There is one thing I must say in favor of raising cotton, to do the thing justice: That every farmer should raise all the cotton he can after first providing bountifully for provisions. Cotton furnishes a material for manurial purposes, in the seed, that we can not supply in the commercial market, at so cheap a price, when we avail ourselves of the great benefit we derive from the use of the seed in the way of making compost manure.

J. L. WILSON.

Columbia, Ala.

NEVER go back. What you attempt, do it with all your strength. Determination is omnipotent. If the prospect be somewhat darkened, put the fire of resolution to your soul, and kindle a flame that nothing but death can extinguish.

DEWDROPS at night are diamonds at morn; so the tears we weep here may be pearls in heaven.

Editorial—Farm-Garden and Fruits.

CONDUCTED BY DR. THOMAS POLLARD.

This is the month of flowers, and "May-day garlands" and "May queens," deriving its name from *Maia*, the mother of Mercury, to whom the Romans sacrificed on the first day of the month. This is, too, a most important month for the work of the farmer, and the time for planting many things.

Corn—If not planted before, should be put in the ground at once, if the land is properly prepared. If not, put in thorough order as soon as possible, by re-plowing (presuming it is already plowed) if it is getting grassy or hard, and the crop is not too large to permit it to be done. Let the ground be dragged and re-dragged, killing all the grass which is now sprouting up, and pulverizing the ground thoroughly. If the land is put in the best condition now, it is equal to probably half the work which the crop will require. Just before the corn comes up, it is well to drag the land, especially with the "Thomas smoothing harrow." As soon as it is well up, drag again, and again when it is four to six inches high with this same harrow, and the grass being thus pretty effectually killed, the after cultivation will be simple. If the harrow is not used, we prefer the old "mould-board" system as being the best means of killing the grass and pulverizing the ground well. With this harrow system all that will be necessary will be to throw the dirt to the corn when of proper size, unless, indeed, in some instances, the ground is much baked; then it may be necessary to throw the dirt from the corn. Some of the best practical farmers, after trying the shovel-plow and double wing coalter, and other implements, have come back to the old "mould-board" system. If this system is used without the harrow, then hoe work will be necessary to clear the corn of grass. If the ground is warm, we prefer the 10th to the 25th of April to plant corn, though many practical farmers think the 1st of May is early enough. The distance to plant, as we said last month, depends on the quality of the land—on good land we prefer thick planting, by which only a large crop can be raised. We have before said that the "Prolific corn," so-called, is, in our opinion, not so hardy as the larger varieties, as the old "Gourd seed," which is now most generally mixed with "flint" corn, or the "Yellow Gourd seed," which is a large variety of corn with a tolerably deep grain and very heavy. If the ground is not good, it is not too late to use fertilizers, either stable or the super-phosphates, or potash in some form; spread along the rows before planting, or if planted, spread along on the surface above the corn.

Tobacco.—This is an important month for tobacco planting; the best month in which to get a stand, if the plants are large enough. If planted now, there is a better chance to get the crop well worked and better opportunity to replant and secure a full yield from the land. We hope our tobacco friends will have a good supply of plants this year, as when we write, the anniversary of the destructive frosts and freezing weather of the memorable 17th, 18th and 19th April, 1876, has passed. In no crop is thorough preparation of the land and manuring well, more important than in this, and in none is it more important to keep the land loose and friable, and free from weeds. Where there is deficiency of stable manure, as there almost always is, then some well tested fertilizer must be resorted to. While tobacco contains a considerable amount of "potash" in its composition (we all remember how the earth from old tobacco barns was utilized during the "Confederacy" for obtain-

ing "nitrate of potash," a necessary ingredient of gun powder), still the knowing tobacco manufacturers and handlers of tobacco say that any fertilizer containing too much "potash," particularly if in the form of "nitrate of potash," injures materially the quality of the tobacco. Nitrogen is the great manure for shipping tobacco—as all tobacco raisers know that stable manure, and Peruvian guano, when they could get it, always insured them good crops of tobacco in tolerable seasons. There is much land in Virginia where only heavy shipping tobacco can be grown; but in a very interesting pamphlet issued by the "Southern Fertilizing Company," no doubt prepared by the indefatigable and talented Secretary of that Company (Major John Ott), "On the Tobacco of Virginia and North Carolina," is found this remark, "*Virginia is compelled to give more attention to the production of fine tobacco, or she cannot maintain herself in the markets of the world.*" We also find this further remark, "Against our low grades the world at large can furnish substitutes enough, and at prices that drive us from the market; for our fine grades there is no substitute. We are unwise if we do not profit by this advantage." And further: "This type of tobacco does not require the same proportion of gross manures in its production of fine quality as our heavy shipping—but these manures should not be neglected. Next to proper size and body in this type of tobacco, we are assured by the manufacturers, who purchase it in the largest quantity, that to bring the top of the market it must indeed be *sun-cured*, and not air cured or dried out in the barn." * * * *

"The next type, and belonging by distinction to Virginia and North Carolina, is the *bright yellow*, used for smoking and plug wrappers. This tobacco is peculiarly adapted to the light gray soils of Lower Virginia and Upper and Western North Carolina. In its cultivation, gross manures are not desirable, as delicacy of texture and high color are indispensable to secure fine prices. The production has increased enormously, a steady demand existing, at good prices, for all that is grown. Through the handling of this tobacco, Danville and Durham owe their wonderful growth since the war." Maj. Ott sent samples of this tobacco to Dr. Voelcker, Chemist to the Royal Agricultural Society of England, for analysis, and we are tempted to give the result. Dr. Voelcker found the mineral matter (ash) of 100 parts of this tobacco to be 13.25. He then gives—"The composition of the mineral portion (ash) of a sample of 'Fancy Bright Tobacco,' grown in Granville County, N. C., and sent to Dr. Voelcker by Mr. John Ott, secretary, &c., of Richmond," deducting sand and carbonic acid (accounted for in a previous analysis) the composition of the pure tobacco is as follows:

Lime,	-	-	-	-	29.12
Magnesia,	-	-	-	-	5.04
Oxide of Iron,	-	-	-	-	1.01
Potash,	-	-	-	-	23.09
Chloride Potassium,	-	-	-	-	7.25
Chloride Sodium,	-	-	-	-	8.93
Phosphoric Acid,	-	-	-	-	4.18
Sulphuric Acid,	-	-	-	-	4.19
Soluble Silica,	-	-	-	-	17.19

100.00

The Doctor says, "I find merely traces of nitrates in the 'Fancy Bright Tobacco,' which, perhaps, is one of the reasons why this tobacco has a very mild

taste; for in all biting, strong tobaccos I find, invariably, nitrates are present in considerable proportions." He also says he finds "little nicotine in this tobacco, which I am inclined to regard as a good feature of this kind of tobacco." Dr. Voelcker speaks of this "Fancy Bright" as this "magnificent tobacco." Now why should not the farmers of Virginia in the regions indicated, go to work and raise this tobacco which pays so well? The farmers of North Carolina are growing rich in its production. The old "North State" is showing her "back-bone" (we always knew she had one) in various ways, and prominently in the cultivation of tobacco. She is exhibiting many evidences of thrift and prosperity, and we rejoice at it, for there is no State so bound to Virginia by ties of sympathy and interest as North Carolina. There is no danger of over production of this kind of tobacco, and the Virginia farmers should go to work and learn its cultivation. We hear of one gentleman, Mr. Benj. Watkins, of Powhatan, who went down to North Carolina to learn from personal inspection the mode of cultivation and curing of the "Fancy Bright," and is now a very successful producer of this variety of tobacco which he is finding to pay exceedingly well.

The pamphlet alluded to makes another good suggestion to the farmers of Virginia, which is to raise "Cigar Tobacco," and gives a map showing the location of the Jurassic and Triassic Rocks of Virginia, which is the region of Cigar Tobacco. The map contains these regions indicated by brown coloring. This Cigar Tobacco is very profitable to raise, as any one will be convinced by finding out what the manufacturers of cigars are paying for it. (The Havana Tobacco costs in Richmond one cent per pound.) We hope every tobacco farmer in Virginia will procure Maj. Ott's pamphlet and study it.

The prevention of the ravages of the tobacco fly, which destroys so many plants, is a very important thing at this season. No doubt putting two feet of plank, in height, around the beds does a good deal of good—also sowing mustard seed around the bed has some effect; and the forcing the plants forward by rich fertilizers and guanos, and watering, should not be neglected. But unfortunately in very cool spells, nothing will make the plants grow. Twelve months ago we, in this Journal, suggested the use of "Paris green," which is so destructive to insect life. We are glad to see that a correspondent in the April number of this Journal, G. G., of Roanoke county, p. 242, says, he has used the "Paris green" very successfully. He uses it in the powdered state. We have used it for the "Potato beetle" very successfully in the liquid state, by putting a tablespoonful of the powder in a two gallon watering-pot, stirring frequently and sprinkling it from the nozzle. We have but little doubt but what it would act very well in this form sprinkled over the tobacco beds, and it is less dangerous than in the form of powder. We must refer our readers to G. G.'s communication for his mode of using it.

Transplanting.—This is the main month for planting out, not only tobacco, but vegetables, such as cabbage, tomato, lettuce, sweet potato, pepper, &c. Evergreens may be transplanted this month, though the last of April is a better time in this latitude. Cedar, Box, Norway Spruce, Privet, Irish Junipers, Weeping Spruce, Balsam, Fir, Arbor Vita, Cypress, Euonymus, may all be transplanted now, if not previously done. If the roots are suffered to get dry, the evergreen is very apt to die. It should be carefully packed in wet moss or hay, or with wet dirt, and not attempted to be transported too far. In setting out, put some water in the hole, then a little dirt to absorb the water, then set the plant, cover the roots with fine dirt, then pour in a moderate quantity of water, then cover

with dirt, to prevent baking of the ground, and to receive the chances of living, apply some mulch, straw, hay or pine tags. These precautions are necessary, for "evergreens" are difficult to live, and we would advise our friends to be very cautious in buying them at "auction," for we doubt if one in a dozen thus bought lives. Never buy them, unless the packing around the roots is moist.

Planting Garden Vegetables.—All tender garden and "trucking crops" must be planted now, if not done last of April, as cucumbers, squash, butter-beans, snaps and melons. Those planting for early market, plant in April, protecting from coal, and fighting the bugs which destroy so many squash, cucumbers and melons. May is the month for planting the main crop of cornfield peas. The first of the month is the best time for sowing cabbage seed for the Fall and Winter supply.

Crops for Soiling.—Now is the time for sowing millet, oats, sorghum and corn-fodder for soiling. Millet on nicely prepared ground, made rich, and half bushel or three pecks of seed per acre, yields heavily for soiling, and comes in very short time. It matures for hay in sixty days. If sown before 15th May on rich land, two crops may be cut in the season. It is easier cured than corn-fodder, and more nutritious, and as corn-fodder is generally managed, it is superior to the latter for soiling. Any rich land answers for it, but light land is better than stiff. Sorghum is an excellent soiling crop for hogs, and cows are very fond of it. If fed to cows it must be fed when young and tender, or the flinty stalk might be dangerous. Hogs will chew it up and get the sugar out of it, after the stalk has gotten quite hard. "German" millet is recommended as being more productive than ordinary millet. Dr. Wood, of Albemarle, recommended it highly in a former number of this Journal. He suffered some of it to mature and found the sale of the seed very profitable. This millet takes ninety days to mature for hay.

Broom-Corn.—If it is designed to raise broom-corn for home use or for market, now is the time to seed it. The "evergreen" variety is the best kind. A good article on its cultivation and management will be found in the March (1876) number of this Journal—and also in April (1875) number, p. 186. We believe the price of it rules low now. If 15 or 20 cents per pound could be obtained for it, as is sometimes the case, or was a few years since, it would be quite a profitable crop to raise. Any good corn land will produce it.

Insects.—This is the month to fight insects. The air is alive with them, particularly in the evening, depositing their eggs, and preparing for mischief. The tent caterpillar must be removed from apple and other trees while their web is small, and the bodies of apple trees should be washed with a solution of potash, one pound to one gallon (Downing), or one can of concentrated lye to four gallons of water—the latter probably best, as the strength of different kinds of potash varies. This destroys "bark-lice" and puts a smooth coat on the bark. Soft soap is also an excellent application on the bodies of trees, permeating cracks and destroying insects, and remaining a long time on the bark. From the middle to the last of this month the winged insect which stings the plum, peach and apple, being particularly destructive to the first, is seen at work about twilight. A fire kindled at this time, will destroy large numbers. Wide mouth vials or bottles, half filled with molasses and water, and suspended from the branches of trees, will also destroy large numbers of winged insects. For the "apple borer," a wire must be used, and the track of the borer followed out and the borer killed. A piece of cloth, smeared with tar, on the outside and inside

of the cloth, and bound around the body of the tree; will catch the borer and other insects which must be searched out and killed every ten or twelve days. For the codling moth, or core worm, which enters the apple and peach, lime and sulphur, finely powdered, are highly recommended—the tree to be thoroughly dusted from above downward immediately the blossoms fall, and the young fruit begins to form. If delayed too long, the worm will have entered the fruit and be out of reach of the lime. Insects injurious to vegetation must be distinguished from those which prey on other insects. Of the latter class, are most of the “Beetle” family. This is a good month to apply the preparation of lime and sulphur which is recommended by the “Experimental Garden” at Washington, and which has been before described in these articles. The peach borer should now be ousted from his home, at the roots, with a knife, and killed.

May is a busy month for the farmer, and if he has any holiday, it is not now. He must move on, sow early and late. Let him encourage his hired laborers, set them a good example of industry, treat them kindly, and *pay them punctually*, if he wants them to work well.

We think the outlook for the farmer this year is promising. Wheat and corn are advancing in price, and should an European war occur (and the tramp of armies is already heard in the distance), wheat will probably be very high. The “Black Sea” supply will be entirely cut off, and the foreign demand must be very great if the war continues, even during the year. The indications are that there will be a protracted war in Europe, and we strenuously advise the farmers to raise more *provision* crops, at the expense of tobacco and cotton. It is not too late to increase the area for corn. Let crops be planted for hogs, and feed them well to bring all the pork which is possible to be raised, to add to the food supply. Sow forage crops to feed to stock by soiling, and thus save corn. If the war should not occur, nothing will be lost. If it does, as it seems almost certain now, then farmers will be saved from the ruinous necessity of buying provisions at a high rate. The wheat crop in Virginia is, as far as we can learn, promising; so of winter oats, neither wheat nor oats having in this section been much winter killed. We certainly never saw more grass in the Spring, which is, we suppose, attributable to the number of snows we have had, and to the last of the Winter having been, comparatively, mild. We hope a better day is dawning on Virginia and the South. Let the farmers take heart—let there be union of action. We are all in the same boat—Agricultural Society, Patrons of Husbandry, County Clubs, individual farmers, and the State Bureau of Agriculture, soon to be organized, and let there be a “long pull, a strong pull, and a pull altogether.” Let our efforts be united, and the power of the agricultural interest will be felt as it never was before. Why should there be divisions in our ranks? “In union there is strength—united we stand, divided we fall.”

In our last editorial we spoke of “*chafa*” as a feed for hogs. All of what was said of it should have been put as a quotation from Dr. Steele, whose farm is near Mobile. We know nothing of it from our own experience, and suspect it is only suited to a climate warmer than that of Virginia. We spoke of “German millet” for soiling *generally*, and for hay, and did not mean to speak of it for soiling *hogs* particularly. The objections to the Bill for Establishing a Department of Agriculture, Mining and Manufactures, had reference to the extensive character of the bill, with the small appropriation attached, and the prominence given to the analysis of soils, which latter was modified in the bill as passed. Too much work was laid out to be accomplished by the meagre appropriation—a defect which we hope and believe will be remedied by future legislation.

Editorial—General.

THE WAR IN THE EAST.

Russia never had the strength she has now. Her forty-four and a half millions of serfs are now all free men; and having white faces, can be depended upon. In wisdom of administration, that great Empire stands without a peer. The tremendous experiment of changing the social *status* of more than half of its population (and that too without a convulsion), was a feat few would undertake, and still fewer be able to carry out. It was done, and with results so happy that the exports of Russia increased from £21,000,000 sterling, in 1863, the year of emancipation, to £55,000,000 sterling in 1872. Russia has now her whole population (speaking of the European portion) of 68,000,000 to look to for support in her operations, and not merely to the difference between that number and 44,500,000, as she had before the serfs were freed.

With the people of Russia, the opposition to Turkey has a religious foundation; with the Government it is commercial, making due allowance, of course, for the hereditary desire of its monarchs for more land. The productive part of the Empire is the middle and south. These products find their way to market at Odessa and Taganrog, on the Black Sea. An untrammelled exit to the Mediterranean is, therefore, now a prime necessity to her commerce, and if this exit is to be secured at all, it might as well be done now as later. It would be a waste of time to expect any change in the Turk, except for the worse. He is an ulcer on the Continent of Europe that has been tolerated too long already. The doctors have applied salves until their store is exhausted, and all to no purpose; the knife now must do the work, and it is highly probable it will be well done.

There is no particular reason why anybody else should desire to take a hand in the contest. England has lost her military prestige; she has become too intensely commercial; her instrument is now rather negotiation than the sword. France has her own business to attend to; the East presents nothing that affects her interests. Germany has as much as she can do to keep a sharp lookout on France. Austria has not back-bone enough to undertake anything on her own account. Her people are too diverse in their blood to be cemented into anything like a manageable unity. She has two capitals, Vienna and Pesth, which looks practically very like "a house divided against itself;" especially when joint work is contemplated. And as for Italy, the Pope is still there, and the old gentleman will not be quieted.

The war has commenced, and the uncertainty about it being ended, things elsewhere will soon go on in their usual way.

PEACE.

We have peace at last in the South. The infamy of "reconstruction" has spent itself. The North waged the war on the theory that the Union could not be dissolved, and yet, when the war ended, they proceeded forthwith to dissolve it, and in the most summary and outrageous manner; that is, they have kept the *States* of the South in the condition of conquered provinces. But a people who can expend a world of energy on a new patent clothes-pin or pen-wiper, are not presumed to know much about government; and are, therefore, on the basis of ignorance, to be excused.

But the fact now is patent: we have peace. It will take our folks in the South

sometime, of course, to put in manageable shape the chaos brought about by the last twelve years of misrule. When this is done, our business, above all others, is to bend our energies, every man of us, to *the development of our resources*. We do hope then, that the press of the South will cease longer to be the mere imitators of the press North, and, ridding its columns of the mass of trash that passes current for news, give the bulk of its space, every day and week, to *the concerns of its own region*. The press makes our public opinion; let it be a healthy public opinion. We are, in the Southern country, just at the beginning on the way to wealth. But there is no royal road to this end, as much as nature has done for us. It must be reached through sweat and toil, and all that the people want is encouragement, and the press can furnish it.

The *Lynchburg News* has made this new departure, and with a spirit and ability worthy of all commendation. Will not every paper in the South follow suit? This will be the "book of etiquette" that will improve the Yankee's manners; and nothing else will.

"TOBACCO IN VIRGINIA AND NORTH CAROLINA."

We have had laid on our table a publication by the Southern Fertilizing Company, of this city, bearing the above title. It presents two matters that should prove of interest to our folks in the tobacco country, namely, the examination of our fine yellow tobacco by the eminent Dr. VOELCKER; and the feasibility of undertaking in Virginia and North Carolina the cultivation of cigar tobacco. The "Latakia," of Turkey, can no longer claim pre-eminence as a smoking tobacco, our fine yellow disputing its claims at all points; and what is more, bidding fair to supplant it throughout Europe. Our enterprising manufacturers are not asleep; on the contrary, Blackwell's "Durham" is, we learn, now sold largely in Turkey itself. This is one of the gold mines we have in this region of country, and many more, in other directions, will be opened as time advances. All we want is a good store of resolution not to be beaten in anything, and we will be surprised to find what we are able to accomplish. As to cigar tobacco, there is no reason why we should not produce it of a quality superior to anything grown in this country, Florida excepted, and we hope our friends will not allow the information proffered in this document to go barren of results.

Now that we are going to have an Agricultural Bureau, all of our great interests will receive attention such as they have never enjoyed before, and we call upon every lover of the Commonwealth, and we hope all of us love it dearly, to give the head of this Bureau not only encouragement in his work, but *direct personal aid* in making the collection in the museum as full and complete as possible. Let it be, in deed and in truth, a picture of the *whole Commonwealth*; and thus a source of pride to every man in it. We want a united Virginia; and all pulling one way, no man can tell the measure of prosperity it will bring. It needs no argument to show that groans and folded hands will never do the work.

We have, also, from the same Company, a little paper showing the composition of the sweet potato, notably that of Hanover county, Va., as ascertained by Prof. JOHNSON, of Yale. This glorious potato is fit for a King, and we imagine there is no King so august that he would not be happy to have his table graced by a dish of them—perhaps he will when our enterprising truckers in Hanover arrange to have them placed in the markets of Europe; and that day is bound to come—and there will be found another gold mine.

All these hopeful things we urge, because they are within the range not only

of possibility but of easy accomplishment; and so we have'nt, in being thus sanguine, before our eyes the fate that a distinguished jurist of this State once suffered at the hands of the irate MOZIS ADDUMS, namely, blown to atoms with lightning bugs.

VERY WISE COUNSEL.

We take great pleasure in submitting to our readers the following circular letter of the Commissioner of Agriculture of the State of Georgia to the farmers of that flourishing Commonwealth. It comes with no less force to the farmers of Virginia, and we trust they will give it heed. As tobacco is now, in all countries, an element in a soldier's ration, it is not probable the war will affect the consumption of that crop much. However that may be, it will pay us to make our crops of subsistence as full as possible, more especially as Russia and Turkey, which have heretofore supplied the bulk of Europe with wheat and corn, will now be out of the market:

STATE OF GEORGIA, DEPARTMENT OF AGRICULTURE, }
ATLANTA, April 17th, 1877. }

To the Farmers of Georgia:

In view of the threatened war in the East—which seems now to be unavoidable—it becomes us as prudent men to avert, as far as possible, its disastrous effects upon our industries, by a wise forecast in our farm economy.

The indications now are that there will be protracted war, involving the leading powers of Europe, the necessary consequences of which will be a rapid advance in the price of food supplies.

Even the "rumor of war" has already caused an appreciable advance in meats and breadstuffs, and a decline in our great staple—cotton. Unusually large shipments of provisions to the various European ports are already reported, and must continue so long as the war lasts.

The foreign demand for cotton may be greatly reduced, and its price fall below even its present low figures.

In view of these facts, the farmers of Georgia are urged to increase their areas in provision crops. It is not yet too late to increase the area in corn, even if it has to be done by reducing the area in cotton. Let farmers plant enough corn to insure an ample supply for the ensuing year. Let them plant crops for their hogs, and force them forward to secure, as nearly as possible, a supply of bacon for home consumption. Let them plant liberally in German millet and field peas to supplement their corn in feeding stock, in order that more of their corn may be used for bread.

If the war should be averted—of which there is at present little probability—we will have lost nothing by the above policy; if not, we will have provided against the possibility of loss or suffering. In either event, those who adopt the above advice will have nothing to regret, while those who do not may be compelled to purchase provisions at ruinously high prices, and pay for them with cotton at prices even below the cost of production.

Very respectfully,

THOMAS P. JANES,
Commissioner of Agriculture.

THE BILL ESTABLISHING "A DEPARTMENT OF AGRICULTURE
FOR THE STATE."

We desire to commend to the farmers of Virginia the establishment of a department in their interest. Better late than never. Agriculture is the predominant interest of Virginia, and it is astonishing that of all the vast amounts which have been appropriated by our Legislatures in the past for various purposes, that this paltry sum of \$5,000 establishing this Bureau is the first cent, besides the appropriation establishing Blacksburg College, which has been appropriated directly to the interest of agriculture. Dr. STRAYER, the patron of the bill, asked for \$15,000, and that the fertilizing companies be required to pay for the analysis of

their fertilizers. Our liberal legislators struck down the appropriation to the sum named, out of which is to be paid, for analysis of fertilizers, the salary of the "Commissioner of Agriculture" and his clerk; the collection of a cabinet of minerals, statistics of sheep husbandry, a geological survey of the State, an account of the insects injurious to vegetation, and remedies, with publications of reports of all these things, including, too, the general statistics of all the interests pertaining to agriculture. The salary of Commissioner is \$1,500; clerk, \$600; analysis of fertilizers, \$2,500 (there are more than one hundred fertilizers sold in the State, which, at \$25 for each analysis—the lowest price for which it can be done—will foot up \$2,500), and we have the aggregate of \$4,600. Now, whence is to come the money to accomplish all the various other purposes contemplated by this bill? The publication of proper reports will cost double the sum remaining over from the \$4,600. Georgia, three years ago, established a similar department, and appropriated \$10,000 to carry it out, *exclusive* of salary of Commissioner and clerk, and *exclusive* of analysis, which is paid by the fertilizing companies. North Carolina has recently established a similar Bureau, taxing each fertilizing company \$500, which is to be appropriated to carry out the objects of the department. Estimating the number of such companies at one hundred, and we have the magnificent sum of \$50,000 with which to operate this department. We do not design to express any opinion about the propriety of this law. Other States, particularly the Northern ones, have established such departments, with Experimental Stations and with ample means to conduct them.

We hope this bill, passed in Virginia, will be the entering wedge for the inauguration of an useful, and lasting, and extensive department for the benefit of agriculture. This can only be accomplished by an appropriation by our next Legislature of a sum adequate to accomplish the desired ends. Such an appropriation, we are convinced, will pay many fold any reasonable sum which may be devoted to this purpose. Fifteen thousand dollars would, in all probability, save to the farming interest ten times the amount, if properly used. Germany has for many years been appropriating large sums for the advancement of agriculture, and has now forty "Experimental Stations" established throughout the country, and they are too shrewd a people—too calculating—to expend these large sums, if it did not pay. Numerous instances are reported where very large amounts have been saved to the farmers by analyzing fertilizers, inspection of seeds, experiments with different grasses, development of the mineral interests, experiments in stock feeding, and in other ways. Other countries in Europe are also appropriating large sums in the same direction.

Dr. STRAYER, of Shenandoah, the patron of the Virginia bill, deserves the grateful thanks of the farmers for this effort in their behalf. He encountered numerous obstacles and opposition in various directions, and but for his energy and perseverance, the bill might have failed altogether. The Doctor is a large landholder, and a very successful agriculturist and stock raiser, and has deeply at heart the farming interest and the welfare of his native State. We are sorry to learn that he declines to represent his county in the next Legislature. We hope the people in his district will send him to the next U. S. Congress. He will be the man to push forward any scheme which will inure to the benefit of the farming interest of the country. He is one of those who believes that the United States Government is doing too little for agriculture, and that other plans should be inaugurated than those now in operation to develop the agriculture of the whole land. Let the people of the "Valley" take our humble advice, and send him to Congress to further their interest and welfare, and that of all the States.

THE CARPET BAGGERS.

The career of this precious set of scoundrels is wound up at last : Louisiana is delivered. For twelve long and weary years, the South has been cursed with this dreadful curse, and history fails to show a parallel in any age or country of their baseness, corruption, and general villainy, and, coming from a region where religion is too much mere merchandise, they were mostly psalm-singers. These things, having only the semblance of men, found a lodgment within our borders—as the minions of Grant, a man who wilfully threw away an opportunity that would have given him for all time the honest regard of the people he conquered. That people, and their children after them, will remember him with a shudder, and thank Heaven that he saw the light elsewhere than on the soil they love. Mr. HAYES, albeit a usurper, has done us justice, and we are not unthankful for it. He has captured legitimacy.

Now that our thralldom is ended, let us address ourselves, with our whole hearts, to the repairing and improvement of our section. It needs the best that's in us, and, as God has favored us with so many advantages, we are untrue to ourselves and to our children if we allow them to go unimproved.

STICK TO YOUR FARMS.

The life of a farmer is not an easy one ; but when we look around and see the wrecks of fortune made on every hand by men engaged in other pursuits, the farmer has cause to be thankful if he can support his family and give his children a good common education. * * *

Farmers, be contented. You may not be able to lay up money ; but if you can live comfortably, envy not the condition of those engaged in other pursuits. To those farmers who are out of debt, and own good farms, need I say that the apparently wealthy bankers of Wall street might well envy your lot? Nearly every week some one of these firms, owning millions of dollars, explodes, and its members sink into poverty and obscurity ; but the farmer who is out of debt owns a bank that can never fail, inasmuch as seed time and harvest are promised unto the end of time.

We get the above from the *Wilson* (N. C.) *Express*, and it speaks the words of soberness. The flush times in business are passed. Everything is settling down on the basis of real values as measured by *actual* consumption ; and the towns offer no inducements whatever that would authorize a man quitting his farm. In diversified production, the farmer will find an outlet for all he can raise ; and it behooves him to look well to his affairs.

THE OLD NORTH STATE.

Gov. HAMPTON has no stronger hold upon the affections of his people than Gov. VANCE has upon North Carolina. The election of Gov. VANCE marks a new era in that great Commonwealth. The people are quieted in mind, and feel that with such a leader, they will speedily be delivered from all of their troubles ; and when people have this *feeling* the *work* is sure to follow. The Governor is President of the North Carolina Board of Agriculture, and is giving his whole might to helping that interest. We learn from him that it is the intention of the State Agricultural Society to have a fair this Fall without a parallel in excellence in the previous history of that State ; and that live men are at work, in connection with it, at all points. This makes our heart glad ; and more, induces the hope that Old Virginia will “ stir her stumps ” and do as well. *We can if we will.* Let Major DREWRY arouse the State.

ARLINGTON.—The *Alexandria Gazette* says : “ We understand that Gen. G. W. Custis Lee has instituted an action of ejectment for the recovery of the Arlington

estate (in the county of Alexandria, and State of Virginia), devised to him by his grandfather, G. W. Parke Custis. When the facts which have induced this action on the part of Gen. Lee have become known, we are convinced that it will not subject him to the slightest censure by any honest or right-thinking man in the country."

We confess to obtuseness in connection with the concluding portion of the above paragraph. We cannot conceive how a man can be made the subject of censure for trying to gain possession of his own. We can see no distinction between public and private robbery; and because the Government chose to steal Arlington does not prove that the theft should be palliated; otherwise, the Government's minions, the carpet-baggers, would stand acquitted.

AGRICULTURAL AND MECHANICAL COLLEGE.

Hon. John Randolph Tucker, of Washington and Lee University, and Prof. Buchanan, of Emory and Henry College, are expected to deliver orations on the Commencement occasion of the Agricultural College this Summer.

As the boys at the Agricultural College had a brilliant time at the last Commencement, the above would seem to indicate that they have no less in store for that now approaching. Our friends know what we think about that College. We do hope President MINOR will have representative men there from every portion of the State. It is an institution in which all alike are interested, and the fame of its usefulness cannot be too much spread among the people.

THE NATIONAL BANK OF VIRGINIA.

It gives us great pleasure to commend this excellent institution to the confidence of our friends in the country. It was organized directly after the war, and has continued to advance in its business, until now it is second to none anywhere in character and respectability. All banks were subjected to a fearful strain in the panic of 1873, but this institution, during all that troublous season, paid promptly every check presented at its counter. The President of this bank is our honored fellow-citizen, E. O. NOLTING, Esq. Mr. Nolting is the President of the Richmond Chamber of Commerce, and one of our largest shippers of Continental tobacco. We know of no native-born Virginian who exhibits more public spirit, or takes more interest in everything looking to the development of the city and State. And as to Mr. Lockwood, the Cashier, he is an "old stager" in the banking line, starting his career in the Bank of the Old Dominion, at Alexandria. His excellence as an officer and a man, should certainly, after twenty-five years of faithful service, be known of all.

We have urged, again and again, that we in the South were really suffering more from a lack of *concentration of capital* than of capital itself. Money locked up in one's chest, whether the amount be great or small, in the general economy of society, avails nothing; it is only valuable while it moves. Banks were made to concentrate capital, and the element of safety being assured, the bank should receive every dollar not in the active service of the owner; but even there he is rid of its custody, which is always dangerous (especially in the country), and it is commandable through a check at will.

THE SUMMARY OF VIRGINIA'S RESOURCES.—We are gratified to say that, by a late law, the Board of Immigration (whose Secretary is Mr. S. V. Boykin, at the Capital), is authorized to dispose of the "Summary" in such manner as in their judgment is deemed best. This will permit their giving them away.

THE CANAL LEASE.—We were not definite enough, in our last number, in speaking about the Canal Lease. We should have divided the glory, and said that Gen. LEE led the forces in the Senate, and Col. HUBARD, of Buckingham, in the House.

M. VILLE'S PAPERS.—In the January number of the *Planter*, we stated that M. VILLE, the distinguished French agriculturist, had favored us with some papers on the nutrition of live stock; and that they had been placed in the hands of Col. RANDOLPH HARRISON, of Cumberland, for translation. We have the pleasure of announcing that they will shortly appear in our pages.

THE CIVIS PAMPHLET.—A distinguished scholar of another State, upon receiving a copy of CIVIS' pamphlet, sends an extended comment, from which we take the following sentences:

"I am still of the opinion that we have had no papers since the days of Madison more worthy of public consideration. They are subtle and comprehensive in thought, vehement and eloquent in style; yet as chaste and self possessed as possible. It is the dignity and momentum of a great river, not the wild uncontrolled dashing of a mountain cataract. I do not know which of the letters is the best. Probably the third is the completest and most conclusive. But the second is very fine."

For copies of the pamphlet, address SOUTHERN PLANTER AND FARMER, Richmond, Va.

JUDGE WILLIAM FULLERTON.

We take much pleasure in presenting to our subscribers, in this number of the *Planter and Farmer*, a most excellent picture of Judge WILLIAM FULLERTON, the distinguished New York advocate, and one of the foremost of our American agriculturists.

Judge FULLERTON is about sixty years of age, and was born in Orange county, in the State of New York. His grandmother was one of the few survivors of the fearful Indian Wyoming massacre, and with a few others, when a girl of only twelve years, escaped the fury of the savages by crossing the then trackless mountain wilderness from Wyoming Valley to what is now the thriving village of Deposit, on the Delaware.

After passing his early life on a farm, young FULLERTON was graduated at Union College, in the State of New York. He was called to the bar shortly thereafter, and settled at Newburgh, on the Hudson, where he soon established a large and lucrative practice, taking a leading part in the causes tried in his own and neighboring counties.

In 1852, having defeated the celebrated CHARLES O'CONNOR in a hotly contested litigation in Brooklyn, he was invited by Mr. O'CONNOR to remove to New York city and join him in business. He accepted the invitation, and continued with Mr. O'CONNOR in business until 1860, during which time he became recognized as one of the leading counsel in the metropolis. Since the dissolution of his partnership with Mr. O'CONNOR, he has continued in the active practice of his profession, except during a period of a few months, when, by appointment of the former, he occupied a position on the bench of the Supreme Court of the State, and was *ex officio* a member of the highest court of the State (the Court of Appeals), and to which position he was re-elected without opposition. A seat on the bench, however, not being congenial to his tastes, he resumed his practice at the bar, and has for several years been at the head of the well-known law firm of FULLERTON, KNOX & CROSBY.

It is said of Judge FULLERTON, that during the last ten years he has tried more important causes than any lawyer at the American bar. He has won a reputation as a cross-examiner and as a great and successful advocate not second to that of any man now in practice. It is not our purpose, however, to speak of him as a lawyer. We and our readers are more interested in him as an agriculturist who is doing a great work for our old Commonwealth. To his farming operations in this State we wish to direct attention, in the hope that the good example which he has set may not be lost.

Judge FULLERTON has been an enthusiastic farmer for many years, and while in the whirl of his large professional practice in the city, he carried on a large and model farm in Orange county, New York. Between four and five years ago he was induced to sell his New York farm, and immediately purchased about five hundred acres of the so-called worn-out land of Fairfax county, about two and a half miles from Clifton Station, in this State. To his original purchase he has since made additions, so that now his farm comprises between seven and eight hundred acres. At the time of his purchase there were not ten acres of cleared land on the whole tract. The portion which had once been cultivated had, during and since the war, grown up to pines of from four to six inches in diameter; all fences had been destroyed, and no vestige of a house was left. When the Judge commenced work (about four years ago) his whole farm would not have supported six head of cattle. Now he keeps over seventy-five head, and has for sale over two hundred tons of the best quality of English hay and of clover, and has no difficulty in getting from eighty to ninety bushels of shelled corn an acre out of his "worn-out" land.

We doubt whether any farmer in the South has wrought such a magical transformation in so short a time. The secret of his success lies in the fact that he is a thorough master of the principles which lie at the foundation of successful agriculture, and in the further fact that he is an enthusiast thoroughly in love with his farm and his stock. To bring his farm to its present high state of culture, he used, in the first place, the commercial fertilizers until he secured a large clover crop; then, by turning this wonderful crop under as a green manure, he soon brought his land to an almost perfect condition.

Shortly after commencing his farming operations he began the importation of the best strain of the celebrated Holstein stock he could find in Holland, so that he now has a very choice herd of about thirty-five head of thoroughbred Holsteins and a large number of grades of unusual excellence. Notwithstanding he has an abundance of land which might be devoted to pasture, he has adopted the system of soiling his cattle, and he finds a profit in it on account of the great quantity of the best manure which he is thus able to accumulate. All the manure made on the farm is carefully preserved under cover until it is needed on the fields. From time to time, the Judge has been compelled to enlarge his barn accommodations, until now he has probably the largest farm-barns south of the Potomac; and yet he has not room enough to store away the great crops which he gathers from the land over which only five years ago the pine and the sedge had undisputed sway.

At the head of his herd of Holsteins he keeps the celebrated bull Highland Chief 4th, which he purchased of the Massachusetts Agricultural College. This bull is one of the finest specimens of the herd in this country, is thoroughly broken to harness, and is worked almost daily by a boy. The Chief has no difficulty in drawing a load that an ordinary yoke of oxen could not move.

Of course, as Judge FULLERTON is able to pass but a day, now and then, on his

farm, he could not have accomplished such wonderful results had he not been aided and seconded by the intelligent co-operation of a foreman capable and willing to execute his plans. He has been very fortunate in finding such a person in Mr. THOMAS FLETCHER, who has had charge of the farm during its transformation.

The example set by Judge FULLERTON is not being lost in his section of the State, so that now the farms of the Rev. Mr. OTIS and of Mr. MACHIN, and others in Fairfax, are finger-boards on that road of progress which our Southern agriculturists must follow, if they wish to succeed. Judge FULLERTON is doing a great and good work for us during his intervals of recreation from an exacting profession. Let us profit by his example, and extend the old-time Virginia hospitality to such large-hearted and big-brained men as he, who are willing to unite their efforts with ours to reinvigorating our old and best-beloved Commonwealth.

PREPARE FOR THE FAIR.—The Executive Committee of the State Agricultural Society, having arranged the Premium Lists, these lists will soon be out, and we understand, thoroughly distributed through the State. We are delighted that the work has been done thus early, and we call upon our friends, men and women, boys and girls, to do for its success all in their power. But little headway can be made if only a few persons are expected to do everything. We are rid now of the wretchedness of general politics; now let us address ourselves to our own concerns, and go into it with all our might.

UNIVERSITY OF VIRGINIA.

The Catalogue of this Institution for its Fifty-third session (1876-77) has been recently issued, and shows a degree of prosperity at which every friend of education should rejoice. The number of students (347) is an increase over the number of last year, which is an earnest of progress; and yet the increase is so small as to entirely dissipate the fears of the opponents of the "free tuition" feature of the "University bill" that the halls of the University would be crowded with immature youths attracted by the bait of exemption from fees.

It was a grand conception of Mr. JEFFERSON, and a noble work that founded the University of Virginia, and put it into operation fifty-three years ago, and its history from that day to the present, has been one of the brightest chapters in the annals of the Commonwealth.

The average number of students who have annually attended the sessions of the University has been larger than that of most of the institutions in the country—these have been over 16,000 matriculates since its establishment; but the glory of this noble seat of learning is not in its numbers, but in the ability of its professors, the high standard of its scholarship, the wide influence it has exerted in elevating the standard of education in Virginia, and throughout the South, and high moral and religious influences which (in latter years at least) have pervaded its halls.

Mr. JEFFERSON originally brought over from Europe the ablest professors he could find. Their mantles have fallen upon most worthy successors, and no other institution on the Continent has had such a combination of native ability, ripe scholarship, "aptness to teach," and magnetic power to will, mould and inspire students with a love for sweet learning and a determination to *work* for its attainment.

The standard of scholarship was fixed very high, and the examinations made

rigid at the beginning; but there has been a gradual raising of the standard from year to year, until it has long been understood that the University has absolutely no rival in this regard in the country. Yale and Harvard, with their princely endowments and splendid facilities, do not require anything like as thorough scholarship in their graduates as does the University.

As for the influence which the University has exerted on the educational interests of Virginia and the South, they are too patent to need any lengthy statement. The Superintendent of Public Instruction (Dr. W. H. RUFFNER) showed, in his report several years ago, that there were more students in the male colleges of Virginia, in proportion to population, than in any other State in the Union—more than in any country in the world except Scotland, and more than in the colleges of Scotland, if we exclude (as in all fairness we ought) from the calculation the colored population of Virginia. The influence which the University has exerted in bringing about these results, and in establishing the many noble female colleges and institutes, of which Virginia has such just cause of pride; in putting a good classical school in well nigh every neighborhood (as was the case before the war), and in establishing male academies and high schools of unrivalled excellence, can never be fully computed. But such facts as these speak volumes. The University of Virginia has given over 200 professors to the universities and colleges of the South and West; *over thirty* of the present professors in the universities and colleges of Virginia are *Alumni* of the University of Virginia, while the female colleges, the great high schools, and hundreds of the other best schools in the State, are fortunate in being taught by University men. And wherever we look through the South and Southwest, we find that men trained at our noble University are the leading educators of the people.

When the University was first established, with the avowal that it was to be under the control of no religious denomination, and with no provision made for religious services of any kind, there were serious fears that its "free system" would degenerate into "free thinking" and rampant infidelity. And it must be confessed that for many years the moral and religious influences exerted there were none of the best. But gradually there came into the faculty men who to ripe scholarship added the graces of earnest Christian workers—the chaplaincy was established, the Young Men's Christian Association was organized, and other influences were brought to bear which have wrought a wonderful revolution, until there is scarcely a college in the land to-day where the moral and religious tone is higher than at the University of Virginia. Nearly every member of the Faculty belongs to some one of the evangelical churches, the Christian students are organized and at work, and an unfaithful chaplain would not be tolerated.

Before the war, donations to the University were rare, as it seemed to be regarded the business of the State alone to provide for its wants; but within the past several years, a number of notable gifts have been received. Among these may be mentioned the legacy of the late Sam'l Miller, of Lynchburg, of \$100,000 for the establishment of the Department of Scientific and Practical Agriculture; \$50,000 donated by the great philanthropist, W. W. Corcoran, Esq., of Washington; \$70,000 from an unknown benefactor in Rochester, N. Y., for the building and equipment of a Museum of Natural History. \$5,000 by Mr. Corcoran for the Library; and the full equipment of a Gymnasium, by Mr. E. H. Squibb, of Brooklyn, N. Y. These donations are hopeful auguries of many such in the future.

The University is very fortunate in having as the presentable and accomplished Chairman of its Faculty, Dr. JAMES F. HARRISON, one of our most esteemed per-

sonal friends, who combines business capacity, firmness, gentleness, and other qualities in such rare degree as to make a *Model Chairman*, as well as a Professor.

Upon the whole, we congratulate the University, and congratulate the Commonwealth on its present status and prospects. One of the loveliest spots that the sun shines upon—with a faculty unsurpassed, and a standard of scholarship unequalled—with the fostering care of the State, and the liberal benefactions of friends of learning—with free tuition to Virginia students, competent to enter the Academic schools, and with a new “messing system” which offers cheap board to all—and above all, with a pure moral and religious atmosphere, where our young men may drink from untainted streams of learning—what may we not expect in the future for our noble University.

THE RICHMOND ENQUIRER.

An encouraging indication of newly-awakened prosperity, and a sure index of even better times to come, is furnished daily by that staunch old advocate of Southern men, Southern trade, and Southern principles—the *Richmond Enquirer*. The journal, since its new departure, has taken a fresh lease of life, and it is winning encomiums of praise from all sections. The *Enquirer's* merits, and especially its cosmopolitan character, have never been so generally recognized as at the present time. Its editorial department, presided over by G. WATSON JAMES, Esq., is distinguished by exceptional ability and originality. Its utterances furnish the key-note of Southern sentiment, and where it leads, our people may safely follow. Of its financial and commercial department we can hardly speak in too exalted terms of commendation. These accurately reflect the state of the money market, contain the latest quotations from all commercial centres, and treat impartially on every topic of trade which interest buyers and sellers. We are glad to know that the *Enquirer* is sailing along on the flood-tide of prosperity—a tide that will surely lead to fortune.

J. W. RANDOLPH & ENGLISH.—There is no surer proof of the growing prosperity of our city, than the improving and enlarging of its manufacturing and mercantile houses. We notice among others, the removal of J. W. Randolph & English from their old stand, 1318, to their new and elegant five story building, 1302-4 Main street. Their establishment was founded in 1833. The book department has been enlarged, and is full and complete in its various branches, both for wholesaling and retailing. The antiquary may here have his desire fully satisfied, and the merchant have as good an assortment as is to be found this side of Philadelphia. We are particularly struck with the manufacturing department of this old firm. Their *regular* force is composed of nine men and six girls, and is often compelled to employ an additional force of from fifteen to twenty. Here may be seen the process of bookbinding in all its various modes; from the folding of a sheet of paper by the apprentice girl, to highest style of binding in muslin, sheep, calf, Turkey and Russia, by the master workman, which will compare with any Northern house in style, neatness, and durability. They are publishers as well as manufacturers, and their publications have received the prize for cloth and other style of bindings at our State Fairs. The whole force of the house is from twenty-five to thirty. Just such houses as this is what we want in our city, and it is well worth a visit to those who feel interested in home institutions.

THE AMERICAN FARMER,

The pioneer farm journal in America, and so long the exponent of the agricultural interests of this section, begins a new volume under the same control as for thirty years of its existence.

It will continue to be active in every branch of agricultural improvement, and devoted to the true interest of the farming class.

Containing nothing sensational or flashy, it is meant to suit the wants of intelligent and reading farmers and their families. The editors receive the aid of a large number of correspondents, eminent in their respective branches; and in each number, besides the treatment of the staple crops, the management, use and application of home-made and artificial manures and fertilizers, will be found something seasonable for the Farm, Barn-yard, Sheep fold, Orchards, Vineyard, Garden, Dairy, Poultry-yard, Apiary, Window Garden, Greenhouse, Lawn, Workshop and Household.

Subscription \$1.50 a year. To clubs of five or more, only \$1 each. All postage prepaid by us. Any person sending ten or more names at \$1 each will receive an extra copy free.

As an advertising medium the following unsolicited testimonial will bear witness to its value.

WOODSTOCK, VA., December 13, 1875.

Messrs. EDITORS AMERICAN FARMER,—I have advertised through the agricultural press generally, and especially in the journals of the South, and must say for your encouragement in well doing, and for the benefit of your patrons and other wishing to reach Southern farmers through advertisements, that, in Southern trade, I have derived more benefit from advertising in the *American Farmer* than from all other journals together.

Truly yours, L. H. MCGINNIS,

Address SAMUEL SANDS & SON,
PUBLISHERS AMERICAN FARMER,
9, North Street, Baltimore, Md.

Ap—2t

RICHMOND PRICES CURRENT.

Reported by E. & S. WORTHAM & Co., Grocers, Dealers in Iron and Steel, and Commission Merchants.

Personal attention paid to the sale of Tobacco, Wheat, Corn, Flour, Oats, Rye, &c., &c. APRIL 30, 1877.

TOBACCO.—Bright Lugs, \$8a\$20; Bright Leaf, \$12a65\$; Dark Lugs, \$3a\$6½; Dark Leaf, \$6½a\$12½.

WHEAT.—Best samples, White and Red, \$2.10a\$2.18;

CORN.—70a73c. per bushel. CORN MEAL.—75a80c. per bushel.

FLOUR.—Superfine, \$9½a\$9¾; Extra, \$10½; Family, \$11½a11¾

OATS.—Spring, 48a50c. per bushel.

PLASTER.—Ground, \$8 per ton.

LIME.—Rockland, \$1.15a\$1.25; Virginia, \$1.10a\$1.15.

HAY.—Virginia Timothy, 75a80c.; Clover, 50a65c.

WOOL.—Washed, 30a35c.; Unwashed, 20a25c. for choice.

COTTON.—11½a10¾c. for low middling.

BUTTER.—Common, 12½a18c.; Good to Choice, 22a25c.

SALT.—Fine, \$1.85; Ground Alum, \$1a\$1.05.

POTATOES.—\$1a\$1.25 per bushel.

BEESWAX.—28a30c. per pound.

COFFEE.—Rio, 21a23½c. for good to very good; Laguayra, 21a23½c.; Java, 28a30c. MOLASSES.—Common, 28a32c.; Porto Rico, 55a65c.

FEATHERS.—40a50c. for live goose.

BEANS.—White Navy, \$2.75a\$2. PEAS.—Black Eye, \$1.a\$1.25.

Valuable New Forage Plant, THE PRICKLY COMFREY.

PRODUCES FROM 20 TO 80 TONS PER ACRE.

"This is a comparatively new forage plant introduced from the Caucasus. It has been cultivated some years in Ireland, and in some parts of England, and is likely, before long, to supersede many of the forage plants in general cultivation.

"It possesses many advantages over other plants in common use. It affords a cutting earlier, and lasts longer than almost any other. If cultivated upon a good deep soil, it will yield a heavier crop than any other plant; and when once planted, it will last forever. It is very hardy, and is found to produce heavy crops upon any dry soil, although poor and unsheltered. It is much relished by horses, cows, sheep, pigs, rabbits, and poultry. Horses are found to work well upon it, and are not 'soft,' as on other green food. Spring is the most proper time for planting, but no month comes amiss with it, unless mid-winter, when the frost might kill the fresh-planted roots.

"Procure root cuttings, and mark off your ground, and dig good-sized holes over the entire piece, each being 2½ feet apart each way. Into each of these holes throw a good shovelful of dung, and on the top of this place a root-cutting, drawing the earth over it, leaving the crown about two inches under ground. Keep the ground clean and free from weeds, and in a few weeks a large quantity of leaves (something similar to the Foxglove, or wild Comfrey) will be thrown up by each plant. These should be cut when they have grown to a height of two to three feet, and before the blossom opens. In about six weeks a second cutting may be obtained, and so on throughout the summer; each time affording from 10 to 15 tons of fodder to the acre. The first year as much as 20 tons may be obtained; the second year, 50; and every year after, 80 to 100 tons. But to do this, it will be necessary to lay on a *heavy amount of manure*, as, in this respect, Comfrey is no exception to the rule which demands an equivalent being returned to the soil to keep up fertility.

"It may be cut with a hook, tied up in bundles, and so carried to the stall or farmstead, as required, day by day. For Amateurs and Cottagers having a horse, cow, or pig, few crops will be found so useful or more easily cultivated. A few hundreds of root-cuttings will suffice to make a start, as every spring the roots may be raised and divided into twelve parts, and twelve times the area of ground planted."

Price per 1,000 sets,	\$30 00
" " 500 "	17 50
" " 100 "	4 00
" " 50 "	2 50

Delivered at the express office free of charge. Orders of fifty or one hundred can be sent by mail, in which case enclose ten cents for postage.

In all cases, cash in advance.

DICKINSON & CHEWNING,
Richmond, Va.

Sole Agents for the Southern States.

No order taken for less than one hundred.

Ap—tf

WALNUT GROVE FARM.

THOROUGHbred and GRADE JERSEY CATTLE, BERKSHIRE and ESSEX SWINE, and BRONZE TURKEYS.

First Premium awarded me by Va. State Agricultural Society, in 1874 and '75, on Thoroughbred Jerseys, Male and Female, also on Essex Swine, Male and Female, under 1 year old. First Premium awarded on Bronze Turkeys of 1874, and I am breeding from the First Premium birds of 1875.

Prices moderate—Satisfaction Guaranteed.
Address,

G. JULIAN PRATT,
mar—1y Waynesboro, Augusta co., Va.

OUR
Illustrated Catalogues
FOR **1877** OF
EVERYTHING
FOR THE
GARDEN!
(Seeds! Plants!)
(Implements, Fertilizers, etc.)
Numbering 175 pages and containing
beautiful colored plates.
Catalogue, without plates, free to all.
Peter Henderson & Co.
35 Cortlandt St.,
NEW YORK.

feb-3t

PURE GROUND BONE

AND AGRICULTURAL CHEMICALS.

H. J. BAKER & BRO.
215 Pearl St., NEW YORK.

Importers and dealers in strictly first quality FERTILIZERS.

Special fertilizers for particular crops.

GEO. B. FORRESTER, Manager of this department. oct

AYRSHIRE BULL—BERKSHIRE PIGS.—
Walter Scott, first prize-winner at three State Fairs, five years old. His progeny have take premiums over imported stock. To avoid breeding-in, I will sell at the low price of seventy-five dollars; also lot of twenty beautiful Berkshire Piat ten dollars a pair.

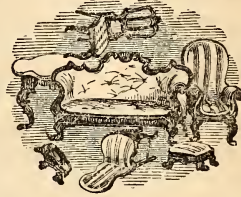
O. A. CRENSHAW,
mh-tf Richmond, Va.

TROTting & HARNESS HORSES,
JERSEY CATTLE (herd register),
SHETLAND PONIES,
SOUTHDOWN SHEEP AND BERKSHIRE PIGS,

For sale by
CAMPBELL BROWN,
Spring Hill, Maury co., Tenn.
sep—1y

ARTHUR ROONEY,
Furniture & Mattress Manufact'r,

Wholesale.



Retail.

GOVERNOR AND FRANKLIN STS.,
sep—1y RICHMOND, VA.



Our Pest Poison is
a Safe Sure and Cheap Destroyer of the Potato Bug, Tobacco Fly, Cabbage, Cur-rant, and Gooseberry Worm and of all insects that eat the leaf. Unlike Paris Green and other Poisons, it can be entirely dissolved in water, and applied by sprinkling. Not injurious to plants. Not dangerous to use. Never fails to kill. Costs about twenty-five cents an acre. Put up in half pound boxes, enough for two acres. Price fifty cents. Send for Circular with Testimonials. Also kills House Flies, Cock-roaches, Rats and Mice. **KEARNEY CHEMICAL WORKS,** 66 Cortlandt St., N. Y. P. O. Box 3189. feb-8t

R. P. LEDBETTER,

Columbia, Tennessee,

Breeder and importer of Berkshire Hogs and Black Spanish Fowls, and general live stock agent. Pigs, the get of imported Othello second, and the great Longfellow, Choice Sallie and Sambo Pigs. Send stamp to ensure an answer to inquiries. sep—1y

HAMBURG EGGS.
SILVER S. GOLDEN S. AND BLACK.
\$2 FOR 13; \$5 FOR 40.
CHAS. SELSER,
may—tf Doylestown, Pa.

\$55 ⁷ \$77 a Week to Agents. Samples free.
P. O. VICKERY, Augusta, Me.
sep—1

FALL & WINTER DRY GOODS.

A Large and Well Assorted Stock

AT

PRICES TO SUIT EVERYBODY.

Black Silks at 90c., \$1, \$1.25, \$1.50, \$1.75, \$2, and up to \$3.50 per yard—all very cheap. Colored Silks in great variety, at all prices. Black and colored Casimereers and French Merinos; Black Alapacas—the cheapest ever offered—at 25, 30, 35, 40, 45, 50c., and up to \$1 per yard. Black Mohairs, in fine qualities, from 60c. to \$1.25 per yard—as brilliant as silk. Black Bombazines from 60c. to \$1.75 per yard.

A full assortment of Fancy Dress Goods of the most fashionable styles. White and Colored Flannels, in plain and twilled, at lower prices than ever known. Our stock is too large to enumerate prices.

Goods for Boys' and Men's Wear in all styles and qualities, including the celebrated Charlottesville Woollens—all to be sold at hard-time prices. White and Colored Blankets in all sizes and qualities. We give extraordinary bargains in this article. So don't purchase until you have examined our stock. Calico Comfortables of our own manufacture at \$1.50 and \$2. Horse Blankets very cheap. Canton Flannels from 10 to 30c. per yard. Bed-tick from 10 to 25c. per yard. Cheviot Shirtings from 10 to 25c. per yard. Bleached and Unbleached Cotton Sheetings and Shirtings retailed at wholesale prices. Table Damask, for table cloths, all pure linen, at 60c. per yard, worth 85c. Doilies or Fringed Napkins from 60c. to \$2 per dozen. Turkey Red Doilies from 75c. to \$2.50 per dozen. Large size Pure Linen Napkins from \$1 to \$6 per dozen. Linen Huckaback Towels at \$1, \$1.25, \$1.50, \$1.75, and up to \$12 per dozen. Red Wine Cloth at 75, 85c., \$1, and up to \$1.35 per yard. Nottingham Curtain Lace at 15c., worth 25c. per yard. Nottingham Lace Curtains at \$2, \$3, \$4, and up to \$20 a set for two windows, worth 50 per cent. more. Tapestry, Brussels, Three-ply, Ingrain, Rag, Cottage, Hemp, and Venetian Carpet in all qualities and prices. Rugs, Mats, Hassocks and Oil-cloths. All-wool Table-Covers at \$1, 1.25 and \$1.50. Piano Covers from \$5 up to \$12. Ties in all sizes, in great variety, and very cheap. All kinds of Merino and Lamb's-wool Undergarments for men, women and children, at lower prices than ever known before. Yak Laces from 15c. to 75c. per yard. Ruffles at 20, 25, 30, 35, 40 and 50c. per dozen. Boulevard and Balmoral Skirts in all qualities. Linen Collars and Cuffs in great variety at very low prices. Silk Ties and Scarfs of the latest styles at prices to suit all. Ribbons in all widths and colors at low prices. Silk Handkerchiefs for ladies and gentlemen. Gentlemen's Furnishing Goods in great variety, and at lower prices than usual.

Ready-made Closed Front Shirts of our own manufacture, made of the best Wamsutta cotton, fine Irish linen, and completely finished; have only to be laundered before wearing. Having largely increased our facilities for manufacturing these shirts, we are enabled to reduce the price to \$1. We guarantee them to be in every respect as good as the shirts we have heretofore sold at \$1.25. Open-front Shirts at \$1.25, or six for \$7.

Ready-made Garments for ladies in great variety. Shawls in all sizes and qualities; also a full assortment of Cloaks.

Our stock is worthy of the attention of all purchasers of DRY GOODS, as we show, at all times, an assortment that cannot be surpassed in this city.

We only enumerate a small portion of what we have.

LEVY BROS.,
1017 AND 1019 MAIN STREET,
Nov—tf
Richmond, Va.

LEE'S Prepared Agricultural Lime

FOR

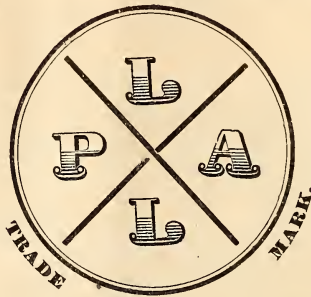
TOBACCO,

COTTON

PEANUTS,

CORN,

POTATOES,



&c., &c.

UNPRECEDENTED SUCCESS.

Farmers who tried a little last spring on COTTON and TOBACCO, alongside of fertilizers costing \$50 per ton, say they can see no difference in the Crops. An application of 400 lbs. per acre, in the drill, doubles the

CROP OF COTTON.

Mr. J. S. BUSTER, of Brookneal, Campbell County, Va., says: "Where he used it last Spring, notwithstanding the unfavorable season, made a good crop of Leafy Tobacco, and shows his faith by buying TWO CAR LOADS for his Spring Crop."

The largest Potato growers in Hanover say it is the best thing they ever tried on

SWEET POTATOES.

The best evidence of its results is, that my sales up to 1st March are TEN TIMES as large as they were last year at the same time.

Send for Circulars. Prepared and sold by

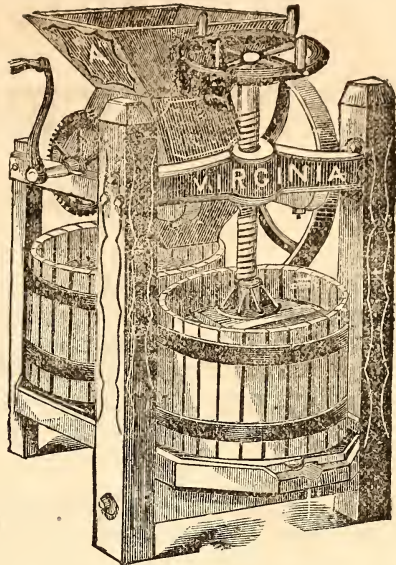
A. S. LEE, Richmond, Va.

AGENTS.—Robert Tanner & Co., Petersburg; J. J. Thomas, Raleigh, N. C.; Warner Paulett & Co., Farmville, Va.; R. T. Knox & Bro., Fredericksburg, Va.; Moon & Bro., Scottsville, Va.; J. M. Norvell, New Canton, Va.; Wm. H. Parrish, Cartersville, Va. mar

THE
 VIRGINIA
 WINE

AND

CIDER MILL



Is superior to any MILL now made, and more sold annually in the market than of all other kinds combined. It does not grate, but thoroughly crushes every fruit cell, insuring all cider the apples will yield. Send for Catalogue.

sep—tf

CHARLES T. PALMER,
 1526 Main Street, Richmond, Va.

RALEIGH,
(Rose of Sharon).

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

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

N. BERKELEY,

Farmer, Virginia A. & M. C. Farm,
 Blacksburg, Virginia.

feb—tf

D. H. ANDERSON,
PHOTOGRAPHER,
913 MAIN STREET, RICHMOND, VA.

Largest and most complete Gallery in the South. Has taken the premium for best photographs at every State Fair since the war.

july—1y

HEADQUARTERS OF IMPROVED STOCK IN THE SOUTH.

The liberal patronage I have heretofore enjoyed from my fellow-farmers of Virginia and the Southern States, has induced me to make large additions to my breeding stock; and I am now prepared to furnish a quality of stock, such as I have never before offered, being bred from selections from the very best herds and flocks, both in England and America, some of which cost fabulous prices. I offer

SHORT-HORN BULLS & HEIFERS,

the get of the pure Bates bulls, second Earl of Oxford, 6,708, and Fidget's Oxford Twelfth, 23,152 (the latter now at the head of my herd), and out of cows representing the Craggs, Dewdrop, Rosamond, Janthe, Mary Ann and other families.

BERKSHIRE AND ESSEX PIGS

from my imported and prize-winning Boars and Sows, some of which have few equals and no superiors. Berkshires all recorded in the "Berkshire Record."

SOUTHDOWN SHEEP

descended from the very best importations, and bred to rams bred by Mr. Cornell, of New York.

Bronze Turkeys, \$7 per pair. White-faced Black Spanish Fowls, \$6 per pair. Scotch Colly Shepherd Pups, \$5 each.

Don't send North for stock, when you can get the same from me, and save transportation charges. My motto is to keep up with the improvement of the age; and I do not intend that anybody shall excel me. Fair dealing and satisfaction in all cases! For Price-lists, Catalogues, or other information, address

A. M. BOWMAN,

Waynesboro, Augusta co., Va.

feb—1y

PURE HIGH GRADE FERTILIZERS.

ETIWAN GUANO,
ETIWAN POTASH CHEMICALS
FOR TOBACCO,
ETIWAN
Dissolved Bone.

ANALYSIS GUARANTEED. WARRANTED PURE.

MANUFACTURED BY

Sulphuric Acid and Superphosphate Co.,
CHARLESTON, S. C.

W. A. JAMES, Esq.,

Dear Sir:—I have used your Dissolved Bone on Tobacco, equal quantities to the acre, with other standard guanos, which cost twenty dollars per ton more than the Bone. I have left it to my neighbors, and they all agree with me that the tobacco on which the Bone is used, is equal in size and superior in color. I am so well pleased with your Bone that I shall try it on wheat this fall.

HANOVER Co., VA., Sept. 24, 1876.

EDWIN VAUGHAN.

HENRICO Co., VA., February 1, 1877.

Wm. A. JAMES, Agent,

In regard to the use of your Etiwan Dissolved Bone, it gives me much pleasure to state that I used it on Tobacco the last season and was much pleased with the result. During the growing season the tobacco kept a rich dark green, and at cutting time was at least 10 *per cent.* better than that grown with other fertilizers, costing 60 *per cent.* more than yours.

Yours truly,

G. D. GILLS.

☞ For circulars and particulars apply to

WM. C. BEE & CO.,

General Agents,

Or

Adger's Wharf, Charleston, S. C.

WM. A. JAMES, Gen'l Traveling Ag't, Lock-Box 118, Richmond, Va.

FOR SALE BY

WM. A. JAMES, Agent,

may

Cor. 12th and Cary Sts., Richmond, Va.

F o r T o b a c c o .

W H A N N ' S

Raw Bone Super Phosphate

Prepared Expressly for Tobacco.

MANUFACTURED BY

WALTER WHANN & CO., Wilmington, Del.

This well known Fertilizer, which, for the past sixteen years, has been used with gratifying success, is again offered to farmers as one of the most thoroughly reliable manures in the market. Notwithstanding the high character hitherto possessed by WHANN'S RAW BONE SUPER PHOSPHATE, its standard this year has been

GREATLY IMPROVED

BY A

Liberal Addition of Potash and Increased Solubility.

Farmers are earnestly invited to use this Fertilizer for their Tobacco Crop. On Tobacco it invariably produces admirable results, and with the improvement in its character just introduced, its effects will be still more striking. Also, DIAMOND STATE BONE MEAL, pure and free from all adulterations. For sale by agents throughout the country, and Store No. 16, Bowling's Wharf, Baltimore. may

WELDON STOCK FARM,

PULASKI COUNTY, VA.

SHORT HORN CATTLE

of the most improved sorts, embracing representatives of Young Mary, Josephine and Illustrious Families. The latter from the herd of Abram Renich, Ky., who used the bulls of this family upon his Rose of Sharons and *vice versa*, until there is no essential difference in the blood of the two families.

American Short Horn Record.

STOCK FOR SALE.

SOUTHDOWN SHEEP

Bred from Webb Stock and from recent importations from the Peerless Merton Flock of Lord Walsingham, Eng. The latter are comprised of the pick of the lot imported in May, 1876—sent to this Country as specimens of the Flock, and a part of the lot imported in August for exhibition at the Centennial, including some of the First Prize Sheep at the Royal Agricultural Society's Exhibition, July, 1876.

OXFORDSHIRE DOWN SHEEP

Comprised of those selected in England and imported for me in May, 1876, by T. S. Cooper, of Pennsylvania, and of the First Prize Pen of Yearling Ewes at the Oxford Agricultural Show, 1876. These Sheep are very large and heavy, and have splendid fleeces of wool.

Purity in Breeding and Individual Excellence Guaranteed.

W. W. BENTLEY,

mar-tf

P. O., Martin's Station, Va.

Orison Beebe,

HAMILTON, NEW YORK,

BREEDER AND SHIPPER OF

SHORT HORN CATTLE, BERKSHIRE PIGS

AND

FANCY POULTRY,

ALL AT GREATLY REDUCED PRICES.

My Stock is from the best of strains, and has been awarded sixty-five premiums within the past six months. No circulars. Write for just what you want, and mention this paper. may—1t

MONTCLAIR STOCK FARM.

Houdons a Specialty. Best Non-Setting Breed for the South. Hardy, Fine Layers of Large Rich Eggs. Best Table Fowl Known. Eggs for Sale now. Birds in the Fall.

I have purchased August Belmont's (of New York) entire flock, bred by him from birds he imported from the *Jardin D'acclimation Paris*. I have one of the original imported hens in yard, \$1. These make, with my previous large and fine collection, one of the finest lot of Houdons in the country, certainly the finest in the Southern States. I will exhibit this Fall at Richmond Fair, also at the Agricultural Fairs at Staunton, Lynchburg and Culpeper, and the Poultry Show at Baltimore. PRICES OF EGGS.—Yard, \$1—Finest Imported Stock, \$4 per doz. Yard, \$2—Exhibition, \$2.50 per doz. Yard, \$3—The Farmers' Yard, \$1.50 per doz. Birds in yard, \$3, are pure bred, but are selected solely for their laying and table qualities without regard to fancy points. Eggs warranted fresh and true to name, carefully packed in boxes made expressly for the purpose. may—1y

WM. L. BRADBURY, Montclair Stock Farm.

Box 95, Orange C. H., Va.

MAMMOUTH CORN.

Every farmer send for package Mammoth Corn, which, in ordinary ground, will yield 125 bushels per acre; besides is much earlier than the common corn. It is Perfect Flour Corn. Send at once.

Price per package,	35 cts.
Two " for	50 "
Six " "	\$1.30 "

Club together and send for one dozen for only \$2.30. Address

FRANK CASY, Harrisonville,
may—1t Meigs Co., Ohio.

THOROUGHbred ESSEX PIGS FOR SALE, bred from Prize Winners at the State Fair of 1876.

This family of Essex is a cross of the importations of Joseph Harris and Samuel Thorne, and is of the most superior quality. A trial of them will convince the most incredulous that the Essex is the best hog for the Virginia farmer. Prices to suit the times.

R. H. FIFE,
may—1y Charlottesville, Va.

JEWEL

RY for all.
The EUREKA
Jewelry Casket
contains
one pair gold-
plated, en-

graved sleeve buttons, one set (3) spiral shirt studs, one Gents' Im. coral pin, one improved shaped collar stud, one Gents' fine link watch chain, and one Ladies wedding ring; price of one casket, complete 50 cents; three for \$1.25; six for \$2, and 12 for \$3.50, all sent postpaid by mail. Six dozen and a solid silver watch for \$20. Agents can make money selling these caskets. Send 50 cents for sample and catalogues. We have all kinds of jewelry at low prices. COLES & CO., 725 Broadway, New York City. We are the Originals in this business, and have no "Milton Gold" or "brass" jewelry. This Jewelry Casket is remarkably attractive, and COLES & CO. are reliable dealers.—Boston Globe. may—1t

SUBSCRIBE TO THE

So. Planter and Farmer

SUBSCRIPTION \$2 PER ANNUM.

ELEGANT GIFTS

TO OUR READERS.

A \$12.00 SET

OF

CORAL JEWELRY

GIVEN AWAY.



A very liberal offer is made by the **FLORENCE JEWELRY COMPANY** to all the readers of this Paper who will avail themselves of this **EXTRAORDINARY OPPORTUNITY** of securing a handsome set of **CORAL JEWELRY FREE**. Consisting of a beautiful **NECKLACE** and **CROSS**, and equal to any set of Corals sold in this country, as the following letter testifies:—

OFFICE, FLORENCE JEWELRY CO.

FLORENCE, ITALY, 2d November, 1876.

To the FLORENCE JEWELRY CO., PITTSBURGH, PA., U. S. A.

***** You may assure all your patrons that the Corals we send you are guaranteed to be the **VERY BEST** we manufacture, and we would suggest that you do not return them for less than \$12.00. *****

(Signed,) L. M. LAZREEL, Secretary and Treasurer.

CORAL JEWELRY COUPON.

On receipt of this Coupon, together with \$1 25 to cover expressage or mailing, packing, and the Fine Case the Corals are enclosed, we will send to all the readers of this paper our beautiful and valuable Premium Set of Coral Necklace and Cross **FREE**. We will honor no order unless it contains this Coupon, and we will not honor the Coupon after ninety days from the date of this paper.

IMPORTANT NOTICE.

Should it be desired, we will send together with the Necklace and Cross (or separately,) a set of **GOLD CORAL EAR DROPS** and **BREASTPIN**, (the price of which is \$4.00,) upon receipt of 75 cents; or, if all these goods are desired, enclose the total charges which will be \$11.25 for **NECKLACE AND CROSS**, and 75 cents for the set of **EAR DROPS AND BREASTPIN**—Total, \$12.00. Thus securing for \$2.00 what would cost you otherwise \$12.00. All orders must be addressed to the

FLORENCE JEWELRY CO.

116 & 118 Smithfield St., Pittsburgh, Pa.

And all subscriptions direct to the Newspaper.

CAUTION!—Please note that we are the only authorized agents of the famous Florence Jewelry Co. We warn our patrons therefore to beware of other Coral Jewelry concerns, who follow after our style of advertising.

BERKSHIRE PIGS

Two months old \$10 per pair.

CRANBERRY VINES,

\$2.50 per thousand; \$10 per barrel.

C. R. CULLEN,

1305 Main st.,

Richmond, Va.

ap—

**CENTEN-
NIAL.**

Commission House of Hull & Scotney, 346 N. Water st., Phila. dealers in Vegetables, Fruit, Produce, Furs, &c. Marking Plates, Tags, Price Lists, etc., on application

B. H. JOHNSTON,
EVERGRENE STOCK FARM, NEAR ALEX-
ANDRIA, VIRGINIA.

Breeder of Jerseys and Alderneys, registered and unregistered, from the best butter stock. Also Berkshire Pigs bred from best imported stock. Prices reasonable. mh-ly

\$5 to \$20 per day at home. Samp^le worth \$5 free. STINSON & CO., Portland, Maine. jan-ly

SOLUBLE PACIFIC GUANO. THIRTEENTH YEAR.

We again offer this standard, trustworthy **Guano** to planters and farmers as having stood the test of Twelve Years' use in our State on all varieties of soils, and in good and bad seasons. The fact that its reputation is better and the demand for it greater than ever before is, we think, conclusive proof of its excellence, and that it is sold at a price which enables the Planter to make a handsome profit by its use.

Every Bag is **GUARANTEED** to be of **STANDARD** Quality.

ALLISON & ADDISON'S "STAR BRAND" Complete Tobacco Manure.

This preparation, made by ourselves, is of exceptionally high grade, and is intended to be a **complete** fertilizer for tobacco. It is carefully prepared of the purest and best materials known, and so proportioned as to make the best crop the soil and season will admit of. It has been in successful use for many years, and has met the unqualified approbation of nearly every planter who has used it, the general report being "it is all you claim."

We solicit a trial, if but a single bag, in competition with any other fertilizers.


ALLISON & ADDISON'S "STAR BRAND" Flour of Raw Bone.

WARRANTED PURE.

We have a supply of this standard pure bone, prepared expressly for use on Tobacco and Corn. It will be found quick in action and lasting in its effects.

THIS BONE is not equalled in fineness and purity by any other bone on the market. We **GUARANTEE** it in **EVERY** Respect.

We think one or the other of these fertilizers will be found exactly adapted to every quality of soil, and a trial will show that they have few equals, and no superiors.

 These fertilizers are for sale by our agents throughout Virginia and North Carolina, at Richmond prices, with drayage and freight added.

ALLISON & ADDISON,

Ap—tf

Richmond and Petersburg, Va.

FALL STYLES, 1874.

CHARLOTTESVILLE WOOLEN MILLS SAMPLE CARDS

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

Merchants desiring samples, will please address,

**CHARLOTTESVILLE WOOLEN MILLS,
CHARLOTTESVILLE, VA**

REMOVAL!


THE WATT PLOW

UNEQUALLED IN EVERY ESSENTIAL OF STRENGTH, DURABILITY, PERFECT WORK, LIGHT DRAUGHT, FREEDOM FROM CHOKING.

MEETS ALL THE WANTS OF THE PLANTER FOR THE CULTIVATION OF AN ENTIRE CROP.

WE SOLICIT A TRIAL AND WARRANT EVERY PLOW SEND FOR CATALOGUE AND PRICE-LIST.

WATT & CALL, SOLE MANUFACTURERS, RICHMOND, VA.



To meet the rapidly increasing demands for these

PLOWS,

WE HAVE ERECTED
A NEW FACTORY & WAREHOUSE

Nos. 1518 and 1520 Franklin St.

FIVE DOORS BELOW

OUR OLD STAND,
to which we have Removed, and
are now prepared to furnish
Plows at Prices that render them the

CHEAPEST IN THE MARKET.

IN ADDITION TO PLOWS WE HAVE

Plow Castings of all kinds; Corn Shellers, Feed Cutters,

Harrows, Cultivators, &c.,

and FARMING IMPLEMENTS generally, to which the attention of those in want is called. We offer these on best terms.

Several new sizes of Plows have been constructed since last season, and we offer them with the guarantee of giving satisfaction, and being superior to any Plow in use. We ask one trial only, and if any plow does not prove as represented, return it to us.

WATT & CALL,

Nos. 1518 and 1520 Franklin Street,

near-if

RICHMOND, VA.

L. R. DICKINSON.

A. J. CHEWNING.

DICKINSON & CHEWNING,

REAL ESTATE AGENTS AND AUCTIONEERS,

No. 1115 Main Street, Richmond, Va. P. O. Box 54.

A NUMBER OF SMALL FARMS

near the city, also farms in every section of the State of every variety
Persons wishing to buy should send stamp for descriptive list.

feb—tf

MASON & HAMLIN ORGAN AGENCY,

914 Main Street, Richmond, Va.,

T. L. D. WALFORD & CARLTON McCARTHY.

The Mason & Hamlin Organ Company have few rivals in the world, certainly not in America, in the manufacture of Cabinet Organs. Their reputation is well founded and world-wide; both their list of testimonials and their catalogue of instruments are extensive. Whether an organ be purchased at the warerooms in Boston, New York, Chicago, London, Vienna, Melbourne, or Richmond, it may safely be called a good one, if manufactured by Mason & Hamlin, of Boston. The most evident excellences of these organs are resonance and singing quality of tone and scope of expression, combined with simplicity and freedom of action of bellows and keys.—*New York Tribune.*

THE MASON & HAMLIN ORGAN CO. have the honor to announce that the Organs of their manufacture have been unanimously assigned "the first rank in the several requisites of instruments of the class" by the judges at the Centennial Exhibition at Philadelphia, 1876, and are the only instruments of this general class awarded this rank. This is after the severest competition by the best makers, before one of the most competent juries ever assembled.

They have also received the medal, but as is well known, medals of equal merit have been awarded all articles deemed worthy of recognition, so that it will be easy for many makers to advertise that they have received "first medals."

The difference in competing articles, and their comparative excellence, are recognized in the reports of the judges, from which the following is an extract:

"The Mason & Hamlin Organ Co's exhibit of Reed Organs and Harmoniums shows the instruments of the first rank in the several requisites of instruments of the class, viz: Smoothness and equal distribution of tone, scope of expression, resonance and singing quality, freedom and quickness in action of keys and bellows, with thoroughness of workmanship, combined with simplicity of action."—(*Signed by all the Judges.*)

The Mason & Hamlin Organs are thus declared to rank first, not in one or two respects only, but in the several requisites of such instruments, and they are the *only* ones assigned this rank. This triumph was not unexpected, for the Mason & Hamlin Cabinet Organs have uniformly been awarded the highest honors in competitions in America, there having been scarcely six exceptions in hundreds of competitions. They were awarded highest honors and first medals at Paris, 1867; Vienna, 1873; Santiago, 1875; Philadelphia, 1876; and have thus been awarded highest honors at every world's exposition at which they have been exhibited, being the only American Organs which have ever obtained any award at any competition with the best European makers, or in any European World's Exposition!

HOW TO BUY AN ORGAN.—The Mason & Hamlin Organs may now be bought very low for cash, or on easy terms: By the payment of one-tenth of the catalogue price cash, and one-tenth every three months until ten payments are made. For instance: To purchase an organ worth \$150 you pay \$15 cash, and \$15 every three months till ten payments are made. Thus purchasing an organ by the payment of \$5 per month, which is only the rent of a piano.

Illustrated and descriptive catalogues and prices and any desired information sent free to any address on application. Large reductions for cash.

T. L. D. WALFORD & CARLTON McCARTHY,

Agents Mason & Hamlin Organ Company, 914 Main St., Richmond, Va.

Also agents for Decker Pianos, and dealers in Pianos and Organs of any maker.

CHESAPEAKE OHIO RAILROAD.

PASSENGER DEPARTMENT.

CONNECTIONS OF PASSENGER TRAINS FROM RICHMOND.

9.00 A. M. Mail, daily except Sunday—daily west of Hinton. Arrives at Gordonsville 12.45 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrive at Charlottesville 1.35 P. M., connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South; arrives at Huntington 10 A. M.

3.45 P. M. Accommodation, daily except Sunday, arrives at Gordonsville 7.30 P. M., connecting with Virginia Midland train at 7.40 P. M., arriving at Washington 11.55 P. M. for all points North.

10.45 P. M. Express, daily. Arrives at Gordonsville 2.40 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for the North; arrives at Charlottesville 3.35 A. M., connecting with Virginia Midland train at 7.55 A. M., Arriving at Lynchburg 11.07 A. M. for the South. Arrives at Huntington 6.45 P. M., connecting closely with C. & O. Packet Steamers or Cincinnati, Louisville, St. Louis, Chicago and all points in the West, North-west and Southwest.

FROM HUNTINGTON.

4.10 P. M. Mail, daily to Hinton—daily, except Sunday, East of Hinton. Arrives at Charlottesville 11.40 A. M. connecting with Virginia Midland train at 1.55 P. M., arriving at Lynchburg 5 P. M. for all points South, via Virginia and Tennessee Railroad; arrives at Gordonsville 12.35 P. M., connecting with Virginia Midland train at 1.10 P. M., arriving at Washington 6 P. M. for all points North. Arrives at Richmond 4.30 P. M.

10.30 A. M. Express, daily—arrives at Charlottesville 1.50 A. M., connecting with Virginia Midland train at 7.55 A. M., arriving at Lynchburg 11.07 A. M. for all points South. Arrives at Gordonsville 2.35 A. M., connecting with Virginia Midland train at 2.50 A. M., arriving at Washington 7.30 A. M. for all points North. Arrives at Richmond 6.30 A. M., connecting with Richmond and Danville 7.50 A. M., and Richmond and Petersburg 7.25 A. M. Trains for all points South.

N. B.—The 8.10 A. M. train from Washington arrives at Gordonsville 12.40 P. M., and connects with Chesapeake and Ohio mail trains, both for Richmond and Huntington. The 9.50 P. M. train from Washington arrives at Gordonsville 2.40 A. M., and connects with Chesapeake and Ohio express trains, both for Richmond and Cincinnati.

The 9 A. M. train from Lynchburg arrives at Charlottesville 11.55 A. M., and connects with C. & O. mail train for Huntington, and at Gordonsville 12.40 P. M. with C. & O. mail train for Richmond.

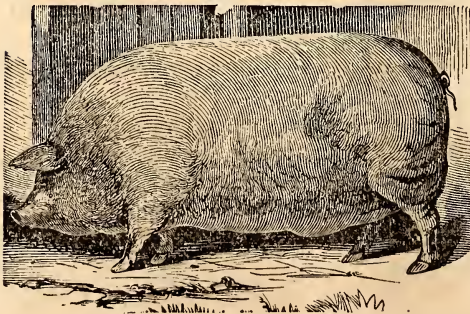
The Richmond and Danville and Richmond and Petersburg trains arriving from the South at 8 P. M., connect with Chesapeake and Ohio express train, leaving Richmond at 10.45 P. M. for the West and North.

CONWAY R. HOWARD,
General Passenger and Ticket Agent, Richmond, Va.

W. M. S. DUNN,

Jan—tf

Engineer and Superintendent of Transportation.



Premium Chester White, Berkshire and Essex Pigs, bred and for sale by GEORGE B. HICKMAN.

Also Fancy Poultry.
West Chester, Chester County, Penn.

Send Stamp for Circulars and Price List. sep—ly

Peruvian Guano Guaranteed.

By this Brand is designated *Pure* and *Genuine Peruvian Guano*, in which the lumps have been crushed, stones (when found) and all other impurities, removed:—it is, therefore, sold in *purer condition* than when landed from *Peru*.

Put up in bags of 200 pounds each, on which the *guaranteed analysis* is printed, and the *retail price* per ton of 2,000 pounds clearly marked.

The retail price is fixed according to the analysis, at the following rates, which are considerably below those adopted by Inspectors of Fertilizers in this country, or the trade in Europe, thus making the Guaranteed Peruvian Guano the **cheapest Fertilizer in the world.**

For Ammonia	17½c.	per pound.
“ Soluble Phosphoric Acid	10c.	“
“ Reverted “	8c.	“
“ Insoluble “	2c.	“
“ Potash (as Sulphate)	7½c.	“

NONE GENUINE unless put up as above and bearing the following Trade Mark of the undersigned, Peruvian Government Agents in New York, and **Lead Seals**—on which the Monogram of the Trade Mark is stamped—attached to the extremities of the twine with which the mouth of the bag is sewn, to guard against adulteration.

As a specimen of Analysis and Price of Peruvian Guano Guaranteed, we give those of two cargoes, now on sale, respectively designated **A** and **B**.



CARGO A. PRICE MARKED \$56.

Ammonia.....	6.80	per cent.....	\$23 80
Soluble Phosphoric Acid.....	3.80	“	7 60
Reverted “	11.50	“	18 40
Total available Phosphoric Acid.....	15.30	“	
Insoluble Phosphoric Acid.....	3.00	“	1 20
Potassa.....	3.70	“	5 55

Estimated Retail Price.....\$56 55

The commercial value of the above Guano is \$79.40 per ton, at the rates lately adopted for valuing fertilizing ingredients, by Hon Thomas P. Janes, Commissioner of Agriculture of Atlanta, Georgia, and State Inspector, Prof. Wm. I Land, Chemist of the Department of Agriculture, which are as follows:

For Ammonia.....	18½c.	per pound.
“ Available Phos. Acid, (Soluble and Reverted).....	15½c.	“
“ Insoluble Phosphoric Acid.....	4½c.	“
“ Potassa.....	6¼c.	“

Thus, the commercial value of the above Guano is fully **42 per cent. in excess of the selling price, \$56 per ton.**

CARGO B. PRICE MARKED \$70.

Ammonia.....	11.50	per cent.....	\$40 25
Soluble Phosphoric Acid.....	5.40	“	10 80
Reverted “	10.00	“	16 00
Total available Phosphoric Acid.....	15.40	“	
Insoluble Phosphoric Acid.....	1.70	“	68
Potassa.....	2.30	“	3 45

Estimated Retail Price.....\$71 18

According to the rates adopted by the Agricultural Department of Georgia, already referred to, the commercial value of this Guano is \$93.83 per ton, consequently, **34 per cent. above our selling price, \$70 per ton.**

We invite Agriculturists to test the value of Commercial Fertilizers by our Standard, and to compare the result with their selling prices.

Liberal Discount Allowed to Dealers.

For further information, Circulars, &c., apply to

HOBSON, HURTADO & CO.,

— 6m Agents of the Government of Peru, No. 63, Pine Street, N Y.

VIRGINIA Agricultural and Mechanical College.

SHORT-HORN CATTLE

—AND—

BERKSHIRE SWINE, For Sale at the College Farm.

The Swine are bred directly from recent importations, and from the stock of Maj. J. T. Cowan, and A. M. Bowman, Esq. At the head of the Shorthorn herd is the Bates Bull, Raleigh, bred by Maj. Cowan; sire and dam both bred by Abram Renick, of Kentucky, and both of the celebrated Rose of Sharon family. This Bull is believed to be equal in breeding and quality to any in the State. The cows are from the herds of Messrs. William A. Stuart, George W. Palmer, and John T. Cowan, and are animals of good pedigrees and excellent qualities. Stock will be sold at prices and on such terms as will enable farmers to obtain them. Correspondence invited.

Address Col. NORBORNE BERKELEY,
Blacksburg, Montgomery County, Va.

july—tf

ST. JAMES HOTEL, RICHMOND, VA.

Pleasantly located on Twelfth Street, facing Bank Street and the Capitol Square. In the centre of the business portion of the city, within one square of the Post Office and Custom House, it is, by its retired location opposite the southeast corner of the beautiful park surrounding the Capitol of Virginia, the most quiet hotel in Richmond.

The proprietor having had a life-long experience in hotel business—first at the Everett House, New York, and afterwards as proprietor of the Spotswood Hotel, Richmond, in its best days—and now assisted by Mr. JOHN P. BALLARD, the popular veteran hotel-keeper of Virginia, assures visitors of the ST. JAMES that no effort on his part will be spared to make them comfortable and to keep the house in first-class style. Coaches will attend the arrival of all trains. Elegant carriages are at all times at the service of the traveling public.

june

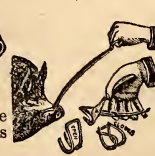
T. W. HOENNIGER, Proprietor.

**CHAMPION
HOG RINGER**
Rings & Holder.
Only double Ring
ever invented.

The only Ring
that will effectually
keep HOGS
from rooting. No
sharp points in the
nose.



**EAGLE BILL
CORN HUSKER**
Is the best Husker in the
market. Farmers say it is
the best. Use no other.



**BROWN'S
HOG & PIG
Ringer & Rings**
Only single Ring
in the market
that closes on
the outside of the
nose. No sharp
points in the
nose to keep it
sore.

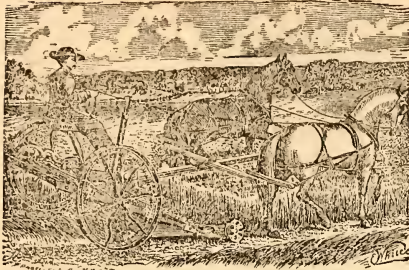
The Double Ring can be inserted with CROSS BAR in FRONT of NOSE or on Top. Should dirt accumulate in top of nose insert so that Cross Bar comes in front and not on top of nose.

Ringers, 75c.; Rings, 50c. 100; Holders, 75c.; Huskers, 25c.

CHAMBERS & QUINLAN,
Exclusive Manufacturers, Decatur, Ills.

Wilber's Direct Draft EUREKA MOWER.

CUTS SIX FEET



WITH

LIGHTER DRAFT

THAN ANY FOUR FOOT SIDE

CUT MOWER MADE.

Farmers save TWENTY-FIVE PER CENT. in gathering their HAY CROP by using the

EUREKA MOWER.

Professor John H. Winston, agent, Bristol, Tennessee; Look & Lincoln, agents, Marion, Va.; Fox & Ewald, agents, Wytbeville, Va.; Graham & Robinson, agents, Graham's Forge, Va.; John D. Noble, agent, Dublin, Va.; P. L. Terry, agent, Big Lick, Va.

SEND FOR CIRCULAR.

GEO. D. DAVIS' SONS.

131 Main Street, Lynchburg, Va.

General Agents for Virginia.

IMPROVE YOUR STOCK AT ONCE.

Now for Sale at the Co-operative Stock Farm.

CATTLE.

Several young Herd Book Jersey or Alderney Bulls, and Calves of both sexes, bred from stock selected in person from best herds in Maryland and at the Centennial.

Three young Herd Book Ayrshire Bulls, bred from animals that took first premiums at New York State Fair, both as single animals and as a herd.

SHEEP.

Cotswold, Leicester, Shropshire and Southdown Sheep, bred from best imported stock. Ewes, and Lambs of each sex for sale after July. Old imported Shropshire Buck and fine Yearlings; Shropshire Buck from imported sire and dam, for sale now.

SWINE.

Herd Record Berkshire Swine from imported stock, and Essex surpassed by none.

POULTRY.

FOWLS: Light Brahma. White Leghorn, Partridge Cochin, Brown Leghorn.

DUCKS: Imported Pekin and Rouen. Rouen Ducks bred from imported stock, \$6 per trio.

TURKEYS: Mammoth Bronze, Pure White Holland, \$7 per pair.

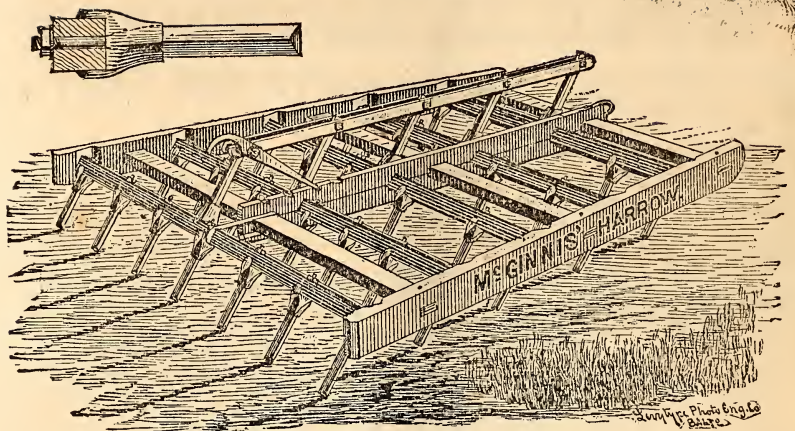
GEESE: Brown Chinese, \$6 per pair.

EGGS: Price, per setting of 13: For Fowl Eggs, \$1.50. Duck Eggs—Pekins, \$2.50. Rouens, \$2. Turkey Eggs, \$3. Geese Eggs, \$3. Cash to accompany orders.

All Eggs sent out warranted fresh, true to name, and packed with great care. Orders solicited and promptly filled. Address,

A. P. or M. B. ROWE,
Fredericksburg, Va.

MCGINNIS'



Adjustable & Reversible Tooth Harrow

Patented October 11th, 1875.

Send for Descriptive Circular to

DANNER & NEWMAN,

nov

Woodstock, Va.

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

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

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

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

Liberal terms of payment will be given responsible parties.

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

WILLIAM T. WITHERS,

Lock Box 392, Lexington, Kentucky.

feb—1y

THOROUGHBRED

JERSEY BULL CALF

FOR SALE.

Dropped January 6th. A solid fawn from Herd Book Stock.

PRICE \$25.

Also BERKSHIRE PIGS of the best strains of blood. Boxed and delivered at depot when six weeks old at \$5 each.

I have two BOAR PIGS, farrowed on Christmas day, that weigh 46 lbs. each to-day, March 15. I will deliver these, boxed, for \$7 each. G. B. STACY,

ap—tf

Amelia C., Va.

FERGUSON & SON,

BOOK & JOB PRINTERS

Corner Main and 14th Streets,

RICHMOND, VA.

PUREBRED
SHORTHORN CATTLE,

**Cotswold and Southdown Sheep
 AND BERKSHIRE PIGS,**

For sale at "CLINCHDALE," Bean's Station
 Grainger county, Tenn.

jan-1y J. T. & W. S. SHIELDS.

\$12 a day at home. Agents wanted. Outfit
 and terms free. TRUE & CO., Augustat
 Maine. jan-1y,

Berkshire Pigs.

The subscriber offers for sale a select
 lot of Berkshires of various ages, bred
 from stock imported by Hon. M. H.
 Cochran of Canada, T. S. Cooper and
 Charles B. Moore, of Pennsylvania,
 and other well known breeders.

Animals warranted true to descrip-
 tion and pedigree, which will be fur-
 nished on application. Orders solicited
 and satisfaction guaranteed. Prices to
 suit the times. THOS. J. LEA,

Brighton P. O.,
 sep-1y Montgomery co., Md.

WILLOW BANK STOCK FARM.

I am breeding Devon cattle, Merino sheep and
 Berkshire pigs, of pure blood and cooice quality.
 My cattle are bred from the importations of C.
 S. Wainwright, and Hon. Ambrose Stevens. They
 are choice breeders and prize-winners. Have
 taken in the three seasons past, eight herd prizes
 and over sixty individual prizes in Iowa, Illinois
 and New York. My sheep and pigs also are of
 strictly first quality.

Also White Leghorn Chicks. Prices reason-
 able and satisfaction given. B. F. PECK, East
 Bethany, Genesee County, N. Y. jan-1y

LAGER BEER, ALE and PORTER.
 ANNOUNCEMENT TO THE TRADE
 AND THE
 PUBLIC GENERALLY

I have erected, in connection with the
 James River Brewery, an establishment
 for the bottling of
 LAGER BEER, ALE AND PORTER,
 and am now prepared to fill all orders
 in quantities to suit customers.

Having adopted the latest and most
 important improvements in the manu-
 facture of these healthful beverages,
 (recommended by the medical profes-
 sion) I can furnish as good an article as
 can be found anywhere, at the lowest
 prices.

All GOODS delivered to any
 part of the city and to all depots, free
 of charge.

D. G. YUENGLING, Jr.,
 July-1y Richmond, Va.

TO NURSERYMEN,
 FLORISTS AND GARDENERS

Now is a good time to plant small
 trees, and we have a large stock to sell,
 at very low prices.

1,000,000 Evergreen and Deciduous
 Trees, once and twice transplanted.

1,000,000 Evergreen and Deciduous
 Trees from open pasture land.

100,000 Osage Orange, 2 years, trans.
 twice, cut back.

200,000 Fruit Trees, Grape Vines, Cur-
 rants and other small fruits.

Large Ornamental Trees, Shrubs, Roses,
 &c. Also, manufacturer of Bucroft's
 Wheel, Hoe and Hand Weeder, which
 are death to weeds without hard work.
 Everybody likes them that has given
 them a trial.

Wholesale and Descriptive Catalogue
 mailed free.

THOS. JACKSON, Nurseryman,
 ap Portland, Maine.

WILLS'
SANTONINE WORM POWDERS.
 NO HUMBUG,

But a pure and reliable preparation, the
 ingredients of which are prescribed ev-
 ery day by physicians in all parts of the
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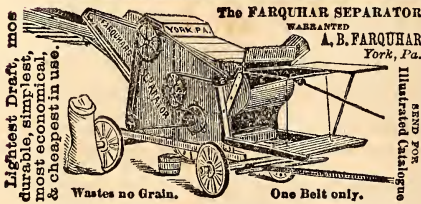
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