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THE SOUTHERN
PLANTER AND FARMER,

DEVOTED TO

Agriculture, Horticulture, and Rural Affairs.

L. R. DICKINSON..... Proprietor.

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THE SOUTHERN PLANTER AND FARMER.

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THE SOUTHERN PLANTER & FARMER,

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., APRIL, 1877. No. 4

[For the Southern Planter and Farmer.]

HOW LONG WILL THE SOUTH CONTINUE TO BURNISH THE CLUB WITH WHICH TO BREAK ITS OWN HEAD?

When Patrick Henry, from St. John's church, located on Church-Hill, of your beautiful city, uttered the sentiment, "Give me liberty or give me death," he declared to the American people the price and value of liberty.

When Mason, under the same inspiration, wrote, "That all power is vested in, and consequently derived from the people; that magistrates are their trustees and servants, and at all times amenable to them," he simply announced the fact, that the American people were *sovereign*. These two principles have been admitted for a century. Sovereignty, however, is nothing more than the right to exercise the elective franchise—the right of the people to choose their "magistrates." The power to freely exercise this right is liberty. So, then, these two great principles are embraced in the right to vote. Take from the people this right, and they will have neither sovereignty nor liberty.

It is not my purpose to review the past and recall the acts of military governments at the South, with the disfranchisement of our old and best men, that aliens might frame State Governments and make laws for us; nor of the enfranchisement of a people ignorant and just emerged from slavery, admitted by Mr. Morton and others to be unfit to vote, yet, admitted to that right from bitter hatred to the South, well-knowing it must result in her injury, if not ruin; nor of the Administration, asking Congress, with a Democratic House holding the purse strings, for an increase of the army to enable it to fight the Indians, and when the request was granted, perfidiously sent them to the South; nor to point by name to those States, that for ten years have been ruled by men, not one of whom was "to the manor born;" nor of Legislatures, driven from their

Capitols by United States troops; nor of citizens, who have been prevented by military orders, from celebrating the Anniversary of George Washington. I forbear to open afresh the wounds inflicted on my people by military despotism, and write about the near past and present.

A few months ago, the people of this nation (except the Radical party) were appalled. Armed soldiers, raised to fight Indians, took possession of three States, and a part of the fourth, in time of peace. They were stationed at the voting places. Federal officers supervised, directed and controlled the elective machinery of these States. The intent and effect of this was to take from the people the elective franchise—their sovereignty—their liberty. Notwithstanding the force and fraud thus employed, Florida and Louisiana cast their votes against the Radical candidate for the presidency. Foreigners and thieves handled and counted the ballots. Seven whole precincts were thrown out, because unsuited to their taste, and false, but more tasteful substitutes made. In one of these States, the fair majority against the Radicals was 10,000, and a "returning board" reported about 3,000 on the other side. After this manipulation, it held on to both counts, and offered in more than one Northern city to sell the fair and honest return of 10,000 Democratic majority for \$1,000,000. It loved money, but not finding a bidder, went back to its first love, Fraud, and reported the 3,000. Thus were ten thousand votes of free citizens of the South made a subject of traffic by the Radical party, and thus 10,000 citizens of the United States were deprived of liberty.

Frauds patent and monstrous, corruption, venality and rascality, without a parallel in the civilized world were proved, and the Radical party, with a few exceptions, approved and applauded them. Soldiers were collected around the National Capitol, orders of State Courts disregarded. Congress was menaced, and preparation made to place in the Presidency a man, whom the American people, by a majority of a quarter of a million, had solemnly declared they did not want. At this stage, a peace offering was made, in the way of a Commission, composed of members of Congress, Senators and Judges of the Supreme Court. Its members were sworn. Honesty and fairness were hoped for and expected by some. Alas! Alas! This Commission solemnly declared and published, that fraud should be rewarded; that military despotism in the South was right, and her people had no right to either sovereignty or liberty. And the best reason yet assigned for this judgment, is the refusal of our Northern friends to pay the \$1,000,000. The ruling of this Commission, without the warrant of law or fact, is also approved by the Radical party at the North, and this party are largely in the majority. That these people are our political and personal enemies, and for ten years have sought, and do now seek our ruin, is too obvious for any sane man longer to doubt. Our liberties, the value of which is *life* itself, they regard a fit subject of traffic for gold. "Will we of the South continue to burnish the club with which to break our own heads?"

Is there any relief, any remedy? Thanks be to God there is: In the independence and self-reliance of the South only is relief. First, by a calm, united and determined effort, let us keep the State Governments in our own hands. This will secure to us honesty, peace and virtue at home. The second remedy is more difficult to apply, but not less necessary. The South must create a home-market—a home demand for her raw material. To do this, she must, for a time, make a great sacrifice. She must be commercially independent of the North, for at least one year. It is idle to say our people cannot do this. They have done it for four years, in time of war, with every port closed. They can do it in time of peace with every port open. If unable to make this sacrifice for a time only; if unable to resist the temptation to purchase a few goods where they can be had the cheapest, then they are unworthy the rich harvest of prosperity that is within their reach, and worthy only of that misery and poverty that surely awaits them and their children and their children's children. Let us calmly view the situation. The two great commercial staples of the United States are *tobacco* and *cotton*. The former raised chiefly, and the latter exclusively in the Southern States. Where are these manufactured? The former largely at the South, the latter exclusively at the North. What are the results? Most fortunately for Virginia and North Carolina, some of their patriotic citizens, after the war, contributed their energies and means to the manufacture of one of our great staples—*tobacco*. By so doing, they have saved Virginia, and perhaps North Carolina from absolute ruin. Richmond, Petersburg, Danville, Farmville, Lynchburg, and other cities have grown in population and trade, and a similar result felt in North Carolina. Employment has been given to our own people.

Some of our young men kept at home a home-market for the farmer's products created, and the profits on the manufactured articles realized, have been expended in building up our cities and relieving the wants of our people. Had it been otherwise, no one can calculate the deplorableness of Virginia's condition to-day. In the staple, *tobacco*, the factory has followed the natural law of business and trade. It has gone to the raw material, and not carried the raw material thousands of miles to the factory. It has been different with *cotton*—the staple of the world and almost exclusively of the South. It is the employment, and, therefore, the bread of the civilized world; and, though exclusively the property of the South, as to the United States, she receives no great benefit from it. It is manufactured not where it is raised, but in violation of every principle of trade and commerce; the raw material is transported hundreds, and even thousands of miles, to the New England factories. In 1876, the raw material consumed in the United States was 1,356,598 bales—of this, the South manufactured 145,000 bales, and the North 1,211,598 bales. To do this there are employed at the North about 9,000,000 spindles, and, we suppose, about 5,000,000 employees. When we consider the constant employment furnished to so many laborers,

and the vast amount of material worked up, the legitimate proceeds from the same have been ample to convert a barren and poor country to a powerful and opulent empire. And when we add to this the bounty which the government has, for years, bestowed upon these factories in the form of a protective tariff—a bounty sufficient to increase fully one hundred per cent. the cost to the consumer—it is obvious to even the casual observer that New England has grown rich on the property of the South, and the South has become poor.

The European factories are not wholly dependent on the South. The Northern factories are wholly dependent, and consume nearly as much cotton as the whole of Europe. Because of the immense profits realized, they not only supply the demand of the United States, but compete with the European markets. Strange to say, while cotton, almost exclusively manufactured at the North, though raised at the South, receives a protection from the government, tobacco, more generally raised, but manufactured chiefly at the South, receives from the government an onerous tax. Virginia pays annually seven millions of dollars tax on tobacco; her planter is denied the right to sell one pound to a friend, while the circulating medium extended to her by the government is about three millions of dollars—four millions less than her tax on tobacco. Why this partiality in a general government? Some puritanical philanthropist will say tobacco is a luxury. So is money a luxury. The whole of New England pays a tax of \$5,000,000, and has a banking capital of \$160,000,000; Virginia alone pays \$7,000,000, and has a banking capital of \$3,000,000. Why give all the money to the North? But tobacco is a necessity. It enters into the industries of the world, and its moderate use is no more hurtful than coffee or sugar. But why this heavy burden on tobacco, at a time when factories were going up in the South? If Northern cotton factories need protection, why do not Southern tobacco factories need it? There was no such tax until the Radicals possessed the government—until they sought, by every means possible, to impoverish and ruin us. They have made us “the drawers of water and hewers of wood” for them. We toil from the rising of the sun until the going-down thereof, and are all the poorer. They can become rich—are becoming richer from our labor. In short, the South is the industrial and commercial *slave* of New England. And if we of the present generation are content to remain so—if self-respect and self-reliance are dead, if the spirit of our forefathers is no longer present with us—let us, at least, be aroused to a sense of the duty we owe to our posterity. If willing to wear this yoke on our necks, let us not place it on the necks of our children. The cotton planters, by raising a half crop of cotton and exporting the same, will realize as much as from a full crop, or by exporting half and retaining in their barns the other half. The withholding of cotton for one year from New England will stop nine millions spindles, and throw out of employment five millions people—about one-eighth of the population of the United States. The direct effect will be to remove the Northern

factories, with their skilled labor, to the South—the factories to the raw material. The South has New England completely at her mercy. For ten years New England has treated the South as her dependent. With the introduction of these factories in the South will follow employment of her labor, the process and profits of working up over a million of bales of cotton, the bounty on the same, cities and towns will grow; a home-market at once created for all she can raise; lands will rapidly advance, and general prosperity and commercial and industrial independence, with its natural fruits.

It is the home-market at the North that prospers the farmer and gives value to his lands. His climate is adverse, seasons are short, labor is high and his lands originally poor. Grain there is worth no more than here. But he has a market at his door for everything he can raise—even for the wild berries of the forest. A pumpkin is not permitted to decay in the field, or a tomato in the garden. *No class of our people are so deeply interested in this industrial independence as the farming class.* Our lands, for want of purchasers, are practically inalienable. We are fixtures to the soil, or forced to abandon it for the chance of some other employment. We are *serfs of the soil*, and fast making our children so, or driving them from their homes. Self-preservation demands of us an effort—a strong, united effort to become independent. How? By using, Southern made, everything through the whole catalogue of industries and necessities, and when they are insufficient by the use of only such as are *directly imported through our own ports.* By forcing the machine-shop to come to the timber, the woolen factory to the wool, the tobacco factory to the tobacco, and the cotton factory to the cotton. By ceasing to pay two transportations, in addition to a bonus, or protection to strangers and not to our own people at home.

By means of the Grange agencies and agricultural societies and county meetings, the farmers can organize and practically move in this matter. Determine at once that no more Northern made fertilizers will be used, (for these alone Virginia has spent over a million of dollars annually and received about ten per cent. return). No more fruit trees from Northern nurseries, or old and spurious seed from Northern gardens. Wear Southern made clothing, and if insufficient, French, English and German, directly imported. If New England wants our raw material or patronage, she must bring her factories and her capital to us. It is true, Mr. Hayes has intimated that the Federal Government will legislate for the Union and not against the South. The writer has no confidence in any man who holds an office obtained by force and fraud—nor in the party that used such means to obtain it. He has thrown out gilded baits to every party—not excepting the negroes and Democrats of the South. He is trying to win the favor of all, and the result will be that he will be without a party, and, from necessity, will become the too pliant tool of the extreme Radicals. The South has nothing to expect from a Radical President or a Radical party. Her only safety is in her own strength, and her strength, nay, her very ex-

istence, depends upon her industrial and commercial independence of the North.

Caroline county, Va.

IVANHOE.

[This is the spirit that will save us. It is perfect folly to talk of relief until we become self-sustaining.—ED.]

[For Southern Planter and Farmer.]

GOV. SMITH ON AGRICULTURE AS A SCIENCE.—No. 1.

“Cultivation is the economy of force. Science teaches us the simplest means of obtaining the *greatest* effect with the *smallest* expenditure of power, and with given means to produce a maximum of force. The unprofitable exertion of power, the waste of force in Agriculture, in other branches of industry, in science, or in social economy, is characteristic of the savage state, or of the want of knowledge.”—LIEBIG.

After the unfortunate termination of the Confederate struggle for the right of self-government, I surrendered myself to Gen. Patrick in the city of Richmond, and, as a paroled prisoner of war, left that city with my family early in June, 1865, for my little home of some 200 acres, where I now reside. Travelling in my private conveyance and with a considerable quantity of baggage, I had ample time to observe the desolations of war and to ponder over the melancholy duties of the hour. Reaching home, I found my farm without a rail or a tree to make one, literally a common, and with a 100 head of town stock daily grazing upon it. I recognized the rule of my State, which required the land-owner to fence in his farm, instead of requiring the stock-owner to fence in his stock, and so made no war upon them. But this state of things made it my duty to enclose with the utmost activity. Every thing had to be provided, labor hired, timber bought, hauled and put in position. The consequent expenditure, being heavy, made it indispensable that “the economy of force” should always be considered. While so engaged, I found in my library a school book of my gallant son Austin, who, residing in California where he was rapidly accumulating a fortune, abandoned, at the call of his State, all his advantages, and on Whiting’s staff in one of the earliest of the seven days’ battle around Richmond, marked his devotion to our dear old Mother and Duty, with his life. This little volume, entitled “Familiar Letters on Chemistry and its Relation to Commerce, Physiology and Agriculture, by Justus Liebig, M. D.,” attracted my attention, and I read it with great interest, and, I trust, advantage. In the 10th letter I found the paragraph, which I have put at the head of this article, hoping, if you think it worthy of a place in your valuable paper, that it may benefit some of your numerous readers.

It was my good fortune to attend the first meeting of the State Agricultural Society after the war. It was quite a large assemblage. The general desolation of our State was vividly portrayed, but, the “unconquerable will” remained. All agreed that “cultivation is the economy of force,” but great diversity of opinion was manifested as

to "the simplest means of obtaining the *greatest* effect with the *smallest* expenditure of power, and with given means to produce a maximum of force." The prevalent opinion favored small farms, not exceeding fifty acres. One gentleman, of great practical intelligence, gravely proposed to divide five hundred acres of his farm, which he had abandoned, and which had grown up in pines, because he could not make it pay to cultivate it, into ten such farms and sell them to foreign immigrants, upon such terms of payment, as to time, as they might ask. And then to crown this generous conception, proposed to bind himself to employ them on his farm at fair wages, *when they had nothing to do at home*. This plan I opposed as utterly impracticable, but if practicable, impolitic; and therefore dismissed it, as I now do, from further consideration. But it may be asked, how it is impolitic. And upon this question I propose to submit some remarks.

I have always cherished a profound affection for our State, and believe that the highest and purest civilization known to man was hers; and I have anxiously considered, ever since the termination of our disastrous war, how her striking characteristics could be preserved, in despite of her great social changes, and my conclusion is, that our chief reliance must be upon the land-owner. It is not to be denied that there is something baronial in the broad acres—that in the owner and tiller of one's own estate, large enough, judiciously handled, to put him above want, to enable him to rear and educate his children, and to practice the duties of hospitality, we have man of a higher type than in any other condition of life. The small farmer, with his family, occupying and cultivating his little farm, is utterly incapable of this exalted development, compelled to labor unceasingly and to practice the most rigid economy—a visitor is a positive annoyance, and gives no pleasure to his host, except when he leaves—that important portion of our education which is acquired from association with our fellows, is but little known to them, for they have neither time nor means to give to its acquisition. Domestic training, so invaluable in the formation of character, is rarely undertaken, for the toils of the day require them to retire to their rest at an early hour that they may replenish their wasted energies for to-morrow. Benevolence, public spirit and patriotism are but little known, because rarely practiced. In short, the small farmer's life is one continual struggle, in which all that is noble in his race, is apt to be ground out of him by his unceasing anxiety, care and toil. I do not hesitate to give it as my opinion, that more may be expected, in generous self-sacrifice and service, from the farm laborers of the country, when our country is in peril, than from the class of small farmers to which I have referred. Daily accustomed to intercourse with their employers—frequently conversing with them on the greatest subjects, sympathizing with all that is of interest to them, and habitually listening to discussions by our ablest men upon public affairs—they unconsciously acquire a degree of intelligence and refinement, unequalled by any similar class of laborers in the

world. Thus the independent farmer, and those he employs to aid him, constitute our main reliance for the preservation of those eminent and desirable characteristics for which the Virginian has been distinguished—I may say from our first settlement at Jamestown. I will, however, press this subject no further, lest your readers should regard it as anomalous and not fitting for an agricultural paper; but having sufficiently attracted attention to it, will proceed with other views.

It will very naturally be asked, as you disapprove small farms, What size do you prefer? The answer to this question is dependent upon many circumstances—the texture of the soil, the ease with which it can be kept in proper condition, &c. Every farmer knows that it requires more labor, capital and *mind*, to manage a given quantity of land of a heavy clayey texture than it does of a similar quantity, but of a different character. I have already indicated that my policy embraces a two-fold proposition. 1st. That *Agriculture is to be made profitable*. This can only be done by thorough preparation of all seed-beds, a careful selection of the best seed for sowing or planting, the use of the necessary plant food, which can only be known when it is known what the soil contains, in what it is deficient in, and what the crop proposed to be raised requires. With well selected labor and the judicious selection and use of the labor-saving machinery of the day, and a scientific knowledge on the part of the farmer of “the simplest means of obtaining the *greatest* effect with the *smallest* expenditure,” &c., we need “apprehend no unprofitable exertion of power” or “waste of force in agriculture.” It will then be found that such “cultivation is the economy of force” indeed. And with proper management and industry, will ensure to the farmer such a profit upon his capital and labor, as brings me, with the greatest confidence, to the second and by far the most important branch of my proposition—the *training and education of the sons and daughters of the prosperous and educated farmer*. Having demonstrated that “cultivation is the economy of force,” and having, in doing so, secured the means necessary for my purpose, I hope I shall be excused for submitting a few suggestions, which I regard as of much importance, to the formation of the character of the true Virginian. We all know that education begins in the cradle. The first lesson to be taught a child is obedience, implicit obedience to parental authority. How important, then, is it that authority should never be unnecessarily or improperly exercised; but, if wrongfully exercised even, never to yield to the coaxing or fretful importunities of the beloved prattler. Mothers are very apt to be thus overcome, unaware that they are fostering some of the worst traits in our race, and from which they will surely, and it may be, severely suffer. Obedience being thus taught as a cardinal duty, the general plan of education for future life should begin development. All the virtues should be taught and enjoined, while the vices should be rebuked and punished; and this great duty should not be relinquished or relaxed, but should be watched and intensified as the child advances

to his majority. During the period when the ground-work of future character, obedience, is being laid, no inconsiderable knowledge of natural philosophy may be also imparted. A little fellow of six years runs into the house and exclaims, "Mother I am cold." To remove this sensation, warmth is applied by steam or fire, and the child is scalded or burnt. What a field of exposition does this little incident, of occasional occurrence, present? Being himself the illustration, his attention is fixed and his curiosity awakened; and what he may then learn will never be forgotten, and will almost certainly be rapidly extended if proper facilities be supplied. What is cold? What is heat? And how generated? When told that his little body is a living furnace and that what he eats is the fuel, which what he breathes consumes, and that when he ceases to eat and consequently to breathe, the fire goes out, he gets cold and dies—a new world is opened to his astonished gaze, and the chances are, that he would, with energy, explore it; and when told that the amount of animal heat must be the same in every latitude, whether in the Arctic regions or under the Equator, and that this rule applies to all animals alike, he could but see that it was a true economy for every farmer to make all of his animals, himself included, as comfortable as possible, thereby diminishing the amount of food necessary to maintain that vital heat, without which, it is impossible to maintain animal life in proper health and vigor. Here, then, is a most important principle in successful farming, presented in so attractive and demonstrative a form as is not likely to be forgotten or neglected. The vital force, upon which animal life and growth depends, results from food, proper food. How important is it, then, that we should, at an early age, begin to acquire a knowledge of it. According to Liebig, the food of man is divided into *nitrogenized* and *non-nitrogenized* parts—the first intended for conversion into blood, the other intended "to support the process of respiration." The first is chiefly composed of animal and vegetable fibrine, albumen and caseine, but whether animal or vegetable they are identically the same; and the other of butter, sugar of milk, gum, pectine, &c., but both are necessary to life—the absence of either is death. It is remarkable that a knowledge of the subjects to which I have so briefly and imperfectly referred, is an important step forward in the great field of agriculture. Nitrogen constitutes nearly eight-tenths of the air we breathe—it is indispensable to our blood which forms the membranes, cellular tissue, the nerves and brain, of the organic part of the cartilage and bones of our system. According to Ville, it is the "dominant element" in the production of the cereals; and, in short, environs us, whether asleep or awake, like the unseen God, for our good. But, my dear *Planter and Farmer*, while fully aware that I ought to bring these jejune and inconsiderate remarks to a close, yet I will venture to throw out some additional hints or suggestions which may not be unprofitable; as you have the remedy in your own hands, to wit, by refusing to publish them, of which I beg to assure you I shall not complain.

And, why should not the young begin to learn, with the ordinary rudiments of a common education that alphabet which constitutes the language of nature, as Ville beautifully terms it. It is only composed of fourteen letters or elements, and with these a knowledge of our own formation, the air we breathe, the food we eat, the mode as an art and a science of raising and preparing it, &c., &c., may be acquired. It will, no doubt, be said that these subjects are incapable of being mastered by the infant mind. Nothing is more common than to underrate the powers of infancy. The first faculty the infant exercises, is *perception*, and that is *spontaneous*. The next is inquisitiveness, and should never be checked or repressed, but encouraged. There are few parents who have not had questions put to them by their little ones which they were unable to answer; many of whom, instead of pleasantly acknowledging the fact and promising an answer at another time, would, it may be, box the little innocents and sternly bid them to hold their impertinent tongues. The consequences are obvious and deplorable. Children thus treated naturally shun their parents, suppress their curiosity, lose the playfulness, vivacity and intelligence expected from their years, and become hopelessly dull and stupid. But if answered pleasantly and frankly, and at night, when the family group is assembled, the little fellow to whose question an answer was promised, is called up, with the remark, "Now, son, for the answer to your question of to-day." And thereupon the proper volume is taken from the family library and the answer read, with such comments as may suggest themselves. He and the little group of curious listeners, which, doubtless, will have gathered around the paternal knee will never forget it, while the parent will find that he or she is greatly improved. It is true, much that I have suggested may not be comprehended by those for whom it is intended, but they will accept as true what they have been told by those they have been taught to obey, while that great faculty, memory, will be strengthened and improved. This faculty is invaluable to the scholar or the man of business, and must be assiduously cultivated; and infancy is, of all other periods of man's life, the most favorable for its improvement. It is to perception, memory and obedience, which makes instruction effective, that our children are chiefly indebted for their early and easy acquirement of our alphabet and indeed of the rudiments of a common English education; and it is to the same agencies, and during the same period of life, we should bring them to some knowledge of the alphabet of the language of nature, and to familiarize them to some extent with the mysteries of their own formation and of all created matter; and so to make learning easy. Surely these letters or elements, only fourteen in number, to wit, carbon, hydrogen, oxygen and azote or nitrogen, known as organic elements, and phosphorus, sulphur, chlorine, silicium, iron, manganese, calcium, magnesia, sodium, potassium, known as mineral elements, can be easily remembered, and from early and frequent use, would become as familiar to us as the English alphabet itself. And when told that these elements enter into the composition of

every living thing, the stock we raise and the crops we cultivate—that ten of them, by the providence of God, are in such abundance, in every variety of soil, as fully to meet all the wants of whatever crop we may undertake to grow, so that man is only required to provide the remaining four, and of them only such as are not in sufficient quantity to supply the wants of the growing crop, to wit, nitrogen, phosphate of lime, potassa and lime, elements with which we are in constant intercourse—that nitrogen is found in every dung heap, phosphate of lime in every dead animal, potassa in the refuse or ashes of the fuel by which the farmer's dinner is cooked, and lime everywhere—that we breathe the organic elements, which largely enter into the composition of our blood and nourishment of our crops. And what is still more remarkable, and as strikingly illustrating the wonderful power of combination, that the same elements which give us the wheaten loaf which supports life, give us the power which destroys it. I was one day talking in this way to some of my plain farmer friends, as I am apt to do, when they gather about me, when I saw from their smile that they doubted me, and I told them so. Of course, I could not let them leave me under any such impression; and I said to them, now my friends you will admit, that our language, which we daily use, and now, in this conversation, is composed of twenty-six letters, being certain agreed signs, of purely human invention—with which we, from constant use, easily express our emotions, as love, hatred, hope and fear, &c.—that we may indulge in the coarsest Billingsgate or in the most refined and polished language, and yet these widely different results are brought about by the same twenty-six letters. Now, how is this? It is that wonderful power of combination which surprises human comprehension. If, then, the invention of man is capable of such extraordinary results, may we not easily believe that God can, with a still smaller number of elements or *letters*, effect still more extraordinary results? The very highest authority, I repeat, tells us that of the elements which, in a greater or less degree, contribute to the growth and formation of animal and vegetable development, four of them, to wit, nitrogen, potassa, the phosphates and lime alone require the careful and diligent preparation of man, upon the intelligent application of which, to the soil, thoroughly or properly prepared, depends all successful farming. Surely any farmer can soon learn all about these four essentials in his business, and then make them a part of his "household words," familiarizing his children to hearing and learning them as they hear and learn our own language. Surely he, if not already enlightened, can find a volume of important demonstration, in the simple and familiar fact of his grazing beef intended for his meat tubs, that the grass he feeds upon, containing all the elements of blood and bone and flesh, of which the animal is himself composed, and that it assumes this new and valuable form by a new and inexplicable process, to be returned when death and decay ensues, after performing other equally important functions to reproduce itself in its form of grass, &c. But enough for the present of

these rambling references to the science of agriculture. If fit for insertion in your valuable paper, I may claim a place in your next number for some equally desultory remarks upon the "Art of Agriculture" as adapted to our present condition.

Fauquier Co., Va.

WM. SMITH.

[For the Southern Planter and Farmer.]

GERMAN MILLET.

Its Origin.—Just after the close of the late war, Mr. David Dismukes, near Shelbyville, Tenn., imported some millet seed from Germany, and began its cultivation. He was a large stock-raiser, and by experience had become discouraged with our usual forage plants. Oats, he said, would fail by the rust; Hungarian grass would fail by drought; the old-fashioned Missouri millet was uncertain, too exhaustive, and too coarse; and timothy and red clover would not answer his purpose. He, therefore, wrote to a friend in Germany for the seed of the above millet. As he got but a small package of seed to begin with, he could not dispose of any seed till the third season. He sold seed for two or three seasons following, for from \$6 to \$8 per bushel. But the plant is so prolific in seed that the price was soon reduced. Every one that tested the forage qualities of the plant were more than pleased, and for two or three years after its merits had been proved, the price of the seed ruled at panic prices in Middle Tennessee, Southern Kentucky, and Northern Mississippi, and Alabama.

The high price of the seed induced some unprincipled dealers at a distance to palm off Hungarian grass seed or old Missouri millet seed for the genuine German millet seed; and many farmers were induced to pronounce it a humbug.

However, those who have tried the genuine article, would not give it up for any other forage plant known. Several years' residence in Southern Kentucky, where it is universally used as *the* forage plant for hay, proved to me, as to all others, that it is superior to all other forage plants. Said one of the best farmers (a man not given to boasting) in Southern Kentucky: "I would not be without German millet for any thing. I would not give one acre of it for five acres of the best oats I ever saw. For work-stock, it takes the place of 'roughness' and corn too; and there is nothing equal to it for milch cows. In fact, I have but one objection to it, it makes my brood mares and fine horses too fat and unwieldy." And hundreds of farmers that have tried it will repeat the same.

Time for Sowing and Harvesting.—From the 1st to the 20th of May is the best time for sowing. Have your land thoroughly prepared by breaking deep, harrowing or rolling; then sow your seed and then harrow lightly. Sow on rich, *moist* land if you have it. If it is a good season, it will do well enough on high sandy loam if rich. Drought injures it more or less, and especially is this the case if the

drought sets in before the young plants get well started. If possible, sow just on the eve of a rain, and then you are pretty sure. On moist land it may be sown at any time up to the 10th of July. If your land is *rich*, and you want it for hay, sow from four to five pecks to the acre; if you want seed, sow about three pecks to the acre. If you cut for hay, cut when the head has begun to turn yellow, but before it has lost all its greenish cast. If you cut for seed, let the head get a full yellow cast. Even when left to ripen for seed, it still makes fine hay. A few square rods left from the hay-patch to ripen, will make seed enough to sow a large crop.

In cutting for hay, cut some clear morning, and cock up in the evening, and as soon as dry, which will be in a few days, house or stack. When cut thoroughly ripe, it may be housed or stacked at once.

The true German millet seed is a miniature buckeye in shape. Be careful that your seedsman does not give you the Hungarian grass seed nor the Missouri millet seed.

Doubtless the *Planter and Farmer* can tell its many readers where they can get the genuine German millet seed; but if not, you can get the genuine article from Chas. F. Potter, Franklin, Ky., or Stockel & Co., Nashville, Tenn. I think Mr. J. W. Otey, near Richmond, Va., has for sale some seed harvested from last year's crop, raised from seed sent by the writer from Southern Kentucky. My word for it, if the readers of the *Planter and Farmer* will try it, they will not regret it.

GRECIAN GREY.

Roanoke Co., Va.

[For the Southern Planter and Farmer.]

COL. WASHINGTON ON THRESHING ORCHARD GRASS SEED.

In reply to your request "to give my method of threshing orchard grass seed," I will say: Any of the wheat threshers with the fan attachment will thresh these seed. The straw should be bound in large sheaves directly it is cut and shocked at once in large shocks. When threshed, the machine must shut out the wind and lessen the power of the fan, so regulating the screen as to keep the machine in good threshing order; and at the same time avoid blowing the seed out with the straw. The best seed will come through the grain spout, the second quality through the screen spout, and a good many will go with the chaff, particularly if there is much clover pug. The clover will carry the seed with it. The first quality is sufficiently clean for ordinary use. For market they should pass once through the ordinary wheat fan, with a fine sieve inserted, the wind turned off or shut out. The second quality will require to be fanned twice. Two hands and a small boy will clean about 30 bushels a day. The cleanest seed will come into the screen-box. Those falling in front must be put back into the hopper. With perseverance, our farmers will become more independent of the North.

Caroline Co., Va.

JOHN WASHINGTON.

[For the Southern Planter and Farmer.]

PARIS-GREEN.

As this is the time for the farmers to prepare to raise their tobacco plants, through your *Planter and Farmer* I wish to give them some advice about protecting their plants against the small black beetle, known as the tobacco plant bug. Experience is the best instructor. I shall give you my experience and that of farmers in Southern Kentucky.

As soon as the bugs are discovered sucking the young plants, go to your druggist and ask for three or four (or more) ounces of Paris-green. (Handle it carefully, for it is a deadly poison.) For a tobacco bed twenty feet square, take one ounce of Paris-green, and mix thoroughly with ten ounces of flower or fine ashes, or dust; put into a thin gauze bag, which tie to a stick three feet long, and dust the bed and plants thoroughly while the dew is on. Hold the stick with one hand and tap it gently with the other, so as to sift the preparation evenly through the gauze. Be sure, while dusting the beds, to keep the bag to the leaward of you.

As Paris-green is not always of uniform strength, it will sometimes require more than the above quantity. If a new supply of the bugs make their appearance, repeat the remedy, and always repeat after a rain, if the bugs are there. But a few applications will invariably relieve you of the pest; and the plants will soon be beyond their effects, by growth. Paris-green is sure death to all animal life, but does not effect vegetable life. Try it and save your plants.

G. G.

Roanoke Co., Va.

[For the Southern Planter and Farmer.]

COMPARATIVE COST OF GRASS SEED TO THE ACRE.

	Quantity of seed per acre.	Cost of seed per bush. in Richmond.	Cost of seed per acre.
Red clover,	$\frac{1}{8}$	\$10 50	\$1 31 $\frac{1}{4}$
Orchard grass,	2	2 25	4 50
Herds grass,	$\frac{1}{2}$	1 25	62 $\frac{1}{4}$

The accompanying tabular statement will, at a glimpse, convey to the reader the comparative cost per acre of sowing lands in the three grasses therein considered. Timothy suits such a small portion, if any, of each farm in this part of Virginia, that it need scarcely be estimated. On lands that are a little too wet for clover and orchard grass during the latter part of Winter and early Spring, herds grass grows luxuriantly, and on flat lands that are not quite rich enough to make either of the former profitable, it will live, and if not grazed, turf over in a few years. It will yield, on imperfectly drained lands, more hay than any cultivated grass with which I am acquainted.

Every farmer who has secured a stand of this grass, can save seed for himself, by allowing a portion of his grass to ripen its seed before cutting it, and afterwards threshing or flailing them out, thus saving all further outlay for seed—an item by no means to be despised in estimating the comparative merits of grasses. It is generally conceded that the parent acts wisely who selects for his son that vocation in life for which he manifests the most decided genius. Should not something like this rule guide us in selecting grasses for our lands? Herds grass is indigenous here, and should receive the careful consideration of every farmer who is sowing grass upon lands adapted to it. These views are submitted with the hope that others better acquainted with the cultivated grasses and the soil which they suit will express their opinions upon this subject, fraught with the deepest interest to every tiller of the soil.

Will some one, through your valuable journal, give the best modes of saving and cleaning clover seed?

Louisa Co., Va.

F. H. S.

[For the Southern Planter and Farmer.]

“POOR OLD VIRGINIA.”

Run your pen through the next sentence you see with this expression in it, and write in its place “Rich, Young, Growing Virginia.” If a man be poor, does he wish it proclaimed on the housetop? Will the State ever be benefited by such expressions? Will they attract immigrants? Do they encourage our own young men? And, besides, we deny that they are at all applicable to Virginia. She is not poor, but rich—in the stout hearts and brawny arms of her sons; in her long hidden minerals; in her kind and fertile soil; in her incalculable water-power; in her grand sea front; in her heroes, and in her statesmen.

No, this is rich, young Virginia, for her age must be reckoned from 1865; and where will you find another State of her age, possessed of so many growing cities, so many great railroads, so many public schools, so many flourishing colleges, so many thriving industries!

“Lo! old things have passed away, and all things have become new,” and Virginia has entered upon a new era, under new auspices, with new feelings and with new men, and is, we hope, to come forth from her new birth with brighter prospects and a grander aim. She has reared a race of splendid gentlemen; she is now rearing a race of noble men.

“Great sinewy men that are good to see,”

* * * * *

“Brown as walnuts and hairy as goats,”

and among them will be found no “dead-heads.” Nay! those who imagine that this is “Old Virginia,” have slept well nigh as long as did Rip Van Winkle, and those who believe this to be *poor* Virginia,

do not remember how hard the times are pressing their neighbors, and how much Virginia has done since she began to breathe again.

This is rich, young, growing Virginia, and her young men are tiring of having immigrants and capital kept out of the State by cowardly and continual whinings about dead issues and great losses.

Whilst the journals of other States are teeming with glowing descriptions of their prosperity and capacities, no man seems to be able to write an article about Virginia without wedging in those two words, which should never again be printed or spoken in connection with her. We repeat, that Virginia is as young as any State, is as rich as any State, and that she possesses as great capacities as any State; and the descendants of her heroes, patriots and statesmen, the *men* of to-day, see in the grandeur of her past, an incentive ever urging onward to a nobler and a brighter future.

The live men of Virginia want all the immigrants who will come; and if more come than can "assimilate" with us, then we will "assimilate" with them; so you can tell everybody to come on, and they will find her *rich, young, growing Virginia*.

Spottsylvania Co., Va.

HOLLADAY.

[For the Southern Planter and Farmer.]

CHIPS FROM VERMONT.

As I have so much I would like to say to my brother farmers of the South, and so little time to say it in, I fear this letter must needs be fragmentary; hence the caption I have selected.

Yesterday I received a letter from Mr. J. H. Tyler, of Dublin, Pulaski county, Va. (and which only reached me by accident, having been simply directed to me, at Windham county, Vt., from the address given in the January number of the *Planter and Farmer*, I suppose), making inquiry in regard to securing seed wheat from the North. I believe this is a move in the right direction, and I shall institute inquiries in regard to it, and will give the result in some future number of the *Planter*. I will only add that I have not raised any wheat for several years, and have none to sell; but I will obtain the address and terms of those who have been successful in raising it, and put those who may wish to buy in communication with reliable parties of whom they may obtain seed. And this matter of changing seed, reminds me of that king of all other crops, viz: Indian corn.

I am buying Western meal, somewhat, this Spring, but I intend that it shall be the *last* season that I shall buy it. I am fully convinced that we lose money on every bag of meal that we buy. Then why buy it? perhaps some one will ask. I am keeping a dairy, almost exclusively, and I do not believe that cows can be kept profitably on an exclusive hay ration, and my pigs, spoken of in the January number, require meal to put them in condition for killing in March. So that the question for me to decide is, whether I will lose

something by buying meal, or lose more by not buying it. I believe the true policy of the farmers of this country, both North and South, is to *feed liberally*, and to *raise every pound of the feed they consume*, and I am very much in favor of *consuming all the food we can raise*. Suppose you are keeping a dairy, then I would say, feed your cows from two to four quarts of meal every day they give milk. Are you making beef, then have your animals ready for the butcher at any time after they are two years old, and your pigs, if raising pork, ready in six months, instead of eighteen.

Who does not know that a fat horse will sell six times before you can get an offer for a poor or lean one. And so we might go on to the end of the list; but enough has been said to awaken thought in those who are alive to their calling, and to those who are not, we have nothing to say. It will be apparent to every one, that to insure these results requires forethought; a careful planning for the future, and a thorough execution of the plans laid out. Nowhere should brain and muscle be more thoroughly and harmoniously united than in the farmer. But, perhaps, some one will ask, "What is there *practical* about this talk? how am I to get any *dollars* out of it?" My answer is, what I *intend* to make practical in my own farming, and you know he is said to be a good doctor that will take his own medicine.

Raise fifty bushels ears of corn for every milch cow, beef, horse, and fattening hog, and a little for the stall cattle and pigs; feed it all on your farm, save all the manure you can make, work hard and cut off all unnecessary expenses, and I promise you that you can pay all your debts, laugh at the tax collector, and pay two years subscription to the *Planter and Farmer* in advance, and make editor Dickinson so happy that he will almost forget that he is an editor.

Jamaica, Windham Co., Vt.

J. O. LANPHEAR.

[For the Southern Planter and Farmer.]

ABOUT DRAINING.

There is nothing more essential to the proper improvement of land than draining. In England, where it will pay for the outlay, the subsoil is in many places a net work of tile. In my section—the table lands of King William, which form the water-shed between the Pamunkey and Mattaponi—the land is a stiff clay or based on it, and must be drained to make it pay for the cultivation. For obvious reasons, these drains should be secret or covered. Wood is too perishable to use for this purpose, and tile is too costly, though it is the very thing, if we could afford to use it. To obviate this difficulty, I will give you an idea which has occurred to me, though I do not claim the entire originality. It is to construct a continuous pipe of cement and sand, with apertures wherever they are needed. I have known it used in constructing water pipes, and think it would answer admirably for draining purposes.

The *modus operandi* is this: Dig your ditch where you wish it located, of proper depth, fall, &c. When this is done, begin at the

upper or highest point of the ditch, and dig a small trench in the bottom of the ditch, the size you wish to make your pipe; have your cement and sand mixed, one-third cement and two-thirds sand; lay the mortar one inch thick on the bottom of the trench; then use a smooth, round, wooden rod of the same diameter you wish to make the bore of your pipe, place this lengthwise in the trench, on the soft mortar; then cover the rod with mortar; when it sets, withdraw the rod nearly its whole length, so as to keep the mouth open; then lay more mortar and continue to construct, never withdrawing the rod entirely. When the mortar is in a plastic state, orifices may be made wherever required, and at angles. Where other ditches are to communicate, an arrangement may be made with an aperture to receive the water from the other ditch.

Such is my idea, Mr. Editor. I am induced to believe it will succeed, and think I will try it. I would like to get the opinion of my brother farmers on the subject. The rod should have a hook on one end, to facilitate its withdrawal, and ditch covered as tile ditch.

King William Co., Va.

JOHN LEWIS, M. D.

VIRGINIA : ITS RESOURCES, &c.

Virginia : a Geographical and Political Summary, embracing a description of the State, its geology, soils, minerals and climate; its animal and vegetable productions; manufacturing and commercial facilities; religious and educational advantages; internal improvements and form of government. Prepared and published under the supervision of the Board of Immigration, and by authority of law. Richmond, Virginia, 1876. (Trübner & Co., Ludgate-hill.)

This valuable statistical work (which, as the title indicates, contains much information on the physical features and productions of Virginia) is the result of the labors of a board composed of the Governor and other high officials of the State, created for the purpose of inviting the migratory population of other countries to invest their savings and labor in the large areas of land unoccupied or unsettled in consequence of the change in the labor system and loss of capital resulting from the late war. The first practical step taken was the preparation of the above-mentioned summary setting forth the numerous advantages of the land, and this was entrusted to Major Jed. Hotchkiss, of Staunton, a well known topographical and mining engineer resident in the State, whose personal and professional labors were of great assistance to the Southern cause during the war, and whose ably executed maps of the campaign, made under fire in many instances, were admired by many during his recent stay in London. The maps in the present volume are, besides a clear colored one of the United States (very suggestive of a British origin by its execution) and a commercial map of the world, three different charts of Virginia, one showing the natural physical divisions, another specially devoted to counties, roads, railways, &c., and a third exhibiting the chief geological features (this last by Professor Rogers).

The geological chapters are specially interesting in their analysis

of soils applicable to agricultural purposes, and their account of the various minerals (including gold) known to occur, though their extent is still entirely undeveloped. The most useful appear to be the agricultural (of which the greensand marl, so valuable as manure, is foremost in importance) and architectural minerals; the distribution of the carboniferous strata also receiving much attention. Bituminous coal and natural coke are found in extensive beds in the new red sandstone; the Richmond coal field, equal to the Newcastle district, being the chief. The command of cheap and good fuel, readily transported by rail or canal to the ore-producing districts, must eventually prove of the highest value.

The climate is essentially mean—about 56° mean annual temperature—the State being in the isothermal curves containing the south of England, France, &c. In two years' observations in various parts, the highest recorded temperature was 81° , the lowest 33° . The great variations in the surface naturally give a wide range of climate, but it is very healthy, and favorable for agriculture, the abundance of moisture not being caused by periodically long rains.

For the varied statistics as to the capabilities of the country for rearing stock, &c., we must refer to the work itself; but mention may be made of a special industry—bee rearing—which resulted in one year in the production of 1,008,231 lbs. of honey, and 74,374 lbs. of wax. The number of swine raised in the same year is somewhat astonishing—1,262,707, giving an average of 103 to each 100 persons (the average in Great Britain being $9\frac{1}{2}$ only. It is, however, in its vegetable productions that the chief wealth of the country lies, the native flora being rich and abundant, and the cereals, &c., of temperate climates thriving when introduced. Indian corn is naturally the staple bread grain; wheat, rye, oats, and barley are also largely cultivated. Tobacco is a staple product, and potatoes and hay are grown in large quantities. Fruits of all hardy kinds are unsurpassed in quality. Cotton can be grown profitably, and there appears every likelihood of the growth of flax, jute, sorghum, beet sugar, hemp, and other valuable commercial productions succeeding as soon as attention is directed to them.

The indigenous mammals, birds, and fishes are briefly noticed, but any reference to sporting matters would naturally be out of place in such a work as this.

With regard to the remaining subjects discussed, the details of the means of internal communication and the summary of the more important laws will be found of use to intending immigrants. The most commendable point of the State administration appears to be the facilities afforded for education, the result of statistics placing Virginia in the front rank for the whole world in the higher branches.

There can be little doubt of the utility of such thorough publications as the one now being noticed, and at the present moment there would seem to be the greatest necessity for the American authorities to exert themselves in the dissemination of reliable particulars of the nature discussed in it. We observe, from good American sources,

that the immigration to the United States is falling off to such an extent as to seriously threaten the welfare of the country, a diminution of 38 per cent. having occurred in 1874 as compared with 1873; of 55 per cent. in 1875; and, as estimated for 1876, of 64 per cent., or nearly two-thirds. Emigration of Americans has, on the other hand, increased, so as now at least to equal the half of the immigrants. The Irish especially are falling off as immigrants, their number in 1875 being less than half the average of the preceding five years, and less by two-thirds than that of the preceding thirty years. This represents a serious loss to the aggregate national wealth, the alien population of the States varying from 24 per cent. in Kansas to 70 per cent. in Arizona. The emigration to British North America, judging by our own last report, is rapidly increasing, having been 47,741 in the years 1861-65; 82,569 in 1866-70, and 111,415 in 1871-75.

NOTE BY THE EDITOR.—We published, last month, an article from the *Saturday Review*, London, on Virginia, and have the pleasure now of submitting the above from *The Field, the Country Gentleman's Newspaper*, London, in the same direction. These references to Virginia, and by the most respectable journals in England, cannot fail to render more definite the desire of worthy Englishmen to make our State their own. That is the blood, by distinction, we want.

[For the Southern Planter and Farmer.]

FRUITS OF TIDEWATER VIRGINIA.

Your postal card, reminding me of a promise to continue this subject, duly received. In looking over your December number I find that "Fruit Raiser" recommends certain varieties of the large and small fruits for his section, from which list I propose selecting those which have fruited well on my own grounds and are to be commended either for profit or market. There are sundry points which cannot be too strongly impressed on the mind of the party planting any variety of fruit trees, either for family use or market, in reference to success. Those I may briefly mention are—selection of soil adapted to the variety of the fruit, its proper drainage for health, its fertility and the use to be made of that land for the first five or more years after setting the trees.

To grow wood, the structure to bear fruit is the first object, hence annual cultivation is essentially necessary for all fruits to bearing age. This is my experience after testing Mr. Mehan's grass and sod theory with surface manuring for *newly planted trees*. Manured root crops annually, with clean cultivation, I prefer for the first three or four years, subsequently a corn crop may be taken, followed by roots again. Field peas in the orchard while the trees are young is apt to be followed by damage to the trees from field mice.

A two years' rest in clover and orchard grass, after the trees arrive at bearing age, with a liberal dressing of ashes and bone dust annually to the land, with proper attention to pruning the trees and thinning the fruit *every year*, will, in general, give the best results to all the large fruits of apple, pear, peach and quince.

Peaches, with us, have proved uncertain and not profitable for market. Hale's Early, a failure and long since rooted from our grounds. Troth's Early, so far, our best early peach. Mr. Rivers' seedlings not yet well tested here. Crawford Early and Late George IV., Malta and White Heath Cling, three-fourths of the last three kinds will supply the family well and have a surplus, with five trees, for every member of the family.

Pears.—Of the twelve varieties recommended by "Fruit Raiser," ever one, without an exception, and a dozen other kinds, are to be found in my orchard, either of standards or dwarfs; and many of them I heartily wish were not there.

Since I have the list before me, and my experience with these kinds may be of service to others, I will briefly comment on each kind.

Bartlett.—There are about 600 standards, on high, well drained soil, the best variety for market or family use we have in our State, all things considered.

Of the 200 Dwarf Bartletts, about half now remain. About 25 per cent. were lost in first three years by fracture at the bud; many died outright from overbearing; others failed to grow and were removed; about 10 per cent. rooted from the pear wood and are handsome standards. Would not recommend Dwarf Bartletts.

Dutchess—Both as standards and dwarfs have done well, and rarely blight with me. Some dwarfs fail to grow, but on the whole, it is the best dwarf for gardens and a Fall pear we have for family use. As a market fruit, coming in contact with the Northern grown Bartlett, it fails to pay in average seasons. The peach market often injures the sale of our Bartletts.

Clapp's Favorite—Has not proved a favorite with me, grows rapidly and fruits well, then blights in same rows where Bartletts are healthy; must be pulled quite early, before ripe, for shipping, else it will rot at the core badly; it does not keep well after maturity like the Bartlett, and is certainly inferior to it as a table fruit.

Beurre Clairgeau—Promises well, tree fruited early, and it was so handsome and large I was induced to plant 25 more trees. Sorry, very sorry I did so. The third and fourth fruiting of these trees has disappointed me by shedding their foliage like the Flemish Beauty, and the fruit cannot mature; it spots badly and is unfit for market.

Doyenne Boussock.—Very handsome fruit, trees have blighted as dwarfs.

Doyenne d' Ete—Fruited well and early; too insignificant and small for either family use or market.

Rostiezer—Is a fair fruit which I prefer to his Buffum, next on this list, which, besides blighting badly, is too small for market and no use in giving it a place over larger and better fruit.

Glout Morceau—Has proved a good grower and healthy tree for the past two years—the fruit hanging late on the tree, has been stolen, so that I have lost the opportunity of testing the quality in eating and keeping of this winter pear.

Lawrence.—Tree grows slow when young, but it makes up for it

on good land after the fourth year. (This is twice mentioned in the list—Lawrence and Lawrence), and is one of our best Fall pears.

Beurre d'Anjou.—One of the healthiest trees in the orchard, growing well and regularly; matures its wood so well as to escape blight. It is certainly a first-rate Fall pear for family use, and sells well in the Boston market where it is well known and appreciated.

This ends "Fruit Raiser's" list. Now, there are two early pears which I regard very highly for both family use and market, and which I have reason to believe would succeed well in the Piedmont country.

Buerre Gifford.—The earliest and largest good pear we have ripe for shipping first week in July, about one month ahead of Bartlett. The growth of tree is objectionable and should be *pruned high*, as the fruit is borne in twos and threes on the ends of the branches and the weight causes the limbs to weep.

Hosenschenck (Moore's Pound).—About two weeks in advance of Bartlett, equals, often excels it in size, rarely blights with us; and double worked on other trees six and seven years old, it has given me a peck to the tree the third year. While a handsomer pear than the Bartlett, I do not think it a better dessert fruit—few would complain of it, however, when well ripened *from* the tree, as all table pears should be.

Seckel should never be omitted from a family orchard, and it even does pretty well as a dwarf. We do not find it profitable for market, really, I believe, because we have to ship it in the peach season.

In conclusion, for a market orchard I should plant *Beurre Gifford*, *Hosenschenck*, *Bartlett*, *Beurre d'Anjou* and *Lawrence*.

For family use I would add to the above, *Seckel*, *Duchesse d'Angoulême*, *Easter Beurre*, making eight varieties from the best early to the best latest pears we have. It may be said of the *Seckel* that it grows better in sod in the yard when carefully worked around for several years while young, and makes the handsomest *shade* fruit tree of any kind we grow, naturally, with little attention to pruning. Incidentally here I may remark, that after properly setting and pruning young trees into shape so as to form good open heads, keeping the bodies free from sprouts, very little annual pruning will be required after the third year.

Cherries.—With the exception of the *Early Richmond* and *Duke Cherries* and *Morello Family*, they do not succeed well far from the water. Near our rivers, the *Wax*, *Reime Hortense*, (one of the very best), *Napoleon*, *Bigarreau* and *Black Tartarian*, indeed, all the heart family, do well.

NANSEMOND.

March 19, 1877.

COMMENTS BY "FRUIT RAISER" ON THE ABOVE, AND ON A PREVIOUS ARTICLE BY "NANSEMOND" ON THE SAME SUBJECT.

"Nansemond" in defence of the "Report to the American Pomological Society" referred to, of which he seems to have been part author, makes the singular statement, that this Report was intended entirely as information for the Society,

and not to instruct the fruit growers of Virginia. Then "cui bono?" Certainly it could not have been designed to be laid up among the archives of the Society as a specimen of Virginia literature. The presumption was that it was intended to instruct the present fruit growers, and those who might design to emigrate to Virginia and plant orchards. Such must have been the opinion of the "Editor of the *Planter and Farmer*," or else he would not have introduced it into his columns—and such must have been the understanding of the readers of this journal. Such was the belief of "Fruit Raiser," who thus considered it a fair subject for criticism.

"Nansemond" objects to some of the varieties of pears proposed by F. R.—particularly "Clapp's Favorite," as being more apt to blight than even the Bartlett, as liable to rot at the core, and being inferior to Bartlett in quality. *Doctors* will differ, as doctors, or fruit raisers. In the vicinity of Richmond, in the extensive blight which prevailed several years since, pear raisers did not find the Clapp to blight as much as the Bartlett. In the orchard of the writer, not more than one or two of the former blighted, while six or eight of the latter did. The former does not keep as well as the latter, but is a much handsomer pear (the handsomest probably that is grown) and is generally considered as good in quality as the Bartlett—its beauty will make up for any difference, if it does exist, and persons are very prone to think a handsome pear better than it really is. One of the largest pear growers, near Richmond, prefers the Clapp's Favorite to any other pear, and is designing to set out more of them. Clapp is a very vigorous grower and looks more healthy than almost any other tree in the orchards in this vicinity, and Downing says it is very productive. Beurre Clairgeau is another pear "Nansemond" objects to as shedding its foliage. The writer has never noticed this in the orchard he has seen. It is one of the eight pears Quinn (Pear culture for profit) recommends as succeeding well and bearing the highest market price in New York. His list is Bartlett, Doyenne Boussock, Duchess, Beurre Clairgeau, Seckel, Beurre d'Anjou, Lawrence and Vicar of Winkfield. Quinn says the Duchess is the only pear that he has seen to succeed as a dwarf. And we doubt whether even that will not be found ultimately better as a standard. It is said now that the quality is as good, as a standard. When Quinn wrote, (in 1869), Clapp's Favorite had scarcely been known. Vicar of Winkfield, Mr. F. Davis thinks does not succeed at the South.

"Nansemond" speaks of Lawrence being introduced twice in "F. R.'s list. This was a mistake of the printer, for *Seckel*, which no one would think of omitting in a list of pears—a considerable typographical error, but not wonderful in comparison with another made of the writer's chirography recently, viz., "*time enough*" for *fine dirt*. We have found the Doyenne d'Ete to bear well, and my family relish it very much; it may be for want of a better early pear. As far as we know it is the earliest pear, and is valuable on that account. We cannot find in the nurseries the old fashion *June pear*, which is a very good pear and bear early. "Nansemond," in each of his articles, speaks of the Summer Cheese apple being raised in Tidewater Virginia, without a word in its commendation. Now, we consider it worth more than all the other apples put together, which fruit at the same season. It sells better, all the fruit sellers say, in the Richmond market, than any other apple. It is a vigorous grower, attains very large size, bears profusely, and sometimes two seasons in succession. In the writer's orchard, set out in the Fall of 1868, it was the only variety which bore freely. It keeps

until the middle of December, and with care may be kept until Christmas.

We do not understand what "Nansemond," in naming his list of peaches, means, when he says, three-fourths of the last three kinds (Geo. IV., Malta and Heath) will supply the family well, and have a surplus, with five trees for every member of the family.

[For the Southern Planter and Farmer.]

THE RENOVATION OF WORN-OUT LANDS.

The importance of this subject is attested by the frequency with which it is discussed in your valuable journal. It is of vital importance to many farmers in Eastern Virginia, and to me, among that class. I read, with avidity, whatever appears on this subject. All practical writers agree that it must be done by means of green fallows, and that we must begin with the pea-fallow. This was taught by the late Edmund Ruffin, and its benefits have been reaped by some of his disciples in King William County, Va. I have no remarks to offer upon this subject, but I desire further information, and know of no means of obtaining it except by asking questions. Now, will you, Mr. Editor, or some of your experienced contributors, tell us how we can obtain a respectable growth of pea vines upon land that will not produce over one or two barrels of corn per acre? It would be useless to refer us to stable or barnyard manure. The supply is too limited. If we must resort to commercial fertilizers, shall it be potash, or phosphate of lime, or ammonia? In a word, is there any means of accomplishing this object (the growth of the first crop of pea vines) that is sufficiently cheap, to be within reach of the mass of small farmers, who have little money to spend? I think I hear some one say, "plaster." I am aware that plaster is cheap, and that it acts marvelously well on some soils, but on some other soils it seems to have no effect. If you can give us the desired information, you will confer a great benefit upon a large number; and I will promise to revolutionize farming in my neighborhood in a few years.

AGRICOLA.

Caroline Co., Va.

P. S.—That is an admirable letter of Mr. Jas. G. Tinsley's in the March number of your journal, "about the Cultivation of the Sweet Potato," but it is deficient in one particular. Please ask him to give us definite information about the use of woods-mould and pine tags.

TOBACCO PLANT BEDS.—A gentleman has written to Col. Davie, of the Agricultural Bureau, giving his experience with a tobacco plant bed, which appears worthy of publication. He says he planted a bed in the usual way, and after the plants came up they were all eaten by bugs. He then made a bed, covering it with dry twigs, leaves, etc., and with an ordinary watering-pot sprinkled about one gallon of coal oil over it. This he fired and found it burned elegantly. He then sowed the seed and raised the finest crop of plants he ever saw. He says there was enough scent of the oil left in the ground to keep the bugs away.

[For the Southern Planter and Farmer.]

A NEW HARROW AND ROLLER.

On the 7th of March quite a number of farmers assembled at Bellmont, the residence of Dr. Wm. V. Croxton, in this county, to witness the action of a newly patented combination harrow and roller, invented by Dr. W. V. Croxton and his neighbor, Mr. W. M. Stehley. All were greatly pleased with the working of the implement—a full description of which it is not now intended to give. Suffice it to say, the frame work is triangular in shape, and made entirely of wrought iron; this large triangle is composed of two smaller triangles, hinged at the centre of the harrow on a horizontal rod of wrought iron, which terminates in front in a perch to pull by. The teeth are of steel, securely fastened in grooves between the frame work of the implement. The grooves are so arranged that the set of the teeth can be altered to suit the various uses to which the implement is to be applied. The roller is composed of two sections ingeniously and neatly attached in rear of the harrow; these are to be made of cast iron. The implement, for durability, neatness of construction, facility to handle, and adaptation to the various uses for which it is needed on the farm, and above all, the perfect manner in which it acts, adapting itself to all the inequalities of the surface, and reducing the soil to a fine tilth, makes it a desideratum which will be hailed by all agriculturists who delight in good implements. After testing the action of the implement in various ways on fallowed land, and in putting in clover seed on wheat land, &c., to the entire satisfaction of all present, the company adjourned from the field to the house, where they were handsomely entertained, and partook of a bounteous repast.

After dinner, the Doctor's blooded colts, cattle, sheep, and hogs were inspected, and did as much credit to him as the harrow and roller did to himself and neighbor Stehley. The company then formed a meeting to express their opinions as to the merits of the combination harrow and roller. The sentiment was unanimous, that the implement, with the few unimportant alterations already determined on, was perfect in action, and subserved all the various uses of a harrow and roller as perfectly as human ingenuity could well make it. It was resolved to appoint a committee to express to Dr. Croxton and Mr. Stehley their entire endorsement of the combination harrow and roller, their congratulations for their success, and thanks for the favor they had conferred on the agriculturists by their invention. A copy of the action of the committee is sent to you with this, by the request of the committee.

To Dr. W. V. Croxton and W. M. Stehley:

GENTLEMEN,—The undersigned, a committee appointed by a well attended meeting of the farmers of this community, which assembled on yesterday to witness the operation, on Dr. Croxton's Bellmont estate, of a combined harrow and roller recently invented and

patented by Mr. W. M. Stehley, of the Grove farm, beg leave to make the following statement as the result of the observation of all present without a dissenting opinion.

First. As a harrow uncombined it is a superior implement and works on any surface with perfect effect and satisfaction; that its construction is ingenious and simple, whilst the material (being entirely of wrought iron and steel), renders it all but imperishable; that the simple and (as we believe) peculiar arrangement by which the teeth (which are of solid steel) can be removed and replaced in a few moments, to be used either as a cutting or smoothing harrow, is most admirable, and must, we think, receive the approbation of every intelligent farmer.

Secondly. As a combined harrow and roller, it is by far the most superior implement we have ever seen, or believe to be known to agriculturists. It executes—at the same moment, with ease to the team and with perfect effect—the work of both harrow and roller, thereby saving to the farmer the cost of the roller, team and driver, and the time consumed by them in every operation. To the grass and seed-sower, it is, beyond a doubt, an indispensable machine. Many farmers who sow grass seed upon their wheat surfaces, hesitate, and more positively refuse, to put the harrow upon their luxuriant fields to secure a stand, for fear of pulling up and otherwise injuring the crop. This harrow removes that trouble. In a few minutes you may adjust the teeth so as merely to scarify the surface—as we witnessed yesterday—and the rollers following immediately, secure the seed without possible injury to the wheat, resetting it if torn up.

Lastly. The harrow and roller being constructed upon the hinge principle, adapt themselves most readily to the inequalities of the surface and leave none of it without thorough cultivation. These conclusions, we are instructed by your brother farmers assembled on yesterday, to communicate to you—a service which we now perform with much pleasure and the highest esteem. It was then resolved that a copy of this report and the accompanying account of the meeting, be sent to the *West Point Star*, *Virginia Patron*, and the *Southern Planter and Farmer*, with a request that they publish them.

Committee,	{	J. A. LITTLEPAGE,
		THOS. H. CARTER,
		JNO. LEWIS,
		F. GREGORY,
		J. C. COCKE.

TWENTY years ago the product of wool in California did not exceed 200,000 pounds a year. This year it will not fall short of 50,000,000, of superior quality.

[For the Southern Planter and Farmer.]

DIVERSITY OF OPINION.

It is a little strange, and rather puzzling to farmers, whose actual experience is limited in the science of farming, that so many now differ widely among themselves about the things that all are accustomed to do, and have done for years, and at the same time they all hold that their views are right and have been verified by long experience. Their object is one; but the means used for its attainment vary in many instances as widely as the poles. Whoever plants, desires a good, full crop; and all agree that the proper preparation of the land is essential to success. But after all that has been said and written on the subject, it is still an unsettled question as to what treatment the soil should receive to make it continuously remunerative. Without attempting to enumerate the various methods practiced by men of experience, I propose only to speak of two or three things in which I think many farmers err. I think the *protection* of the soil is a subject not well understood or appreciated, even among old farmers. Though a young farmer, I have been closely observant of many things connected with farming, and I have arrived at the conclusion that exposure of the surface to the Summer's sun does our lands more harm than all other things put together. If the land can be covered up during the Summer, its fertility will be preserved. It matters less what the covering consists of than most farmers are disposed to believe. True, a covering that will readily decompose and enter into the soil is better than boards or brush that will not rot, and must be gathered up and burned when we wish to plow up the land; but even boards will protect land from the injury of Summer heat, and the poorest land will become loose and fertile if kept covered with them for a few years—and this, too, without one particle of matter imparted by the boards. But if lands are properly treated they will invariably cover *themselves* up sufficiently for protection. A timothy crop, when suffered to ripen on the land before cutting, the straw dies down into the roots like wheat, and then, if cut close to the surface and taken off, it leaves the land naked, with no immediate prospect of an aftermath to protect the land from the sun; and if there should come, just then, a spell of hot, dry weather—as is very apt to be the case at that season of the year—the land suffers prodigiously. I have had this thing happen with me once or twice in my short experience. Timothy has come to be considered an exhauster, but I believe it exhausts only in this way.

Red clover never exhausts the soil, because it has and leaves a large residue after the mower has taken off all he can get. And then clover has a root that very soon puts up a growth of young sprouts that covers the surface with green. Any old field that produces nothing but hen grass, and a very light crop of that, if fenced up and stock kept off, will grow fertile in three or four years, except galls, and these should be covered with brush from the woods, if straw

cannot be had. Brush cut in summer while the leaves are on, makes a very good cover for galls, but straw is better; and straw will improve land more spread on the surface than if plowed under; and this is some evidence that the land needs cover more than it does admixture. At the same time, all organic matter that enters into the soil improves it; and I believe it is of little consequence what this matter is, whether clover, peas, buckwheat, cornstalks, weeds, the wild grasses, or briers, so that decomposition takes place and the matter becomes well incorporated. Farmers are pretty well agreed as to the importance of having the land covered, and all enterprising farmers use creditable efforts to cover their lands; they buy and sow grass seeds every year, and they scatter them over whole fields without any reference to the strength of the soil; or if there is a difference made, it is on the principle that the poorer the land, the greater the need of grass; and they put the seed down more liberally on the poor places than elsewhere, not considering that all the seed that fall on such lands are thrown away. The seeds sprout and come up as well on poor land as rich; and when the farmer walks over his fields and sees the little clover plants, he thinks he has a fine stand; but later in the year he looks for his clover, and it has all disappeared except on those places where the soil was good and lively. He concludes, of course, that frost or drought took it, and feels worried because he cannot get a stand of grass. Clover is a delicate plant, and unless it has suitable food in its infancy, it does not put out roots of sufficient strength to attach it to the soil, and a very short drought is sufficient to dry it up. But if its life could be sustained in such soil, it would never make a plant of sufficient size to do the land any good. The land must be rich to justify seeding it in clover; and when farmers learn that fact, and save their clover seed at ten dollars a bushel for such lands only as will grow clover, then a vast amount of money now spent for clover seed will be saved, and they will be that much better off. This brings me to speak of the time and manner of sowing clover seed. I believe most farmers sow too early. The warm spells we have sometimes in March causes the seed to sprout, and then a spell of cold comes on, and the development of the plants is so hindered that they do not take hold of the earth, and they perish. Some good farmers hold the opinion that clover is never killed by frost. What a clover plant wants from the time the seed sprouts until its little tap-root shoots down an inch or two into the earth, is warmth, moisture and fertility; with these in sufficient measure, it very soon goes deep enough to protect itself from ordinary drought. Clover is sowed on wheat in my section more extensively than anywhere else, and I always prefer to put it in with a two-horse harrow; and I like to sow just as late in the month of April as the state of the wheat will allow the harrow to pass over it without injury. A few, and very few, of my neighbors put in their seed in the same way; but I do not know one who makes it a point to put it off as late as possible. I have never failed when I followed this plan to get a good stand

wherever the land was rich enough to grow clover. How important it is, then, to have fertile fields.

There never has been a time in the history of the world when the cultivators of the soil were so much interested to know how they may render their lands fertile and reap paying crops, while at the same time many of them are unwittingly impoverishing their lands instead of enriching them. But the most certain and rapid mode of impoverishing land that I have yet seen, is to let it grow broom-sedge in the summer and fall, and let it stand all winter and then burn it off in the spring and plow it up and put it in corn. If I had such a field, and intended to cultivate it in corn, I should plow it up the previous fall; and if I failed to do this, I would turn it under in the spring; and if the corn crop should not be quite so good, I fancy the land would be much better for it. I admit that broom-sedge is not a good fertilizer, but it is much better than nothing. It is a heavy tax on a field to produce a crop of broom-sedge, but if plowed under in the fall in the green state, I cannot see why it should not make the land richer. If plowed under in the spring, it does not decompose readily, but it will do it after awhile, and it certainly does good; but if plowed under in the fall, it will be sufficiently decomposed by spring to put it entirely out of the way of cultivating a crop of corn; but what shall we do with broom-sedge when it comes on the meadows? Whenever it comes thick enough to burn much, first plow up the land and start again. We lose a crop or two of grass by it, but when it comes again it is the better for a little rest. I might speak of other things, but this is enough for the present.

Greenwood, Albemarle Co., Va.

S. M. SHEPHERD.

ENGLISH SPARROWS.—Don't import them into your section of the country. Don't. They will drive out every other feathered songster you have, even to the robins; not even the quail can withstand them. The writer lives on one of the most beautiful avenues in the city of Brooklyn, where the houses are on a large plat of ground, in villa style; the sidewalks broad and well lined with shade trees. Before the English sparrows were introduced, the early Spring and Summer mornings were gladdened with a variety of native songsters carolling to the delicious morning air. Since the aggressive sparrows were colonized, half the exquisiteness of nature has fled. Now, one hears only harsh, twittering notes, and sees short, homely, stocky birds. If you have any sense of beauty and appropriateness, don't engraft the English sparrows on your neighborhood.—*Turf and Field.*

GLOSS ON SHIRT BOSOMS.—In answer to a query in last week's *Press* we print the following: Take two ounces of fine white gum arabic powder, put in a pitcher, and pour on it one pint of boiling water, cover it and let stand all night. In the morning pour it carefully from the dregs into a bottle; use one tablespoonful to a pint of starch made in the usual manner; use a polishing iron also.

[For the Southern Planter and Farmer.]

A MEMORANDUM ON MR. LAWES' ARTICLE ON SOIL EXHAUSTION.—By GEN. RANSOM.

[THIS is an exceedingly interesting paper, and we beg our correspondent to keep on.—ED.]

Mr. Lawes, of England, in your February number for 1877, recalls some facts observed in the cultivation and productions of New Mexico, which corroborate his reasoning and substantiate his conclusions. Not that I hope or expect to say anything the equal in merit of so eminent authority, but that I may, perhaps, shed some light upon the broad subject of exhausted soils and cause those most interested to seek for some means, and attempt some reasonable, systematic and persistent measures for the restoration of that fertility to the soil, without which the unproductive capital in lañd must soon be utterly valueless, this paper is offered for your publication. It will contain neither the scientific research of the chemist, the discoveries of the botanist, nor the experiences of practical agriculturists, but the statement of some indisputable, though apparently singular, facts; the results of some observations through the span of several years, and some conclusions drawn therefrom, with a suggestion or two as to one method of restoring our worn-out lands.

New Mexico needs no description as to locality. Its elevation is upon an average of five thousand feet above the sea; its climate is extremely dry and generally temperate; the face of the country ranging from the loftiest mountains of rugged contour to vast and almost level plains. Timber grows nowhere, except upon the mountains and bordering its streams. It was occupied by the Spaniards soon after the conquest of Lower or Old Mexico by Cortez, and was then inhabited by an agricultural people, the Aztecs or Pueblo Indians, some of whom still remain and practice the same kinds of industries, and, it is believed, in the same manner that their ancestors from their origin pursued. The rain-fall is always very light, and sometimes nothing for nearly or quite a year at a time, except in the mountains. All cultivation is by the aid of artificial irrigation. It would be needless to attempt to discover how long the Aztecs had grown maize before the Spaniards introduced wheat. For more than three hundred years the same fields have yearly produced crops of wheat or corn, and often the one or the other grain successively for unnumbered years. The quantity of the yield is usually dependent upon the more or less abundant supply of water. The most primitive and crudest implements of husbandry are in use. The soil is rarely broken more than a few inches, and never with the mould-board plow. The crops are seeded in the Spring and harvested in the late Summer or early Autumn. The fields that have been cultivated lie perfectly bare and dry from the gathering of one crop to the seeding of the next. The application of manure in any form is unknown in practice. Judging by my own experience, it would be concluded that, under such a system, utter

barrenness would long since have been the result to the soil. Such is not the case. When the fields receive an ample amount of water, the yield is far in excess of what we can attain upon our most choice land. I have known eighty gathered from one bushel of wheat sown, and forty to sixty is the usual return under fair circumstances. It is the hope of the writer that the reader has not been wearied in going over these details. They have been given to prove how little crops actually take from the soil, and to show conclusively to what is properly attributable the great and speedy exhaustion of our soils.

It must not be supposed that the writer entertains the belief that these crops have been grown for three centuries upon the store of fertility originally in the soil of New Mexico. Several times, every year, an application of the most valuable fertilizer containing every principle of plant-food, and, in a form, the best suited to the wants of the crop, has been made. This has been in the *water of artificial irrigation*. This supply has come from the mountain streams, furnished by the melting snows, which, slowly making their way through the different strata of earth, carry in perfect solution the mineral salts and vegetable decomposed matter ready to be appropriated by the roots of the crops. The air has doubtless done its part, but it is notorious that nowhere is found an atmosphere more drier, more free from ammonia or any impurity.

This brings us to the conclusions of Mr. Lawes: "That the *leaching* caused by the constant and superabundant rains has been the *chief* cause of exhaustion in soils." I have put this statement in quotation marks, although the language used is not that of Mr. Lawes. It, however, is the same in substance; and here we may compare the condition of the soil in New Mexico now with that of our own. In the former, fertility is unimpaired. Then, *at no time*, has there ever been enough rain to wet the earth more than a few inches or a foot. When water has been artificially applied, it has been done only when the crops absolutely demanded it, and never in quantity greater than necessity required. Under these circumstances, *leaching* has been impossible in the fields cultivated. Besides, the water of irrigation *has leached* the mountains in its way to the plains, and has continually brought the elements gathered from the snows, the earth and vegetation, and yielded them as reward to the crops, and perhaps left a surplus when distributed. With us the poverty of soil is co-equal with our occupancy of it. The constant stirring from year to year; the continual fall of rain at all seasons and so frequently in quantities greatly in excess of the requirements of crops, and the habitual moisture beneath the surface have all combined to facilitate that *leaching* which has not existed in New Mexico. Artificial irrigation has contributed nothing to the enrichment of the cultivated fields. Its beneficial effects have been observed and admitted where slack-water overflow has deposited accumulated vegetable and mineral substances. We witness the conditions. The cause of difference is believed to be ascertained. In many respects

it is impossible to bring about a similar state there and here. The result to be reached by us is to re-enrich our *washed* out soils; and now, with great hesitation and that want of confidence which properly clings to lack of experience, some suggestions will be briefly stated.

The more compact the soil, the less facility for leaching. Time cannot be allowed for nature to restore the washed fertility. Means are wanting to make applications which would at once render the lands remuneratively productive. Then some practical means must be used to do what is imperative. The lands must be plowed less. They must be seeded with those crops which gather from earth and air plant-food, and those crops must be left in part upon the lands. The surplus water of the surface must be carried away quickly to prevent its dissolving out the valuable elements of the soil. When practicable, artificial irrigation should be tried.

To enlarge upon these heads now would extend this paper to a length tedious, and, perhaps, destructive to any interest in another paper, which you shall have, if this seems fit for a place in your valuable journal.

Richmond, Va.

R. RANSOM.

[For the Southern Planter and Farmer.]

THE GRANGE.

Of all human organizations for the welfare of the great mass of agriculturists, the Grange has the first place, considered in every point of view. It is not a perfect society, and never can be, because of the divergent opinions of human nature, educated or otherwise. It possesses, as a basis, the noblest objects, and proposes to obtain these objects by educating the farmers to think alike and to act together, whether the chief pursuits are the raising of tobacco, grain, trucks, fruits, cattle, sheep or hogs. All of these pursuits constitute an important and distinct branch of farming, and should employ the united testimony of the most successful men in each calling, and they should be willing to impart their knowledge. They can do this through the Grange to a better advantage than they can through any other channel, and if combined and acted upon by the whole fraternity, there would be perceptible improvement. The great objection to the Grange still continues. The farmers will not unite, for any length of time, in anything. They vary about every thing, in small and great matters, and the want of union is the great reason of their want of success as a body. While constituting half the population, they possess little or no influence in the affairs of the government, even in regard to the farming interests; and just so long as they continue to act individually in all matters, just so long will they remain almost cyphers, in all affairs requiring concentration of strength—pecuniary, mental and physical. The want of homogeneous views result in failure, where perfect union is necessary. It is in farming as in other matters, division entails disaster. The vari-

ous German Governments were easily overrun by the first Napoleon ; and but for their different organization in 1870, they would have been conquered again. The farmer has to learn, that by himself he can accomplish but little either in buying or selling, or in reforming many of the iniquitous laws that disgrace the statutes of each State. The future will be no better than the past, unless this fact becomes his second nature, rooted and grounded into every trait of his character. A balky horse spoils a team, and is soon removed ; but in human affairs, balky men continue to obstruct and prevent progress. Unfortunately, there are too many such persons in all organizations, and but for the superabundance of such men in all granges, they might pull together, and by and by be willing to learn that in union is strength, and by division, weakness, and that a house divided against itself cannot stand. This is perceptible in all granges. The greatest good to the greatest number, without oppression to the humblest person, should be the precept inculcated and acted upon. Without this being carried out, the organization accomplishes nothing and becomes a rope of sand. It requires constant teaching, by practical example, that an important object requires unremitting unanimity in all things, and particularly, where opposition is strong and backed up by mind and money.

Several years ago, the Grangers of Wisconsin passed the Potter Law, so-called, and other States prepared to follow in the same footsteps. Lately, the Supreme Court of the United States has decided in favor of the Grange laws, so-called, *i. e.*, that a Railroad Corporation should not have exclusive right to discriminate against each State, by excessive rates on local travel and freights, and light rates on through travel and freights. The farmers of Virginia are charged more for transportation to Richmond than the farmers of Kentucky and Ohio, and it is time their vested rights, so-called, should be resisted.

The new Constitution of Missouri, puts all corporations under control of the Legislature. The State of California taxes all property, church and all other kinds alike, and requires directors of Savings Banks to be responsible for money deposited. The State of Ohio limits the homestead of \$2,000 to forty acres of land. In some other States, Legislators are not allowed to have free passes, to travel by rail or steamboat *ad libitum*—a blind and a bribe to handle railroad corporations tenderly. In Tennessee, a State dog law is adding wonderfully to the increase of sheep, and consequent improvement of soil and general prosperity. The State of California has a greater income from the sale of wool (not the greatest interest in that State) than Virginia has in wheat, her chief marketable commodity.

It requires too much space at present to indicate where and how the Grange can become the medium of advancing the prosperity of farmers, and proportionally, their influence in reforming everything needing reform. While every change is not reform, yet the world generally progresses slow but sure, and if good men would contrive like bad men, the expenses of governments would be curtailed, and

republican institutions make a much better showing than the past twenty-five years has exhibited. The heavy taxation of the whole country, municipal, State and United States, has resulted in corrupting a large portion of the leaders of public opinion, and the revenues have been wasted by misappropriation. And yet the great mass of the people are honest, and if educated in the various organizations of the present day, would soon supersede the political vampires in all bodies, and send representative men, willing and able, to legislate for the good of the people. The farmers can and ought to sustain their organization; and when shorn of some of its impediments or baggage, it will move easier and with greater satisfaction to its large membership. The present is no time for faint hearts or lukewarm supporters, and if the benefits received are not as large as was expected, the fault is not in the organization, but in the support furnished. If members will not supply themselves through the Grange, whose fault is it? Where the right sort of men have run the Grange machine (as it is called by outsiders), the balance sheet shows a favorable result, and the fault, if any, is with the managers or members. Some States exhibit greater profits and less expenses than were expected. The Grange of California saved several millions of dollars to the farmers by shipping direct to England their wheat crop. The State Agency of Ohio, under Col. Hill's management, saved \$800,000 in sales and purchases of \$3,000,000. Wherever the right sort of managers have had the support of the Grange membership, the pecuniary benefits have been large, and should produce more interest and accessions to the Order, and should rekindle the waning ardor of once enthusiastic members. When interest is manifested in anything, and attention judiciously given, success is as certain as that the day follows the night, and if farmers are not willing to continue to waste their time in working land, and paying taxes without reciprocal benefits, the fault is not in the Grange.

Says Schiller: "Divide the thunder into single tones, 'tis but a lullaby for children; but pour it forth in one grand peal, its royal sound shall shake the heavens."

Hanover county, Va.

C. R. C.

CANARY SEED.—With the immensely increased consumption of this commonly used seed, it seems strange that no steps are taken to grow it in our own country. It is as easily produced as wheat or oats, and yields prolifically. Forty or fifty bushels per acre can be readily produced, and while it may not be a hardy plant, it will stand considerable frost, and our seasons will give ample time to plant and mature a crop. A few acres devoted to growing canary seed will return large profits, as it is now all imported and pays duty. Some enterprising farmer can set an example, and not only demonstrate the fact, but put money in his pocket. Let us be producers instead of importers.

[For the Southern Planter and Farmer.]
TUCKAHOE FARMERS' CLUB.

REPORT ON DR. THOS. POLLARD'S FARM.

By request of the Club, your Committee having visited and examined the farm of Dr. Pollard, now report, that they found everything in order and giving evidence of the careful supervision and intelligent management of the owner.

The farm consists of twenty-six acres, all arable, and in a high state of cultivation and fertility. A small stream flows through it, which is made available for irrigation. The dwelling and farm buildings are located near the centre, on elevated ground, and command a view of the whole place.

The soil of the upland is a rich chocolate loam, with clay subsoil, resting on granite; while the low ground is alluvium on the same foundation.

From the undulating character of the land, it has a variety of exposures, and is well adapted either to general farming, orchards, vineyards or market gardening, and the Doctor finds his pleasure and profit in diversity of production.

A pear orchard of over a thousand trees, both dwarf and standard, by their fine form and smooth bark, give evidence of judicious care. We noticed but one case of "blight;" efforts were being made to save the tree (a handsome one), but we fear it was past help.

A young orchard of apple trees were looking vigorous and healthy, but here we caught the Doctor napping. A few were girdled by the field-mice, as the mulching had not been removed in time. It was proposed to save them by the "Taliacation Operation."

The vineyard contained Concord, Norton's Seedling, Delaware; were vigorous; trained on trellis and to stakes singly.

Asparagus is grown profitably, netting over \$200 per acre. We noticed that the space between the rows of young orchard was utilized for this crop. Strawberries, to which crop two acres were devoted, were not considered as profitable as asparagus, owing to greater cost of cultivation and picking as well as liability to loss by changes of weather.

We regretted to see a fine sward of orchard grass condemned to the plow, as the wire grass was asserting its superior vitality.

Rye is grown for soiling, and was looking fair for an early cut.

The Doctor has a high opinion of sorghum as a soiling crop—cattle and hogs being very fond of it, and the yield large.

Of hogs, we found the Berkshire took front rank. "Standard Pears" and Berkshires! *Dwarfs* get scant praise and little room on this farm.

We are satisfied that our worthy President has answered the question, "Does farming pay?" in the affirmative.

Very respectfully,

B. PURYEAR,
J. G. BEATTIE. } Committee.

We had the pleasure of being present at the meeting at Dr. Beattie's, where the above Report was made, and of enjoying his elegant hospitality. In com-

pany with members of the Club, we viewed the premises and examined his nicely cultivated little farm, and his blooded stock of horses, cows and hogs, which were found in good condition and of the best selections. The Doctor's residence is one of the handsomest, if not the handsomest, on the "Grove Road," and is fitted up with much taste. We wish we had many such settlers in our vicinity—farmers of means, taste and skill, in the arrangement of their premises, and in the cultivation of their lands, in the rearing of good stock, and of enlightened public spirit as Dr. Beattie has displayed.—L. R. D.

[For the Southern Planter and Farmer.]
AN INQUIRY.

You will oblige me to state in the next number of the *Planter and Farmer* the earliest period in the growth of corn that the cultivation may be completed and peas sown at the last working, that they may have time to mature and be gathered before turning under the vines for the wheat crop without diminishing the yield of grain.

King and Queen Co., Va.

W. F. BLAND.

We have not much personal experience with peas, but we have consulted Col. Frank G. Ruffin, who gives us the following reply to the above :

"All good farmers, who can do it, prefer to lay by their corn before wheat harvest. This leaves them uninterrupted time to cut their wheat and oats and thresh the one crop and secure the other. The harvest commences about the 20th of June, and then, if the corn when laid by is of sufficient size, there is plenty of time to sow peas among the corn. Later, and even up to the 6th of July, will do perhaps as well. But in no case of corn sown among peas broadcast can many seed be gathered. The corn, if thick and tall enough, will shade the pea crop too much and retard its growth. A much better plan for seed is to sow early, say from May 15th to June 1st, a lot expressly for seed. If the land is fair and the season good, the yield will be about 15 to 20 bushels per acre.

And a better plan of farming than to put corn land with peas in wheat, is to have a pea fallow for wheat, and to repeat the corn land with peas again; or better still, to reduce the width of the rows and have alternate rows of corn and peas, and cultivate the land for a succession of years, alternating the rows every year. No plan will improve land more or give better crops. I have seen a field, of very moderate fertility, cultivated in wheat *every year* for six successive years, increase its yield from seven to twenty-five bushels per acre. But that plan is impracticable in the present disorganized condition of our labor, and I recommend a pea fallow for wheat, under a system which appropriates two fields for wheat to be alternated in wheat and peas."

If ever it was true that Cotton is King, it is not so now. The total value of last year's cotton crop of 4,250,000 bales was about \$25,000,000, but the corn crop of 1,295,000,000 bushels, at the average price of about 45 cents a bushel, is worth to this country no less than \$583,000,000. It makes the largest single item in our agricultural product, and our agricultural product furnishes, in round numbers, about \$1,000,000,000 out of the \$8,000,000,000 produced each year by American labor. Cotton was King. Corn is now a greater King.

Stock Department.

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

For many kind and flattering notices and words of encouragement, the editor of this department desires to return his cordial thanks; and he once more invites those having experience in any branch of this great business to contribute it for the general good.

EFFECT OF THE POLITICAL SETTLEMENT.

We have been asked by several correspondents what we suppose will be the effect of the political settlement upon the live stock interests. A political essay might appear out of place in these columns; but we never shrink from a plain, unequivocal expression of opinion upon the public affairs of the country. We cannot see that the live stock interests can be separated from the general prosperity or depression of business, which depends, we believe, less upon political causes than many suppose. Unless actual conflict appears to be imminent, political excitement produces no controlling effect upon commerce and trade.

The laws of supply and demand operate potentially in giving character to the business of the country in spite of a very disturbed condition of political affairs.

The administration of Mr. Hayes will, in our opinion, be a very stormy and troublesome one, and the difficulties of the situation will prove too much for a man of far more character and ability than there is any reason to suppose Mr. Hayes to be. Yet, in the midst of all, there is one demand which must be supplied—that is to say, the demand of hungry stomachs that they shall be filled. We do not believe the year will be prosperous or unprosperous because Mr. Hayes sits where Samuel J. Tilden ought to sit, and because the Democrats dugged a pit for the engulfment of Mr. Hayes and his Returning Boards, wherein, and at the bottom of which, they presently found themselves all wallowing together in the midst of great confusion. Nevertheless, the Jew stomach must be filled with bull sausage, and the Gentile stomach with hog and hominy, and, at the same time, the back of Jew and Gentile must be clothed upon with sheep's wool to a certainty. Let, now, the Democrats, as soon as may be, ascend up out of that pit, and let them say to their countrymen we have been fooled this once, but our hands are clean; there is no fraud found with us. Like Jack the fool, we will know better next time.

We have been these nineteen centuries or so finding out that a judge is a man, and that if one be filthy before he has been made a judge, he will be filthy still. Furthermore, if a filthy man has been made a judge for a filthy purpose, and by the wickedest man that this century has seen in any high place among nations, no righteous cause can prosper before that judge. If any man shall, hereafter, be heard talking of the Supreme Court of the United States as a bulwark of freedom, let him be set down as an idiot. Let us have no more blind faith in the efficacy of human institutions, but let us have faith in the best horses, cattle, sheep and swine, and continue to breed them, and graze them, and feed them, and if we are skillful enough to produce the best sorts, we shall have our reward. It is our opinion that the greatest curse that has befallen any modern nation is the administration of Grant; and yet, during that administration, Renick rose

to the summit of fame as a breeder, and has made a princely fortune out of the business. Grant set the key-note of the wide-spread official corruption by pursuing such a course as to draw from the greatest man in his own party the scornful declaration that his administration was a great "gift enterprise"—brief words, but of mighty import—signal for a universal uprising of what old Mr. Foote called the gobbling sons of plunder. The civil war, with all its horrors, was no such curse as the administration of this man, Grant, which rendered possible that Mr. Hayes should succeed, by virtue of fraud, to a seat where Washington had sat. Mr. Hayes, in his inaugural remarks, spoke of his predecessors. He has no predecessor in that seat; he is the first creature of fraud who has ever sat thereon. Let us simply tolerate him, *de facto*. Let us throw no straw in his way if there be any good in him. Little do they know the strength of the ties that bind together those who have suffered long in a common cause, who believe that it lies in Mr. Hayes' bones to make any serious break in the ranks of the honest people of the South. Let us, then, tolerate this man who sits *de facto* in the seat where Mr. Tilden *de jure* ought to sit, and let us believe that if the Democratic party elects another President and fails to seat him, they are not fit to rule the country; and let us all believe that no matter how bad Mr. Hayes may turn out to be, he must be better than Grant, whose administration, we must believe, was the sum of all villainies; and, therefore, let us stock people betake ourselves to stock-raising with renewed vigor; and, inasmuch as we, here in Virginia, are about to enter upon the business of making a new Governor, we have it in our power at least to go back to Jefferson's rule, and see that he is both honest and competent, so that in the future, as heretofore, Virginia may, by her example, shame those fellows there in Washington in their wickedness. Let us return to the old manly system of voting, so that each voter shall stand up like a man and vote his sentiments in the hearing of the people. Then will stock-breeding be profitable once more in old Virginia—what is left of her—poor, dear old Virginia.

THE PERCHERON-NORMAN STUD BOOK.

This book has been placed on our table by a friend, and, in noticing the work, we propose to give a sketch of this breed of horses, and to express an opinion of their utility and adaptability to the purposes of the agriculturist. The author of this Stud Book is the editor of the *National Live Stock Journal*. It may be supposed that the extensive experience in live stock matters enjoyed by Mr. Saunders would qualify him for the authorship of any book relating to them to which he should devote the necessary time and study. The arrangement of his work is simple and plain, and is intended to embrace all pure bred Percheron-Norman horses imported into this country as well as their pure bred descendants bred in this country, and it is thought few if any pure ones are omitted. In the introductory chapters a brief history of these animals is given, from which the two prominent facts to be condensed are that the original large breed of La Perch were, like all other large breeds of Europe, nearly identical with the Flanders horses, and that copious and repeated infusions of the blood of the Oriental race-horse or so-called Arabian brought the Percheron, of fifty years ago, to the pitch of fame, as a powerful, quick, draught beast, capable of going further and faster with a heavy load than any other beast in the world; a fact which it seems impossible to dispute. A third leading fact, vouched for in published letters of a most competent observer, is that the famous "Canadians" appear to be identical with the Percheron-Norman horses of ante-railroad times.

At page 19, of the introduction to the Stud Book, is inserted a letter from Mr. Edward Harris, of New Jersey, an importer of these horses, who traveled in France and observed the breed in their native place, in which is the statement, "That those who are acquainted with the thoroughbred Canadian horse will see in him a perfect model, on a small scale, of the Percheron horse;" and again, at page 21, the same gentleman writes, "I hold to the opinion that the Percheron blood still exists in Canada in all its purity." In the preface to his work, Mr. Saunders gives the names of the persons who have visited France and imported these animals; but our friend, S. W. Ficklin, of Charlottesville, ought scarcely to have been absent from that list; for whatever credit may attach to the importation of the Percheron-Norman horses into this country, certainly Mr. Ficklin is entitled to a full share of it. We doubt very much whether a better horse of that breed than the Colonel, imported and now owned by Mr. Ficklin, has ever been brought to this country. Mr. Ficklin was also the first to begin these importations after the war, and to recall public attention to these animals, not, theretofore, favorably thought of in this country. In 1849-50 Mr. Ficklin visited France, and, from great experience with staging in this country, was well qualified to judge of the merits of these horses used for similar work in France. So much was he impressed with their excellence that he at once arranged to import two stallions and two mares. Again, as above stated, Mr. Ficklin made another importation, including the Colonel, immediately after the war, and up to that time had imported more animals than any other one person. So great is the respect we have for Mr. Ficklin's experience and judgment, that no doubt our own impressions of this breed have been sensibly modified by his advocacy of it; and certainly the Colonel is the best big horse of any age or breed we have ever seen. Nor do we hesitate in the opinion that the Percheron-Normans are greatly the best of the heavy breeds now extant, since too greatly increasing the size of the Suffolk Punches has well nigh ruined them; and we stand firmly by our opinion, That fifteen and a half hands high, weighing twelve hundred pounds, is the model for the general-purpose horse, including all the purposes of agriculture. Nay more, we believe it susceptible of demonstration, that the best Percheron-Norman horses approach nearest to that model. At page 10, of his introduction, Mr. Saunders states that, "This typical horse, which gave name and fame to the Percheron blood fifty years ago, was from fifteen to sixteen hands high, and weighed from twelve hundred to fourteen hundred pounds."

How was this type reached? We quote Mr. Saunders again from page 9 of his introduction: "It was from these sources alone, viz: from the large and constant infusion of Eastern blood upon the stock of La Perch, already distinguished for the endurance and stoutness of its horses; the natural adaptation of the soil and climate, and the care and attention paid by Government and people who loved their horses and lived with them for successive generations, selecting only the best for breeding purposes, that was formed by gradual approaches that excellent type which finally came to be known and recognized as the Percheron horse." Certainly. That is to say, the further they were drawn away from the huge clumsiness of the immense beast of Flanders and the more of that magic "Eastern blood" they got, the better they became for that distinctive purpose which gave them "name and fame," viz: for use in the diligence, post-coaches and omnibuses of France, their excellence for which purpose first caused the attention of the outside world to be directed to them.

For the purpose of crossing with the common mares of the country, it is claimed that the Percheron-Norman stallions have proven very successful, and

where the mares are well bred, they are frequently both useful and stylish. Our own opinion is, however, that the mares will cross better with thoroughbred and trotting stallions. In a former number we stated that a breed might be reached through this cross equal to the Morgan in style and action, but possessing greater size, having always believed that the Canadians and old Percherons were identical. In the Stud Book before us, we find the same opinion expressed. Mr. Harris, already quoted, speaks again, at page 15 of introduction, to this effect: "That a similar breed (to the Morgan) of larger size and superior qualities will some day spring from the importation of the Percheron, I have not the slightest doubt." If such a result is to be reached, it must be done through the Percheron mare and thoroughbred or trotting sire. We have seen two horses thus produced, which were, in all essential points, big Morgans; and two better horses than they are we have yet to meet with. The Canadian contributed to the formation of the Morgan strain. Inasmuch as the Percheron horses were noted at home for being able to make such time as fifteen or sixteen miles per hour before heavy loads at the trot, it can scarcely be wondered that it should be claimed that they have contributed to the formation of some of our best trotting strains. This race of horses made up, as they are, of a cross between the heavy horse of Flanders and the Oriental race-horse, affords another illustration of the truth of our position—that the infusion of this blood into any stout, common breed will produce a horse of speed and endurance, and capable of going at any gait at which they may be practiced; and further, there does not appear to be much difficulty in establishing a new breed by such a system of crossing. The English Hunters, the Orloffs, the old Percherons, the American Trotters, are all made up on this plan. The same is the case with all the celebrated strains of saddle horses we have ever known anything about. If some man, who has the means, will get a harem of Percheron-Norman mares and breed them to such a thoroughbred as Orion, or Longfellow, or Leamington, or, better, to such a trotting sire as Almont, or Governor Sprague, or Volunteer, and in-breed the offspring with skill to fix the type, he will make better general-purpose horses than any now in existence, including, as before remarked, all the purposes of agriculture. It is to be remarked, as will appear from an examination of the historical sketch appended to Mr. Saunders' Stud Book, that the most successful and useful of the imported Percheron-Norman stallions have not been of the very largest type. If they are bred and valued merely for size, we predict that the value and reputation of the breed will be destroyed. It is a grand mistake to suppose that an extremely large horse is necessary for any of the farmer's purposes. The poor farmer does not want a beast which will either eat up all the grain he can make, or remain on his hands a living skeleton. We have been at some pains to inquire; and a horse weighing two thousand pounds, or near it, always eats as much as two ordinary sized horses. We trust that breeders of the Percheron-Norman horses in this country will steer clear of that mistake and breed rather towards the type of the original Percheron—from fifteen to sixteen hands high, weighing from twelve hundred to fourteen hundred pounds. In that model these horses possess a muscular development, which is wonderful to behold. Unless the talented artist has overdrawn the portrait of Success—the frontispiece of the Stud Book—it would be difficult to conceive of a more perfect model of a useful horse. We had hoped to illustrate this article with his portrait, but give, instead, the portrait of the Colonel, Mr. Ficklin's horse; and we know that, in this case, the horse is better than the picture. According to the drawing, Success exhibits more clearly the Arabian origin than any horse of the



The "CORONET," the property of Mr. S. W. Ficklin, of Charlottesville, Va.



breed we have seen. This animal is said to be about sixteen hands high, and weighs, when in full flesh, sixteen hundred pounds. The Colonel is rather taller and heavier than that. The head, face, ear and crest are distinctly of the Oriental model. The feet and pasterns, and correspondingly the fetlock joints, are necessarily enlarged to support the weight imposed upon them. To those accustomed to the Conestoga and the lank-headed big horse of promiscuous breeding, it is astonishing to see so fine a head, so intelligent a face, so sprightly an ear on so large a horse. Most of these horses are grey—a very objectionable color—but there are blacks and bays, and from these we should breed to the exclusion of greys. Mr. Saunders gives the model of the Percheron-Norman horse as follows: “Head—clean, bony and small for the size of the horse; ears—mobile, erect, short and fine pointed; eyes—bright, clear, large and prominent; forehead—broad; nostrils—large, open and red within; jaws rather wide; chin—fine; lips—thin; teeth—sound and even; neck—a trifle short, yet harmoniously rounding to the body: throttle—clean; crest—rigid, rather high, and gracefully curved; mane, abundant with silky hair; breast—broad and deep, with great muscular development; shoulders—smooth and sufficiently sloping for the collar to set snug to them; withers—high; back—short and strongly coupled; body—well-ribbed up; round, full and straight on the belly, which is much larger than the back; rump—broad, long and moderately sloping to the tail, which is attached high; hip—round and smooth at the top and flat at the sides; quarters—wide, well let down and swelling with powerful muscles. Dock—strong; tail—long and heavy, and gracefully hanging out from the croup when the animal is in full motion; legs—flat and wide, stand square and firm and well under the body, with hard, clean bones and extra large, strong joints, cords and tendons; short from knees and hocks down; pasterns, upright; fetlocks, thin; hoofs, full size, solid, open, tough and well set up at the heels; height—from fifteen to sixteen and a half hands; weight—thirteen to seventeen hundred pounds; color—various as with other horses, but a clear dappled grey is preferred, as the best of the original breed were of that color; action—bold, square, free and easy, neither forereaching nor interfering; the walk—four to five miles per hour; the trot—six to eight on a dry and moderately level road, but capable of being pushed much faster in the latter gait when required; temper—kind; disposition—docile, but energetic and vigorous; hardy, enduring and long-lived; precocious; able to put to light work at eighteen to twenty-four months old; possessing immense power for his size; never baulking or refusing to draw at a dead pull; stylish, elegant and attractive in appearance; easy, elastic and graceful in motion; no tendency to disease of any sort, and especially free from those of the legs and feet, spavin, splint and ring-bone, grease and founder; an easy keeper and quick feeder.”

MODEL FOR MARE.

With rather less size than the horse, the points and qualities of the mare should be essentially the same, with the exception of possessing a finer head, mane and tail, and a considerably thinner neck.

When in foal, able to work moderately to within a few days of giving birth to it, and a short time after able to resume her work. A careful nurse and a good milker. We shall make no apology for this extended notice of the Stud Book for this breed of horses. They are attracting great attention at this time, and those who wish to try them need not doubt, they can be had in the best model of Mr. Ficklin, at Charlottesville, Virginia. One word in your ear before you in-

vest: "Try the smaller model and finer, from, say fifteen and a half hands high and weighing as little above twelve hundred pounds as they can be had, or get some mares and try the cross with thoroughbred or trotting sires."

FISH CULTURE.

A great deal of interest is being manifested in the work of the Fish Commissioners. Very numerous letters and inquiries reach them by almost every mail. A number of persons appearing desirous of rearing fish for family use. The teaching of the theory and practice of fish culture at several of our schools is diffusing information on the subject among the people. The great fish culture establishments, with improved appliances of all kinds, are cheapening the spawn and young fry, so as to bring it within the means of every one able to control a sufficient amount of water to have fish for family use, by the outlay of a very small sum of money. Spawn of the brook-trout will doubtless soon be in the market at not above one dollar and a half per thousand. In the past three years the price of it has come down from eight to three dollars. W. H. Crowell, Ludlow, McKean County, Pa., offers spawn and young fry at very reduced prices. The Fish Commissioners of the various States and the United States are spreading accurate and trustworthy information among the populace and affording them facilities for stocking ponds and streams, and never at any time heretofore has there been such interest taken in the subject. We predict, that at no very distant day, fish will be as commonly bred by the country people as poultry. Various sporting papers are directing attention to it. Prominent among them, *Forest and Stream*, published at 17 Chatham street, New York—in which journal there is a regular department devoted to the subject, and the best and fullest, as well as the most recent information in print, is found in its columns. There are various works on the subject by Dr. Slack, Thad Norris, Livingston, Stone, and others, costing about \$1.50, from any one of which, sufficient information may be had to enable any intelligent person to rear fish food for his own table.

During the hatching season, from November to March, the public are invited to visit the Virginia hatching houses at Lexington and Blacksburg; and any one, who, during that period, visits Baltimore, and can spare the time, would do well to visit Major Fergusson's establishment at Druid Hill Park. It is one of the best appointed, most extensive and successfully conducted hatcheries in America. To test for ourselves the fact whether trout can be made vegetarian, we are feeding a few on corn bread crumbs at the Blacksburg hatchery which has been conducted most intelligently by Mr. Henry G. Crowder, one of the students from the College, and thus far they seem to do perfectly well on this diet. A few specimens of land-locked salmon from Maine, now about a year old, are about six inches long, and very healthy and sprightly. Comparing fish with poultry, a great point in their favor is, they cannot come out of the water to depredate in gardens and other forbidden places.

ITEMS.

From the *Live Stock Journal and Fancier's Gazette*, we learn that the question of the importation of American beef is creating in England very serious discussion, and the prediction is, that it will raise questions demanding the attention of the Government and difficult to deal with by legislation, involving in certain contingencies, even the land tenure and laws of primogeniture. We be-

lieve that far too much weight is given to the matter, and that the laws of supply and demand will soon regulate it, if Legislatures and Governments are not too hasty with their nostrums. We shall not be surprised if the ultimate solution of this matter is arrived at in the establishment of country slaughter houses, and getting rid of excessive butcher's profits, which, added to those of cattle brokers and other functionaries standing between producer and consumer, exceed the price paid to the farmer for his animal. Producer and consumer must combine to force the middlemen down to reasonable profits. In the meantime, rinderpest has broken out both on the Continent and in England, and the prospect for the American beef market the coming season is, that prices will be better. We have already expressed an opinion as to the probable decline of the beef supply from the old buffalo ranges of the West.

THE Agricultural College has sold a Shorthorn bull to Mr. A. Woodson, Boteourt, and eight Berkshires to various parties at reasonable and satisfactory prices. The inquiry for improved stock is rapidly increasing in Virginia.

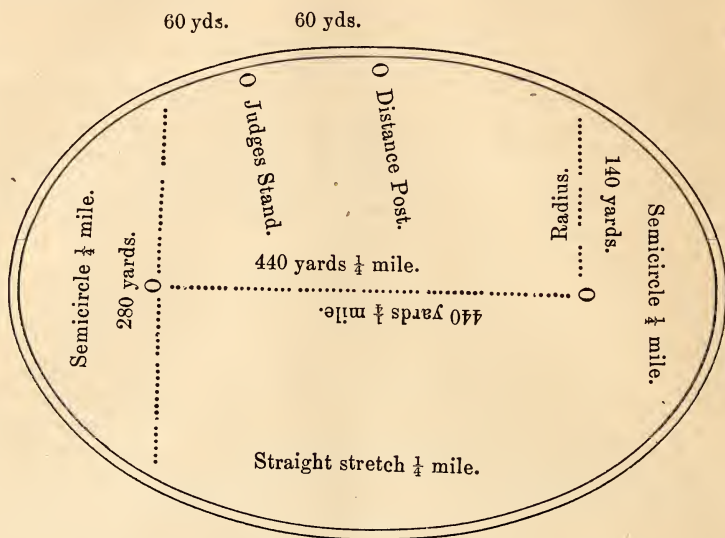
THE Legislature has postponed the dog law. Our opinion upon that subject has been plainly expressed, and our good friend, General Meem, to the contrary notwithstanding, we do not think any man, who does not see the necessity for this measure, has sense enough to be entrusted with public employments, and if seeing the necessity, he has not the courage to apply the remedy, in our opinion, he is unworthy the confidence of his constituents. We do not own a sheep; never owned one, and have always been the possessor of dogs. If sheep owners will not make this matter a test with their representatives and refuse to vote for any but dog-law men, we do not know how far they are entitled to the sympathy of the non-sheep-holding classes. Again, why is it that the Patrons of Husbandry do not make themselves felt on this question? Have they not the power to settle it?

MR. RENICK has determined in future to use in his herd only bulls of his own breeding. Rose of Sharon bulls are also being used by the leading Bates breeders, in England, on their best cows. They are getting very near the tip of the fashion. The only active bull now in Virginia of this celebrated family, and wholly of Renick's breeding, both sire and dam, is Raleigh, belonging to the Agricultural College at Blacksburg now two years past, and an animal of great promise. We call the attention of Virginia breeders to this bull, and advise them to breed some of their best cows to him, which can be accomplished at trifling expense and will never be regretted. Of course, we have no personal interest in the matter, but according to our best judgment, we have never seen a better bull, and would be glad to see the breeders take advantage of his being placed within their reach. His first calves, dropped lately at the college farm, are as good as we ever saw from dams of the same class. One of these calves is a bull, red, with a little white, whose dam was by Earl of Weldon. This calf has three-fourths of Renick's best blood; its grand sire being also Second Earl of Oxford. It can be bought cheap, and would be of value to breed up a plainly bred herd or to grade farm stock. We give this information, not at all in the interest of the college, but for the benefit of our readers.

"THE nearer the general-purpose horse is to being thoroughbred, *if properly bred*, the better for him and his owner."—*Wallace's Monthly*.

WE are sorry that the article of Gen. Meem, of Shenandoah, in reply to Mr. Nicholson, of Ala., did not reach us in time for the April number, but it will appear in our May number.

TO LAY OFF A RACE COURSE—[From the *American Turf Register and Sporting Magazine*.]—Circumference to diameter as 22 to 7, $880 \times 7 \div 22 = 280$ yards diameter of half a mile circle:



For one mile track consisting of two semicircles and two straight sides of one-fourth a mile each—lay off through the middle of the ground a straight line 440 yards in length, exactly measured, and mark both ends with a stout stake or peg firmly set in the ground. From these points as centres, with a radius 140 yards in length, lay out semicircles, each of which will be a quarter of a mile, and lines drawn tangent to them, on both sides, as shown in the figure, will obviously complete a mile course. By having the centres of semicircles 220 yards apart, we would have a three-quarters of a mile track. By reducing all the measurements one-half, a half mile track. A piece of ground 720 by 280 yards will contain a mile track by this plan.

We are indebted to the kindness of our friend D. C. Clarke, of Clarke & Sneider, Baltimore, for copying the following account from a work in his possession: "Rural Sports," by Rev. Wm. B. Daniel. London, 1807, vol. III, pp. 333.

The late Dr. Hugh Smith related the following tale of a setter, and from which he maintained that a dog and bitch may fall passionately in love with each other. As the Doctor was traveling from Midhurst into Hampshire, the dogs, as usual in country villages, ran out barking as he was passing, and amongst them, he observed an ugly little cur that was particularly eager to ingratiate himself with a setter bitch that accompanied the Doctor. Whilst stopping to water his horse, he remarked how amorous the cur continued, and how courteous the setter seemed to her admirer. Provoked to see a creature of Dido's high blood so obsequious to such mean addresses, the Doctor drew one of his pistols and shot the cur. He then had the bitch carried on horseback several miles. From that day she lost her appetite, had no inclination to go abroad with her master or attend to his call, but pined like a creature in love, and expressed sensible concern for the loss of her gallant. Partridge season came, but Dido had no nose. Sometime afterwards, she was bred to a setter of great excellence, which had been

with no small difficulty procured for that purpose; all the caution that even the Doctor himself could take, was strictly executed to preserve the whelps pure and unmixed. Yet, not a puppy did Dido bring forth but what was the picture in color and appearance of the cur that he had so many months before destroyed. In many subsequent litters, also, Dido never produced a pup which was not exactly similar to the cur.

We ask the attention of breeders to this case, as showing that under certain forms of excitement, the female generative organs may receive a permanent impression from the male without sexual connection, and solely from the force of the imagination.—Ed.

A FEW days since, we had the pleasure of seeing *Alcade*, the property of L. A. Coghill, Esq., of King George county, Va. He is a handsome bay, 15 $\frac{3}{4}$ hands high, and weighs 1112 pounds. In company with horses whose time was known, he came down close to three minutes, without apparent exertion, which is remarkable, when it is remembered that his right foot is broken through the ankle joint, is turned outwards, and incapable of motion. His amiable countenance, fine bone, powerful arm and thigh, breasts above the hock, good loin and excellent barrel, together with his superb trotting action, make him a most desirable horse to breed from by all who wish good roadsters, or horses for general purposes. By pedigree, he belongs to the best trotting families now before the public.

L. R. D.

KENTUCKY LIVE STOCK RECORD, FEBRUARY 29TH— NEW YORK LETTER.

Professor Huxley has been waging hot war with the critics of the development theory. He calls them "paper philosophers." His chief objection is that his opponents possess but a small amount of knowledge of biology, and have no sort of squeamishness in criticising adversely his opinions. All this may be very well, but it does not justify Professor Huxley in indulging in so much severity of temper. A man who has not learned to govern his passions in discussion is to be distrusted as to his conclusions, for it is fair to suppose that his want of moderation and self-poise will influence if not bias his judgment in solitary study no less than in public controversy. Professor Huxley lets his anger flash like lightning as he glances on the criticisms of his opponents. This is more to be condemned, inasmuch as he is the champion of a theory which the intuitions of the human mind pronounce to be simply absurd in a degree that is absolutely ludicrous. It is perilous for the most piercing and brilliant genius to set itself in opposition to those primary beliefs of mankind which have regulated thought in every age, and will continue to regulate it in the future. These beliefs cannot be laughed down, and Professor Huxley's lightning and thunder are really as innocent as the mimic thunder storm on the stage in *King Lear*. He who has not learned the fallibility of scientists is still in his leading strings; and he who thinks that any man's opinions may not be called in question, is an intolerant bigot, and deserves to be lashed with the whip of reason and ridicule. The different tribes of animals will continue to maintain their respective identity, notwithstanding the "strong points" of the "development theory" of our philosophers, for as grapes do not grow on thorns, so pigs do not come of opossum, nor chanticleers from the tom-tit—facts which men of science cannot help. Whether this was

always the case, however, is the question between Professor Huxley and his critics. At least the present issue of duplicates of men and animals is secure. Huxley *et id omne genus* to the contrary notwithstanding, as to what once was the course of nature. But enough, we all believe in our descent from a parent stock, and these little speculations are but the pastimes of great men.

EDITORIAL NOTE.—We re-produce the above from one of our most valued exchanges, because it gives some very just views of the remarkable creed of the so-called leaders of scientific thought, a creed from which we utterly dissent.

MESSRS. J. T. & W. S. SHIELDS, Bean's Station, Tennessee, in a private letter says :

"Will try and comply with your request to write an article for your Stock Department before a great while. We have been purchasing improved stock in your State quite extensively in the last few months. The Renick Rose of Sharon bull-calf, 2d Duke of Kent by 2d Earl of Oxford, 6,708, dam Duchess 9th by 13th Duke of Airdu 5,535, &c., purchased of Major John T. Cowan, of Montgomery county, last October, at \$800, has developed to the best yearling bull we ever saw. We also purchased of Mr. George W. Palmer, of Saltville, Virginia, twenty yearling Southdown ewes, and bred them to a ram purchased from A. J. Alexander, of Woodburn, Kentucky. They brought us twenty-four of the most beautiful lambs in February. Our herd of Shorthorns, we consider very promising. We have females of the Rose of Sharon, Nelly Bly, Adelaide, Lady Little and other families, and 2d Duke of Kent at their head."

[For the Southern Planter and Farmer.]

SHEEP FOR VIRGINIA.—No. 1.

You were complimentary enough, more than a year ago, to ask me to write on sheep for your (our) *Planter and Farmer*. Thanking you for your courtesy, I must say that I did not and do not now feel competent to handle this subject in the manner it deserves. I say in all sincerity, I hoped and still hope some one abler than myself will show what sheep-culture can and ought to be made to our State. In the meantime, however, I shall do my *devoirs* in the matter to the best of my ability, and will have accomplished much for the satisfaction of my own conscience, if I can only succeed in inducing a few leading farmers, here and there, to lay hold on this matter in earnest, and examine all its merits. Men of the class I allude to—men of worth and integrity of character, men of judgment and temperate views and opinions, whose example will be of weight and influence with their neighbors—if convinced of the benefits of sheep-culture and zealously and energetically urging forward the interest in their own practice, will do more to inaugurate and sustain an era of private and individual prosperity, and of public benefit to our State, than all the Legislatures that have assembled in Richmond since 1850—more than all the pages of agricultural papers and magazines that have been printed in the State in ten years.

The multiplicity of beneficial results to flow to our State and people; the variety and importance of the interests directly and indirectly connected with, or absolutely incorporated with the energetic pursuit of sheep-culture, is so great that it is extremely difficult to decide upon any systematic course in taking them up for consideration. I shall endeavor, if you can find space for me, to present all the considerations that press constantly upon my own mind in regard to the matter. I do not promise that every topic in connection with the value of sheep-culture shall be discussed separately or fully. But I hope when I stop, the farmers of Virginia will see that there is in the production of wool and mutton a source of wealth, prosperity, comfort and competence, as far beyond all to be derived from the cultivation of corn, wheat and tobacco, as the production of these is beyond the working of gold mines.

As to taxation. The Imperial Government imposes no tax upon the raising of sheep directly. Here, then, is a mine of wealth, I hope to show before I am done, which, if energetically worked by our people, will enable them to escape the payment of such a sum annually to the Imperial Government (that paid on tobacco) as would in ten years, if paid to our own State Government, discharge almost the entire indebtedness of our State. What an hour of joy and pride to a Virginian would that be! I hope we will see, in the course of my rambling sheep articles, that patriotism is still a noble and worthy thing when it does not consist in man-worship; and that Virginia patriotism at this day consists in preserving the honor of our State by paying her acknowledged obligations; and that it is to be consummated in one way by escaping from the payment to the discriminating-taxation, or robber-system of the Imperial Government, of the three to four million dollars annually extorted from our main money crop, tobacco; and following the production of a commodity, or of commodities, that will be just as profitable, or rather more profitable to the producer, and even more capable of bearing taxation to the same amount for the benefit of our own State.

Now it will be necessary to institute a comparison just here. I will assume, without much fear of contradiction, although I have never had any personal experience in cultivating tobacco, that an acre which will net in tobacco one hundred dollars, can be very safely relied on to produce three tons of good hay. This will feed one sheep for six years, according to Randal (three pounds hay to 100 pounds live weight per day), or six sheep for one year, or twelve ewes for six months. Twelve ewes of the proper breed will give, in lambs and wool (\$119.40) one hundred and twenty dollars, and by their manure make three acres of medium land give ten barrels of corn to the acre. This against the one hundred dollars from the tobacco; and taking the twenty dollars in corn at the present prices, and you have corn enough to give the twelve ewes half a pint a day for five hundred and thirty-three days. This is enough. Let any man who understands arithmetic, and has hill-sides overgrown with sassafras, blackberries, broomsedge and wild carrots, while he is

wearing out body, soul and conscience getting his \$100 out of an acre of "low grounds," by the unreliable toil of the semi-savage African, cast up the account, acknowledge the truth, convert his tobacco-house into a sheep-barn, quit paying gold interest on non-taxable Imperial bonds, and wipe out as fast as he can shear his sheep and market his lambs, the stain that now rests upon the name of Virginia. And let the Legislature be forbidden, by a Constitutional Amendment, from eating mutton or wearing broadcloth.

WALTER C. PRESTON.

[For the Southern Planter and Farmer.]

DISEASE IN SHEEP.

My attention has been called to an article in the *Clarke Journal* relative to a disease prevailing recently in that county among the sheep, and attributed to "worm in the head." I have, in old times, suffered from the same disease in my sheep, and know it to be simply an affection of the brain, caused by severe constipation. The constipation is caused generally by feeding on hay, when the ground is covered with snow, and proper care not taken to see that the sheep have water every day. It is not sufficient that there should be water in the field and accessible; but the sheep must be driven to it. When they can get grass or any succulent food they need little or no water.

I have noticed that most of the fatal cases coming under my observation were young ewes in lamb with their first lambs, and generally twins; a post-mortem showed the large intestines filled and impacted with hard, dry fæces, causing inflammation. The best remedy, I think, is injections; but, by taking proper precaution, you will never have the disease.

WM. N. BERKELEY.

[We are glad to hear from Major Berkeley, one of the most enlightened and experienced agriculturists, one of the most patriotic and best informed gentlemen in Virginia, and one of our most esteemed personal friends.—ED.]

[For the Southern Planter and Farmer.]

REPLY TO COL. S. W. FICKLIN.

In your March number I see a communication of my old friend Mr. Ficklin, and feel disposed to respond to him, if agreeable to you. General Meem will undoubtedly respond to your request on him. Mr. Meade never had pure but mixed bred sheep. The time Mr. Ficklin refers to of my having blooded stock was fifty years ago. I had the pure Cotswolds—imported always the winners of the high prizes of the Royal Agricultural Society of England; of course could never have a large flock, and of course won all the high prizes. I never sold thoroughbreds for mutton; one of my *yearling* thoroughbred bucks weighed 430 pounds. The muttens I sold for \$10 each (I never sold for less); were yearlings and from grass; had never had grain. If a farmer sells all his muttens as yearlings, he can keep more ewes. I sold thirty-five two-years-old at \$35 each, fed on

grass, to a New York butcher, who offered me \$100 each for my flock; and three of mine, fed on grain, sold for \$250 to Philadelphia. They netted 234, 202, 192 pounds—the last two were twins. All my sales were on the farm; never sought a sale; butchers came from New York, Philadelphia, Baltimore and Washington. Cannot this be brought about again?

In making my comparison between cattle and sheep, I estimated both on the same grass and no grain to either. The seven sheep to one steer was not my estimate, but of the most judicious graziers of our country. If seven muttens, fed on grass, in one year will bring \$70 in mutton, in the two years I sell another seven, making \$140 in mutton alone, besides the fourteen fleeces in the two years. Now, Mr. Ficklin puts short-horn cattle *two and half years old* at \$55 the *highest price*, and no fleece; the comparative profit speaks for itself.

I hope it will not be thought I am opposing cattle-raising. Far from it. I am in favor of it, when we can raise both profitably; why neglect either? I kept short-horns and Cotswolds. Mr. Ficklin's excellent letter is correct about "the sheep going to the dogs;" and also "of getting up an excellent average flock;" about "longwools not doing well crowded in folds or pastures," I could never get ahead enough to judge. In England they have them in large flocks. My theory is no sheep do well *crowded*.

Mr. Ficklin judiciously advises farmers to select to suit their region of country. Good growth of grass suits short-horns and Cotswolds; they ought to go together; they are too heavy to travel so much to get a sufficiency to lay down and ruminate like cattle. A shorter grass suits the Devon cattle and South Down sheep; *they* ought to go together. England dates her improvement in agriculture from sheep and consequent turnip raising; but they have only mutton sheep that void like calves. Let any farmer crowd his farm so as to destroy his grass, and he will find he will very rarely have a mutton; will reduce his land to poverty, and disgust him with sheep, when the fault lies in himself.

Clarke county, Va.

J. W. WARE.

A townsman recently lost a cow from being choked. Let me tell you of a simple and perfectly harmless remedy, that has been tried in dozens of cases, and has never failed. Take a tablespoonful of saltpetre, open the animal's mouth, and throw it well back on the tongue, let the animal go, and it will either go up or down in a very few minutes. *Don't forget it*, for I know it is infallible, and it may save you a hundred dollars.

J. O. LANPHEAR,
Jamaica, Windham county, Vt.

[For the Southern Planter and Farmer.]

FATTENING CATTLE.

Having lately become a subscriber and reader of the *Planter and Farmer*, and in looking over the January number, I noticed a request by A. T. Ward, and also by your editorial to Mr. Ward's letter, that some one that was engaged in stall-feeding cattle would give some information on the subject, I will give my experience and also my opinion in regard to stall-feeding cattle. I have been stall-feeding cattle for about thirty years, every year, and I believe I was about the first man that adopted the plan of stall-feeding cattle in the county. Some of my neighbors say that I have the reputation of being the best cattle feeder in the county of Rockingham—but let that go for what it is worth. But I do think, if thirty years' experience is worth anything, I ought to know something about it. I have my stalls put up in the lower story of my barn; I have my stalls made with gates put up in a cheap way; have the stalls about two feet ten inches wide—which is wide enough for any common-sized steer; if they are any wider, small cattle will sometimes turn round in them, which they ought not to do. I don't keep my cattle in the stable through the day. I turn them out every morning as soon as they are done eating their feed. I think it would pay any man that wants to feed cattle for any length of time to put up stalls. I am satisfied that I can fatten my cattle with a great deal less grain, and can fatten them much more evenly. Some cattle require more feed than others; some cattle are greedy eaters and some are very slow eaters. When fed out of doors some get more than their portion, while others don't get their portion. I have my feed-boxes so arranged that each steer has his feed to himself, and can eat it at his leisure. I think I can feed my cattle with a good deal less labor in stalls than I can feed them out of doors. I have feeding-rooms to run along the whole length of my stalls, and I keep my grain in boxes in my feeding-rooms; and I have my rough feed in my barn, so that it is all convenient.

You stated in your editorial to Mr. Ward's letter, that you did not think that young, wild cattle could be fed on grain enough in stalls to keep them from falling away. I think you are mistaken about this. I feed from twenty to twenty-five head of cattle every year for the beef market, and I purchase my feeding cattle every Fall, and sometimes get some quite wild cattle, and sometimes have a good deal of trouble for a few days to get them in the stable; but they soon become used to it and go in without any trouble, and they fatten as well as any of the other cattle; and when I feed all Winter, I put on from 200 to 250 lbs. to the steer, and sometimes more than that.

I was very much surprised at your statement about Mr. Palmer feeding a lot of cattle on grain all Winter and their losing a hundred pounds. I think there must have been something wrong about the feeding. The cattle-feeders in my neighborhood who feed their cattle on grain in the Winter, very nearly all stall-feed their cattle.

Rockingham county, Va.

DAVID BEAR.

[For the Southern Planter and Farmer.]

HOGS.

In the agricultural journals about five or six years ago I saw an article on hogs, which recommended that pigs should farrow in March, and if fed liberally could be made to weigh from 150 to 200 pounds by November. I thought I would try it, for the theory was a good one. I knew all animals required more food in Winter than in Summer, and consequently all I gave them in Summer was made into meat. March 5th, 1873, my sow (for I only have one, and that a thoroughbred Chester, pigged February, 1870) had 9 pigs, and raised six of them. November 14th, killed smallest and it weighed 130 pounds. November 19th, killed other 5, age 8 months, 14 days old, weighed on an average of 220. Same sow, the 1st of March, 1874, had 9 pigs, raised 8; and, November 12th, they were killed and weighed 170 pounds. February 27th, 1875, same sow had 15 pigs, raised (after giving and selling 5 of them away) 9, and they averaged 206 pounds November 17th. March 10th, 1876, same sow had 16 pigs, ate 4, 1 died or was killed; November 11th, sold 11 for \$82.00, and killed 4 averaging 175 pounds each.

Now this is hard to beat, and many will ask how it was done. I will state they were fed regularly and liberally with a variety of cheap food, what is usually wasted—such as slops, bad apples, roots, &c. My time for feeding high is commenced in August, and kept up till killing time. I have 3 acres of orchard and 11 acres of grass they run in with other stock, except orchard, which they have all to themselves. In the last two years I've kept from 800 to 1,000 pounds for home use and sold over \$80 worth each year. My sow is rather small. I took her to the P. A. Society and she failed to take the premium over some which I'll guarantee has never done the half mine has, although I attach no blame to the judges, for every hog on the ground was better looking than this old profitable Chester sow. I have aimed to cross on the black breed as I could best secure, such as grade Essex and Berkshire. The cost of raising hogs with me has been from 2½ to 3 cents per pound. Trusting that these few lines may benefit the readers of your excellent journal, I submit.

Stevensburg, Culpeper Co., Va

T. R. COVINGTON.

[For the Southern Planter and Farmer.]

BERKSHIRE HOGS.

Your printer made several mistakes in my article in your March number. The third sentence of second paragraph should read, "I keep a gelding to work under the line, and three brood mares to each three-horse plow—one of the three mares being generally heavy with foal or suckling."

The word "preference" in the eleventh line from bottom should be *prejudice*, &c., &c.

You ask for my views as to best breed of hogs for the South. I have had no experience with any of the improved breeds except the

Berkshire. These meet my entire approbation for a farm hog in every particular, except that they are rather nervous unless they are kept so gentle that you can rub or scratch them—a fault that might be easily overcome by breeding, if they would breed their ears somewhat larger and not so erect. But the *fashion* is all the other way now-a-days.

They are good mothers and very prolific, breeding every pig of the litter about the same size—it matters not how many the litter numbers. Exceedingly industrious and easily kept fat and flourishing; free from mange, and being black, the rogues cannot see them so well at night. They usually average 200 lbs. dressed meat, at 18 or 20 months old, with ordinary farm keep, and that of the best quality, especially the hams. I know of no breed that can excel, and none to equal them, unless it be their close kinsman, the Essex.

Albemarle Co., Va.

R. J. HANCOCK.

THE LAW ESTABLISHING A DEPARTMENT OF AGRICULTURE, MINING AND MANUFACTURING.

1. Be it enacted by the General Assembly of the State of Virginia, that the Governor of this State is hereby authorized and required to establish a department of agriculture for the State of Virginia.

2. That said department shall be under the control and management of one officer, who shall be known as the commissioner of agriculture. He shall be appointed by the Governor, by and with the advice and consent of the Senate. Said commissioner shall be allowed one clerk, to be chosen by himself, to assist the commissioner in the discharge of the clerical duties of his office. The office of said commissioner shall be at the Capitol of the State, and an office and furniture necessary for the transaction of the duties of his office shall be furnished him by the Executive of this State.

3. That the salary of said commissioner shall be one thousand five hundred dollars per annum, and the salary of his clerk shall be six hundred dollars per annum.

4. That the duties of said commissioner shall be :

First. He shall prepare, under his own direction, a hand-book, describing the geological formation of the various counties of this State, with information as to the general adaptation of the soil of said counties for the various products; and for the purpose of giving a general and careful estimate of the capacity and character of the soil of the counties of this State, to obtain a correct analysis of the same, he shall be furnished by the Executive of the State, from the State Treasury, with a sum of not more than one thousand dollars, with which to purchase a sufficient chemical apparatus to use in connection with said office, for the purpose of analyzing the soils and minerals of this State, and guanos and fertilizers as he may deem of importance. Information upon the above subjects, and

others of interest to those who till the soil of this State, shall be given, in circular or pamphlet form, to the agricultural associations or clubs of the various counties in this State, for distribution, at such times as the commissioner may be prepared to do so.

Second. Said commissioner shall have under his charge the analysis of fertilizers sold to be used for agricultural purposes in this State. A fair sample of every brand of fertilizers sold to be used in the State shall be first submitted to said commissioner. When he shall have thoroughly tested the same, which it shall be his duty to do, if he shall find the same of no practical value, he shall summon before him the parties interested, and give them a full and sufficient opportunity of correcting any injustice which may have been done to them by mistake, accident, or otherwise. And if it shall still be found that the brand is of no practical value, the sale of the same for use in this State as a fertilizer shall be prohibited. Any person violating the provisions of this act by selling any fertilizer in this State, without first submitting a fair sample of the same to the said commissioner, under rules prescribed by him, shall be fined not less than one hundred dollars nor more than one thousand dollars for each offence. One-half of such fine shall be paid to the informer, and the other half into the treasury of the State; provided, however, that agricultural lime, agricultural salt, ground plaster, wood ashes, and German potash shall not be subject to the provisions of this act; and provided, further, that no fees shall be charged by the commissioner for the analysis of fertilizers required under this act, but such analysis shall be free of expense.

Third. Said commissioner shall have under his especial charge the disease of the grains, fruits, and other crops of this State; and he shall, at various times, report upon any remedy for said diseases, or any useful information upon said subjects; and he shall employ, in a manner that he may deem fit, a chemist to assist him in his researches, and a geologist to assist him in preparing a geological survey of the State, and other business that he may deem of importance to advance the purpose for which this department is created.

Fourth. The said commissioner shall have in charge the mining and manufacturing interests of the State, and shall collect such statistical and other information as may be deemed useful in regard to them, and may tend in any way to foster and encourage them. He shall especially establish in or convenient to his office in the city of Richmond, a cabinet, in which it shall be his duty to deposit such specimens of rock, coal, ores, lead, metals, and other mineral substances or useful matters discovered and examined, and of models of inventions, and other useful products of manufacture, as may be proper and necessary to form as complete a cabinet as may be in his power, of the specimens of geology, mineralogy, manufacture, and other useful matters relating to the industrial pursuits of the State. Such specimens shall be labeled and arranged in proper order for public inspection, and the names of the counties from which they were collected, or the places where manufactured, to be designated.

He shall also keep in his office or in said cabinet, conveniently arranged and open to the inspection of the public, all maps, surveys, information, and statistics gathered by him in the discharge of his duties under this act.

Fifth. Said commissioner shall examine into any question that may be of interest to the horticulturists and fruit-growers of this State, and in all endeavors that he may deem proper toward encouraging these important industries.

Sixth. Said commissioner shall report, as is hereinbefore set forth, upon any matter of interest in connection with the dairy that he may deem of interest to the people of this State.

Seventh. Said commissioner shall report upon the culture of wool, the utility and profits of sheep raising, and all other information upon this important subject. Said commissioner shall have under his especial charge the study of the various insects that are injurious to the crops, plants, and fruits of this State, their habits and propagation, and the proper mode for their destruction. He shall also give this attention to the subject of irrigation, and what portion of the State can be most benefitted thereby. He shall also give his attention to the subject of fencing.

Eighth. It shall be the duty of the commissioner to provide for the proper and careful distribution of any seeds that the Government of the United States may desire to introduce into Virginia and shall make arrangements for the importation of seeds that he may deem of value to this State, and for the proper, careful, and judicious distribution of the same: also for the exchange of seeds with adjoining States or foreign countries for seeds from this State; and their distribution in a proper manner shall be entirely under his supervision and control.

Ninth. Said commissioner may report upon any matter or subject he may deem of interest to the agriculture of this State.

5. That the commissioner shall be empowered to make all necessary rules and regulations for the purpose of carrying out the design and intentions of this act.

6. That for the purpose of practically carrying out the design, for which this department of agriculture is instituted in this State, an appropriation is hereby made for the support and maintenance of said department, and for the payment of employees, that it will be necessary to employ to properly carry out the intentions of this act, five thousand dollars per annum; and no greater amount shall be expended for the purposes embraced in this act during any one year. Said amount shall be especially appropriated from the treasury, for said purpose, and shall be counted as an annual expense of the State; and said amount shall be drawn from the State Treasury, by the commissioner, under rules to be established for said commissioner by the Governor.

7. That the office of said commissioner shall continue for four years from date of his appointment; and he shall perform the duties of the same, for said length of time, unless removed in the

manner now prescribed by law for the removal of officers of the State Government.

8. That the commissioner appointed under this act shall, before entering upon his duties, execute a bond to the satisfaction of the Governor, in the sum of ten thousand dollars for the faithful performance of the duties of his office.

9. All acts and parts of acts in conflict with this act are hereby repealed.

WE publish above this bill—one most important for the interest of the farmer. It is most astonishing that amidst all the millions that have been appropriated by the State of Virginia for various purposes, nothing has been appropriated directly to encourage and advance agriculture, the great and prevailing interest of the State. The “*patron*” of this bill, Dr. Joseph B. Strayer, of Shenandoah, deserves the everlasting thanks of the farmers of Virginia for this effort in their behalf; and we doubt not he will receive it; for the farmers reared amidst the refining and ennobling influences of nature, and accustomed to receive so few favors from government, State and Federal, cannot be ungrateful. We seem to foresee in the future some “*Old Mortality*” wandering among the eternal hills of Shenandoah, deciphering the moss-grown monuments of that grand region. We watch him removing the accumulations of years on these tombs, until it is made clear to the eye of the investigator. The inscription on one of them, “*Dr. Joseph B. Strayer, the friend of the farmer.*” The Doctor has had to fight an enemy in “*the front and in the rear,*” from within and from without the State; and has borne to the front, triumphantly, the *flag of farmer’s rights*. What defects there may be in the bill can be remedied in the future, and the appropriation, which we regard as very inadequate for the proper carrying out the designs of the bill, we are persuaded will be increased by future legislation, if the plan is found to be likely to secure the desired ends. We are very hopeful that it will be the entering wedge—the commencement of a great institution which will work much good to the agriculture of the State.—L. R. D.

[For the Southern Planter and Farmer.]

RECEIPT FOR PICKLES.

I see the pickles of our “old Virginia” mothers linger in your memory as a thing of the past, too good to be truly described but never to be forgotten. I don’t know whether your grief arises from the impression the Yankees stole all the receipts for making it, or whether you are getting a little old and your taste is not as good now as it once was. I hope it is the first, and so I send you a receipt that has come down to us with few equals. It stands in the receipt-book as “*Mr. Frank Ruffin’s receipt for spicing five gallons of vinegar.*” Mr. Ruffin you know is unquestionable authority in matters of this kind.

“To five gallons of vinegar take six pounds of brown sugar and the following spices, well beaten: half pound ginger, half pound black pepper, half pound cinnamon, quarter pound mace, quarter pound cloves, two ounces of celery seed, one pound white mustard seed, one quart little onions, half pint grated horse-radish; mix thorough-

ly in the vinegar, and let stand for a month or longer, stirring it frequently."

The pickles are prepared in brine in the usual way, being very sure all the brine is soaked out before using them; scalded in a little vinegar to green them; then put into strong vinegar for three months to sour and get all the water out, when they will be ready for the spiced vinegar. Fill the jars only half full of pickles and then fill with the spiced vinegar, the spices well mixed through it; tie up tightly—a sheepskin cover softened and made to fit smoothly is best. The vinegar should never be taken out with the pickles, but used for many sets of pickle; must be made of pure cider, but not boiled cider. Add two or three pounds of brown sugar every six months to a five gallon jar of this pickle; chop up all the fresh celery left from your table use and drop into the pickles with a few fresh orange and lemon peels, and in a year you will have elegant pickle. The dear old ladies of "Contentment" and "Retirement," who used this receipt, and whose pickle was so noted, sometimes kept theirs three or four years. Like wine and bacon, they improve with age.

If you will try this receipt you will find the art of pickle-making is not lost.

A LADY WHO LOVES A COUNTRY LIFE.

Rockingham Co., Va.

Editorial—Farm-Garden and Fruits.

CONDUCTED BY DR. THOMAS POLLARD.

April is the month of blooms and blossoms, which are now expanding and *opening* under genial sunshine and showers, and hence the derivation of the name of the month from *Aperio*, to open. All nature, which seemed dead under the blighting influence of severe cold, has risen from its sleep and renewed its life. In the midst of the cold winter we have passed through, all vegetable life seemed extinguished, and none could have foreseen this resurrection to a new life, if they had not witnessed it before, and who can doubt that the same Hand which caused this great change, can, in like manner, cause the resurrection of the mortal body, which is "not dead but sleepeth"—language applied by the Saviour of mankind to a body which had even commenced decomposition.

The farmer has his trials and disappointments, and makes his living under the "sweat of his brow;" but he has his pleasures and joys, and a sure reward of his toils if he is diligent and wise, and will throw his whole soul into his calling. No one has a more elevating profession. Separated from the rude jostlings of man with man, so frequent in the marts of commerce, in the life of the politician, and the professional man, brought in daily contact with the wonders and beauties of nature, who is so fitted and enticed as the tiller of the soil, "to look from nature up to nature's God?" As he witnesses each leaf and flower budding and starting into life, watches his seeds and grains dying and decaying, that they may live again ("that which thou sowest is not quickened unless it die"), and surrounded by all these evidences of a creative power, and impressed with the impossibility of blind chance forming and directing the wonderful earth on which

he moves, with its myriads of plants and animals, including that master work of creation, man himself, he can but exclaim, "the Hand that made them is divine."

This is an important month to the farmer, and he must be up and doing. Sow early and sow late, and keep time to the activity which all nature is displaying around him. It is the month for planting almost everything which has not been planted. Particularly it is the time for planting the most important of all crops in this latitude, and in the whole of the United States—that of

CORN.—An idea of the value of this crop may be formed, when it is known that it averages, according to the estimate of the Statistical Bureau, eleven hundred millions of bushels, and for the last two years the yield has been over thirteen millions of bushels a year. The stover from this (stalks, fodder and shucks) is estimated at sixty millions of tons. Assuming the average price of corn at 75 cents per bushel, and the stover at five dollars per ton, we have the total yearly value of about a thousand millions dollars. The hay crop, of the value of which the Northern people brag so much, saying it is worth more than the cotton crop, is estimated at twenty-five millions tons. This, at \$20 per ton (more than an average price), and we have the value of the crop—five hundred millions of dollars. There is no crop so widely cultivated as this in our country, and none containing so many of the elements of value, and none that is destined so largely in coming years to contribute to the support of the human family. The English people are even learning to use it, and of late years, it has been considerably exported from America to England. We consider it an all important crop to raise. Without it, nothing gets along well on the farm, and there is considerable truth in the maxim that "stock will not fatten on bought corn." Mr. Hill Carter, a very successful and intelligent farmer, remarked in his lifetime, that a man who depended on buying Western corn, would soon have to remove to the West.

We are in favor of early planting of corn, for we have always observed, that the farmers who planted early made the best crops. By early planting, there is more time given to work the crops well; and July, the month in which the corn crop needs most rain, is not generally so dry as the first half of August. It is presumed the land is well broken up by the double plow, and if it has been sub-soiled, so much the better, unless the ground is of wet character, then it should be previously drained. It must be dragged and cross dragged, and put in fine tilth immediately before planting. Then we would plant as near the 10th of April as practicable in ordinary seasons. The distance to plant depends on the strength of the land. As a general rule, we are in favor of thick planting, believing that, one season with another, the farmer will make more than by thin planting. After the corn gets up, it shades the land and retains the moisture after the rains. We have been surprised to see how well two stalks in the hill bear, and we think two stalks on tolerably good land, always make more corn than the single stalk, and then there is the additional amount of shucks and fodder to be taken into account. We remember, some years ago, seeing an article on the corn crop, in the *American Farmer*, of an old issue, by Wm. P. Taylor, son of the celebrated "Arator," in which he advocates thick planting, with two stalks in the hill, giving among his reasons for doing so, the one I have just mentioned, of shading the land. He was a very successful farmer on the Rappahannock, or possibly Mattaponi, a section of country in which they make large crops of corn, and where some of the cultivators of it, before the war, had accumulated considerable fortunes, almost from this crop alone. Of course, where the land is not in good condition, thick planting should not be adopted; but no large crop of corn can be made except by thick planting. Think of 100 and 200 bushels

(20 and 40 barrels) per acre, and how thick the corn must be to secure such yields. In the *Country Gentleman* of March 8th, 1877, will be found an account of the quantities of corn which have been raised per acre. It is stated, "that Mr. J. W. Murray, of Maryland, has credibly reported a yield of 152 bushels per acre; Maj. Williams, of Bourbon Co., Kentucky, by close planting in drills, obtained 160 bushels to the acre; J. W. Dickey, of Pennsylvania, raised 169 bushels per acre; Mr. Compton, of Pa., who was also a competitor in the corn trial above mentioned, obtained in that competition, a product of 181 bushels per acre, as amply confirmed by testimony. Yet, there are still two products of corn on record, that surpass the yield of Mr. Compton. Dr. Parker, of South Carolina, by his crop of 200 bushels per acre, became the champion of the world, and retained the honor some years. This yield, however, has recently been surpassed by W. F. Turnley, of Alabama, who has reached the product of 221 bushels per acre." These yields seem almost beyond credence, but it will not do to say we cannot believe them, because we have not seen them ourselves. Single ears of corn have been found to contain over two thousand grains, while single stalks of the Baden, and other varieties, have matured from six to ten ears; this shows the prolific character of the plant, and what it is capable of yielding. These yields show the importance of rich land for corn, and everything else, and give us an idea of how much the cost of producing a crop on good land is diminished. The cost of corn and all other crops is the pivotal question on which the profit of their production depends. To reduce the cost of production of corn, is to reduce that of the numerous forms of food into which it is a factor. In New England, it is stated (by the *New England Farmer*) that the cost of a bushel of corn is fifty cents. But Dr. Sturtevant says he raised a crop of 100 bushels per acre in Massachusetts, at twenty-nine cents per bushel. At the Experimental Farm at Chester, Pa., the cost of raising 100 bushels per acre, is stated at twelve and a half cents per bushel. On the great Sullivant Farm, at the West, containing forty thousand acres, the cost is put down at eleven cents per bushel. (Most of the above facts are obtained from an article on "Indian Corn, the Food Crop of the World," by Conrad Wilson, in *Country Gentleman*, of March 8, 1877.) Farmers differ as to the kinds of corn to plant. We think the old "Gourd Seed," which is always now found mixed with flint corn, is, as a general rule, the best and hardiest variety for this latitude. We have tried the "Prolific" variety (small corn), and thought it delicate, and that it did not yield as much as the Gourd Seed would have done on the same land, which was good. The kind we tried had been selected with great care, through a succession of years, by a farmer in Eastern Virginia. Other parties tried the same corn, in the same neighborhood, the same year, and came to the like conclusion the writer did. This year, we have obtained for trial, a yellow corn, cultivated by some of the farmers on Upper James River, which has a deep grain and good ear, and is called by some "Yellow Gourd Seed." Dr. Deitrick, a very intelligent farmer, from whom the corn was obtained, is very certain that it yields decidedly more than the white corn, on high land, or on land of medium quality. It is considered richer in saccharine matter than the white corn.

As regards the cultivation of corn, many plans have been adopted. The old "mould-board" system, throwing the dirt from the corn, weeding if grassy, and then throwing it back, when the corn gets the proper size, is probably as good, or better, than any other. It kills the grass best, and pulverizes the land well. But the "Thomas Smoothing Harrow" may revolutionize all the systems,

if all is true which is claimed for it. The Editor of a St. Louis agricultural journal (the name is forgotten), in a late number, claims that one man with this implement will cultivate 100 acres of corn. The largest size harrow, we think, carries nine feet. The harrow is run over the corn soon after it is planted—then just before it comes up—then as soon as it comes up well, and afterwards until it is six or eight inches high. The grass is thus effectually killed as soon as it germinates, and the after cultivation is a very simple matter. If the land has been well broken and well dragged before planting, unless the texture of the soil is very close, we could imagine that the cultivation required after the free use of the harrow would be very little, probably a moderate throwing of the dirt to the corn, after it attained proper height, or about the time it commenced tasseling and shooting. So much for this great and important crop, except in connection with the use of fertilizers for this and other crops, of which we shall presently speak.

OATS.—If any of our readers have unwisely deferred sowing oats until now, let them not delay a day longer, and sow “winter oats,” even at this time, as they are more hardy, will branch more, and produce heavier grain than the Spring oat, no matter when sown. Do not sow less now than one and a half to two bushels, according to the quality of the land.

TOBACCO.—The land should be thoroughly prepared for this crop now, and all the stable manure applied to the land which can be procured, if not done previously. If commercial fertilizers are to be used, let them be gotten ready and applied a short time before planting. In previous numbers of this journal will be found many practical and excellent articles on the cultivation and management of this important crop, which adds so much to the revenue of the people and State of Virginia, and from which so much is unjustly and injuriously wrung from an impoverished people by the tax collectors of the United States Government. We trust the time will come when the people of the Western States will unite with those of the South, and end the dominion of “New England,” which, in this matter of taxation, has been so long riding the South with “boot and spur.” We suppose a large crop will be pitched this year, in view of the present good prices, and we hope the planters will have better luck with their plants this year than last. We tried burning a bed this year with kerosene, but did not find it to burn as deep as we hoped. But we think now we erred in not first hoeing up the ground, then sprinkling trash over the loosened ground, sprinkling on the oil, and then burning.

Vegetables.—This is the month for sowing many vegetable seeds, particularly cucumber, squash, salsify, and beets, if not planted last month. Tomatoes must now be transplanted if the plants have attained good size. Potatoes (Irish) may still be planted. *Asparagus* beds should be put in order the first of this month, as soon as the first shoots appear above the ground, which is indeed occasionally as early as the last of March. The beds should have been well manured during the Fall or Winter, and the dirt thrown over them with the plow. Now throw down with the plow, immediately throwing the dirt back. This will pulverize it; then pull up with hoes and rake fine with hand rake, and apply salt enough to whiten the tops of the beds quite well. It is doubtful whether the salt adds to the growth of the plants decidedly, but it keeps down the grass—an important thing in cultivation and cutting of this vegetable. Hot beds for *Sweet Potatoes* should be formed this month. Our Hanover friends usually form them in this manner: First. Put a foot of oak leaves at the bottom; water and trample

them; then 6 or 8 inches stable manure, trample; then put on 3 or 4 inches fine dirt; then place on the potatoes; cover with 4 inches fine dirt; then cover with 8 or 10 inches oak leaves; then place over planks, breaking the joints with other planks, covering the whole with oak leaves or pine tags, to keep out all water, and dig a trench around and bank up the dirt. Some prefer hot bed sash. *Melons* should now be planted. *Grapes*, *Strawberries* and *Raspberries* may still be set out. It is rather late for fruit trees, unless the trees are small and the roots very good, and much care be taken in the transplanting.

Manures of all kinds should be hauled out for corn, tobacco and grasses, if not previously done. There is much diversity of opinion as to the proper application of manures among farmers. It is a convenient time to haul out manure on the frozen ground in the Winter, or when quite dry and while it is cold, there cannot be much evaporation of ammonia, which requires a certain temperature to make it volatile. We should haul it then on grass lands and spread it at once. On ground plowed for corn or tobacco, haul it, spread, and before there is any warm weather, plow it in with single plow, or, if the ground is rough, drag it, and this will cover much of the manure. If the manure is quite coarse, then we would bulk it, compact it well, and let it stand until it has decomposed more. It might be well to cover also lightly with dirt. And before the manure is hauled some gypsum should be sprinkled over it to prevent the loss of ammonia.

Commercial Fertilizers.—It is so difficult and almost impossible, except near the cities, to get putrescent manures enough for corn, tobacco and vegetables, that the inducement and temptation is very strong to use other fertilizers. The trouble is what to use—a problem not yet solved, and one which bothers and harasses every reflecting farmer. That farmers are acting in the dark in this matter, it is well for them to comprehend; for knowledge and acknowledgment of our ignorance is the first step towards getting information. Some 90 out of 100 using fertilizers without making any experiments in the use of different kinds, or without leaving out portions of fields to compare the results, and without knowing whether they are being paid for the expenditure, having jumped to the conclusion “that it pays.” Such farmers should be unsettled in their hastily formed opinions. It is from such, we suspect, that the numerous certificates for every kind of fertilizers are obtained.

In this journal for February, 1877, will be found a statement from J. B. Lawes, of England, to this effect: Two acres were taken—one unmanured—the other receiving a full dressing yearly of soluble phosphate of lime, and sulphate potash, soda, and magnesia, yearly. They were cultivated successively for 24 years, divided into two periods of 12 years in computing the results, viz:

Permanently Unmanured.	Mixed Minerals.
Bushels per acre.	Bushels per acre.
Mean of 12 years from 1852-63, } 15½ bushels.	15½
Mean of 12 years from 1864-75, } 12 1-5 “	13¾

Few would have expected such a result, and many are constantly using these mineral fertilizers without nitrogenous manures. The only difference in the above results was, that in the second period of 12 years, the yield did not diminish quite so much where the mineral manures were used. Mr. Lawes introduced these experiments principally to show that nitrogen, in available quantity, cannot be obtained from the atmosphere, and to show that this land needs nitrogen. When this was added, either as ammonia or nitric acid, to plots containing the mineral manures, 36 bushels of wheat were obtained.

In the July number of the *Agriculturist*, 1876, Prof. Atwater has an article, "Science Applied to Farming," in which, he says, the field experiments of Messrs. Lawes & Gilbert are far the most elaborate which have ever been made. They have consisted in raising different crops with different manures—the same crop being grown on the same plot of land, with the same manure, year after year, for a long series of years. In an experiment with barley, for instance, 10 acres were divided into 28 plots, which were treated with different kinds of fertilizers, each plot receiving the same manure year after year. Similar experiments are made with wheat, grass, clover, turnips and so on, and have been going on over thirty years. Mr. Lawes gives a summary, which, he says, "comprises the results of my experience and practice in regard to artificial manures for the last thirty years." In this, he says, the only two substances really required in artificial manures are, 1st, nitrogen; 2nd, phosphate lime. The last possible manure for wheat, barley, maize, oats, sugar cane, rice, pasture, grass, is a mixture of 300 pounds superphosphate of lime and 275 pounds nitrate soda, applied every year to one acre of ordinary English land. This has produced for 20 consecutive years 48 bushels barley. Fourteen tons of farm-yard dung annually, has given the same result. * * Potash is generally found in sufficient quantity in soils, and the artificial supply is not required." So much for the land in England. Prof. Atwater then states that Prof. Storer, of Massachusetts, has been conducting for four years experiments on the same general plan of Lawes & Gilbert, and has used a variety of fertilizers, and has come to the conclusion that "the manures which contained a considerable quantity of *potash*, yielded the best crops; while phosphates and nitrogenous manures did but little good, and in some cases positive harm." The land in England is very different from that in Massachusetts, and hence the difference of results. How are the difficulties which thus present themselves to be remedied? Not by analysis of soils, as many suppose. This has been found very unsatisfactory. The phosphoric acid in soils is in minute quantities, and it is difficult to detect; and so of some other ingredients of the land. There are very few chemists in this country who are really skilled analysts. Even in Germany, which contains the most accurate, painstaking, laborious chemists in the world, we hear very little about analysis of soils. The remedy is, to test fertilizers by actual trial and experience on lands in every part of the country, and of every variety of character and soil. Prof. Atwater does not say analyze your soils, but "the wants of different soils can be learned only by experience and experiments." He then goes on to say, "Circular No. 4 of our Experiment Station, contains the following paragraph:

"For farmers who have not their own experience, or that of others in like circumstances, to guide them, the most sensible plan is, to try experiments on a small scale, with different trustworthy fertilizers of high grade. The ones that prove most satisfactory can then be used with confidence in large quantities. Should the plan meet with sufficient encouragement, we will arrange with some of the manufacturers, whose wares are sold under its supervision, to have small lots of high grade fertilizers of different kinds, put up in lots of 50 pounds or more each, and sold at low prices, for experiments. Each lot of experimental fertilizers will be accompanied with description and directions for experiment, so that the user may, by proper care, with comparatively little expense, test the special wants of his own fields and crops."

In relation to the wants of some soils for potash particularly, it will be of practical value to make the following further quotation from Prof. Atwater's article in regard to Prof. Storer's experiments: "The largest crops were obtained with

dung and with wood ashes. Nitrate, sulphate and carbonate potash (pearl ash) likewise brought large returns. * * Wood ashes proved more efficacious than any other single fertilizer, the yield being larger than with either yard or stable manure. * * The addition of potash to the soil, enables the soil to make use of a certain store of phosphoric acid and nitrogen, which the land contains. * * It is clearly shown, moreover, that the amount of available potash in the soil must be very small, since neither the phosphatic nor the nitrogenous manures by themselves, nor mixtures of the two, could enable the crops to get enough potash from the soil to keep them from starving after the first year." We advise our readers to procure this article, and others on the subject by Prof. Atwater, and read them. He has written a series of articles on "Science applied to Farming," of which this is the XIX. They are dated from the "*Connecticut Experimental Agricultural Station, Wesleyan University, Middletown, Conn.*" and are now being published in that useful agricultural journal, the *Agriculturist*. The March number contains the XXVII No., and is headed, "What fertilizers to use? Farmers their own Experimenters."

In this connection, we desire to notice "A Bill to Establish a Department of Agriculture for the State," of which Dr. Strayer, of Shenandoah, is the Patron (House Bill No. 68). Dr. Strayer deserves the thanks of the farmers of Virginia for his efforts in their behalf, for, as far as we know, he is the first representative of Virginia who has moved in this matter. And it is wonderful to believe, that of the millions which have been spent in Virginia, in discussing political principles, State rights, &c., appointments to office, canal and railroad bills (with large appropriations to them), in log rolling for improvements to carry produce to market (which knowing, or caring, whether there was any produce to carry to market), no direct appropriations have been made to encourage agriculture in the manner contemplated by Dr. Strayer's bill. Still, we must reluctantly dissent from the provisions of Dr. Strayer's bill, while giving him due credit and thanks for his movement in behalf of the farming interest—a movement which may be the entering wedge for proper provisions and appropriations for the benefit of agriculture.

At the same time, as expressed in our editorial for March, we believe the *General Government* should aid very liberally the agricultural interests, and that it should establish "Experimental Stations" in every State of the Union after the manner of the German Government which has now about 40 *Experimental Stations*. The farmers have the power and they should compel the General and State Governments to recognize and support their interests in every possible way—for their interest is the interest of the whole country. Let the "Grangers' and the Farmers' Societies and Clubs" unite, then, for their good, and the good of all.

Soiling Crops—Which we omitted to speak of, should be sown this month, if early forage is desired—corn, sorghum and millet. An experimenter, in a late number of the *Country Gentleman*, says, after trying the different varieties of corn for soiling, that the white Western corn is the best, is more hardy and puts out more leaves, and that it should not be suffered to ear, for then the cattle eat the ears and reject much of the corn—by this time the stalk has commenced to harden. "The "Honduras" sugar-cane is said to be the best variety of sorghum for soiling and syrups. The growth of "sorghum" for syrups is largely on the increase in the United States. "Mangel" and "sugar beet" may be sown for stock the last of April. The "Mangel" is probably the best for this latitude, though some prefer the "long blood red" for this purpose. The "Chafa" for hogs seems growing in popularity, though it has been derided and said to be only a variety

of "nut-grass," and a pest to the farm. A writer in the *Louisville Courier Journal*, J. P. Steele, M. D., lauds it very highly. He says, "he has put it to a thorough test, and the result has shown it to be a decided success as a hog feed." What I have seen of it this year has entirely satisfied me that it is the coming salvation for the South, as far as it relates to the pork question, and I am by no means certain it is not going to reverse the present order of things somewhat, by converting the Southern States into a pork-supplying region for the North. I am perfectly convinced that we can raise our pork cheaper than it can be raised on corn, above the Ohio river. The Doctor's farm is near Mobile. The mode of cultivation and where the seed may be obtained we do not know. The seed, Dr. Steele says, are scarce, on account of the crops being fed on the land to hogs, and the difficulties of digging the tubers with the hand on account of their being so small. He says it is entirely distinct from "nut-grass."

We have before expressed our opinion of the value of "sorghum" for soiling hogs. Millet makes an early feed, maturing in 60 days. The German millet, which seems to be preferred for hogs, takes 90 days.

AN "AMENDE" TO THE "SENIOR" OF THE DISPATCH.

We regret not to have minded better our A's and P's in a little notice of the pleasant dinner at Zetelle's, at which "mine host" was the "Senior" of the *Dispatch*. We shall endeavor hereafter to mind our A's and P's, and P's and Q's too, for not to know the name of one so "known to fame" (and to "memory dear") is rather to argue one's self unknown. We had taken it into our head that the "Senior" was named after St. Patrick instead of St. Andrew—a man equally as good as St. Andrew, too, if tradition and history is to be trusted—albeit, a distinguished Presbyterian divine claims St. Patrick as being a good Presbyterian—and by the way, there are some mighty nice Presbyterians in "Ould Ireland," for we witnessed once, in Belfast as genteel a congregation of this sect as you would see anywhere in the world, and heard, too, an excellent sermon.

Editorial—General.

THE CANAL LEASE.

After a most manful fight in the Legislature, by those who wished to vitalize the James River and Kanawha Canal, a State property that has been, lo, these many years, in a state of "suspended animation," the measure was at last carried to lease the canal to MASON & Co. This result filled us with gladness; because, looking at what has been done with water lines, well-worked, elsewhere, we had reason for hope of new life in all the region tributary to this great work. The Governor vetoed the bill; and, as much as we admire him, we are compelled to say that his judgment in this matter was not well founded. But the cause has not been killed, by a good deal; and those who stand by it are "enlisted for the war." It is bound to be made one of the principal issues in the coming campaign for the Governorship, and it is a source of no little pleasure to us to know that the man of all others we picked out as the proper one for this office, namely, General W. H. F. LEE, led the forces in the Legislature favoring the lease.

The scheme of a railroad, suggested by the Governor, will not cure the trouble. It will, on the contrary, be the entering wedge that will finally split in two one of the great railway lines (the A. M. & O. Railroad) already in operation in

the State, and give certainly one portion of it (the Virginia and Tennessee) to Mr. GARRETT, of Baltimore, to whom, above all men, Virginia is indebted for the loss of more than one-third of her domain (West Virginia), and the arrangement of freights so as to discriminate against Virginia cities.

Let us have the canal completed as soon as possible to Clifton Forge; and when CLAIBORNE MASON says he can do it, we can consider it done; for he knows no such word as fail.

THE WATT PLOW.

The future of the South is in the hands of the farmer—her wealth lies hidden in her soil. The agents for the development of this wealth are improved modes of cultivation, variegated crops and labor-saving implements. As the most important of the latter, may be mentioned the plow; the oldest of all implements used in the cultivation of the soil. Simple as it may appear, it is the most difficult of all implements to construct; a slight deviation in set of beam or curve of mould-board rendering it almost useless. A plow not constructed on true and natural principles, though bought at a low price, is a costly tool to the farmer who uses it. Every farmer knows that the success of a crop depends, to a large extent, on the manner in which the land is prepared before the seed is put in. Hence, it is of the utmost importance to use only that which he finds does the most perfect work with the least expense.

Among the thousands of plows used in the South to-day, we believe none stand higher than the Watt plow, manufactured by Watt & Call, of this city. We believe it was Dr. Johnson, who said, "God might have made a better berry than the strawberry, but he never did;" so tens of thousands of Southern farmers admit that man might possibly make a better plow than the Watt, but we believe he has not yet done so.

With the inventor, Mr. George Watt, the improvement of the plow has been the study of a lifetime. Being educated a farmer, and having a practical knowledge of mechanics, he has progressed steadily towards the accomplishment of his object, as is manifest by his labors since 1840, when his attention was first directed to the subject, and he invented the Cuff Brace Plow, the first plow ever made with a cuff attaching the standard to the beam, and which is now so extensively imitated. He began at the beginning; observed, reflected, planned; he carved his own models, and when his plows were cast, tried them himself in the field, noting every defect and devising remedies. The result of these labors is the Watt Plow of to-day, which is as far superior to the old cuff brace and its host of imitators as the plows of modern times are to the tree crotch of the ancients.

The improved Watt combines all the essentials to be desired; being simple, strong, durable, easy to handle, light draft, doing its work thoroughly, turning under all trash, and pulverizing the earth completely, leaving no uncut soil, and running through the foulest land without choking. These attributes and their low price render them the cheapest plows in use.

There are some twenty different sizes and styles manufactured, from the lightest one-horse weighing but thirty-four pounds—which can be drawn by a man, and is the lightest draft plow made—to railroad plows drawn by a thirty-ton locomotive; one of the latter built for the Richmond and Danville railroad, doing the work of one hundred men. In addition to their superiority as turning plows, the one-horse plows form the most perfect cultivating implements for corn, tobacco, cotton and all crops, by means of their various attachments. They

have, also, mould-boards of seven different sizes, adapting them to any team and to all kinds of soil, and turning a furrow of any size desired. The two, three and four-horse turning plows are made right and left handed, and their work cannot be surpassed.

To meet the constantly increasing demand, the proprietors have been compelled to erect a spacious factory and warehouse, to which they have just removed. The building, Nos. 1518 and 1520, Franklin street, contains three floors each, forty-five by one hundred feet, fitted with every convenience for transacting an extensive business. In the rear of this building are the large foundry and wood-working shop, the former thirty-two by one hundred and sixty-five feet, and the latter thirty-five by forty-five. The foundry at present gives employment to twenty moulders, a larger force than ever employed before, daily converting tons of metal into plows and castings, recently melting down nearly twelve thousand pounds of metal at one time, which will give an idea of the operations of the firm, as they make no castings save for their own plows. In the wood-shop most of the work is prepared by machinery lately introduced; each machine doing the work of a dozen men, and with a uniformity otherwise impossible to attain. The factory employs this season about fifty hands, and has a capacity of one hundred and twenty-five to one hundred and fifty plows daily. The demand has been so heavy since the beginning of the year that the firm, although commencing the season with an unusually large stock, have been compelled to work up to orders, shipping as fast as plows and castings could be turned out; and though working up to full capacity, have been unable to fill orders as fast as received.

Every Watt plow is warranted in every respect. The manufacturers ask no one to take them on the strength of what they or others say of them, but to test them fully, and let their merits be decided by their work. No material but the very best is used in their construction. The reputation of the firm is too high to be endangered by the use of inferior metal. The rule is to use none but the best, and guarantee quality of material as well as superiority of the plow itself. All in want of plows will do well to visit Messrs. Watt & Call's establishment, or send for descriptive catalogue and price list. You will find enquiries through the mail as strictly attended to as though presented in person.

WADE HAMPTON.

There is a full man for you. He does not creep like a craven into the waiting room of Hayes. He asks no recognition from him. He is the Governor of the sovereign State of South Carolina, and, to preserve the peace, is willing *to ask* Hayes to take away his troops. The solemn farce has been enacted, now for several years past, of States having a full quota of persons in the two Houses of Congress, who have talked and voted in the same manner as such people sent by the other States have talked and voted, and yet the General Government has dared to interfere with the domestic concerns of one set of these States, and doesn't dare to do likewise with the other. All of which exhibits a lovely system of consistency, and the most thorough method that could be devised of making one set hate heartily the other. Hatred may be a good regimen for some people; *it works badly in a Union.*

We hope South Carolina will soon get relief from her troubles. Cotton planting is at hand, and we learn that but little can be done. The factors won't advance to the planters, because, with an undetermined State Government, no man knows where he stands; and business is not money but confidence.

We saw a letter lately written by a distinguished banker on the Continent. It bore date the 11th ultimo. It closes with these words :

"In Europe, people are pleased with Mr. Hayes's inaugural address, and it is believed he means what he says about the South and other reforms. The question is, will his own party *allow* him to carry out his intentions?" A very wise conclusion. Will they?

It would be a pleasant recreation for this unelected President to go over what GUIZOR has to say on the score of "legitimacy." He needs all the comfort he can command in that line.

P. S.—The news comes that the troops will be withdrawn from the State House at Columbia. It will bring relief to every household in South Carolina—of course we except the barnacle growth, known as the carpet-bag element, which has fastened itself on that State. As there will be no more plunder to feed it, it will leave of course.

Whatever peace and order exists in the United States to-day, the people are indebted to but one man for it, and that man is WADE HAMPTON. Had he let loose his people, driven as they were to frenzy by years of the most grinding oppression, the bloodshed would not have stopped there. It would have brought trouble to every State, and plenty of it, utterly overturning for the time every business interest and knocking the credit of the Government into a cocked hat.

STAND BY THE INDUSTRIES OF YOUR OWN STATE.

The communication of IVANHOE, to be found elsewhere in this number, is a very important one ; and we hope it will not stop there. A State is a complex affair, and unless *all* of its interests work in harmony, it is like any other cripple, and so makes poor headway.

Most of us, we fear, are more Virginian in sentiment than in practice. If we send our crude products away for sale and bring back manufactured products, we are certainly paying freight two ways, and that would be bad enough if it stopped there ; but all the profit on the manufacture is lost too. Maj. RAGLAND, of Halifax, showed some time ago, in the *Planter*, how very much more the net earnings of the agricultural community were in manufacturing States than in States purely agricultural. When many operatives are to be fed, diversified field work becomes practicable. Philadelphia has in the neighborhood of \$400,000,000 of manufactures per annum, and the land, for many miles round, is worth as much, per acre, as many Virginia farms will bring. If Pennsylvania is thus benefited through her great manufacturing centre, will not the same laws, if allowed to operate here, help Virginia too? Of what avail are our manifold advantages for manufacturing if we allow them to remain unused? Is it a paying operation to us to go to Massachusetts for our hoes, shovels and forks ; to New York for our plows ; to Pennsylvania for our reapers and mowers ; to Ohio for our threshing machines ; and to Wisconsin and Michigan for our wagons? Are not the Yankees making our vassalage complete when they get all the money we have? If Baltimore, by her thrift, has added to her taxable values to such an extent as to enable her to pay *two-thirds* of all the State tax of Maryland, her farmers certainly have a comfortable time in the immunity they enjoy from a burden that is grinding the Virginia farmer to powder.

We should learn wisdom some of these days, and we hope we will. The Yankee has continued in his ruthless oppression of us in the South, boasting that he could keep us humiliated, as by the accumulation of wealth in his section he can

work things so as to secure the last dollar we have. He has certainly done it. Making ourselves willingly his slaves, we should submit to his inflictions without murmuring. We should not play the child and grumble because our masters refuse to consider us men. *We must be men*, and act like men, if we are to expect any consideration from other people. And it is high time that we were pondering seriously our situation, and seeking the means of relief from our thralldom.

THE WHISKEY BILL.

We are in favor of this measure. If men will drink, and men must be taxed, let the bottle stand the tax. It can do it a great deal better than unproductive land. Piney old fields and money never have been very close relations, and it is absurd to enact laws on the supposition that they are.

If it results in making men drink less, the gain will be great, for it will allow better provision for the wife; and happiness in her heart makes a thrifty home; and thrifty homes make rich States.

We hope this law will be carried out in good faith, and not be evaded by every man keeping a little brown jug under the rafters, which he may tap on the sly, urging, as a pretext, the pleasure he always did experience in looking at the sky from the garret windows.

THE PAPERS OF "CIVIS."

The demand from all portions of the Southern country, for these papers, have been so numerous that their author, Prof. PURYEAR, has had them printed in pamphlet form. They have gone through the press and are ready for delivery. Single copies, 15 cents, or 10 copies for \$1. Address *Southern Planter and Farmer*, Richmond, Va.

The public generally is so well acquainted with the import of these papers that it is needless here for us to urge anything in their commendation. They treat of a question that must become daily one of more and more importance throughout the whole South, and it should be confronted intelligently and firmly. It is one indeed that should be treated without temper, and as it is purely a public matter, it is idle for the advocates of the free school to make it a personal affair. It is the *thing itself* we are considering; the machinery is a secondary matter.

A SPECIAL PREMIUM.

Maj. A. M. Bowman, of Waynesboro, Va., one of the largest and best known stock raisers in the South, writes: "I will present to any person in Virginia, securing the largest club of new subscribers to the *Planter and Farmer* [not less than fifteen new subscribers], between the 1st of April and the 1st of November next, a first-class Berkshire or Essex pig, three months old. The pig will be carefully boxed and placed on the cars at Waynesboro, Va. I also make the same proposition to any one outside of Va."

We thank Major Bowman for this liberal offer. We will keep an accurate account of all clubs sent between the 1st of April and 1st of November, and will announce in our November number, the name of the person sending us the largest number of new subscribers.

We will be greatly obliged to any of our subscribers who will inform us of the importation of any DEVON cattle to Virginia during the past six months.

JUTE.—The immense consumption of jute, in our Southern country, especially in the way of bagging for cotton bales, induced us to make some inquiry about this crop, thinking that, perhaps, it might enter into our list of staples. We have secured the full report made on its cultivation by the United States Consul at Calcutta, India, and expect to have the pleasure of presenting it before long to our readers. If we diversify in the direction suitable to our region, we are sure of success; we can, at least, make the trial.

WE are in receipt of a package of *Will's Santonine Worm Powders*, together with the formula by which they are made. The ingredients of which are standard remedies for worms, and prescribed by physicians throughout the country. This is, therefore, no quack or humbug, but stands upon its real merits. Has been sold largely with great satisfaction, and we hope will be appreciated by the people. Mr. Wills is successor to R. B. Wood, Druggist, 743, Second street, Richmond, Virginia, and furnishes this preparation at his drug-store, or by mail, on receipt of twenty-five cents. See advertisement in this number of *Planter*.

REFERING to an article elsewhere in this number of *Planter* on millet seed, we will state that the Pure German Millet Seed can be had of MESSRS. ALLISON & ADDISON, of this city, at \$1.50 per bushel. They have, in fact, every variety of the most reliable seed for garden and field.

THE life members of the State Agricultural Society of Virginia, residing in Charles City County, are requested to meet at the Courthouse on Thursday the 19th of April, for the purpose of taking the necessary steps to organize a County Society.

WE are indebted to Mr. JAS. VICK, the great Seedsman and Florist, for a valuable lot of vegetable seed. There are no more reliable seedsman in the country than Mr. VICK. If you wish garden or flower seed write to Mr. VICK, Rochester N. Y., and he will do the right thing.

SEE advertisement of DICKINSON & CHEWNING on another page in regard to Prickly Comfrey.

WE call attention to the advertisement of Mr. S. D. Atkinson, a most reliable gentleman, who advertises Torra Cotta Pipes and Drain Tiles for sale.

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 2, 1877.

TOBACCO.—Bright Lugs, \$8a\$20; Bright Leaf, \$12a65¢; Dark Lugs, \$3½a\$7; Dark Leaf, \$6½a\$13½.

WHEAT.—Best samples, White and Red, \$1.65a\$1.70; for samples not so good, from \$1.15a\$1.50.

CORN.—50a53c. per bushel.

CORN MEAL.—53a65c. per bushel.

FLOUR.—Superfine, \$6¼a\$6½; Valley Extra, \$7½a\$7¼; Belmont Extra, \$8; Family, \$8a\$9.

OATS.—Spring, 35a37c. per bushel.

PLASTER.—Ground, \$8 per ton.

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

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

LEE'S

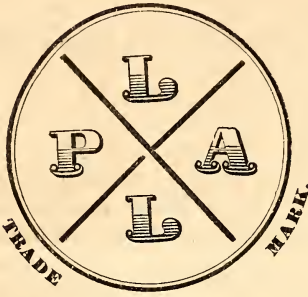
Prepared Agricultural Lime

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

REMOVAL!

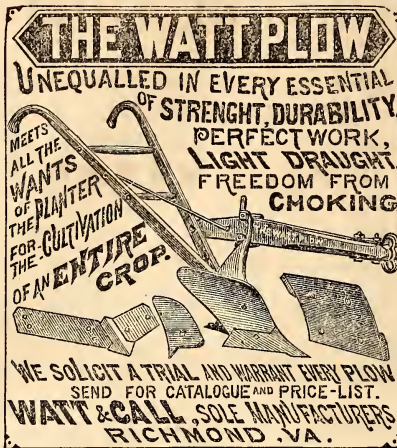
THE WATT PLOW

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

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.

mar-if

RICHMOND, VA.

BARNUM'S CITY HOTEL, BALTIMORE.

BARNUM & COMPANY, PROPRIETORS.

This Hotel is well known to the traveling public, having always maintained its
deserved reputation. as one of the best in the Southern States, its location (Mon-
ument Square and Calvert Street,) makes it the best in the city for Merchants
and Pleasure travel; being convenient to the Railways and Steamers, and with-
in ten minutes walk of the Washington Monument and Theatres.

To meet the demands of the times, the rates of board have been reduced as
follows: For single rooms, first, second and third floors, Three Dollars per day.
For the fourth and fifth floors, Two Dollars and Fifty Cents per day. The Ele-
vator runs until midnight, making all the floors desirable.

In consequence of the decline in hotel expenses, Messrs. BARNUM & Co. are
enabled to make this reduction in price, and at the same time maintain the well
known standard of their table.

mar.

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

WELDON STOCK FARM,

PULASKI COUNTY, VA.

SHORT HORN CATTLE

of the most approved and best families, embracing Young Marys, Josephines and Illustrious Stock. All recorded in 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.

THOMAS J. SPENCER,

Commission Merchant

FOR SALE OF

TOBACCO, GRAIN AND FLOUR

TOBACCO EXCHANGE,

Richmond, Va.

JNO. R. JETER,

Produce Commission Merchant,

SHOCKOE SLIP, RICHMOND, VA.,
SOLICITS CONSIGNMENTS OF TOBACCO,
GRAIN, AND OTHER COUNTRY
PRODUCE.

REFERENCES.—National Bank of Virginia and State Bank of Virginia, Richmond, Va; Daniel & Tucker, Charlotte C. H., Va.; Rev. John H. Cawthon, Evergreen, Va.; Booker & Hunt, Farmville, Va.

Ap—ly

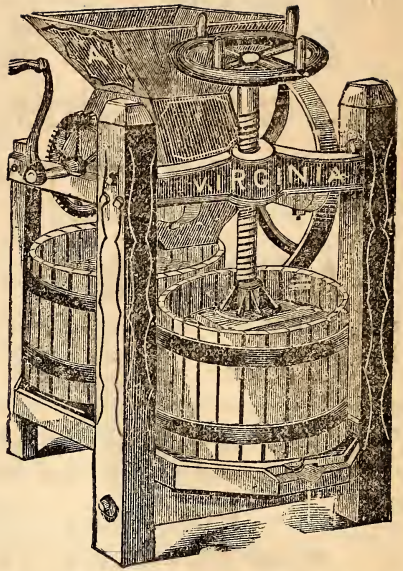
Personal attention given to all sales, and returns made promptly.

GRAIN BAGS furnished at usual rates upon application. Ap—ly

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—ly

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.

GERMAN POTASH SALTS

(KAINIT)

Calcined, ground and wholly soluble, containing 24 to 30 per cent. **SULPHATE OF POTASH**, being the **Cheapest** source of **POTASH** now available. Also

MURIATE OF POTASH,

80 per cent. and upwards strength.

Orders for future deliveries will receive prompt attention. A supply constantly on hand in stores.

W. G. Price, Jr., Importer,

OFFICE 103, West Lombard Street, between Light and Calvert.

WAREHOUSES.—13 Hollingsworth St., 31 Grant St.

I here annex a few extracts from letters written to me by several leading chemists:

BALTIMORE, June 17, 1876.

W. G. PRICE, Jr., Baltimore. Md.

Dear Sir,—The introduction of the "German Potash Salts," Kainit and Muriate of Potash, has been of the utmost agricultural importance—I have analysis of samples from various cargoes you have imported, shows the article you deal in to be of excellent quality.

Respectfully, etc.,

P. B. WILSON,

Professor of Chemistry in the Washington University School of Medicine.

UNIVERSITY OF GEORGIA, GEORGIA STATE }
COLLEGE OF AGRICULTURAL & MECHANICAL ARTS, }
ATHENS, GEORGIA, May 27, 1876. }

W. G. PRICE, Jr., Baltimore, Md.

Dear Sr,—I have no hesitation in expressing the opinion that the "German Potash Salts" are of the greatest value to the agriculturists, and that either of themselves, or in connection with other proper substances, they constitute excellent and economical fertilizers.

The discovery of the "Stassfurt Salt Beds" and the application of their Potash Salts in agriculture, ranks in importance with the discovery of the Phosphatic deposits of South Carolina, and the method of rendering Bone Phosphate soluble. I cannot emphatically endorse the use of these "German Potash Salts," by the agricultural community.

Yours truly,

Prof. H. C. WHITE.

BALTIMORE, June 8th, 1876.

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Dear Sir,—I can fully endorse the use of the "German Potash Salts," as a necessary constituent of all first-class fertilizers, giving life, vigor and growth to the plants, &c., thereby increasing their yield.

Yours truly,

Prof. W. LESLIE ROBINSON,
Analytical and Consulting Chemist.

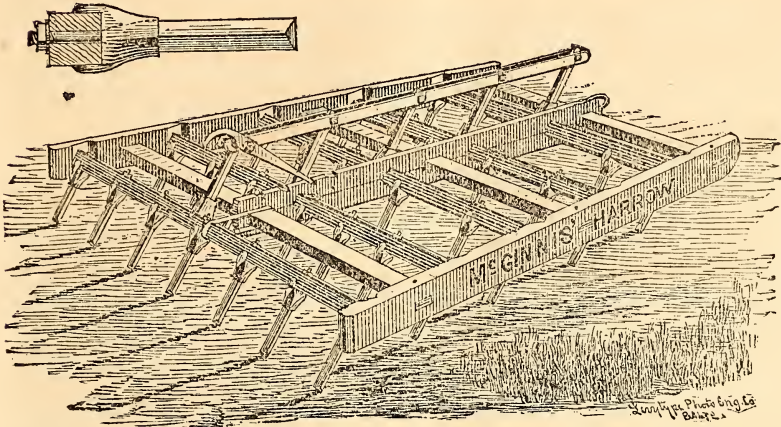
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Put up in bags of 200 pounds each, on which the *guaranteed analysis* is printed, and the *retail price* per ton of 2,000 pounds clearly marked.

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

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

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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, *per cent. above our selling price, \$70 per ton.*

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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."

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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!

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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 8.35 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.

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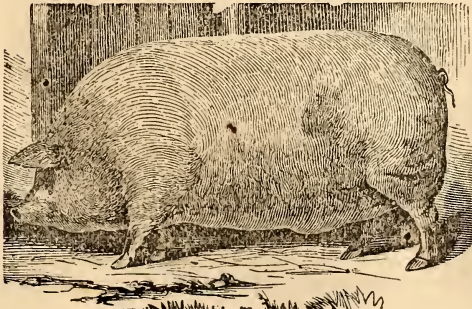
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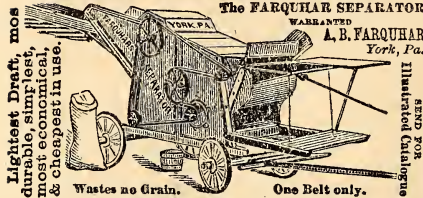
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 Office hours from 9 A. M. to 5½ P. M.
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\$5 to \$20 per day at home. Sample worth \$5 free. **STINSON & CO.,** Portland, Maine. Jan-1y



My annual Catalogue of Vegetable and Flower Seed for 1877 will be ready by January, and sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out of which were grown on my six seed farms. Printed directions for cultivation on every package. All seed sold from my establishment warranted to be both fresh and true to name; so far, that should it prove otherwise I will refill the order gratis. As the original introducer of the Hubbard and Marblehead Squashes, the Marblehead Cabbages, and a score of other new vegetables I invite the patronage of all who are anxious to have their seed fresh, true, and of the very best strain. *New Vegetables a Specialty.*

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DEVON CATTLE, LEICESTER, SOUTHDOWN and MERINO SHEEP, POLAND-CHINA, BERKSHIRE AND ESSEX PIGS.

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\$66 a week in your own town. Terms and \$5 outfit free. **H. HALLETT & Co.,** Portland, Maine. Jan-1y

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The WEEKLY, price \$1.00, free of postage, contains the latest news and a full repertory of interesting reading.

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AGENTS WANTED FOR OUR **NEW BOOK GREAT CENTENNIAL EXHIBITION ILLUSTRATED.**

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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.

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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.

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WARRANTED PURE.

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

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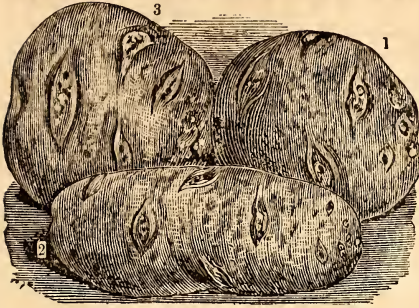
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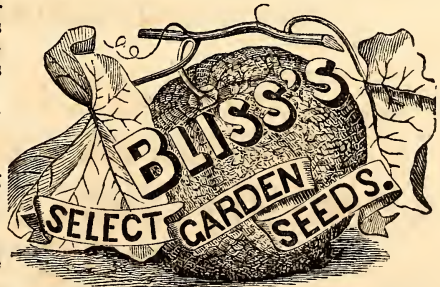
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The Southern States should diversify their industry and the breeding of highly-bred stock, for which their soil and climate offer peculiar advantages—should be largely engaged in, and will constantly pay large profits if properly conducted.

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This Machine uses a straight needle, and makes a stitch by the silent rotation of a hook, instead of the noisy, vibrating shuttle, as do other straight-needle Machines. This No. 8 Machine possesses all the admirable points claimed by other Machines using a straight needle, and is superior to all of them in ease of operation, rapidity of sewing, noiselessness, simplicity and durability. Any child may operate it. One operator has made as many as 34 pairs of pants in one day on it.

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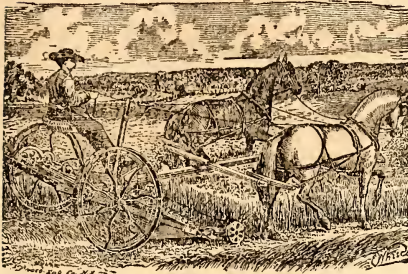
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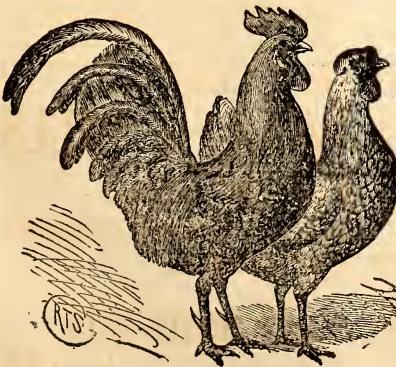
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CRANBERRY VINES,

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

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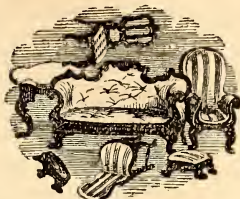
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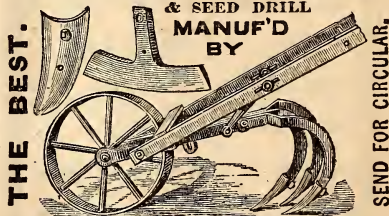
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