

SOUTHERN PLANTER AND FARMER

VOL. 32

N. S.

VOLUME 5

1871

ISSING: #1-3, 5-10

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1871



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# The Southern Planter AND FARMER.



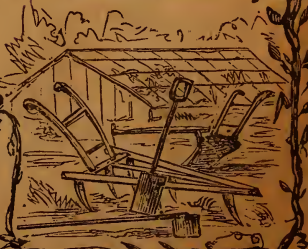
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NEW SERIES

NO. 4



Fergusson & Gady,  
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# THE SOUTHERN PLANTER AND FARMER.

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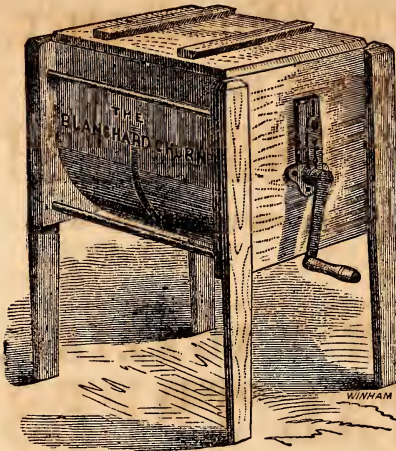
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their special organs, and all seem to find an abundance of readers. The teachings thus disseminated have given to agriculture an upward tendency which is surely destined to carry it far above its present level.

It has even become clamorous for an education of its own. Everything else is taught specifically—then why not agriculture? The period is rapidly passing away in which successful farming was thought to be incompatible with scientific attainments. Educated farmers throughout the country have so increased in number and influence that their power is felt, their voice has even been heard in the national council, and at last it is being recognized that agriculture is the most important interest in the country, and should be fostered. All the Government aid and encouragement which can be given to manufactures, commerce, and even the fine arts—as long as agriculture is neglected—is beginning at the wrong end. Production inevitably underlies the prosperity of the whole country, and develops all other interests. But as yet only a beginning has been made, and hardly that, at the South. The chief means to be employed, that of systematic education, must, of course, be directed to the young, because men advanced in life, who have walked always in one path, cannot be expected to submit to, or be capable of, radical changes. Exactly how this is to be done—a detailed plan of agricultural instruction—has not yet been determined. All the institutions in the country, established for this purpose, are, to some extent, only experiments, and it will require several years more to determine which of the various plans now being tried comes nearest to the proper one. Whether right or wrong, however, they are all doing good in one way—by directing attention to agriculture as a pursuit worth intellectual effort—and by counteracting the tendency to more exciting and less healthful employments. There has been a growing disposition on the part of the young men of the country to look for occupations that do not necessitate manual labor. This has led farther to idleness, extravagance, and dissipation, to say nothing of the injury which has been done to legitimate trade by crowding and over competition, and the discredit which has been cast upon professions by the admission of the unworthy and incompetent.

If agriculture and all other industrial pursuits can be dignified with institutions of learning specially devoted to their interests, and be thus made more attractive, we may hope to influence and restrain a large number that would otherwise turn with aversion from occupations which they believe are uninteresting and unprofitable.



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### The Sugar Beet.

The following article, translated and condensed from the very interesting book\* of M. Duplais, a scientific distiller in France, is offered to the farmers of Virginia as affording a new means of improving their lands, while at the same time it holds out a prospect of greatly increased profit from their labors

M. McKENNIE.

*University of Virginia, February 22, 1871.*

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—o—

In the year 1747 Margraff, a distinguished chemist of Berlin, observed in many roots, and especially in the beet, a crystallizable sugar identical with that obtained from the sugar cane. Forty years afterwards Baron Koppe and Achard, of Berlin, made some experiments on a large scale, with a view to popularizing this discovery of the laboratory. It was not, however, until the year 1810 that this splendid conception was realized under the all-powerful assistance of the great Napoleon. He caused 100,000 arpents of land to be planted in beets, and established four factories. He further offered four years exemption from taxation to all who would engage in the manufacture. Finally, the factory at Rambouillet was established at the expense of the Crown, to produce 20,000 kilogrammes of sugar from the crop of 1812-13.

After the Restoration, the labors of Chaptal, Dombasle, and Dubrunfaut gave this manufacture the character of a farm operation. After many vicissitudes, the production of sugar began to acquire a separate existence as a distinct industry, and became, after 1830, of vast importance. Since 1837, more than five hundred establishments have been engaged in the business, and produced annually 50,000,000 of kilogrammes of sugar; and now (1856), in spite of the heavy taxes laid upon indigenous sugar, more than 60,000,000 of kilogrammes have been produced by 288 factories.

The manufacture of alcohol from the beet has been subject to the same vicissitudes as that of sugar. It was only step by step that it came to be extracted in large quantities, for although the idea of this manufacture had existed for more than sixty years, it was only a few years ago that it was found to be possible to produce it at a price which would enable it to hold a place in commerce.

At the present time this manufacture, after having been the object of a peculiar industry, is daily becoming more and more a farm operation. Indeed, during the last few years, three hundred farmers

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\* DUPLAIS—A complete Treatise on the Distillation and Preparation of Alcoholic and other Liquors—From the French of M. Duplais. Translated and edited by M. McKennie, M. D. Illustrated. 8vo. (In press.)

have set up distilleries for beet spirit; and if alcohol continues to advance in price we may safely estimate the number of those which will be organized this year at double the number of those now in existence.

This manufacture presents great advantages to the farmer. Producing the raw material himself, he obtains it at a figure to which the mere manufacturer can not pretend; he extracts the alcohol by maceration at a minimum cost. This leaves a residuum which costs almost nothing, yet when fed to cattle fattens them visibly. On the other hand, the manure resulting from this feeding constitutes one of the very best fertilizers, which, in its turn, goes to improve the soil already improved by the cultivation of the beet itself.

#### CULTIVATION OF THE SUGAR BEET.

Beets of any variety are capable of yielding sugar; but the farmer who proposes to engage in the business of sugar-making should devote himself to that which contains sugar in the largest proportion. In this respect the *white silesian*, called *par excellence*, the *sugar beet*, is to be preferred.

Any soil, well managed, is adapted to the cultivation of the beet, but *argilo-silicious* soils yield the best product both as to quantity and quality of sugar.

*Argilo-sandy* soils produce well, but the proportion of sugar is not so great.

*Light silicious* soils yields beets inferior in quality to those above, but still the product in sugar is very satisfactory.

The soil is prepared for the cultivation of the beet by at least three plowings, which ought to be as deep as possible. The first always before the beginning of winter, say from the middle of August to the 20th of September; the second in March, or during the early part of April, and the third from the latter part of April to the 20th of May or even later, according to the season.

One or two harrowings are necessary according to the cleanliness of the land; but during this operation care must be taken not to be caught by a rain, for in that event this working will do more harm than good.

The best time for manuring the land is just before planting the seed particularly when planting in raised beds. Well rotted farm-yard manure is by far the best fertilizer, although manure from the sheep-pen will answer very well. Manipulated manures as *poudrette*, &c., produce an excellent effect, but should not be used to the exclusion of the first, which, with prudence, is amply sufficient.

The quantity of manure necessary for an acre is about the same as is required for a good dressing for wheat, say from sixteen to eighteen tons of barn-yard manure, or from thirteen to fifteen tons of sheep manure.

The seeds are sown, usually, from the last of April to the last of May. Although the seeds do not require any preparation, there are many farmers who soak them in some liquid manure, taking them out to sow as soon as they begin to germinate, or a little before. In any event, a damp season immediately after the sowing is necessary to insure success.

The best method of sowing when the field is laid off in beds (which is to be preferred) is dropping by hand. This operation is directed by the assistance of an instrument called a *marker*, which is something like a long rake having six teeth very far apart. The extremities of this implement are held by two men who, by pressing the teeth into the ground, produce six shallow holes, which are immediately supplied with two or three seeds each. Six women or children and two men can, in this way, plant from seven and three-quarters to ten acres in a day with perfect regularity. The distances between the holes is from twenty-four to thirty inches, and between the rows from thirty to thirty-two inches. This method of planting permits the use of the horse hoe both ways, and greatly economizes hand labor.

When beds are not used, the rows are laid off by a coulter, which is followed by a seed drill. This operates very well, but with much less regularity than the marker.

Two and three-quarter pounds of seed, well selected and sifted, to remove defective grains, are enough for an acre.

As soon as the plants begin to put forth their second leaves, they should be worked. This operation is to be repeated at least twice during the season. The product of a field in which this working has been properly attended to will be double that of one in which this operation has been neglected or improperly done. If necessary, thinning and replanting should be attended to during the first working. Replanting never yields a first quality of product.

Thinning the leaves is a superfluous operation which may be said to be more injurious than useful, for if performed prematurely it deprives the beet of a part of the organs through which it appropriates to itself the nutritious juices contained in the atmosphere, and at the same time destroys a considerable portion of the vegetative force necessary to the reproduction of new leaves.

It is known that the beet has attained its maturity when the leaves

become dull and yellowish; it should not, however, be harvested, except in a dry season, in order to prevent the adhesion of the soil. The harvest should be put off as late as possible, because the root continues to increase in size until frost; yet it is important to avoid being caught by too severe a spell of cold weather. If the crop of beets is to be followed by wheat, the gathering must be hurried forward.

Pulling them up by hand is most convenient when they are cultivated in beds, otherwise, the root plow is very useful, although the hand is to be preferred until some more improved method is invented. Care should be taken not to bruise the roots by striking them together, to remove adhering earth, as the slightest injury renders them liable to rot.

The leaves are left on the land where the sheep will eat the best of them, the remainder serving to manure the soil.

The arrangement of the trenches for preserving the beets in winter is a matter of some importance. The place selected should be on very loose soil, capable of being well-drained. Several furrows, as deep as possible, should be run with a plow, throwing the earth to one side, and digging out a trench from five to six feet wide, and as long as may be necessary. The direction should be from northeast to southwest. The beets, after being placed in a trench, should be covered with soil to the depth of eight or twelve inches, well beaten the whole length of the trench; the northwest side, especially, should be covered with great care. About every forty inches, or perhaps a little further, there should be air holes, for ventilators, made with two or three hollow tiles. During severe weather these air holes should be carefully covered, to be opened again in a more favorable season.\*

Proper care being taken to clean the land properly, the same field may be cultivated in beets for many years in succession without any visible diminution of the crop; but it is better farming to make a regular rotation, so as to have the same field in beets only once in four years.

The following system of rotation has been found to succeed very well, and is quite productive:

WHEAT, BEETS, BARLEY OR OATS, CLOVER OR OTHER GRASS.  
Or the order may be inverted. It is, however, beneficial occasionally to leave a field in grass for a year or two, so as to restore a

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\* We have seen beets taken from such trenches after the severe winter of 1854-55 which were in as good a state of preservation as could be desired.

portion of the *humus* which is so necessary to all kinds of vegetation.

EXPENSE OF CULTIVATING ONE ACRE OF BEETS.

Rent and taxes, - - -	\$2 32 to \$3 48
Plowing and harrowing, - - -	4 17 to 4 63
Manure, - - - - -	8 11 to 9 65*
Seed, - - - - -	31 to 38
Planting, - - - - -	23 to 31
Cultivating the crop, - - -	5 79 to 6 18
Gathering, carting and covering in trenches, 2 78 to 3 86†	
	<u>\$23 71</u> <u>\$28 49</u>

The product of an acre varies considerably, and is dependent on a number of circumstances of which no farmer can be ignorant. The maximum may be 220 tons and the minimum 79 1-5 tons, which will make the cost of production vary from about six to thirteen cents per hundred pounds, the average being from nine to ten cents.

The beet requires a good preparation of the land. The deep plowings before the crop is planted, and the frequent workings afterwards, improve the soil in a notable manner; the tap root, too, contributes not a little to this improvement. All this renders the beet an admirable crop to precede the cereals and grasses.

The advantages of the crop do not stop here, for while it yields a valuable industrial product, it furnishes an abundant supply of manure from the cattle it feeds. *The beet is the true providence of the farmer.*

CHEMICAL ANALYSIS OF THE BEET.

From the average of many analyses made at different times by various chemists it is ascertained that the beet contains:

Water, - - - - -	85.
Sugar, - - - - -	10.
Ligneous matter, - - - - -	2.5
Alburmen and other substances, -	2.5 in 100 parts.

The *other substances* are malic and pectic acids, nitrogenous matter, coloring matters, (yellow, red, and brown,) fatty matter, aromatic

\* The surplus manure being utilized in the succeeding crop, this sum represents but half the value of the quantity employed.

† This expense may be greater or less according to the price of hand labor in each locality.

principle, acrid essential oil, chlorophyle, oxalate and phosphate of ammonia, silicate, sulphate, nitrate and oxalate of potash, chlorides of potassium and sodium, sulphur, silica oxides of iron, and manganese.

#### PRACTICAL ASSAY OF THE BEET.

When the manufacturer of sugar does not cultivate his own beets, or, in other words, when he is compelled to buy, it is necessary that he should satisfy himself in regard to their saccharine richness, for this varies with the different kinds of beets, the method of cultivation, and the nature of the soil in which they have been grown. Atmospheric influences also play an important part.

The most certain test, and that which will give the best results, doubtless, is to express the juice from a sample, and extract the sugar from it; but this will of necessity consume time.

The simplest method of testing beets consists in cutting from the middle of a few sample roots a number of thin, transverse slices, which, after being exactly weighed on a pair of small balances, are to be carefully dried in a hot room or in a moderately heated oven.

As soon as they are perfectly dried, which is known when the slices have lost their flexibility, and have become so hard as to break when an attempt is made to bend them, they are again carefully weighed, the difference in the two weights represents the quantity of water originally contained in the fresh beets. It is indispensable, in order to be assured of the perfect drying of the slices, that they should be weighed many times during the operation, or until they no longer lose weight in the drying.

To determine, approximately, the proportion of sugar contained in the dried slices, the following calculation is made: Beets of a good variety, cultivated in a proper soil, will have from 16 to 18 parts of dried matter for 100 parts of the fresh roots. We subtract 7 or 8 parts for the foreign substances, and there will remain 9 or 11 parts representing the quantity of pure sugar, or from 9 to 11 pounds of sugar to 100 pounds of fresh beets; of which, when operating on a large scale, it will be possible to extract from 4 to 7 pounds of refined sugar.

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Sidney Smith concluded that in sixty years he had consumed, in food and drink, forty-four wagon loads more than was good for him.

Look after the establishment of a worthy character, and leave it to others to read and estimate it.

### Successful Farming.

*Messrs. Editors*—To make farming successful, like every other pursuit, requires economy and frugality, as well as close personal attention. Every young man when approaching maturity naturally looks around him upon the many avocations of life, for the purpose of making a selection by which he may secure to himself the means of support, and an independence of the cold charities of the surrounding world. But how very few, comparatively, ever reach their anticipations, and continue to struggle on from one year to another in the hope of being more successful, only to meet the same fatal disappointment from time to time, and combat the hardships of poverty and want. Those who embark in the various professions with the same literary advantages, thoroughly indoctrinated into the principles of the selection of his choice—one soon working himself into notice, presently becomes prominent, and now, upon the high road to eminence, wealth, and usefulness, and anon enjoying the consummation of his fondest hopes, having surpassed his highest ambition, looking back upon those who started out in life with him, who for the want of the exercise of proper thought and energy, are still performing their weary rounds of slavish servitude to satisfy the inexorable demands of the laws of nature. Just so with those that engage in agriculture as an occupation, which, while it is probably the most laborious, it is, as I conceive, the most delightful of all occupations, and when pursued scientifically and experimentally, will not yield the palm to any for comfort, and as being remunerative. There is nothing more delightful than to see the beautiful mead and verdant grainfield when the teeming showers of April and the vernal rays of the summer sun shed their benign influence upon the well cultivated farm. It is not only pleasant to the eye, but if thus pursued will, doubtless, yield the more solid pleasure of a rich reward in the realization of an independence; and the beauty of the matter is that these happy consequences are not confined alone to those who are actually engaged in agricultural pursuits, but it is the basis upon which depends the material prosperity of every department in life, and, indeed, the whole country. Here is where the power lies which must propel the whole machinery by which is developed the resources of the country and the world. The earth, by the design of its great Architect, contains the properties necessary for the production of those things that are necessary for the formation and sustenance of animate nature; but in order to make these properties available to any considerable extent it must be cultivated—the forest must be

taken down, the soil plowed, the seed deposited, &c., and so long as the deposit of those producing properties are not exhausted nothing more is necessary; but experience has shown, that however fertile the land may be, in all countries, these properties will become exhausted, and must, in some way, be restored if the husbandman would obtain a suitable return for his labor; and especially is this the case in our own Virginia, where our lands have been so long in cultivation. We must improve or we will fail to procure a support, and to meet the onerous demands of the Government. I propose, therefore, to make this subject the basis of a series of letters through the *Planter and Farmer* provided the Editor thinks them worthy of its columns.

M.

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### Angora Goats.

*Messrs. Editors*—A subscriber of your journal directed my attention to an enquiry made about Angora goats' fleece in your January number. If you will be so kind as to give a little space in your valuable paper, I will give the true statement, and all about it which may interest your readers. I have been engaged in dealing in Angora goats wool exclusively since my schooling was over, as well as my ancestors for upwards of three centuries, and never saw or heard that Angora goats' wool could not find market to sell. At Angora and its suburbs about 5,000,000 pounds of goats wool is produced every year, and not one pound is left unsold, while in Asia Minor there are neither convenience of railways nor good roads to carry the goods, consequently all things are carried on horse or mule back, still 30,000 to 35,000 bales of Angora goats wool are bought and carried to Constantinople, and hence shipped to England every year, how is it possible that Angora goats wool should be unsalable in America? The reason why they cannot sell Angora goats wool in America is that Angora goats, before I arrived here, have been imported and sold as fancy stock, at prices from \$1,000 to \$2,000 each, and those that bought and raised them, seeing their fleece quite undistinguishable from fine silk, they want to sell it at silk price; therefore they cannot find buyers, except a few fringe manufacturers in New York, who pay now and then, and for a few pounds, from \$6 to \$10 per pound. It is true that Angora goats wool at \$1 to \$1 20 per pound is very cheap, but that is the price that it brings in England, because at present the manufacturing of that article is monopolized by a few English manufacturers; consequently American Angora goat raisers must submit, and sell their



Angora goats wool at \$1 to \$1 25 per pound until they get that article manufactured in this country.

If they be willing to sell (12 months growth) Angora goats wool at \$1 to \$1 25 every merchant will buy them and ship to England. I, for instance, guarantee to buy the fleece of pure breed Angora goats at \$1 per pound at any time, and when there is peace in Europe, I dare say I can pay \$1 25 for it, and I should like to buy as much as they shear in America for several years to come, but I do not think other merchants would let me have the chance. Until I came to America and began to import Angora goats, I constantly bought thousands of bags of Angora goats wool in Asia Minor and sold in England, and would be most happy to do the same business between America and England.

I am, sir, yours respectfully,

A. EUTYCHIDES,

A native of Angora, in Asia Minor, Asiatic Turkey.

ANGORA GOATS FARM, *Owing's Mills, Baltimore County, Md.,*  
*February 24, 1871.*

EDITORS SO. PLANTER AND FARMER :

*Gentlemen*—A copy of your magazine is regularly sent me by a Southern friend, and it is read with great interest and pleasure. It seems evident to outsiders that a system of mixed husbandry and more thorough cultivation must be the salvation of Southern agriculture. More hay and grain; less tobacco and cotton; more stock; more attention to saving manure, and less invested in commercial fertilizers. As we have in this section been giving the subject of fertilizers a sifting, I would say that the general conclusion is that while it would be a great advantage if we could obtain these fertilizers at a fair price, that we cannot afford to pay the prices asked by their manufacturers. All the fertilizers in our market have been subjected to analysis, and by this test none of them have proved worth over two-thirds of the price charged for them, and most of them were found to be of far less actual manurial value. We presume that nearly the same thing is true of the fertilizers offered in the Southern market, and until this discrepancy between value and price is removed few farmers can afford to purchase largely of them and make the debt a lien upon his property, as seems to be proposed in your State. Rather every dealer ought to sell his product on a warranted analysis, and forfeit every pound sold that does not come up to his warrant.

C. W. D.

*Springfield, Mass., February 21, 1871.*

### Goodwyn Agricultural Club.

Pursuant to adjournment the Club met at the residence of Dr. W. Lewis, January 28, 1871, Mr. J. C. Taylor in the chair.

After the minutes of the previous meeting were read and adopted, Mr. N. A. Gregory, by appointment, read the following essay :

After some remarks from Mr. R. J. Hicks, approving of its tenor, Mr. Goodwyn's resignation was accepted in the following resolution :

*Resolved*, That the announcement by our fellow-member, Stephen A. Goodwyn, of his intention to remove to another State, and his consequent withdrawal from our association, is received with sensations of deep sorrow, as well for the loss of the cheering influences of his social virtues as of his able contributions to our stock of agricultural knowledge.

*Resolved*, That our affectionate remembrances and wishes for his happiness and welfare will unceasingly attend him in the home of his adoption.

The Club adjourned to meet at Mr. J. C. Cooper's, when the balance of the time was given over to Christmas.

N. A. GREGORY, Secretary.

#### DIFFICULTIES OF A YOUNG FARMER—ESSAY.

*Mr. Chairman*—I was requested at the last meeting to say something on this occasion about "the difficulties of a young farmer," and being only a junior, it is with delicacy that I speak of *all* these difficulties, for many of them have to be treated of in connection with seniors who have passed on. I wish I could treat some of my friends here to something complimentary. I wish I could point to some of them as great and successful leaders in agriculture—as having kicked aside this stumbling-block—made this and that road smooth and easy for me; but I hope they will excuse me until I can see beauties in all their broad clearings, and lovely landscapes of broom-straw and hen's nest grass; for if these have beauties about them, it certainly does require age, for I am satisfied no *young* farmer can see them. Just think—the difficulties of a young farmer—I feel that I am upon a broad field with many a target to shoot at. But I must confess, however irreverent it might be, could I command all the guns, I would aim them every one at *old foggyism*. It is hard for me to think of or couple in my mind men of intelligence with this idea. Men who work are practical, and accustomed to calculate, and who daily feel the stings of necessity, I say, it is hard to think of

such as dreaming of and clinging to old rules and customs that their own good sense ought to teach them must be abandoned. Why, judging by what has been, and if things continue as they are, none of us could feel very greatly astonished to see some of our brethren soon riding to mill with rocks in one end of their meal bags again. That ought to seem really very laughable—yet I am satisfied many of us here are doing things to-day which in a short time ought to appear equally ridiculous. Now, I will warrant that when that custom was in vogue many a good man had it in his head to throw out the rock and divide the meal long before it was done—but then his father always carried his corn to mill in that way, and if father could afford to carry the corn and rock too, why not son? It would be almost a sacrilege to divide that meal and lose that rock—it was long a stumbling-stone to father, and, through respect, must ever be to son. And I will venture another assertion, that after that first rebellious son essayed to introduce the new custom, it was years and years before many of his nearest neighbors followed it. Such has been and is yet, with us, farmers and farming. These men amongst us, who ought to be examples of success, clinging to old absurd customs and theories, that all the benefits and advantages of slavery could hardly overcome, makes it, indeed, a problem for a young farmer and free labor. The difficulty of acknowledging some recent amendments to the Constitution may be excusable in a *very* old man, but in a young man it is simply intolerable. With slave labor and the best of the forest land all gone, it is as necessary to alter and amend farming laws as any others. I know some of these old-field fellows are going to tell me that their fathers always got along mighty well, went to the springs, drank fine liquors, and smoked the best cigars; but I say that was nigger and credit, and not farming. Because of never seeing a manufactory, and being led to believe and read of ours as an agricultural country did not make it so. When they succeeded, it was in raising negroes for the cotton planter in the rich cotton country where farming could scarcely be considered a science, but the management and control of labor—who could plant and gather the most cotton from a soil of an almost inexhaustible fertility. Tell one of them about abandoning that large, favorite corn-shift that had an acre or two of flat land that always made the field average a barrel or so to the acre, and he will swear you are after bringing him down to a one-horse Yankee concern. But I insist that that is the only road for him, or else he must follow his niggers to Mississippi. I must insist that I do not mean any disrespect to anybody's father laying claim to success in agriculture who

has succeeded as an agriculturist; nor do I mean to advise a wholesale casting aside of all the lessons and experience of the past. But I do mean to protest against all this owlish proverb wisdom about farming, for I can tell the young farmer, and truthfully, that I have not as yet made a single success, but in the commencement nine out of ten of these men did not shake their heads; and it was because I consulted and took advice from other authority than their own—of men who had succeeded as *farmers*, and practiced farming as a science.

We need more examples of success—a young man here scarcely knows where to look—but I caution him not to think of this man or that as a farmer simply because he owned a large number of negroes, or a large number of acres of land, but first find out whether he acquired them by farming or not before he attempts to follow his lead.

Upon the subject of renting it is hard to know what is best. If you rent for a part of the crop, it is hard to get—if you rent for money, its only to have your land gutted. I think we should endeavor to inaugurate the policy of renting for a term of years—letting character regulate the term. Time, bringing a demand for homes, will settle this, though. Deal fairly and promptly with your labor, and if your neighbor has the most, and can get it when you can't, both paying the same price, don't envy him, for you may know he is dreaming about old times, and farming from the force of habit. This is a question which is likely to give us much trouble; but I think the difficulty can be lessened if we can only succeed in convincing the cotton planter that he is doing us a vast amount of injury, and himself, in the long run, but very little if any good. He ought to be well enough acquainted with negro nature to know that after he is carried South and paid high wages, just as soon as his contract is ended he aspires at once to become a renter. There corn grows easily upon rich land—a little cotton-patch to clothe the family, and then plenty of freedom in a good warm sun—and for all things else it is “shoo fly, don't bother me”—whereas not having the brains to succeed at farming here, where it requires management and improving the soil, &c., he is compelled to work in the capacity of a laborer, and I dare say his condition will be better morally, intellectually, and pecuniarily than in the South. Be careful of theory, take advice or examples from those of practical success. Fight shy of the moon-man—the man of hogs who prefers the blue hog crossed on the ground squirrel to Chester, Essex, or Berkshire—the herdsman who prefers native to Short-horn. When it is convenient, and you have money, by all means experiment; but

otherwise be content to leave it to and rely on those who have been successful and more fortunate. It has been the custom here, and a bad one it is, for fathers to start their sons with an unbalanced amount of real estate, without ever thinking of farming as requiring any thing else than a horse and gear, a single plow, and a few barrels of corn. This, to say nothing of the unequal advances of taxes, and appreciation in value of the property, is quite sufficient to kill much enterprise and industry.

By all means be quick to learn—if your neighbor has made a discovery in crops or implements, go and learn what it is at once—not wait ten or twenty years to think about it because your father did not do so.

We need combination. It has been often and truthfully said that farmers are more imposed upon than any other class, and it is simply because the fight is single-handed. What member here has not been benefitted by even our little association—but suppose we combine and buy our implements from a certain merchant, our dry goods from another, and patronize a certain commission merchant, who doubts the benefits that would accrue to each one of us did we but use even this little strength.

It is very important to work a little—it invigorates the muscles, dignifies labor, and alleviates many of the difficulties in the blessings of a good appetite, and besides, many a time, a farmer, watchful and zealous in his own interest, using an implement for a short time will discover a sleight, or advantage, that a careless, indifferent laborer would not find out in years. You must read—study agriculture not only in the field, but in books. If you have never heard of Johnson or Leibig, or the Goodwyn Agricultural Club, take the *Southern Planter and Farmer* and read of what they say. I am sure it is worth two dollars to read of all the good dinners and other things the last named enjoys in the course of twelve months.

In the face of all that I have enumerated, though, I believe there is some consolation, and for a young man of energy and perseverance, if he will take advantage of the stupidity and old fogyism of his neighbors, it is a good field to be upon. And then, there is such a blessed quantity of independence, which is not enjoyed by, and an individuality which is not seen amongst men who either use small gold-headed canes, or part their hair in the middle. I am aware, Mr. Chairman, that I have not confined myself to the descriptive part of the subject, but have presumed to advise, though I hope I may be pardoned for this in remembering that I am subject to all the criticisms of the Club.

### Too Much Land.

The following is furnished by the principal of the Hampton Normal School, being a lecture delivered by F. Richardson in their regular course :

Farming in Great Britain as compared with the American style is marked by a more expensive and thorough preparation of the soil. The capital considered necessary to carry on a farm of 200 acres in England is not less than \$10,000. The lands are seldom owned by the farmers, and cannot be rented unless the tenant gives the landlord reason to believe that he is able to use at least \$50 per acre in the purchase of stock, tools, manures, and seeds. The farms are leased with the further condition that such a rotation of crops shall be adopted as will maintain fertility. Restoration is as steadily kept in view as exhaustion. The consequences of these provisions are, that the wheat crop exhibits a steady annual increase, that forty bushels is not an unusual yield, and that the farmers of England, in spite of rent and taxes ranging from \$10 to \$25 per acre, and their outlay of \$50 per acre as working capital, make money faster than their American cousins in Virginia, who on their great estates are satisfied with a yield of fifteen bushels of wheat. The difference in yield is sufficient to make the English farmer rich while paying more per acre in rent and taxes than the Virginia land is worth.

A Chinaman just made acquainted with this state of things might, perhaps, suppose that the American farmer either had not heard of the better methods of cultivation, or else slighted them because he did not care to make money. Further observation, however, would show a sounder reason in that the business of farming proper is seldom followed in America. It is almost universally combined with that of speculating in land.

Nearly every young man in America who decides to be a farmer buys more land than he needs for his business. Almost every middle aged farmer adds to his acres as fast as he is able, and old men make first payments on new farms for their children, instead of cutting up the old place and giving it the benefit of active farming capital.

In England, speculation of this kind does not entice the farmers from their legitimate business, because not much land is for sale there, and because, if bought, it is not likely to rise suddenly in price. The culture of the soil is therefore pursued with undivided skill, energy, and capital. I will endeavor to show you that its results, when so prosecuted, are better than those of the American farmer who prefers to own five hundred poor acres to two hundred

fertile ones, and that the successful land speculator does not make so much money as the successful farmer.

To illustrate this, I will take the favorable case to the speculator of his land doubling in value every ten years. This would be a yearly increase of \$10 on every hundred invested. On a Virginia farm of five hundred acres, worth \$25 per acre, the increased value would be \$1,250 every year on a capital of \$12,500.

The English tenant, taking the same sum, buys no land, but uses it all as working capital. His rent and taxes on a two hundred and fifty acre farm would be at least \$2,500 every year. This sum, besides his profits, he pays by his annual sales. His farm, therefore, yields him double what the American makes by the rise in value of five hundred acres besides his profits, which are still sufficient to offset the net proceeds of the Virginia farmer's wheat fields.

Forty bushels of wheat per acre cost a great deal less per bushel than the crop of only fifteen bushels. The labor, interest, seed, and manure, may cost \$25 more per acre in the case of the forty bushels, yet the difference in product of twenty-five bushels is worth forty dollars, showing a gain of \$15 per acre in favor of a larger outlay for a heavier crop.

Similar reasoning will show that the net profit of an ordinary corn crop may easily be doubled by spending as much money on half the ground.

The market gardeners near the large cities find it profitable to spend not less than \$50 per acre each year in fertilizers. Should they lay out only \$25 per acre, the return would scarcely pay the expenses of cultivation, which are nearly the same on a good crop as on a poor one. In their case it is the last \$25 invested which produces the profit.

One of the most successful cultivators of strawberries has stated that his largest profits occurred where he expended \$100 per acre in preparation of the ground.

A badly cultivated farm may be compared to a tedious book. The capital of an author is his ideas, which if he condense into 100 pages may be readable, but if he spread them over 500 pages are unsaleable. When a farmer puts on ten acres what is sufficient to fertilize one acre, he acts as sensibly as if he sowed the seed of one acre over ten.

These considerations show that the purchaser of land should make a deliberate choice between speculation and farming. If he decide upon farming, he has next to consider how much land he has capital

for, and attempt to work no more than he can do justice to. It may be necessary for him to buy at first more than he can work, but it should be only to secure sufficient for his farming purposes in future land which he never expects to sell. His peculiar danger in America seems to lie in forgetting that very true maxim that what a man does not need is never cheap at any price, and that too much land, however cheap it may be, locks up the farming capital with which the unfortunate owner might otherwise become wealthy.

Some of the advantages of sufficient working capital are the following :

1st. A better supply of tools. His seed drill, reaping and mowing machines will do for the owner the work of five men at the busiest seasons, and he can generally make such tools pay for themselves by hiring them to neighbors. Capital justifies the purchase of new wagons, harness, &c., which need no repairing, and the use of young and vigorous horses which will do more work at a saving of \$20 each per year in feed.

2d. Ready money enables a farmer to buy stock cheap, when offered, and to do better for cash than his neighbor on credit. He is also able to introduce improved stock, which cost him no more to raise, but which bring a larger price.

3d. Good pay gives choice of laborers and credit with merchants. In hard times produce need not be sold at a sacrifice to pay store bills.

4th. Not having too much of any single crop to plant, the farmer is able to do the work at the most favorable time and in the best manner. And every load of manure which he applies brings him twice as much net profit as the load which his neighbor with too much land spreads over a larger surface, or sells to raise a little money. Capital also can put buildings, fences, gates, and drains in permanent order, can buy and plant fruit trees, and can pay for agricultural newspapers.

Where a neighborhood is made up of farmers who recognize the force of these reasons, and are satisfied without buying too much land, the effects are sometimes as follows :

Farms being smaller the population is denser, hence more people travel on the roads, and are interested in keeping them in repair and in opening new avenues to market. Country churches are better attended because nearer at hand ; schools are better supported, and inducements offered for superior teachers. Blacksmiths, wheelwrights, produce buyers, mills, and stores locate themselves in the centres of



thickly settled neighborhoods and save the farmers many miles of travel. Villages spring up, railroad enterprise is attracted, and the rich farm, though small, becomes more valuable than a thousand acres of wilderness owned by the speculator.

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### The Corn Crop.

The past fall and early part of the winter were so favorable for plowing that many persons were enabled to prepare their corn ground. For all who were so fortunate or provident we predict a better crop than usual. If, besides, they have been persuaded to use the subsoil plow, they have additional assurance of good yield and, farther, of some protection against drought, which has for several years past been the great obstacle to successful corn culture. No doubt a great many of our readers will plant some one or other of the varieties of corn so largely advertised this spring, and we hope after awhile to be furnished with their several experiences. We may also expect to have the results from the use of different kinds of fertilizers and different modes of cultivation. All of this will be interesting and instructive. The general principles of corn culture, and farming generally, are better and more universally known than is usually believed, and therefore *essays* upon the subject are not so much needed. What we do want is the practical experience of every careful man—that every farm should be, as far as possible, an “experimental station”—that results, whether successes or failures, should be given to the public through the columns of this or some other agricultural journal. We have had the promises of a good many to make memoranda, from which they will be able to furnish a correct report, and we hope that many others will consent to benefit themselves and their neighbors by doing the same.

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### What Does It Cost You To Live?

How very few persons in the country can answer this question correctly; And yet it is of the utmost importance in successful farming. Judicious economy cannot be exercised without this knowledge, nor can any estimate of profits be made. It is believed much encouragement would be derived from keeping a strict account of expenses, by showing that farming is actually more profitable than generally thought. So many things are used in the family on the farm of which no account is taken, but which have a money value, and if engaged in any other pursuit would have to be purchased.

We know that many of our readers have provided themselves with books in which to keep farm accounts, this year, and it is hoped that family expenses will not be omitted from the system. Try it for one year and you will find that the farm has done more for you than you supposed.

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WHAT DOES THE BRITISH GOVERNMENT DO FOR FARMERS?—A correspondent asks us to tell him what aid is given to agriculture in England by the government, and in what form it is furnished. Will some one who knows please answer.

WORKING BULLS.—Why should not bulls be worked? asks the *Germantown Telegraph*. We see no reason and know that they are often broken to work and prove as gentle and efficient as oxen. If it was more generally done there would be less complaint of their roaming over the country and knocking down fences.

WHERE THE PEPPERMINT OIL COMES FROM.—We all know there is such a thing as peppermint, but very few have ever taken the trouble to know where it was grown or how it was made. A resident of Lyons, Wayne Co., N. Y., says that is the centre of the peppermint world. Rich swamp land is said to be best suited to the crop, and if some one would plant a thousand or so acres on the Chickahominy it might break up this little game in Wayne Co.

WHAT TO DO WITH LARGE PLANTATIONS.—A writer in *So. Farm and Home* thinks the way to solve the problem in Georgia, is gradually, as means will permit, to convert the largest portion into a stock farm. This is what we have always contended for here. There is hardly a section of Virginia where there will not be a spontaneous growth of grass of some kind, on enclosed, protected land, and the rearing of stock would undoubtedly make more net profit than we now receive from ploughed lands.

TIME TO SOW BLUE GRASS.—In a meeting of the Farmers' Club at Lexington, Ky., it was decided that the Spring is the best time to sow blue grass seed. An Iowa man says in his section it is best to sow in the summer immediately after the seed is gathered. From those who have succeeded, we should like to hear what season has been found best in this State. Our own experience is in favor of the month of September.

**ALSIKE CLOVER.**—A correspondent asks us to tell him what are the advantages of Alsike Clover. One is, that it is perennial, not requiring to be reseeded frequently. It makes an immense growth, and can be cut three or four times in a season, and is therefore well adapted for soiling. It is said to be not particularly well suited to a light sandy soil, therefore our correspondent must not expect too much from it. But in rich clay soils, and alluvial bottoms, it luxuriates and is the most profitable clover that can be grown.

**WHAT KIND OF BEET FOR A FIELD CROP.**—It is a well known fact that the round or turnip shaped beets do better in light sandy soils than the long varieties. The market gardeners about here, get enormous yields per acre of the common blood turnip beet, and keep them through the winter without difficulty. We know that some of our best farmers have not been very successful in their attempts to make crops of Mangel Wurtzel for their stock, and it is possible that their efforts have not been in the right direction. It is to be hoped that some one will try the turnip beets for the same purpose.

**WHAT IS TRUE?** It seems to be very difficult to arrive at any definite result in agriculture. Some New York gentlemen who have devoted themselves to the dairy interest, assert that dairy farms commonly improve. But in the *Ohio Farmer* we find a dissenter who says, deterioration under the dairy system is like that in any other branches of husbandry, "that farms which twenty years ago would carry forty cows, now have great difficulty in carrying thirty-five," &c. If any body knows anything about it, it would be interesting to have the facts.

**NEIGHBORS WEEDS.**—The neat, careful weed-destroying farmer has much vexation in being surrounded by careless neighbors who double his labors and undo much that he has accomplished. But patient endurance added to a consistent good example will convert and rouse up the most indifferent and inactive.

**CROPS ON SHARES.**—In all the journals published in the Southern States, we can see what a curse has been fastened on the people there in the system of cropping on shares with the negroes. Both are dissatisfied and neither benefitted.

**TWO WAGONS.**—This idea is not new, but has any rerder ever calculated the amount of saving in time by using two wagons and one team of horses, so that there may be no cessation in loading or unloading hay, grain, manure, &c.

PRICES OF FOOD.—We were surprised to see recently the statement that restaurant prices in San Francisco were so much lower than in the Eastern cities—fully two-thirds less. If this is so the prevalent opinion of the enormous cost of living in California must be an error, for eating houses are noted for charging a sufficient profit.

LARGE FARMING.—During the year 1870, Jno. T. Alexander, the large farmer of the West, sold about 4500 cattle at a gross profit of \$35 per head. The net gain from all sources on this farm seems to have been \$160,000. A correspondent of the *Rural New Yorker*, thus closes an interesting account of the farm.

“This farm requires an average of one hundred men, or one man to two hundred and seventy acres; seventy horse and mule teams and fifty yokes of oxen or one team to two hundred and twenty-five acres; uses a mowing machine to one hundred and fifty acres of meadow; one fourth of the whole farm cultivated in corn and other grain, thus producing as great a result in grain and cattle in proportion, as most small farms; but the labor is much less per acre. And this result is produced by order and system in handling a large force. We do not present this to favor large farms; on the contrary we believe small farms much more conducive to the independence, education and intelligence of the people. But this furnishes a valuable illustration, to show that farming like any other business, may be conducted on a large scale, with profit.

FRENCH IMMIGRANTS.—An Exchange thinks one result of the war will be to send a large number of French to this country who will make a valuable population as farm hands and house servants. The French have never been a migratory people, but if they are coming, the South would be their natural destination, and immediate steps should be taken to turn their attention this way and prevent their being swallowed up in the West. As they would there come in contact with an immense German population, it would not be difficult to show them that this would be the most pleasant home, and possessed of at least equal advantages.

THE SEASON.—This has been the earliest spring that we have had for many years. From the 5th to the 20th of March there was not a single frost, and the gardens and lawns are full of bloom, fully three weeks earlier than they usually are. So far (March 22d) the fruit has not been injured, and we begin to hope that it will now escape.

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### Soiling and Pasturing.

Mr. Brown, of Mankie, Scotland, a farmer of extensive operations, made the following experiment in order to ascertain the comparative merits of soiling and pasturing cattle. In the Spring he took forty-eight Aberdeenshire bullocks which had been wintered in his farmyard, and separated them fairly into two equal lots, one of which he put to grass, while the other was soiled. The latter were fed on Swedish turnips until the clover was ready for cutting, and then the clover was given sparingly for a week, in order to avoid danger from over eating, after which a liberal supply was allowed. The animals thrived exceedingly well until the grass got hard and withered. About the last of July, the clover having ripened, vetches were substituted, which were continued until the second crop of clover was ready for cutting. Ten of the soiled lot were sold in August, and the remainder of the two lots in September. The results are thus stated. The forty-eight cost in purchase and wintering, £503 2s. The best ten of the soiled lot sold at £17 5s. each; the remainder of the two lots sold at £14 5s. each; the soiled lot thus bringing £377, and the grazed lot £342, a difference of £35 in favor of the soiled cattle. It required one and three-quarters acres of Swedish turnips, eight acres of clover, and three acres of vetches, to furnish the food consumed by the twenty-four soiled cattle. The result of soiling exhibited decidedly the larger profit.—*Report Agricultural Department.*

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### Some Definitions.

There are a few terms in use among breeders which have need of explanation to those just commencing to handle Live-Stock; particularly cattle and horses. Some of them are:

*Thoroughbred*—Of Horses and Cattle—An animal whose entire blood is traceable to ancestors of acknowledged purity of blood, whose pedigrees have been recorded in the British or American Turf Registers, Stud Books, or Herd Books. The term is applied with equal propriety and the same meaning to horses and cattle. It is sometimes stated that if a fixed number of crosses (generally seven) of thoroughbred stock, can be traced in the direct lineage of an animal, this constitutes the one in question a thoroughbred. We do not subscribe to that opinion, but maintain that the evidence of pure breeding thus furnished is only *prima facie*, and that any admixture of cold blood *proven to exist* at any point in the chain, vitiates the

stock, and it cannot be thoroughbred. In case of a contest at a Fair or elsewhere, the proof of five crosses of thoroughbreds, in the immediate ancestry, should, perhaps, entitle an animal to show as thoroughbred, unless the challenger shows an infusion of cold blood back of those crosses.

*Cold Blood*—Not used of Cattle—of Horses means any strain not thoroughbred.

*Full Blood*—Not used of Horses—of Cattle means anything less than thoroughbred, and not below fifteen-sixteenths of a thoroughbred blood.

*Cross*—Of Horses means the produce of any two or more different strains or families. Of Cattle, means the produce of any two thoroughbred races—as pure Short-horns and Devons.

*Grade*—Of Cattle only—Means the produce of a thoroughbred and some other not thoroughbred.—*National Live Stock Journal*.

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ROOTS FOR FATTENING CATTLE.—“I am surprised that you do not raise more roots and fat more cattle in winter,” said a Canadian farmer, who was here yesterday. I told him that raising roots was work that we were not accustomed to, and that labor was so high we did not think it would pay. He said that on his farm, taking into consideration the manure obtained and the condition of the land after the roots were removed, there was no other crop that paid so well. He raises about five acres of roots, puts about half of them into the barn cellar, or all it will hold, and pits the others in the field, just as we do potatoes, only with far less care and labor. Last fall he bought half a dozen head of four-year-old steers for \$31 per head. He fed them hay and roots, with a little pea and oat meal, until March, and then sold them for \$85 per head. The great point, he says, is to get well-bred, thrifty steers, and the fatter they are the better. This is undoubtedly true, and it is also evident that he did well in fattening the cattle. But how is it about those who rear and feed well-bred cattle for four years and then sell them for \$31? Here the butchers will often pay \$15 for a well-bred calf two months old. This would leave \$16 for keeping a steer four years. Where does the profit come in?—*Am. Agriculturist*.

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An author says that one of the uses of adversity is to bring us out. That is true, particularly at the knees and elbows.

Subscribe for the *Southern Planter and Farmer*: \$2 per annum.

CONSUMPTION OF BEEF IN THE UNITED STATES.—Mr. Lewis F. Allen, in his valuable work on American cattle, gives some estimates respecting the amount of cattle annually consumed in the United States. These estimates have been regarded as by far too small, but for that very reason we prefer to make use of them. He assumes that New York takes about three hundred and twelve thousand head of beef cattle yearly to supply its demand; that the cities of Philadelphia and Baltimore consume about the same amount; that the seaboard cities of New England will use up a similar number, and that the Southern seaboard including the cities on the Mississippi accessible to seagoing steamers, will require as many more. These four groups of cities will then consume, in round numbers, twelve hundred thousand cattle. These cities, in the aggregate, contain about one-tenth of the population of the country. It would be, therefore, perfectly within bounds to say that the remaining nine-tenths of the population consumed three times as much beef as the other tenth—which would make the total consumption of beef in the United States foot up five million head of cattle, the money value of which would be \$300,000,000—a sum far exceeding our whole internal revenue.—*Maine Farmer*.

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WHAT A HORSE WILL EAT.—The following answer to a correspondent is from *Hearth and Home*:

A horse weighing from ten to twelve hundred pounds will eat about six tons of hay, or its equivalent, in a year. And we suppose the real point our young farmer correspondent wishes to get at is, whether he can keep his horses cheaper on some other product than hay. This is an exceedingly difficult question to answer—it depends so much on circumstances. We shall not attempt to answer it fully at this time, but will merely say that, in our opinion, three and a half tons of corn-stalks and two and a half tons of corn would keep a horse a year in fully as good condition as six tons of good hay. Two and a half tons of corn would be nearly ninety bushels. And if our correspondent raises sixty bushels of shelled corn per acre, he may conclude that it will take one and a half acres to keep a horse a year—or, what is a more practical way of looking at it, it will take three quarters of an acre of good corn to keep a horse through a six months winter.

We may estimate also that it will take three and a half tons of oat straw and two-and a half tons of oats to keep a horse a year. A bushel of oats weighs thirty-two pounds, so that it will take over 155 bushels and three and a half tons of straw to keep a horse a

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year. It would take about two acres of good land to produce this amount.

For the present purpose, we may assume that *five tons* of rutabagas is equivalent to one ton of good hay; so that a horse would require *thirty tons* in a year! As this statement may stagger our young friend, it may be well to say that Stephens, in his *Book of the Farm*, says: "An ox will eat about a ton (2240 lbs.) of turnips every week. A two year old Short-horn ox will consume twenty-six tons, and a three-year-old thirty tons of turnips in 180 days."

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HOW TO FIT A COLLAR TO A HORSE.—The plan adopted in the West, which we are assured by men who have been long in the collar business, does not injure the collar in the least, is to dip it in water until the leather is thoroughly wet, then put it on the horse, secure the hames firmly, keeping it there until it becomes dry. It is all the better if heavy loads are to be drawn, as that causes the collar to be more evenly fitted to the neck and shoulder. If possible, the collar should be kept on from four to five hours, when it will be perfectly dry and retain the same shape ever afterward; and as it is exactly fitted to the form of the neck, will not produce chafes nor sores on the horse's neck."—*Harness and Carriage Journal*.

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### Preparing Wool for Market.

The best mode of preparing wool for market is as follows: First, before washing, remove carefully with the shears all locks containing dirt in a hardened state; then wet the sheep in every part and let them stand crowded together for an hour or two. They should be taken out of the water (when first put in for wetting) as quickly as may be after the wool is fairly wet, in order to retain a soapy substance the fleece contains, which acts upon the dirt and gum in the wool while the sheep stand before washing. This soapy substance is the first thing to escape as washing is commonly done. The best mode of washing is to use a fall of three feet or over, turning the sheep in different ways under the fall, till the action of the water brings every part of the fleece to an almost snowy whiteness. A much less fall will answer as well if the sheet of water is eight or ten inches deep. If the water under the fall is not deep enough to remain clear while the sheep are in, a plank bottom should be provided to prevent any sand or earthy substance from getting into the wool by stirring up the water. A clear rock bottom is just as good. When a fall cannot be had, a



clear running stream should be found, and the dirt worked out perfectly from all parts of the fleece, with the hands, after first soaking the sheep as before.

To wash sheep immediately after a soaking rain will answer very well, instead of wetting as above.

After the fleeces are taken off they should be placed on a smooth, clean floor or table, with the outer ends upward, and be carefully examined all over, by patting with the hands, to find every *burr*, which should be taken out without fail. The fleece should then be rolled up and snugly tied with a small twine.

Our farmers have generally no idea of the injury they suffer by a neglect of these matters, together with the shameful, dishonest practice of tying up their fleeces with ten and even twenty feet of small rope, or with strips of bark two or three inches wide, instead of two or three feet of small twine; wrapping up coarse and unwashed wool inside the finest fleeces; putting in dirt-balls, dirty sweepings of barn floors; doing up their fleeces wet so that they often mold.—*Bulletin of Nat. Wool-Growers' Association.*

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#### Raising Pigs—Care of Sows.

Some enterprises may be conducted on quite an extensive scale on the farm, be it large or small, and not interfere with the usual method of tilling, amount of cropping, &c. For instance, one can make a good deal of pork in the course of the year, or raise pigs for breeders of some choice kind, and only occupy for the business a very few acres of land—an orchard, for example, that could not well be pastured with other stock. By having handy and roomy buildings, and systematizing the business, the farmer is enabled to use capital with profit, and increase his income without adding to his acres.

There is my neighbor, for illustration, who breeds Chester Whites. He keeps five breeding sows on the average, and has a building large enough and arranged suitably to accommodate them and their progeny. It stands in a five acre orchard, which is given up to the pigs, and kept well tilled by them. His reputation for having good hogs is such that he sells from thirty to fifty pigs per year, when a few weeks old, as breeders and for good prices—say from ten to fifteen dollars each. The rest are fattened, and go to the butcher—the most of them, early in the fall, when there is good demand for pigs to cut on the block, and some in the spring months, when the demand for the same purpose is equally good. Fall litters are usually fattened and turned off in the following spring.

My neighbor does not always grow feed enough on his farm for his stock, but does not hesitate to buy when necessary. He endeavors to keep up his stock of pigs, whether he must buy much or little feed for them. And the manure which is saved by keeping an abundance of litter in the pens, helps him to grow larger crops each year than before. You can see now how the farm income may be increased without adding more land for the cultivation. The same course may be adopted with poultry.

A word about the care of breeding sows. They should have separate pens two or three weeks before pigging. Feed well and bed well. After pigging, feed very light for a week. Disturb the mother as little as possible. Sows have an appetite for salt, charcoal, pieces of turf, rotten wood, &c., which should be gratified. Poles six inches in diameter, placed round the pen next to the walls, and nine inches from the floor, will prevent pigs being crushed against the walls.—*Am. Rural Home.*

CAUSE OF SOWS EATING THEIR YOUNG.—It is claimed that costiveness, a very common complaint in sows, causes them to eat their pigs. Green food is the best remedy, and when, in the early spring, that cannot be had, feed potatoes, beets, carrots, or other roots. If medicine is necessary, give a tablespoonful of sulphur several times a week for several weeks before littering.

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## Mechanic Arts.

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### Virginia Manufactures.

It is believed that it will be both interesting and profitable to call attention to the various manufacturing interests in this State.

Many persons in the country have but little time to read, do not go much from home, and hence do not know what efforts are being made to develop home manufacturing. Therefore, we propose to give to our readers all the information we can get on this subject.

Quite an impression was made on the public at the last Agricultural Fair by an exhibition of goods made at the Charlottesville Woolen Mills. These mills have been under way rather more than three years, and are now producing a superior class of goods—goods which possess real merit, and are not made with a large ad-

mixture of shoddy skilfully concealed by high finish. These goods are growing constantly in favor, and are now found in almost all first class dry goods houses. One important feature in the manufacture of these goods is that the styles are *plain*, and thus do not go out of fashion, and the merchant cannot have an unsalable stock left over. This, too, suits our people, not many of them being in condition to buy fancy clothing at the additional cost which fashion adds.

It is, of course, useless to try to influence trade by any other than legitimate means, and very few would buy Virginia made goods simply because they were Virginia made; but when, in addition to this, they are skilfully and honestly made of good material and handsome finish, and, with all, at prices which compare favorably with any that are made North or South, there is no longer the necessity for sending one cent out of the State for the purchase of clothing.

**BROOM MAKING.**—The following, in a communication from H. H. Sawyer to the *Kansas Farmer*, contains information for which we have been asked several times:

“In reply to your request of the 30th ult., I will state as follows:

*Implements for Manufacturing Brooms, and Cost.*

Tying machine, . . . . .	\$38 00
Sewing press, . . . . .	18 00
Two hammers, \$1 50; one beater, \$1 50; a half dozen needles, \$2 50, . . . . .	5 50
Two knives, 75c.; half-bands, 75c.; seropes, 50c., . . . . .	2 00
Total, . . . . .	\$63 50

*Cost of Material.*

Broom corn, average price per ton, . . . . .	\$100 00
Broom handles, average price per 1,000, . . . . .	20 00
Broom wire, average price per pound, . . . . .	25
Broom sewing twine, per pound, . . . . .	50

*Cost of Manufacturing.*

Sorting corn, bleaching, tying, sewing, bunching, ♂ doz., . . . . .	\$1 00
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*Amount of Corn Raised, and Cost.*

The average crop of broom corn raised per acre is eight hundred pounds, and twenty-five bushels of seed, which is valuable for hog,

chicken, and cattle feed. The cost of raising and harvesting is about the same as field corn. One ton of broom corn will make one hundred dozen brooms. The entire cost of brooms (based on the above calculation), per dozen, is \$2 40; and the wholesale price, per dozen, \$2 75 to \$4 00."

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**BUILDING PAPER.**—This promises to be a most useful invention, being, it is said, admirably adapted for all inside walls—both permanent and cheap. It has even been used for roofing, affording perfect protection for more than a year and a half and still reported good.

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A recent invention abolishes keys and keyholes for bank safes, thus preventing the picking of locks or blowing them open with powder—electricity being the agent employed in locking or unlocking, and the lock may be on the inside of the safe, so that it cannot be reached by a burglar.

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### Match Making.

Many can doubtless remember when that now indispensable little article in every household, the Friction Match, was unknown; and when, for the purpose of procuring the means of igniting the fire that cooked the matutinal meal recourse was invariably had to the old-fashioned flint and tinder-box. Somewhere about the year 1825 people were astonished at an invention which hailed from beyond the seas, whereby fire could be produced simply by rubbing against sand-paper a small piece of pine tipped with a composition, the ingredients of which were then a secret. This was the friction match, then introduced for the first time into America from England. The match was, as may well be supposed, a great curiosity at that period. Half a dollar for a box (containing fifty matches), was the usual price, and even down to 1832, thirty-seven and a half cents per box was the minimum price. Up to 1832, all our matches were imported. The increased demand at last emboldened an enterprising Yankee to begin the manufacture of the article in New York city, and to his matches he gave the name "Locofoco," which subsequently became the designation of a political party.

Since the manufacture of matches has become a matter of much interest; none (or at least an inconsiderable amount) are now imported, and the home trade has grown beyond all anticipation. In order that some estimate of the value of this manufacture may be formed, it may

be stated that the Federal Government derives, under the Internal Revenue law, from the manufacture of this now indispensable article, an income of not less than three millions of dollars annually, for the sale of one cent stamps for the match boxes; and not less than five millions of dollars are spent every year in the United States for matches alone. The number of match factories in this country is about sixty. As another indication of the extent to which matches are used, it may be safely said that New York city alone consumes no less than 800 gross of boxes of matches, or in figures, 115,200 boxes every day; or, during the year 42,048,000. This statement appears almost incredible, but it is a fact nevertheless. The revenue to Government from this source alone, for stamps, is over \$4,000 daily from that city.

It may seem somewhat singular, but it is none the less true, that notwithstanding the immense forests of pine that are in this country, nearly all the wood of which the match-sticks are made comes from the Ottawa region in Canada, and the sticks are there turned, or split, and imported hither to the manufacturers. The duty on these is trifling, and the cost of making them in Canada being much less than it would be if they were made here, it pays to use the Canada pine, and to have the sticks prepared across the border. At present the paper material for boxes is prepared at the factory by hand, and the stock is then given out to numbers of girls and poor women residing in the neighborhood, who cut, paste, and label the boxes at a stipulated sum per gross, in their own homes.

The round wooden boxes in which matches are often put up are made of Ottawa pine, and are for the most part turned in Canada and imported hither. The matches may be made to bear almost any color, though the kinds mostly used are white, blue, and red. These are for sulphur matches; the parlor matches are always of a dark brown color. It is a singular fact that our Irish people will buy none but blue tipped matches, and the Germans invariably prefer the red. Dealers who supply localities settled by an Irish population state that they cannot sell in a whole year a single gross of any other than "blue ends," and the same rule holds good with regard to the Germans and "red ends." Americans now very generally discard the sulphur match, and almost invariably use the parlor variety, which, although a trifle more costly, is far preferable, owing to the fact that when ignited no sulphurous fumes from it offend the nostrils. Another indication of the extent to which matches are consumed may be found in the fact that only a few days since a large

quantity of them was sent from New York city to California via the Pacific railroad, the simple freight on which amounted to \$800.—*Newark Manufacturing Gazette.*

THOMAS' SMOOTHING HARROW.—We take the following description of this new invention from the *N. W. Farmer*. We think it will prove a valuable acquisition: "It has numerous round, steel teeth, which slant backward about forty-five degrees, and the teeth being half an inch or less in diameter, cut with great efficiency through cloddy soils. They do not knock the clods aside, as in the old harrows, but from their position hold them down until they are thoroughly pulverized. This is essentially the characteristic of its operations; and it has many uses which grow out of this peculiarity. The teeth never clog, all rubbish falling off at the rear, and leaving the steel teeth as clean and bright as a perfectly scoured steel plow."

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## Household Department.

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### Household.

BY. MRS. A. M.

If the thirty-one days of March have been industriously filled, but little remains to be done in doors during this month. Our poultry and gardens still require care. There is thorough enjoyment in our fresh clean surroundings, and after the "Spring suits" have been modeled we can for awhile enjoy the bright sunshine and balmy air as heartily as our Spring gardens and flowers. It will not be long before we find soda water a very acceptable beverage, and for the benefit of my country friends who are removed from soda fountains I will give a receipt sent by a lady friend from Louisa county. She says of this receipt—"It is nearly if not quite equal to the soda water sold in the drug stores. It cost five dollars many years ago but the gentlemen from whom I received it, imposed no restrictions upon the use of it, therefore I feel justified in making it public."

SODA WATER—

Beat the whites of three fresh eggs until light, then stir in two tablespoonfuls of corn starch (or fine flour) with half pint of water. Add 2 lbs. white sugar, and 3 oz. cream tartar and three of tartaric acid dissolved in two quarts of water. Boil the whole five

minutes. When cold bottle, and for soda water fill a half pint tumbler one-third full of water, adding two tablespoonfuls of the mixture. Finally stir in a  $\frac{1}{4}$  teaspoonful of soda dissolved in water, and the result will be a glass of soda water, very little inferior to that sold in the shops.

As our dinners must necessarily be inferior at this season of the year, we must look out for good, palatable deserts, or else see clouded faces around us. My little people are particularly fond of ground rice pudding, made by the following receipt :

Boil one quart of milk, leaving out as much as will soften five tablespoonfuls of rice flour. Put in the rice and let it simmer, stirring it as you do mush. While it is hot stir in a large tablespoonful of butter, one teacup of sugar, and if convenient, half pint of cream, though it is very nice without this last. Set to cool, then add eight well beaten eggs, leaving out half the whites. Season with grated nutmeg and cinnamon if you like it. Pour the mixture into a pan and bake until brown or about three-quarters of an hour. To be eaten with or without sauce according to taste.

Persons keeping a cow very frequently have a surplus of sour cream. No more pleasant (cannot say profitable) use can be made of it than to manufacture a nice supply of "cream cakes," for breakfast or tea. It is done thus: One quart cream, four eggs, sifted flour sufficient for a thick batter, a small teaspoonful of salaratus or pearl ash, a teaspoonful of salt. Beat the eggs very light, and stir by degrees into the cream, add gradually enough flour to make a thick batter, put in the salt, dissolve the salaratus in as much vinegar as will cover it and stir it in the mixture. Bake in muffin rings. For these cakes sour cream is better than sweet.

Lettuce being the most plentiful fresh vegetable on hand just now may be dressed in several ways, thus giving variety. Prepare a mixture as you would for cold slaw. A cup of rich milk or thin cream, one egg beaten light, a tablespoonful of mustard, a lump of butter half size of an egg, salt to your taste. Set on the fire until the ingredients are thoroughly heated. When cold add by degrees a cup full of strong vinegar. This mixture poured over the lettuce will make a very appetizing addition to a spring dinner.

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A learned doctor has given his opinion that tight lacing is a public benefit, inasmuch as it kills of all the foolish girls and leaves the wise ones to grow into women.

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**POULTRY.**

BY JAMES W. LEWELLEN.

**What Breeds.**

A subscriber, in the *Redland District*, writes to know what breeds of fowls are best for farm purposes. He says he thinks of going into the poultry business on a large scale, and wishes to learn our opinion of the various fancy strains, for general utility.

We answer: Our preference is the light and dark Brahma, and for the reason that they are docile, industrious and prolific. They are good layers in all seasons, good sitters, and good mothers. We would not breed from inferior birds, nor buy of questionable dealers. Better pay a liberal price for a first rate stock to begin with.

COCHINS bear confinement better than any other strain of fowls and are therefore admirably suited to small yards in towns or cities. If they have food and water regularly, and a few raw vegetables—cabbage leaves and chopped onions—it matters little to them whether their range is an acre or ten square rods. With their crops full and their ash baths taken, they care for little else. As winter layers the Cochin is the equal of the Brahma. They are not so well suited to farm purposes, because of their indolence, but they mature early, grow very large, and are less mischievous than any other strain. For early market birds they are highly prized by poulterers.

They are certainly very pretty and can be raised by every city family.

LIGHT BRAHMAS are unsurpassed for barn yard purposes, and would thrive where most other fancy strains would perish. They are excellent layers, good sitters, careful mothers, are industrious rangers, and the young grow rapidly and mature early. The secret of success is, in procuring eggs from healthy parents, and in keeping the chicks dry, clean, and well fed and watered-

THE HOUDAN. This great French chicken is growing in favor with Northern breeders, because of its general good health and great laying qualities. The Houdan is certainly a fine bird, but can never become popular with farmers in this section, because of its excessive "head feathering," which renders it an easy prey to the hawk.

HATCHING BOXES. Every body will attempt to set their hens this month, in order to have early broods of chickens. To secure success, "Hatching Boxes" are necessary. These should be made



twelve or fifteen inches square, of inch boards. The top should be put on with hinges, so as to open and shut. The back and ends of solid boards. The front should have an open door of wire or slats. The box should have no bottom, so that the nest of eggs can have the earth's moisture, during the period of incubation.

Hens when set in boxes are protected against intruders, and can then be fed and watered at regular hours.

When a brood is hatched, the old nest should be burned, and the box scalded, and painted with kerosene oil before being again used.

YOUNG CHICKENS must be kept dry, and have fresh food and water regularly, if they are to prove healthy and thrifty. Dews and showers are fatal to them.

Vermin must be carefully guarded against, in all henneries, and young chicks should be regularly looked after to see that they are not the prey of "marauders." Any fresh grease applied to the heads, necks, and sides of the chicks will destroy or drive away all vermin.

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## DAIRY.

### Proper time to Skim Milk.

The milk should be skimmed as soon as all the cream has risen, and before the milk has thickened. The exact time required for the cream to rise, will of course depend upon the temperature, but a little experience will enable one to tell. At the time the cream should be removed, it will have a bright, healthy appearance—rich yellow, uniform, and such adherency of particles as will enable one sometimes to remove the entire cream at one dip of the skimmer.

If allowed to stand too long without skimming, both the quantity and the quality of the cream will be seriously affected; the surface will become discolored, blotched and knobby, while underneath, the cream is rapidly yielding to the corrosive tendency of the acid in the milk. The thickest cream may as surely be destroyed by standing on the milk, as would the finest fabric in a bath of sulphuric acid. When thus destroyed, the cream is replaced by a thin watery substance, having no resemblance to milk or cream.

These facts, which may be easily verified, show how essential it is that the cream should be taken off before the milk has acquired any great amount of acidity. Yet, in order to make the largest quantity of butter, care must be taken not to remove the cream too soon. Many

neat and thrifty housewives make a practice of "skimming up" the milk at stated intervals, so as to be through with the job. This is, of course, very pleasant, but it involves considerable loss, as they do not get the full cream from the newest milk. The milk should all be skimmed at the same age, provided it has had the same conditions as regards temperature, etc. It follows then that some milk should be skimmed every night and morning.—*Prize Essay.*

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**KEEPING CREAM.**—Next in importance to having the milk perfectly pure and sweet, and freed from all animal odours, comes the matter of keeping the cream after it is taken off the milk. In the first place, the less milk there is with the cream at the time it is set in the cream jar, the better. A great deal of carelessness is shown in this matter, for be it known that milk makes cheese, while the cream only makes butter, and the more milk there is in the cream at churning time, the more cheesy-flavored will be the butter, and therefore the more likely to afterwards spoil unless excessively salted. Really pure good butter requires very little salt, while butter as ordinarily made will soon spoil unless well salted, or kept covered in brine.

Secondly, the cream jar must be of the very best quality of stoneware; thick glass would be still better; and it must have a cover that will exclude all dust and insects.

Thirdly, the cream jar should be kept in a place where no noxious odors or gasses can be absorbed when the jar is opened to add more cream, and also where the temperature can be kept cool and equable, say at about 60°; and lastly the cream is to be made into butter as soon as it just begins to sour, and when the jar is emptied, it is to be thoroughly cleaned and scalded in boiling water before being again used.—*Canada Farmer.*

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**CHEESE FACTORY AVERAGES.**—At the sixth annual meeting of the Mass. Cheese Maker's Association, twelve factories hand in their reports. The capital invested in each ranges from \$600 to \$9000 and averages \$4212 50. The net profit per 100 lbs. of cheese was from \$11 40 to \$15 00 and averaged about \$12 40.

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A correspondent says that there was one thing about the French ball in New York suggestive of paradise: they were all naked and were not ashamed!



## Horticultural Department.

### The Flower Garden.

Ere this issue reaches a large number of subscribers, they will have fairly entered upon the cultivation of their flower gardens. Crocus, Narcissus, and Hyacinths will have begun to fail, while Tulips, Lily of the Valley, Spireas, and Weigelias will be in full flower, and the Roses peeping into bud. The most important work now will be to take care that there be no time when bloom shall cease to delight the eye and afford bouquets for the vases. The Annuals must be sown, and the bedding plants put out—most of this may be done at once. Some few of the more tender plants can be kept in doors until the last of the month. For elaborate lists and descriptions of seeds and flowers, consult the catalogues of our dealers. It is impossible for us to mention all that ought to be planted; but we cannot refrain from saying a word for a few of the old favorites. No matter what new seeds and plants you may procure, do not, among the Annuals, omit Mignonette, Phlox Drummondii, Candytuft, Asters, nor the beautiful bright little Portulacca.

Neither Verbenas nor Geraniums are planted freely enough in our gardens. We frequently see a few plants of each scattered over the grounds, at such intervals as to lose all effect, instead of clusters and masses of both. They, being so cheaply and readily procured should be used abundantly, with a good share of Heliotrope and Citronalis. Then fill in with the rarer and more costly plants.

Nor must the Roses be forgotten. In our Southern clime, where they are the glory of the landscape and where they flourish almost without any care, there is no excuse for their absence from any pleasure grounds. Among the endless varieties, new and old, few if any surpass the following: Giant of Battles, Gen'l Jacqueminot, Leveson Gower, Homer, Victor Verdier, Bougere, Triomphe de Luxembourg, Souvenir de la Malmaison, Madame Bosanquet, Bourbon Queen, Devoniensis, La Marque, Augusta, Saffrano, Cloth of Gold,

Marshal Neil, Sombreuil, Gloire de Dijon, Lady Warrender, Woodland Margaret, Climax, and White Microphylla (the last three being constant blooming climbers). Although most of these are old and well known varieties, they are none the less worthy of continued culture, and while the newer varieties should not be neglected, these may be depended upon as embracing all shades of color, and furnishing a regular and handsome bloom.

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### Water Melons.

There is by no means the attention paid to the cultivation of the melon crop in Virginia that should be. While the county of Hanover is noted for the water melons and sweet potatoes it produces for the Richmond market—few if any of either ever find their way beyond the limits of the State. We know of no section where the former can be grown with greater success than in the counties adjacent to this city, and few crops can be grown for shipment with greater profit. For many years water melons grown upon the Eastern shore of Maryland have been shipped by water and rail over two hundred miles, to points in the Shenandoah valley, at liberal profits to both growers and dealers, and there is no good reason why the same might not be done here with constant communication by water with New York and Philadelphia. With an early season, and a soil peculiarly adapted to their production, this crop ought to become a source of very large revenue to the State. At eight feet apart, one acre will contain about five hundred hills, which, at a low average, will yield fifteen hundred melons; these, at the low price of ten cents each, give a return of one hundred and fifty dollars. Unlike many other fruits, the competition in this is limited. They require a light sandy soil, with a mild climate, and consequently do not succeed well farther North than Maryland and southern New Jersey, while their bulk and weight prevent their transportation to the mountain cities from points much further South than this. Would be glad if our farmers were to give this matter more thought, satisfied as we are that there is a vast amount of money to be derived from the proper development of this industry.

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GRAVEL FOR MULCHING.—Some of our exchanges recommend gravel as an excellent mulch—we heartily endorse it, and know of no surer method by which to guarantee the growth and freedom from insects of our park and street trees.

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### How to Raise Norton Vines.

*Messrs. Editors*—It has been considered very difficult to raise Norton vines from the slip; I have frequently failed to raise any when planting in the usual way. In the spring of 1870, I was more careful to select the young and tender parts of the vine for slips, using the previous year's growth cut in pieces having three eyes. I made trenches eight or ten inches deep, in moist land, near a branch, in a sandy loam not subject to sobbing or overflowing. I then placed the slips about three inches apart in the trenches, and threw back the soil, covering two eyes, and leaving one above ground, and then trampled the loose dirt to prevent drying. On each side of the slip I then laid an old rail so as to keep the earth mellow and moist, and afterwards worked them with the hoe to keep them clean. I found that nearly every slip took root and grew vigorously, at which I was a little surprised as I had so often failed to succeed previously. This plan is much easier than the ordinary one of raising them from layers, which requires a good deal of labor and care. I will add, that I consider the Norton the very best grape for all uses, and it is as hardy as an oak tree.

W. A. GILLESPIE.

*Louisa, March 2, 1870.*

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### Pruning with Reference to Fruit Production.

BY MR. WILLIAM SAUNDERS.

*Read before the Pennsylvania Fruit Growers' Society, Jan. 20, 1870.*

Natural laws are constant and unvaried in their operations. Our knowledge of these laws is derived from accurate observations of causes and effects. Science is the systematized explanation of these observations. The science of pruning fruit trees is, therefore, the explanation, or concentrated evidence of effects produced by manipulation on the branches and other portions of plants, derived from the accumulated knowledge of centuries of observation and experience; and when we consider the lengthened period, during which pruning has been performed—the general intelligence of the operators, and the countless repetitions of similar processes ending in similar results, it is reasonable to suppose that a sufficient number of facts have been observed to establish a very perfect science.

I do not propose entering into an extended review of modes of pruning; neither do I intend to discuss, what is of far more importance, the principles that science has established for our guidance in performing the operation, but will at once proceed to state that, so far as the production of fruit is concerned on trees that form fruit

buds on short spur branches, such as the apple, pear, plum, and cherry, I am convinced of the evil of *shortening in*, as it is technically termed, the young growth or points of shoots, at any season, either summer or winter.

When we wish to form a thickly branched, bushy plant, such as we desire in a hedge, the end is accomplished by frequently pruning or cutting back the growing shoots as they project beyond the ideal limit, thus encouraging lateral twigs or side branches, slender, but numerous, as the object of a close hedge requires; but when the development of numerous lengthy shoots is the aim, as in willows for basket making and similar manufacturing purposes, pruning is performed during winter only, and the more decided or severe the operation, the stronger and better the resulting growths.

Similar treatment to the above will produce similar results when applied to fruit trees.

I will take the pear as an example; and certainly no variety of fruit tree has been so tortured under the sanction of both science and ignorance, as this has been. When the tree is submitted to a regular course of winter pruning, together with a regular pinching of young growths during summer, a thicket of slender growths is produced, and, if it is followed up with skilful persistence, may produce that great desideratum, a beautiful pyramidal shaped tree.

On the other hand, when summer pruning in its every shape, is abjured, and thorough, or severe winter cutting the systematic rule, a profusion of upright growths, of more or less luxuriance, are yearly produced and yearly removed, just as practiced in the culture of willows, excepting that the pear growths are useless, and the willows are valuable.

All who are familiar with pear culture will recognize these widely different modes of treatment, and the distinct forms so produced; also that they both agree in one important particular, that is, they produce but very little fruit.

Having practiced both of these systems to my entire satisfaction or rather dissatisfaction, it occurred to me some twelve years ago, to let the trees alone. I had pruned, pinched, and disbudded, until my trees were acknowledged to be as finely formed as any in the country, and they were as perfectly outlined as the most beautiful of Norway Firs. I felt the risk of abandoning an orthodox custom, and of being classed among *negligent cultivators*, but my eyes were opened, I saw that these orthodox managed trees were naked of fruit, and resolved, that however much it might shorten in my reputation, I would not, for the future, shorten in my fruit trees.

To illustrate more particularly the plan now pursued, I may state that in the spring of 1863 I planted a collection of sixty varieties of pears, these were set in duplicate, one half being on the quince roots, the other on pear stocks. These have received the same general treatment throughout. When planted they were pruned down very closely, many of them cut so as to resemble a smooth walking cane from two to three feet in length. In the fall of that year, they were cut back in order to establish a proper spread of branches, but with the exception of taking a few scions from some of the varieties, the branches have not been shortened since; some few tall branches have been removed entirely where they have become crowded, and a young shoot encouraged at the point of cutting, which ensures the healthy healing over of the cut, and is essential in this mode of management, to take the place of future removals.

During the second and third years' growth, young shoots of three, four, and five feet lengths were not uncommon, and it required some firmness to repress the inclination to prune, but the pruning resolution had not been lightly formed and was not to be lightly abandoned; and even the longest of these shoots became thickly studded with fruiting spurs, and in due time furnished with blossoms, and subsequently with fruit.

To show the Society what I mean by a thickly studded system of fruit buds, and the rapidity with which they form when allowed to grow as nature designs, I have here a few branches of various ages which I submit for inspection.

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### Can Wine be Aerified with Impunity?

I have been patiently waiting for the recorded experience of brother vintners upon this important subject, but the many labors following an abundant crop, have no doubt, delayed those who might desire to answer. Meanwhile, from the remarks made by Mr. Geo. Husman, and the many letters which I have received, I am satisfied that my position has been misunderstood, and has, with some, raised a prejudice against the new process known as "air treatment;" a result which I had not foreseen when I penned my query, the whole of my article being based upon, and only referring to the old and so far used way of racking wines from one cask to another with faucets, in which case when over-doing the job—especially through roses of watering pots—acidification is almost certain. This being the case, I deem a further explanation not only necessary but just towards "air treatment," and its worthy inventor.

I have no experience with Mr. D. Heureuse's process, but from the practical knowledge I have of the necessary presence of oxygen in the *must*, to develop a healthy fermentation, I am disposed to believe all that is claimed for it. Experience alone will teach how far it can be trusted beyond the *must*. I further believe that with care it will prove likewise beneficial to those wines that have undergone but an imperfect fermentation; why so I cannot say, except it be in the fact that there is as yet but little alcohol formed, and much sugar remaining, and that instead of the wine constantly traveling through air, from cask to cask, with a positive loss of a preserving element (the carbonic acid), *the action is reversed*, the wine remains in the cask, the air is introduced suddenly, promptly and briefly, with a supportable limited deperdition of the preserving element; whilst it further reduces the many rackings heretofore considered necessary to perfect a wine; all of which I hope may prove in time positive advantages difficult to deny; meanwhile, experience must become our teacher.—*Cor. Prairie Farmer.*

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### Wine Without Fermentation.

1. Having removed all unripe or decayed berries, mash the grapes with the hand, or otherwise, being careful not to crush the seed.
2. Press out the juice into a suitable vessel, prepared with a fawcett near the bottom.
3. Add alcohol (the deodorized is best) at the rate of a pint to the gallon. This will effect the precipitation of the fecula and the preservation of the juice perfectly, but if you want a stronger wine add more.
4. Cover the vessel with a cloth, and allow it to stand forty-eight hours.
5. Draw off first the clear juice and then the sediment, passing both through the sand filter, but keep them separate, if practicable.
6. Put the wine into a cask and close it perfectly air-tight. It may remain there till wanted for use, or be drawn off after a few weeks and bottled.
7. Digest the *marc* (skin, seeds, &c.,) one or two weeks in a mixture of equal volumes of alcohol and water, in a close vessel, and press the filter as before, for a strong cordial.
8. Care must be taken that nothing be used in the manufacture out of which the alcohol can extract any flavor, or the wine will be injured.



9. The evaporation of the alcohol, after the process is completed, must be carefully guarded against, by the close stoppage of the cask and bottles. The latter should be sealed with a composition of Burgundy pitch, wax, and tallow, using enough of each to make it a proper consistency—neither too stiff nor too brittle—melt it over a slow fire, and dip the end of the bottle into it.

*Deodorized alcohol* is alcohol carefully filtered through animal charcoal, and thus rendered as pure as possible. It may be obtained from all chemical laboratories in our large cities, or easily made by any one who can procure the proper articles.—*Rural Carolinian*.

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### Strawberry in Hills—Try it Once.

I mean, try cultivating your strawberries in stools. For once, determine that you will adhere strictly to the plan of cutting off every runner and keeping down all foreign growth; and I mean by foreign growth, everything except your plants. Let me advise you to select the far-famed Wilson's Albany. Select a good piece of ground, about sixty feet square, and put it in excellent tilth. Then take a garden line that will reach across it, and as early in March as you can, or first of April, get good, strong, well rooted plants, and put them out by the line, two feet apart each way—spreading out the roots fan shape—and cover up to, but not over the crown. Work this plant every ten days during the growing season; and about the middle of December following, scatter some kind of seedless straw all over the plat—plants and all—about two inches thick; as a winter protection, and let this straw remain over the bed until about the last of March following; at which time, pass over it with a pitch-fork and move the straw from the crowns of the plants only, leaving it all around and under them as a spring and summer mulch, which will keep the plants moist; and then your work is done until bearing season is over. Cultivated in this way your berries will be much larger, and the yield enormous. If the season should be a good one, you will gather from a pint to a quart to the stool. After they are done bearing, spade up the bed—straw and all—and keep it clean of runners and filth, as you did the season before; and the following December apply fresh mulching, and so on from year to year, and your bed will last in fine condition for many years. Try it once, and you will never adopt any other plan. Pull off all blossoms the first year.—*Cor. Prairie Farmer*.

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The *So. Planter and Farmer* has a valuable map in each number.

CAULIFLOWERS.—“Shelocta” says that he and his family are very fond of cauliflowers, and they also sell for a good price in market, but he has failed to make more than one-fifth of the plants cultivated produce heads. The soil in which they are grown is light, sandy loam, but rich and good. Judging from our own experience on a similar soil, the plants suffer for moisture. To obviate this difficulty, we have recourse to mulching; and when this is applied early, or soon after the plants are set out, and in a liberal quantity, a crop of cauliflowers has been almost as certain as cabbages. We hope the readers of the *Rural New Yorker* who are fond of this delicious vegetable, or have an opportunity of supplying a good market, will try the mulching process the coming summer and report to us the result. Sow a few seeds early in spring, or even in hot-beds now, and others later for a fall crop, and then follow the above directions, and see if good large heads cannot be produced even in the months of July and August. A cool, moist and rich soil are the things required; and two of the number are supplied by the use of mulch. Hay, straw, or even weeds from the garden, may be used, and will answer the purpose as well as anything else.—*Rural New Yorker*.

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GROWING ROSES IN POTS.—Mr. Podbury, of the Geneva Horticultural Society, thus describes how roses may be grown successfully in pots for winter flowering: “To grow roses in pots for greenhouse or window culture is a very pleasing occupation. To grow them successfully, choose young, vigorous plants, say in April or May, either on own roots or on Manetti stock; repot them in six inch pots, and plunge them in the ground to the rim of the pot; keep them well supplied with water, and occasionally give them a little manure water; keep all the flowers pinched off until the middle or end of September; you will then have a plant with six to eight well ripened shoots. Prune them back to a well ripened eye, and shake them clear out of old soil and repot them, using a compost of good loam and well rotted manure—about two-thirds of the former to one of the latter, with sufficient sand to keep from packing hard; soak the newly potted plant well with water, and plunge it again in a sunny spot; and by the end of October you will have the pot full of young and vigorous roots, and the shoots from three to four inches long. Then introduce a few at a time to the greenhouse or window, and by the time the frost has killed the roses out of doors, these will be ready to succeed them, and give you a supply of rose buds without a great expense of fire heat from December to the end of

January. By adding a few fresh ones, you can be well supplied with rose buds during the winter months, without a great deal of trouble and expense. The roses best for this purpose are some of the best Teas, Chinas, and Hybrid Perpetuals, always choosing the strongest growers, and freest bloomers."—*Ex.*

### Miscellany.

COLORS OF FLOWERS.—Remarkable changes take place in the color of some flowers during the course of the day. Those of the Pink Phlox, early in the morning are of a lightish blue, which alters as the day advances, and becomes a bright pink. The *Œnothera tetraflora* has white flowers which change to red. The *Hibiscus variabilis* has its flowers white in the morning, pink at noon, and at sunset bright red. Many flowers of the *Boraginaceæ* are red before expansion, and afterward blue. The bracts of *Hakea Victoria* are yellowish white at the center the first year; the second year these become of a rich golden yellow; the third year rich orange; the fourth year blood red, and the green parts of the bracts become annually darker. *Hydrangea* changes its color between a blue and pink. The *Dahlia*, of the yellow species, has been made to produce all varieties of that series, but has never been produced of a green color.—*Artisan.*

TOO MANY LAWN-TREES,—It is satisfactory to know that the mania for filling up lawns, garden-plots and front yards with ornamental trees, has in a great measure subsided, though not nearly to the extent it should. It affected even ourselves. It didn't occur to us that the trees and shrubs we set out so profusely and carefully would grow so very large, and occupy so much space; and we are now every year removing them, six umbrageous ones having been cut down last fall as cumberers of the ground.

But in addition to what we desire particularly to say, or rather to repeat, is, that there are still planted too many ornamental trees, and too few fruit trees in our gardens or other rear grounds. It is especially objectionable to see the miserable specimens of evergreens in many lawns and front yards; they were not worth one cent when bought, to say nothing of the cost of planting, &c. There are many persons, too, with small places who have a great fancy for trees, (as everybody has,) but who know nothing about taking care of them; hence, however fine they may have been when planted, they became in a year or two a perfect eye sore, and ought to be removed, and would be, did the owners of them see them as others do.—*Germantown Telegraph.*

**BLACKBERRIES NEED CULTIVATION.**—We think some nursery men are responsible for helping to spread the erroneous opinion that blackberries will grow anywhere, and will thrive well on poor soil without much attention. We find this not the case. Generous treatment with the blackberry pays as well as with the strawberry; plenty of manure and good cultivation will surely result in big berries and big crops, but if the manure is wanting and the soil is poor, we would under no manner of means neglect the cultivation once at least each week with the cultivator. Mr. A. M. Purdy, of the *Small Fruit Recorder*, gives an account of his first experiment with blackberries. Twenty-five years ago he bought at South Bend, Ind., a piece of land that was said to be too poor to grow white beans. The blackberries planted on it made a moderate growth, but subsequently bore enormous crops, being literally loaded to the ground. A richer piece of land was also planted, the bushes grew rank, but bore moderately, and winter killed badly. Blackberry bushes like the large growing American grapes, do not want rich soil. But the most important part of the preceding statement must not be omitted—the poor ground was thoroughly cultivated, or, in the words of the narrator, he “gave it a regular commotion that season with hoe and cultivator.—*Horticulturist*.

**THE BEST LAWN GRASS.**—Mr. Barry, said in his address before the Western New York Horticultural Society, that red-top is the best grass for a lawn, about fifty or sixty pounds to the acre. Fifty pounds will be sufficient if the seed be clean and good, which it seldom is. Some people recommend white clover, say one-fourth, to be mixed with red top, and this does very well, but I prefer the pure red top. Early in the spring is the best time for seeding a lawn. All preparatory work should be performed in the fall, so that during the winter the ground may settle, and any defects that may be developed, can be corrected before sowing. In spring, at the fitting moment, give a light plowing, a good harrowing, pick off all the stones, sow the seed, and give it a good rolling, which finishes the work. By sowing early in the spring, you may have a respectable lawn before midsummer.—*Rural New Yorker*.

**APPLES AND THE BLOOD.**—The eating of fruit, and especially apples, has a tendency to purify the blood: If a person who is troubled with scrofulous humors eats freely of good, ripe fruit, after long abstinence from the same, he will be likely to be troubled with a “breaking out,”—the fruit will drive the humor from the system, causing it to pass off through the skin by means of postules.

People sometimes fear to eat fruit very freely from the fact that it causes such a breaking out. Such a result should not be considered unfavorable, but the reverse, and should be encouraged. A fruit diet and free perspiration from moderate exercise, will do much to improve the health.—*Scientific Press*.

**CRANBERRY CULTURE.**—The cranberry interests of New Jersey are now far ahead of her strawberry culture, and on a decidedly safer footing. The crop of one county alone, (Ocean Co.) last year was 25,000 bushels, valued at \$100,000, while the entire production of the State is near 40,000 bushels. □

Growers have to contend with two enemies of the cranberries, viz: two kinds of worms and grasshoppers; a flock of turkeys will kill the latter when small, and timely flooding will prevent the ravages of the former.—*Horticulturist*.

**PRESERVING FRUIT JUICES.**—The juices of raspberries, pineapples and other fruits, are useful for flavoring ice cream and similar purposes. The juice can be readily preserved by bottling. Express the juice and put it in bottles; set the bottles in a cold boiler with a board or grating under them to prevent contact with the bottom of the boiler. Heat up the water and continue at the boiling point until the contents of the boiler are heated through. Cork the bottles while hot, seal and keep in a cool place. The bottles should not be so large as to contain more juice than enough to use at once, as it will not keep long after being opened. So says one of our exchanges.—*Western Pomologist*.

**TRAPPING GARDEN SLUGS.**—M. Commandeur, of Paris, a scientific gardener, in the course of some experiments hit upon an ingenious method of killing slugs, the annoyance of which is often felt by gardeners. M. Commandeur accidentally left in his garden a pot in which he had been making experiments with starch and iodine, which pot imperfectly covered with a bit of board remained exposed to the heat and rain for three weeks, when on looking one morning into it, he was surprised to find it tenanted by scores of snails and slugs that had congregated in it from every part of the garden. He repeated the experiment several times, and became assured that the emanation of iodine will attract these creatures from a considerable distance when they may be killed.—*Western Pomologist*.

**CHINESE METHOD OF PRESERVING GRAPES.**—Travellers inform us that the Chinese have a method of preserving grapes, so as to

have them at their command during the entire year; and a recent author gives us the following account of the method adopted. It consists in cutting a circular piece out of a ripe pumpkin, or gourd, making an aperture large enough to admit the hand. The interior is then completely cleaned out, the ripe grapes are placed inside, and the cover replaced and pressed in firmly. The pumpkins are then kept in a cool place, and the grapes will be found to retain their freshness for a very long time. We are told that a very careful selection must be made of the pumpkin, the common field pumpkin, however, being well adapted for the purpose in question.—*Report Department Agriculture.*

PLANT LOUSE.—It is estimated that the progeny of an *Aphis* (plant louse) in a single summer will amount to a quintillion (1,000,000,000,000,000,000). They reach maturity in a fortnight, produce 100 offspring, and reproduce spontaneously, to the ninth generation.—*Exchange.*

FOREST TREES.—In the Minnesota State Horticultural Society, the discussion on forest trees resulted in recommending the following list for general cultivation: European larch, blue and white ash, cotton wood, soft maple, ash-leaved maple, black walnut, white or rock elm, mountain ash, black cherry, sugar maple, Scotch pine, white pine, white butternut, oak, red oak, American spruce, Norway spruce, basswood or linden. Lombardy poplar, chestnut and American larch, were refused in the list.—*Am. Rural Home.*

BOTANICAL.—At the last meeting of the American Philosophical Society, Mr. Thomas Meehan, editor of the *Gardener's Monthly*, and Agricultural Editor of the *Weekly Press*, was elected a member of that time honored institution, as a tribute to his botanical researches.—*Philadelphia Daily Paper.*

SAVING THE PLUMS.—J. J. Thomas, N. Y., has a plum orchard of eighty-tress. Previous to 1866, he had obtained but very little fruit from the orchard on account of the curculio. Since then he has saved the fruit by jaring down the insects on sheets. An iron spike is placed in each tree on which a sharp blow is struck.—*Western Pomologist.*

HEMP FOR CABBAGE WORMS.—A correspondent of the American Institute Farmers' Club writes that in Germany, gardeners plant hemp among their cabbages, or surround the field with a row of it. The perfume of this plant when in bloom is offensive to the butterflies, and they do not deposit their eggs in the cabbages, and thus

the crop is saved. He recommends later planting in this country as a means of avoiding the caterpillars.—*Exchange*.

WOOD ASHES FOR STRAWBERRIES.—There is no better fertilizer for strawberries than ashes. We remember that one of the best crops we ever had was raised when the only manure used was wood ashes. All soils will not alike be benefited by such an application; but it is always safe to use ashes in connection with other manures. If ashes only are used, there are fewer weeds, as no seed can be introduced by the manure.—*Maine Farmer*.

A LESSON FROM THE DROUGHT.—Potatoes that were planted on or near the top of the ground in the sections where the drought has been excessive were hardly worth the digging, while those in adjoining fields, which were put at the bottom of a deep furrow and never hilled at all, have yielded well.

It is said that cotton prevents or retards the ripening of winter apples and pears, while wool hastens this operation, and at the same time gives green fruit a handsome yellow color.—*Selected*.

LOVE OF FLOWERS IN NEW YORK.—The passionate love of flowers, the New Yorkers have borrowed from the French. Flowers enter very largely into all the solemnities, fetes, and events of New York life. The gentlemen who wishes to testify his devotions to a young lady does so by daily offerings of magnificent flowers. Statesmen, orators, opera-dancers, divines, are alike accustomed to receive these floral tributes. The bride is married beneath a magnificent floral bell; the coffin is decorated with exquisite crosses, crowns and wreaths of flowers. The Rev. H. Ward Beecher preaches with a floral basket by his side. Mr. George Francis Train has equally floral tributes, which he waves in the course of his denunciation of British influence, and the old fogies of the Bible. On the occasion of a benefit night to a favorite actress lately, a basket of choice flowers was brought on to the stage, as an offering from some of her admirers, which had to be carried by four men.—*Belgravia*.

BEST TILES TO USE FOR DRAINING AN ORCHARD.—A writer in the *Country Gentleman* says: "My experience with two inch sole tile, in the orchard, has been that the fibrous roots of the trees, within three years would enter the joints and fill and clog the bore so completely as to defeat the whole object contemplated. In examining tile that were three feet below the surface, I pulled out sections of matter composed mainly of fibrous roots, which perfectly barred the

water, and which so startled 'Pat,' as to cause him to drop his spade and exclaim, 'By my sowl! What kind of a snake is that, and how came his hide off?' On the whole, I have come to the conclusion that the least objectionable kind of drain for an orchard of bearing trees, which fill the entire ground with roots, is the old-fashioned blind drain, well secured at the top by small stones and such other material as will prevent the earth over the drain from breaking through."—*Horticulturist*.

SLEEPING FLOWERS.—Almost all flowers sleep during the night. The marigold goes to bed with the sun and with him rises weeping. Many plants are so sensitive that their leaves close during the passage of a cloud. The dandelion opens at five or six in the morning and shuts at nine in the evening. The goat's beard wakes at three in the morning, and shuts at five or six in the evening. The common daisy shuts up its blossom in the evening and opens its "day's eye" to meet the early beam of the morning sun. The crocus, tulip, and many others close their blossoms, at different hours towards evening. The ivy-leaved lettuce opens at eight in the morning and closes forever at four in the afternoon. The night flowering cerus turns night into day. It begins to expand its magnificent sweet scented blossom in the twilight, and is full blown at midnight, and closes never to open again with the dawn of the day. In a clover field not a leaf opens till after sunrise. So says a celebrated English author who has devoted much time to the study of plants, and often watched them during their quiet slumbers. Those plants which seem to be awake all night, he styles the bats and owls of the vegetable kingdom."—*Ex.*

INDIA RUBBER FOR GRAFTING.—Some of the English gardeners have successfully used strips of India rubber in the place of grafting wax, being neater, more perfect, and not soiling the fingers. Sheets are purchased in the market for six-pence per square foot. They are about as thick as brown paper. They are obtained of the manufacturers of this article before it is applied to muslin and other surfaces. The strips cut from it are about an inch long and the eighth of an inch wide, for small grafting, the pieces stretching two or three times their first length. The ends adhere when pressed firmly with the thumb nail, the sheets having been previously washen and wiped dry. It strikes us that these strips would possess advantages over bass in budding, the bands yielding with growth and preventing cutting into the bark.—*Country Gentleman*.



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**Book Notices, &c.**

R. H. Allen & Co. Seed Catalogue for 1871; 189 and 191 Water street, New York.

Illustrated Catalogue and Price List of the Pennsylvania Agricultural Works, York, Pa., A. B. Farquhar.

Second Annual Report of the Board of Trustees of the Illinois Industrial University. This institution was established with funds from the Agricultural College land grant. It numbers over one hundred students.

Peters' Musical Monthly, with its choice selections of sacred and secular music, comes promptly, and is highly valued. J. L. Peters, 549 Broadway, New York; \$3 a year.

The Young Pilot, Chicago, \$1 a year.

Edinburg Review, for January, from the Leonard Scott Publishing Co., 140 Fulton street, New York. The contents of this number are: France; Lives of Rossini and Berlioz; Business of the House of Commons; Kaye's History of the Sepoy War; Facts and Fables at the Admiralty; Langel's Problems of Nature and Life; The Foreign Relations of China; The Military Forces of the Crown; Morris' Earthly Paradise; The Treaties of 1856 and 1867.

We are sorry to find that the North British Review for January (from the same publishers) is the last number that we will see, the Edinburg publishers having discontinued it. The Leonard Scott Publishing Company will, however, replace it with the British Quarterly.

Monthly Report of Department of Agriculture for February.

Illustrated Christian Weekly, vol. 1, No. 1, published by the American Tract Society at 150 Nassau street, New York; \$2 a year in advance.

The Galaxy for April has, as usual, a rich table of contents. Among other things of interest is a well written letter from General J. D. Imboden; \$4 a year. Sheldon & Co., 677 Broadway, New York.

The Southern Magazine, Baltimore, Md.; Murdoch, Browne & Hill; \$4 a year. The April number comes duly. This journal continues to be one of the most pleasant and valuable that comes.

Godey's Lady's Book; L. A. Godey, corner Sixth and Chesnut streets, Philadelphia; \$3 a year.

Proceedings of the Annual Convention of the South Carolina Agricultural and Mechanical Society, held in Columbia, S. C., Nov. 10th, and 12th, 1870.

Oliver Optic's Magazine for Boys and Girls, for April. This Magazine excels in its line, and continues to be very popular.

A Treatise on the Horse, by R. H. Parks. Price \$1. This little book makes no pretensions, and probably for that reason one is much surprised to find it containing so much valuable practical matter. The publishers of the *Southern Planter and Farmer* will forward it upon receipt of the price.

Phrenological Journal for April—Samuel R. Wells, 389 Broadway, N. Y.; \$3 a year. This number contains more interesting matter than we have ever found in this journal.

“Money in the Garden,” is the title of a new book received, we suppose, from the Tribune Publishing Company, New York, by P. T. Quinn, author of “Pear Culture for Profit.” It comes too late for examination this month, but everybody wants to hear what successful men have to say.

☞ In our March number we make our friends, Higgins, Reybold & Co., to charge forty pounds per ton for their “Persicator.” It should have been \$40.

## MISCELLANEOUS.

### The Housekeeper's Tragedy.

One day, as I wandered, I heard a complaining,  
 And saw a poor woman, the picture of gloom ;  
 She glared at the mud on her door step ('twas raining)  
 And this was her wail as she wielded the broom :

“ Oh ! life is a toil, and love is a trouble,  
 And beauty will fade, and riches will flee,  
 And pleasures they dwindle, and prices they double,  
 And nothing is what I could wish it to be.

“ There's too much of worriment goes to a bonnet ;  
 There's too much of ironing goes to a shirt ;  
 There's nothing that pays for the time you waste on it ;  
 There's nothing that lasts us but trouble and dirt.

“ In March it is mud ; it's slush in December ;  
 The midsummer breezes are loaded with dust ;  
 In the fall leaves litter ; in muggy September  
 The wall paper rots and the candlesticks rust.

“ There are worms in the cherries, and slugs in the roses,  
 And ants in the sugar and mice in the pies.  
 The rubbish of spiders no mortal supposes,  
 And ravaging roaches and damaging flies.

“ It's sweeping at six, and it's dusting at seven ;  
 Its victuals at eight, and it's dishes at nine ;  
 It's potting and panning from ten to eleven ;  
 We scarce break our fast ere we plan how to dine.

“ With grease and with grime, from corner to centre,  
 Forever at war, and forever alert,  
 No rest for a day, lest the enemy enter—  
 I spend my whole life in a struggle with dirt.

“ Last night in my dream, I was stationed forever  
 On a little bare isle in the midst of the sea ;  
 My one chance of life was a ceaseless endeavor  
 To sweep off the waves ere they swept off poor me.

“ Alas ! 'twas no dream—again I behold it !  
 I yield ; I am helpless my fate to avert.”  
 She rolled down her sleeves ; her apron she folded ;  
 Then lay down and died and was buried in dirt.

*Ex.*

### The Legend of the Osmunda.

By the side of a deep blue lake lived, many hundred years ago, old Gyles, the waterman. With him, in the little reed-thatched mud hut, dwelt his fair and only child, Osmunda. She was very beautiful, and it was no wonder that when men praised her loveliness they called it regal. No royal princess could have carried her lithe, tall frame in a more stately manner than did the daughter of the old waterman; many a queen would have envied her delicate white skin, beneath which the red blood coursed transparently, and the soft brown hair that rippled down to her slender waist. When she bounded over the green turf her light step resembled that of some gentle deer, and her appearance spread sunshine wherever she went.

Her beauty, no less than her name, revealed her Saxon origin.

Osmunda was accustomed to pass her days much alone. Her father was often busy rowing wanderers to the opposite shore, or catching the fish that lived in the lake, and the fair maiden spent many hours by the side of the gleaming waters, lost in silent meditation. Or she would seek for the herbs that should serve for their evening meal.

At eve, when she descried her father's boat come gliding over the clear blue lake, the water sparkling like diamonds as the drops flashed from his dripping oars, then it would be a race between Osmunda and Wulf, the hound, which of them should first welcome Gyles at the landing-stage. A kiss for his daughter, a pat on the head for the hound, were the stakes they raced for.

Thus quietly and calmly had life flowed on for the fair girl. Since her mother's death, when she was too young to know aught of the cruel loss that had befallen her, no outward disturbance had troubled the even tenor of her existence. Day passed much the same as day; she saw few strangers, and the outer world was to her an unopened book. Nor did she wish to change her narrow sphere. So long as she had her dearly loved father by her she was happy and content.

At that time Albion was governed by the wise and good king Alfred. Osmunda had heard him spoken of as her sovereign; she had heard, too, of war, of incursions by the Danes, of plunder, bloodshed, and fire. But her ideas as to the nature of these things were indistinct. Nor did her father strive to enlighten her; he did not deem it needful she should know them better.

Thus years passed over the fair girl's head in quiet happiness. She had attained her eighteenth year, and was then in the full pride of her rare beauty.

One evening she was sitting in her favorite place among the reeds by the water's edge, waiting for the return of her father's boat. Gyles had been out fishing since the morning, and she looked to his booty for their morrow's meal.

It was some time since the waterman had rowed wanderers on their way to the market-town beyond the lake, and he began secretly to wonder if there were once more disturbances in the land that rendered traveling dangerous.

Presently the boat rounded a tall rock that jutted out far into the sea. Gyles was pulling rapidly toward the land, and as he lashed the water with his oars it splashed up merrily and glistened brightly in the setting sun. He nodded lovingly when he drew near enough to perceive his daughter's form.

"Sweet even to thee, darling," he said, as he sprang from the boat.

"Down, Wulf, down!" to the dog, who was wildly leaping up at him and barking furiously.

"See here what a haul I have had—enough to feed us for many a day to come;" and he pointed to a heap of fish that lay in one corner of his skiff. "Basket ho! Wulf," he cried to the dog, who knew the signal, and ran toward the hut, returning thence with a slight wicker-basket between his teeth.

Gyles then proceeded to fill it, and Osmunda returned to the house to set the vesper meal in readiness.

"You must be hungry, father," she said, as he entered, placing the platter of smoking fish before him.

While he ate he recounted the day's adventures; how this fish had been hard to catch, how another had escaped when he thought to land it, how a third had not been worth the trouble bestowed.

Meanwhile the girl sat busily spinning by the open door, through which the flashing, glistening lake and the wooded hill-tops were visible.

When Gyles had finished his food, and was about to rise from the table, the hut was suddenly approached by a man running at full speed toward it, who, in his haste to enter, nearly overthrew Osmunda as she sat on the threshold.

"What is it, Beowulf?" exclaimed Gyles, recognizing a friendly peasant from beyond the hills. "Speak; what is it?"

The man could not recover his breath to answer, but his looks expressed terror and despair.

"For heaven's sake, what has occurred?" Gyles asked once more.

Osmunda had risen from her wheel terror-stricken, her cheeks blanched, and her lips quivering with excitement.

"Oh, speak if you can," she cried, and hastily bethinking her, reached a horn of clear water to the stranger.

He quaffed it eagerly, and returning it to her gasped, "The Danes."

"The Danes!" echoed Gyles, and his face grew a ghastly hue. "Not near us; oh say! not near us, friend Beowulf."

"On my track. They will be hear at once. They have burnt my hut, taken my wife and children prisoners; I flee from them, and I must away. They mean you to row them across; they will not harm *you*; save your daughter.

And before either could recover from their horror, the man had disappeared once more, and was running for dear life toward the forest.

"Father," asked Osmunda, laying her hand upon his shoulder, and gazing into his terrified face, "father what must we do?"

"I must bring you into hiding," he replied. "Beowulf is right; they will not hurt me, they need my services. Come, child;" and he took her by the hand.

"Nay, father," she pleaded, "let me stay with you. They will not harm me, surely. Let us face danger together."

At that moment a party of fugitives rushed past the cottage.

"The Danes! the Danes! save yourselves," they cried.

"Nay, my child, you must go," said Gyles. His voice was faint from emotion.

Unfastening his bark from the stake to which it was bound, he seated Osmunda within, sprung in also, and took up his oars.

The sun had set, yet it was not wholly dark, and there was still light enough to distinguish objects. Gyles rowed eagerly. Osmunda sat silent, weeping bitterly. How rudely had that summer's evening been broken up!

"Where do you take me, father?" she ventured at last.

“To the island,” he said, pointing to one at a little distance. “None live there; it is overgrown with the large bracken fern; lie down among it; you will be hidden by its tall fronds. When all danger is over, I will return for you. Rest assured, none will seek you there.”

They landed. Gyles held the boat, while his daughter stepped on shore.

“Until the morning,” he said, pressing the weeping girl to his heart. “The danger cannot be longer. Go, child. There; none can see you thus for they must not perceive you as they row past. Hark—I hear a clatter as of armed men in the distance. I must away, or it may cost me my life.”

Hastily pushing his boat from the isle, he rowed back to the land as speedily as he could handle his oars. His return was not a whit too soon, for as his skiff touched the reeds, a company of Danes rode up.

“Art Gyles, the waterman?” they asked.

“The same. What is your pleasure?”

“First, to know if you have rowed peasants across just now,” demanded one, who seemed the leader.

“None,” replied Gyles.

“Upon your oath,” inquired the Dane, sternly.

“We are in search of fugitives; perchance they have bethought them of going beyond the lake. Your late return home excites our suspicions.”

“On my oath,” said Gyles. “I have rowed no peasants across the lake for more than eight days at least. Release me,” for they had seized him by the arms and held him a prisoner.

“It is well,” said the leader. “Thy face looks honest; we will believe thy word. Thou shalt take us to the opposite shore, in companies, as many as the boat will hold. There be yet a hundred men behind us. Thou dost refuse at peril of thy life.”

“To row the wanderer across the lake is my office,” replied Gyles; “I obey;” and he stepped into his boat once more.

All that night the waterman rowed between the two shores, taking over troop after troop of those fierce Danes. Untiringly he pulled his oars, that he might the sooner rid him of his unwelcome charges. Each time that he passed the fern-grown island, after landing his load, he would call out lustily, “It is well,” as a sign to his child that he still lived and was free. But when the day had broken, and he had rowed over the last company, she listened in vain for his call. She remained crouched among the bracken, for her father thus commanded, but her heart began to sicken with fear, and she longed to rise and look around her.

At last it was so long past his time to return, she could bear it no longer. Rising from her ferny bed, she approached the water's edge and surveyed the lake. It lay calm and quiet; only a swan sailing on its bosom rippled the water. No sign of a boat was visible.

Then she glanced toward her home. It looked peaceful and still, showing no sign of the wild horde that had been there so short a time before.

“Can he have forgotten to call this time? Can I have slept and not heard him? And yet I did not think to sleep.” These were the thoughts that coursed through her brain. “Then, too, he would have fetched me ere now. Oh, father! father! where *are* you?” she wailed.

No answer. The swan continued sailing proudly on, the deep blue water

reflected the sunlight and the tall gray rocks as calmly as before. Despair<sup>r</sup> seized her. What should she do?

"They could not have taken him prisoner," she thought. "Oh, surely not, after he had worked all night in their service. Even the Danes could not be so cruel as that!"

They had been, however, though she did not know it.

The hours went on, and still Osmunda stood watching for her father's skiff. She tried at last to persuade herself that Gyles must be too wearied to return for her just yet. And for all that, though she would fain have believed it, she could not.

Hunger, too, was beginning to make itself felt. There, in the fern isle, she could find no food. Once more her eyes swept the lake's lone surface, and then she took her resolution.

Casting a grateful look toward the tall green fronds that sheltered her so well, she threw herself into the water, determined to swim to shore.

"If he is at home, and ill, or in need of me, I shall know now," she said, as she pushed resolutely forward, unheeding that her strength was exhausted by a sleepless night and want of food. Her tender white arms clove the wavelets, while she held her lovely head well above the water.

At last she began to feel fatigued, but she would not yield. Throwing her last strength into the effort, she swam on boldly, and then, when even her energy could support her no longer, she touched her father's boat stake, and found herself at home.

Hurriedly she ran toward her natal hut—anxiously she pushed open the door, and it was not till she found the cottage empty that a cry of horror escaped her lips, and she sank to the ground.

She never woke to full consciousness again. The anxiety she had endured that night upon the bracken island, the exertion of her long swim, and the horror of not finding her father, were too much for her tender brain. Happily she was ignorant of the whole extent of the blow which had befallen her lot.

When, some days after, a peasant rode past and told her that the Danes were spreading devastation over the land, that they had murdered her father, notwithstanding his good services to them, she did not understand him. With a sad smile she pointed across the lake, at whose margin she would sit day by day, gazing across its fair expanse, saying, "I am waiting for his boat. It is not in sight yet."

Thus she lived on in her old home for about six months. The waterman who succeeded her father was too tender-hearted to turn the poor orphan away, and then she died. To the very end she was unconscious of all around her. Looking across the blue waters with her last glance, she murmured softly, "He is coming." But it was death, not her father, who came.

Next spring, near the spot where the waterman's fair child had loved to sit watching for her father's return, his successor espied a tall graceful plant that was new to him. It resembled a fern in its elegant outline—its leaves, too, curled upward from the ground like those of other ferns, but on its tall majestic fronds it bore a seed cluster, of a soft light brown, such as had never been seen before on any plant. Its tall, lithe form inclined toward the water, over which it seemed to bend regally, like a gracious sovereign toward her subject.

The fancy irresistibly overcame the waterman that the spirit of the fair

Saxon girl still lived within this fern ; and that as in life, so in death, she yet watched for him who could never return.

And he called the plant the Royal Osmunda, and it is called so to this day.

Wherever there is a lake, a stream, a brook, there flourish descendants of this lovely fern, and they still bend their graceful fronds toward the waters in quest of him who is gone.

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### A Remarkable Body of Water.

Prof. T. P. Stelle gives the following interesting description (in the *Am. Jour. of Microscopy*) of what he saw in the water of a lake in central Florida :

I turned my attention to the water, and was soon convinced that I had, undoubtedly, met with a phenomenon ; for it was so clear, so very transparent, that I could see through it in every direction with as much apparent ease as if it had been the atmosphere itself. Presently I saw one of the inhabitants hinted at, a little creature of a light brown color, looking, as it glided here and there through the pure element, not unlike a common chimney swallow. Then came another, and another, and another, until all the waters of the lake seemed to be thickly swarming with them. They were very busy, and very swift in their motions, darting, whirling, and angling with the greatest ease and the most charming grace ; the guide said that like birds of the air they were in quest of their prey, feeding upon animals too small to be seen by us from our standpoint.

Suddenly, while I was gazing in wonder upon these strange creatures, a new actor appeared in the person of a larger animal, about the size, shape, and color of a huge muskmelon. He was quite transparent, so much so that I could see through and through him as plainly as if he had been a glass jar ; and as he moved leisurely about, I noticed that he was catching and devouring the little "swallows" without mercy. His interior, which seemed to be a huge cavity—nothing more—was literally filled with them, some still alive and swimming about in their strange prison. The entire mass held within his gigantic stomach kept up a rapid whirling round and round in one direction, from which I inferred that that he had no regular digestive organs, but simply *wore* out his food ; that is, reduced it by friction to a proper condition for his sustenance.

Scarcely had I got fairly interested in this extraordinary animal, when along came something which looked, with its slim, arching neck, very much like a swan. Its course was so directed that ere long it was brought into contact with the "muskmelon," and a fight was the consequence. It was a short fight however, for neither party seemed to relish the business, so they separated, and struck off in opposite directions. A little distance, and the "swan" met another of its own kind, and they commenced billing and cooing like two mated doves ; but their pleasures were destined to be of short duration, for just at that instant a large and hideous looking creature with great horns and glaring eyes, pounced upon them from a covert hard by, seizing them both. A terrible struggle ensued, in the course of which one of the "swans" made its escape, but the monster gripped the other fiercely by its slender neck until it ceased to struggle, after which he settled down with it to the bottom of the lake, and very quietly began converting it into a meal.

About this time I noticed a second monster, equally as frightful in appear-

ance as the one just referred to, though evidently of a different species. He was moving along on the bottom of the lake, and, unless his course were changed, would pass very near the other. The first monster's treatment of the "swans" had made me his enemy, so I was well pleased with the turn affairs showed a prospect of taking; I desired that his banqueting should be disturbed. And it was. The new comer found him, and went in for a share of the prey. A battle, the most frightful that I had ever before witnessed between two living creatures, immediately commenced. They seized each other and rolled over and over in a real death struggle, for several minutes, in the course of which they actually tore each other limb from limb. Finally, one of them yielded up and died, after which the other, with but two legs left out of six, dragged itself slowly away. And another installment of animals, some like gigantic leeches, and others like Oriental turbans, and all effecting locomotion by stretching and pulling themselves into every conceivable shape, settled down and fell to regaling themselves upon the carcasses. They were, doubtless, the vultures of this remarkable body of water.

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### Uses of Kerosene.

An observing "school-marm writes to the *Western Rural*: "I am boarding at the hotel this week, and this is Saturday, and there is no school. I have learned many things about kerosene that I had not before dreamed of. Our landlady is very particular to fill all the lamps every morning. I asked why? 'Because,' she said, 'as the oil burns out, the space above fills with gas, which, when agitated, would be apt to explode.' Then she told me of a friend of hers who neglected to fill her lamp, and sitting up late, burned the oil nearly out; as she took it up to go to her bed-room it exploded and burnt her badly, and frightened her so she has been very nervous about her lamps ever since. While the landlady was telling me this, I noticed that she cut off only that part of the wick that was burnt soft, and each piece of wick was rolled up in a little piece of paper. What for? To kindle fires with, and if you try it you will find they will burn long enough to be a great help. A teaspoonful of fine salt to each lamp, once a week, Mrs. Sam thinks, improves the light. Further inquiry resulted in the discovery that kerosene was just the thing to take paint off those nice tin pails you buy paint in, but which are so hard to clean. Take a cloth, dip it into the oil and rub the cans; let it stand awhile; if it does not all come off, oil it again and again.

"If you treat rusty stoves or kettles in the same way, afterwards washing well in weak lye, you will find them as good as new. Kerosene is also good to clean furniture, but do not let it remain on any time, as it will dim the yarnish. A few drops on a cloth will go a great ways, and must be quickly rubbed off with a soft cloth. It will loosen dirt much quicker than water.

"Another lady in the neighborhood who uses the salt in the lamp, says it takes away the bad odor, and she thinks the oil lasts longer. Kerosene is one of the best things for a burn. Bathe the part in cold water, then dry softly without rubbing or exposing to the air, and apply the oil and bandage. Another lady tells me that all her mother's family had the diptheria, she being the worst. They could get no help. She was almost strangled with canker. Her mother became desperate and gave her a teaspoonful of kerosene as a last resort—and saved her life.



“It is said that a strip of woolen cloth is far superior for lamp wicking to that in common use; it may be cut of any length as long as it is of the proper width; it gives a more brilliant light, has less dirt, less trouble in trimming, and less liable to explode. The above information will be useful to those living in the country, who frequently have to send a considerable distance for a wick suitable for their lamp.—*Dutchess Farmer.*”

### Going on a Wolf Chase.

The evening after we passed the Irtish, a severe bouran arose. As the night advanced the wind increased. The road was filled and apparently obliterated. The yemshicks found it difficult to keep the track, and frequently descended to look for it. Each interval of search was longer than the preceding one, so that we passed considerable time in impatient waiting. About midnight we reached a station, where we were urged to rest until morning, the people declaring it unsafe to proceed. A slight lull in the storm decided us and the yemshicks to go forward; but as we set out from the station it seemed like driving into the spray at the foot of Niagara. Midway between the station, we wandered from the route, and appeared hopelessly lost, with the prospect of waiting until morning.

Just before nightfall, we saw three wolves on the steppe, pointing their sharp noses in our direction, and apparently estimating how many dinners our horses would make. Whether they took the mammoth into account I cannot say, but presume he was not considered. Wolves are numerous in all Siberia, and are not admired by the biped inhabitants. When our road seemed utterly lost, and our chances good for a bivouac in the steppe, we heard a dismal howl in a momentary lull of the wind.

“Volk,” (wolf,) said the yemshick, who was clearing away the snow near the sleigh.

Again we heard the sound, and saw the horses lift their ears uneasily.

An instant later the fury of the wind returned. The snow whirled in dense clouds, and the roaring of the tempest drowned all other sounds. Had there been fifty howling wolves within a hundred yards of us, we could have known nothing until they burst upon us through the curtain of drifting snow.

It was a time of suspense. I prepared to throw off my outer garments in case we were attacked, and roused the doctor, who had been some time asleep. At the cry of “wolf,” he was very soon awake, though he did not lose that calm serenity that always distinguished him. The yemshicks continued their search for the road, one of them keeping near the sleigh and the other walking in circles in the vicinity. Our position was not enviable.

To be served up *au naturel* to the lupine race was never my ambition, and I would have given a small sum, in cash or approved paper, for the sudden transportation to the Astor House, but with my weight and substance, all the more desirable to the wolves, a change of base was not practicable. Our only fire-arms were a shot gun and a pistol, the latter unserviceable, and packed in the doctor’s valise. Of course the wolves would first eat the horses, and reserve us for dessert. We should have felt during the preliminaries, much like those unhappy persons, in the French revolution, who were last in a batch of victims to the guillotine.

After long delay the road was discovered and as the wolves did not come we

proceeded. We listened anxiously for the renewal of their howling, but our ears did not catch the unwelcome sound. The doctor exhibited no alarm. As he was an old traveler, I concluded to follow his example and go to sleep.

In ordinary seasons wolves are not dangerous to men, though they commit more or less havoc among live stock. Sheep and pigs are their favorite prey, as they are easily captured; and do not resist. Horses and cattle are overpowered by wolves acting in packs; the hungry brutes displaying considerable strategy. A gentleman told me he once watched a dozen wolves attacking a powerful bull. Some worried him in front and secured his attention while others attempted to cut his ham strings. The effort was repeated several times, the wolves relieving each other in exposed positions. At length the bull was crippled, and the first part of the struggle gained. The wolves began to lick their chops in anticipation of a meal, and continued to worry their expected prey up to the pitch of exhaustion. The gentleman shot two of them and drove the others into the forest. He could do no more than put the bull out of his misery. On departing he looked back and saw the wolves returning to their now ready feast.

The best parts of Russia for wolf hunting are in the western governments, where there is less game and more population than in Siberia. It is in these regions that travelers are sometimes pursued by wolves, but such incidents are not frequent. It is only in the severest winters, when driven to desperation by hunger, that the wolves dare to attack men. The horses are the real objects of their pursuit; but when once a party is overtaken, the wolves make no nice distinctions, and horses and men are alike devoured. Apropos of hunting, I heard a story of thrilling character.

"It had been," said the gentleman who narrated the incident, "a severe winter in Vitebsk and Vilna. I had spent several weeks at the country residence of a friend in Vitebsk, and we heard, during the latter part of my stay, rumors of the unusual ferocity of the wolves.

One day Kanchin, my host, prepared a wolf hunt. "We shall have capital sport," said he, "for the winter has made the wolves hungry, and they will be on the alert when they hear our decoy."

We prepared a sledge, one of the common kind, made of stout withes, woven like basket work, and firmly fastened to the frame and runners. It was wide enough for both of us, and the same height all around, so that we could shoot in any direction except straight forward. We took a few furs to keep us warm, and each had a shot gun of large bore, capable of carrying a heavy load of buck shot. Rifles are not desirable weapons where one cannot take accurate aim. As a precaution, we stowed two extra guns in the bottom of the sledge.

The driver, Ivan, on learning the business before him, was evidently reluctant to go; but as a Russian servant has no choice beyond obeying his master, the man offered no objection. Three spirited horses were attached, and I heard Kanchin order that every part of the harness should be in the best condition.

We had a pig confined in a strong cage of ropes and withes, that he might last longer than if dragged by the legs. A rope ten feet long was attached to the cage and ready to be tied to the sledge.

We kept the pig in furs at the bottom of the sledge, and drove silently into the forest. The last order given by Kanchin was to open the gates of the courtyard and hang a bright lantern in front. I asked the reason of this, and he replied with a smile:

"If we should be going at full speed on our return, I don't wish to stop till we reach the middle of the yard."

As by mutual consent neither uttered a word as we drove along. We carried no bells, and there was no creaking of any part of the sledge. Ivan did not speak, but held his reins taught and allowed the horses to take their own pace. In his secure and warm covering the pig was evidently asleep. The moon and stars were perfectly unclouded, and there was no motion of anything in the forest. The road was excellent, but we did not meet or pass a single traveler. I do not believe I ever *felt* silence more forcibly than then.

The forest in that region is not dense, and on either side of the road there is a space of a hundred yards or more entirely open. The snow lay crisp and sparkling, and as the country was but slightly undulating we could frequently see long distances. The apparent movement of the trees as we drove past them caused me to fancy the woods filled with animate forms to whom the breeze gave voices that mocked us.

About eight versts from the house we reached a cross road that led deeper into the forest. "*Na prava,*" in a low voice from my companion turned us to the right into the road. Eight or ten versts further Kanchin, in the same low tone, commanded "*Stoi.*" Without a word Ivan drew harder upon his reins, and we came to a halt. At a gesture from my friend the team was turned about.

Kanchin stepped carefully from the sledge and asked me to hand him the rope attached to the cage. He tied this to the rear cross-bar, and removing his cloak told me to do the same. Getting our guns, ammunition, and ourselves in readiness, and taking our seats with our backs toward the driver, we threw out the pig and his cage and ordered Ivan to proceed.

The first cry from the pig awoke an answering howl in a dozen different directions. The horses sprang as if struck with a heavy hand, and I felt my blood chill at the dismal sound. The driver with great difficulty kept his team from breaking into a gallop.

Five minutes later, a wolf came galloping from the forest on the left side where I sat.

"Don't fire till he is quite near," said Kanchin, "we shall have no occasion to make long shots."

The wolf was distinctly visible on the clean snow, and I allowed him to approach within twenty yards. I fired and he fell. As I turned to re-load Kanchin raised his gun to shoot a wolf approaching the right of the sledge. His shot was successful, the wolf falling dead upon the snow.

I re-loaded very quickly, and when I looked up there were three wolves running toward me, while as many more were visible on Kanchin's side. My companion raised his eyes when his gun was ready and gave a start that thrilled me with horror. Ivan was immovable in his place, and holding with all his might upon the reins.

"*Poshol!*" shouted Kanchin.

The howling grew more terrific. Whatever way we looked we could see the wolves emerging from the forest;

"With their long gallop, which can tire,  
The hounds' deep hate, the hunter's fire!"

Not only behind and on either side, but away to the front, I could see their dark forms. We fired and loaded and fired again, every shot telling but not availing to stop the pursuit.

The driver did not need Kanchin's shout of "*poshol*," and the horses exerted every nerve without being urged. But with all our speed we could not outstrip the wolves that grew every moment more numerous. If we could only keep our pace we might escape; but should a horse stumble, the harness give way, or the sledge overturn, we were hopelessly lost. We threw away our furs and cloaks, keeping only our arms and ammunition. The wolves hardly paused over these things, but steadily adhered to the pursuit.

Suddenly I thought of a new danger that menaced us. I grasped Kanchin's arm, and asked how we could turn the corner into the main road. Should we attempt it at full speed, the sledge would be overturned. If we slackened our pace, the wolves would be upon us.

I felt my friend trembling in my grasp, but his voice was firm.

"When I say the word," he replied, giving me his hunting knife. "lean over and cut the rope of the decoy. That will detain them a short time. Soon as you have done so, lie down on the left side of the sledge and cling to the cords at the bottom.

Then turning to Ivan he ordered him to slacken speed a little, but only a little, at the corner, and keep the horses from running to either side as he turned. This done, Kanchin clung to the left side of the sledge, prepared to step upon its fender and counteract, if possible, our centrifugal force.

We approached the main road, and just as I discovered the open space at the crossing Kanchin shouted,—

"Strike!"

I whipped off the rope in an instant, and we left our decoy behind us. The wolves stopped, gathered densely about the prize, and began quarrelling over it. Only a few remained to tear the cage asunder. The rest, after a brief halt, continued the pursuit, but the little time they lost was of precious value to us.

We approached the dreadful turning. Kanchin placed his feet upon the fender, and fastened his hands into the net work of the sledge. I lay down in the place assigned me, and never did drowning man cling to a rope more firmly than I clung to the bottom of our vehicle. As we swept around the corner the sledge was whirled in air, turned upon its side, and only saved from complete upsetting by the position of Kanchin and myself.

Just as the sledge righted, and ran upon both runners, I heard a piercing cry. Ivan, occupied with his horses, was not able to cling like ourselves; he fell from his seat, and hardly struck the snow before the wolves were upon him. That one shriek that filled my ears was all he could utter.

The reins were trailing, but fortunately where they were not likely to be entangled. The horses needed no driver; all the whips in the world could not increase their speed. Two of our guns were lost as we turned from the by road, but the two that lay under me in the sledge were providentially saved. We fired as fast as possible into the dark mass that filled the road not twenty yards behind us. Every shot told, but the pursuit did not lag. To-day I shudder as I think of that surging mass of gray forms with eyes glistening like fire-balls, and the serrated jaws that opened as if certain of a feast.

A stern chase is proverbially a long one. If no accident happened to sledge or horses we felt certain that the wolves which followed could not overtake us.

As we approached home our horses gave signs of lagging, and the pursuing wolves came nearer. One huge beast sprang at the sledge and actually fastened his fore paws upon it. I struck him over the head with my gun and he released his hold.

A moment later I heard the barking of our dogs at the house, and as the gleam of the lantern caught my eye I fell unconscious to the bottom of the sledge. I woke an hour later and saw Kanchin pacing the floor in silence. Repeatedly I spoke to him, but he answered only in monosyllables.

The next day, a party of peasants went to look for the remains of poor Ivan. A few shreds of clothing, and the cross he wore about his neck, were all the vestiges that could be found. For three weeks I lay ill with a fever, and returned to St. Petersburg immediately on my recovery. Kanchin has lived in seclusion ever since, and both of us were gray haired within six months." \*

\* \* \* —*Overland through Asia.*

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### A Low Marriage.

Her Britannic Majesty, Queen Victoria, having supplied most of the Protestant princes of Europe with wives from her numerous collection of daughters, still found that she had a few left on her hands which she was obliged to dispose of at a cheap market. It was an unfortunate thing that so many of the sovereigns of the old world were Catholics, or adherents to the Greek Church, and that one of them was a Mohammedan. But for this circumstance all these young princesses might have married into respectable families. As the matter stands, however, one of them is going to marry beneath her. The Princess Louise is betrothed to a subject, to the great scandal of the nobility. This young man is the Marquis of Lorne, the eldest son of the Duke of Argyle. As is often the case, both in high and low life, there are many persons who think it is a match not fit to be made. The aristocracy of England are grieved that a daughter of a queen should marry beneath her. Her royal brother-in-law of Prussia, whose father has just been proclaimed Emperor of United Germany, takes exceptions to an act that is to disgrace the family. The aristocratic clergy of the established Church are not friendly to the alliance and protest against the marriage ceremony being pronounced during Lent.

As the bridegroom is poor, being heir to only a little over half of Scotland, and possessing in his own right only a manor or two in England, of course his bride must have a dowry. In order, then, to set the young couple up in comfortable shape, parliament has grudgingly voted a hundred and fifty thousand dollars for wedding dresses and the like, and has concluded to eke out the scanty sum of thirty thousand dollars a year for pin money. This gives no satisfaction to any body. The common people are indignant and bitter against the members of the House of Commons who voted for granting the dowry, and threaten never to elect them to office again. On the whole, the young couple are about to commence their wedded life under adverse circumstances, though it is hoped that by a course of rigid economy they will get along for such a time as their family remains small.—*Prairie Farmer.*

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ALLIGATORS.—The female alligator will not allow the male to approach her nest. He has a gluttonous habit of eating all the eggs, thus necessitating her laying more, which she does not like to do. So, whenever she catches him in that neighborhood, she thrashes him on general principles—he either has done mischief or intends it; at any rate he is meddling in domestic matters and deserves snubbing. I am told that it is really amusing to see the big bully stick

his tail between his legs and sneak off, the very image of a hen-pecked husband after one of these conjugal scoldings. He is not by any means a model husband; and although he takes his thrashing kindly, he revenges himself by watching until the eggs are really hatched, and then eats up as many of the causes of the family disputes as he can catch. Young alligators don't like to know their own fathers.

I have heard of but few instances where these creatures have attacked the grown man; they are fond of children, and show their attachment to the offspring of other people as they do to their own. In one instance, where a man on horseback was crossing a ford he was seized by the leg, but when his dog plunged in the alligator left his leg to take the more delicate morsel. In another instance an alligator struck at a mule pulling a cart, and bit out two spokes from one of the wheels, leaving a tooth sticking in one as a memento of the visit. He hurried off with great speed, on the lookout, I suppose, for a dentist.

Alligators like dogs, pigs, and young darkies. The dog is a special favorite. The whine of an alligator is easily mistaken for that of a puppy, and may mislead a young and inexperienced dog. A wise Florida dog will not go boldly down to the water to drink; he learns by experience after having been eaten once or twice. If the shore is open, he will draw all the alligators to one place by barking, and then scamper off to some other place where the coast is clear; or he will creep down to a moist spot, tail down, body crouched, eyes skinned, and ears up, pushing his paws before him slowly to feel the water, lapping it without noise, and then sneaking away again.

The alligator has its uses; near every house you find more or less swamp, and in every swamp more or less alligators. I heard one lady complain very much because some traveler had killed her alligator. He lived near, and killed snakes, frogs, young wildcats, and other varmints; thus he earned his board, and was consequently protected; besides this, he was useful in preventing young children in straying too far from home.

This worthy creature is very much maligned, however; every theft of cattle is laid on his slimy back, and that even when the animal is found in the woods and the entrails carefully taken out and left behind. His eyes are on the top of his head, and it is curious to see the creature swimming along with only his eyes floating above the surface. He comes ashore to sleep in the sunshine, and, paying attention to his sleep, becomes so dead to all sound that a steamboat may come alongside; then his astonishment when a bullet wakes him up, and the hurried way in which he scuffles in the water, are sometimes ludicrous.—*Lippincott's Magazine.*

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Another great cataract is said to have been discovered in South America on the Potaro, a tributary of the Essequibo river. The statement is made by a Mr. Brown, who is engaged in a geological survey in British Guiana. He reports the height of the falls to be about 900 feet.

WHY WOMEN CAN'T RUN.—The bones of the lower limbs are differently arranged in women than in men. One of the consequences of this is, that no woman can run gracefully. They run, says a witty Frenchman, as if they intended to be overtaken; or, as the boys often say, like a cow. And yet some women want to run for office!—*Ex.*

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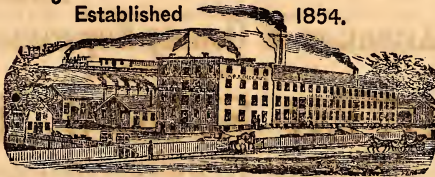
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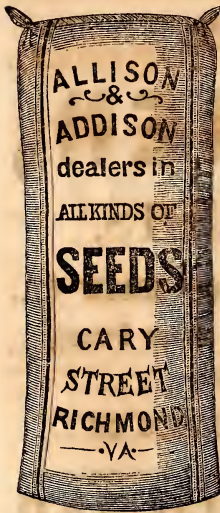
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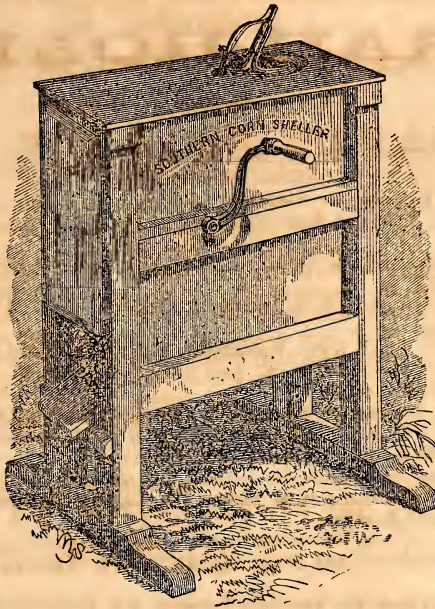
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This Sheller is made from a new set of patterns recently improved by our senior partner, and possesses some important features not adopted by any other manufacturer, and we claim that we now have the best hand Sheller for Southern corn ever made. The recent improvements effectually guard against breakages, and not one of the thousands sold since the war but what is now as perfect as when sold, and will do good work for years to come.

The attention of the Agricultural Trade is especially invited to THE SOUTHERN SHELLER as one of the most desirable implements to keep in stock. A Sheller all farmers must have, and the price of this is so low that it is in the reach of all who raise corn, while its unerring certainty of action renders it as much a pleasure to sell them, as it is a satisfaction to the farmer to buy.

Shipping weight of this Sheller 145 pounds.

## Southern Agricultural Machine Works,

1532 MAIN STREET,

H. M. SMITH & CO., Manufacturers.

dec-tf

# Orange, Alexandria and Manassas RAILROAD.

On and after FRIDAY, Nov. 18, 1870, one daily passenger train will run between WASHINGTON and LYNCHBURG, connecting at Gordonsville with the Chesapeake and Ohio Railroad to Richmond, Staunton, and the Virginia Springs; at Lynchburg for the West and Southwest, and at Washing, to the North and Northwest.

Leave Washington daily at 6:55 a. m., and Alexandria at 8:00 a. m., arriving at Lynchburg at 5:05 p. m.

Leave Lynchburg at 8:25 a. m., arrive at Alexandria at 5:25 p. m., and at Washington at 6:15 p. m.

For MANASSAS LINE leave Washington daily (excepting Sunday) at 9:55 a. m.: leave Alexandria at 11:00 a. m., pass Strasburg at 4:42 p. m., and arrive at Harrisonburg at 6:45 p. m.

Eastward, leave Harrisonburg at 6:30 a. m.; pass Strasburg at 9:28 a. m., arrive at Alexandria at 1:45 p. m., Washington at 2:35 p. m., connecting with the 2:50 p. m. train from Washington to Baltimore.

Good connections, by comfortable coaches, are made to Fairfax C. H. from Fairfax Station; to Middleburg from Plains; to Upperville from Piedmont, and to Staunton from Harrisonburg.

Both the Eastward and Westward bound trains make close connection at Strasburg with the Winchester and Strasburg Railroad to Winchester, Harper's Ferry, &c.

Elegant sleeping cars are run daily between New York and Lynchburg, without change.

Also cars through between Baltimore and Lynchburg, avoiding the inconvenience of transfer in Washington.

Through tickets and baggage checked to all prominent points.

feb—tf

J. M. BROADUS,  
General Ticket Agent.

## CHESAPEAKE AND OHIO RAILROAD.

On and after MONDAY, 5th December, 1870, the PASSENGER TRAINS will run as follows:

MAIL TRAIN will run DAILY between Richmond and Staunton (except Sunday, between Gordonsville and Staunton). Leave Richmond at 8 A. M.; arrive at Staunton at 4:28 P. M. Leave Staunton at 8:59 A. M. and arrive at Richmond at 4:50 P. M., making close connections at Gordonsville and Charlottesville with Orange, Alexandria and Manassas railroad trains for Alexandria, Washington, Baltimore, Philadelphia, New York, Boston, &c; also for Lynchburg, Knoxville, Chattanooga, Memphis, New Orleans, Montgomery, Mobile, &c. This train will run TRI-WEEKLY between Staunton and White Sulphur, on TUESDAY, THURSDAY, and SATURDAY, viz.: Leave White Sulphur at 3:30 A. M., and arrive at Staunton at 8:39 A. M.; leave Staunton at 4:33 P. M., and arrive at White Sulphur at 10 P. M.

Going West, passengers dine at Gordonsville and sup at Covington. Going East, breakfast at Staunton and dine at Gordonsville.

This train connects with stages as follows:

At Staunton for Lexington, Natural Bridge and Harrisonburg.

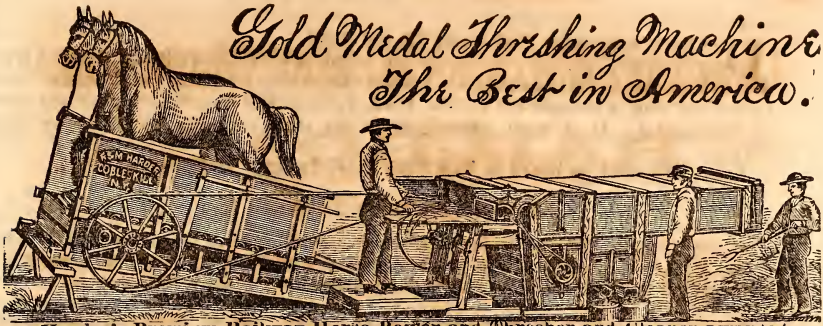
At Millboro' for Bath Alum Springs, 10 miles; and Warm Springs, 15 miles.

At White Sulphur Springs for Lewisburg, 9 miles; and Charleston, 109 miles.

THROUGH TICKETS issued to all points North, West and Southwest.

JAMES F. NETHERLAND,  
General Ticket Agent.

jan—1 t



*Gold Medal Threshing Machine  
The Best in America.*

**Harder's Premium Railway Horse Power and Thresher and Cleaner awarded  
THE TWO GRAND GOLD MEDALS**

At the Great National Trial, at Auburn, N. Y.,

For "Slow and easy movement of horses, 15 rods less than 1 1/2 miles per hour; Mechanical Construction of the very best kind; thorough and conscientious workmanship and material in every place; nothing slighted; excellent work, &c." as shown by official Report of Judges. Threshers, Separators, Fanning Mills, Wood Saws, Seed Sowers and Planters, all of the best in Market. Catalogue with price, full information, and Judges Report of Auburn Trial sent free.

Address, MINARD HARDER, Cobleskill, Schoharie Co., N. Y.

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**Fancy Fowls and Eggs.**

Having a number of superb imported FOWLS on hand, I will sell, at fair prices, pairs or trios of my celebrated BUFF, WHITE, and PARTRIDGE COCHINS, DARK BRAHMAS, that have taken the highest premiums at the New York Poultry Exhibitions, and Virginia Agricultural State Fair; LIGHT BRAHMAS, equal to any in this country; and WHITE LEGHORNS of unsurpassed beauty and purity. These Fowls may be seen at my Poultry Yards, Flushing, N. Y., where Fanciers are invited to call and examine them.

I will also furnish Eggs from the above strains, and warrant them as represented, on the receipt of *Money Orders*, at the following prices

Dark Brahmans, per dozen,	\$5 00
Light Brahmans, " "	2 50
Buff Cochins, " "	6 00
Partridge Cochins, " "	6 00
White Cochins, " "	6 00
White Leghorns, " "	2 00

I refer to the best breeders of New York for responsibility, etc.

Eggs skilfully packed, and shipped per express or otherwise, as ordered.

**G. H. LEAVITT,**

apl-1t Flushing, N. Y.

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**GREAT AUCTION SALE OF CHOICE GAYRSHIRE CATTLE.**—Being under the necessity of reducing my stock, I will sell at auction, on Wednesday, the 19th day of April, at 2 o'clock P. M., from 30 to 40 head of *Pure Bred Ayreshire Cattle*, Cows, Heifers, and Bulls, a majority of which were bred with *great care* under my own eye. The sale will take place at my farm in the city of Springfield, Mass., about one mile north of the Railroad Depot. Catalogues sent on application. I. R. PAGE, Auctioneer.

WM. BIRNIE,  
Springfield, Mass.

apl-1m

**VINEGAR,** how made in 10 hours without drugs. Particulars 10 cents.

F. SAGE,

Cromwell, Conn.

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**D**DOUBLE REFINED POUDRETTE OF THE  
 "LODI MANUFACTURING COMPANY."  
 For sale in lots to suit customers. This article is sold for HALF THE PRICE of other fertilizers, and is cheaper for Cotton, Corn, Tobacco and Vegetables, than any other in the market. It is made entirely from the night soil, offal, &c., of New York City.

Price, delivered on board in New York City, Twenty five Dollars per Ton.

*Read the following Testimonials:*

JACOB JOYNER, Esq., of Greenville, N. C., under date of Oct. 25th, 1870, says: "The Poudrette I purchased of you last spring, I used on *Corn*, and from results, I am satisfied it is the cheapest and best fertilizer we can use in this section."

DAVID W. GASKILL, of Washington, N. C., under date of Nov. 4th, 1870, says: "I used your *Double Refined Poudrette* on *Cotton* in the same way (in the drill), side by side with Peruvian Guano, the Poudrette in one row and the Guano in the next, and I pronounce it superior to the Guano. In the spring the rows where I used the Guano looked the best, but in June and July, the Poudrette showed itself, and my neighbors who have seen it pronounce it equal to Guano, and I think they will unite with me in using it another year."

JAMES R. WILDER, of Franklinton, N. C., says, in letter dated Sept. 23d, 1870: "I used the Double Refined Poudrette on *Cotton*, and it will, without a doubt, make more than a \$56 guano, which has a great reputation as a Cotton Manure. The Nitro-Phosphate I used on *Cotton*, *Sweet Potatoes* and garden truck, all of which did exceedingly well."

J. J. ROLLINS, of Pactolus, N. C., under date of October 29th, 1870, says: "I believe the *Double Refined Poudrette* and Bone Dust are all they are recommended to be. I used Poudrette on *Corn*, and although the season has been unfavorable for all kinds of fertilizers on my sandy soil, I was perfectly satisfied, and believe it the cheapest fertilizer we can use."

J. A. J. ASKEW, of Colerain, N. C., in a letter dated September 16th, 1870, says: "I let several planters have some of the 'Double Refined Poudrette.' One says he wants five tons next season to put under *Corn*. I used four tons on *Corn*, and although the season was unfavorable, it astonished every one who saw it. I think it the best fertilizer for *Corn* I ever saw."

A Pamphlet giving full directions, &c., sent on application to

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A large Handsomely Illustrated Monthly, containing 32 to 40 large Double Column pages, filled with *original* matter from the *ablest* writers in the country, on the various subjects connected with *Farming, Stock Breeding, Wool Growing, Dairying, Poultry Keeping, &c.*, bound in handsomely tinted covers. It has a *Veterinary Department* under the charge of one of the ablest Professors in the United States, who answers through the JOURNAL, *free of charge*, all questions relating to Sick, Injured, or Diseased Horses, Cattle, Sheep, Swine, or Poultry. This makes it a very valuable work for reference, and an almost indispensable companion to all interested in stock breeding. The low price at which it is published (\$1 per year) brings it within the reach of all, while the splendid inducements offered to Agents and Premiums to Subscribers make it to the interest of every Farmer and Stock Breeder to extend its circulation. Send stamp for specimen copy, large Illustrated Show Bill and Premium List. Get up a Club and obtain one of the many valuable Premiums offered, consisting of Chester White, Berkshire, Suffolk, Magie and Essex Pigs; Short-Horn, Alderney, Ayrshire and Devon Calves; Southdown, Cotswold and Merino Sheep; Cashmere Goats; pure-bred Poultry; Norway Oats; Seeds; Agricultural Implements; Pianos; Watches; Silver Ware; Books, &c., &c. Specimen Copies sent free. Address

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A Standard Fertilizer for Cotton, Tobacco, Grain, and Root crops.

Apply to our Agents in all Southern towns and cities.

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New Descriptive and Illustrated Catalogue with fine Colored Plate, ready February 1. To our customers free; to others, 10 cents.

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as an excellent medium to reach the trade of the finest Agricultural section of North Carolina. Try it. Address

PLAIN DEALER, *Wilson, N. C.*

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GOING INTO EFFECT 22<sup>d</sup> JANUARY, 1871.

**Richmond, Fredericksburg and Potomac Route**

**TO ALL POINTS, NORTH, EAST AND NORTHWEST.**

**TRAIN No. 1.**—Through Mail Train via Washington leaves the Depot, corner of Byrd and Eighth streets, daily, at 12.45 P. M. Arrives in Richmond daily at 2.20 P. M.

The Train leaving Byrd street depot at 12.45 P. M., on Mondays, Wednesdays, and Fridays, connects at Acquia Creek with the Steam r Georgeanna for Baltimore. Arrives in Richmond on Sundays, Wednesdays, and Fridays at 2.20 P. M.

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Through Tickets and Through Baggage Checks to all principal points in the North, East and Northwest.

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Apply at Company's Office, corner of Broad and Eighth streets.

J. B. GENTRY,

General Ticket and Freight Agent.

ED. T. D. MYERS, General Superintendent.

feb-1f

**To Farmers and Gardeners.**

If the Garden Seeds you use have proved fresh and true to name, stick to the man who sells them to you; he is worth encouraging. If you have not found them fresh and true, I shall be happy to add your name to those of the fifty thousand farmers and market gardeners, scattered throughout the United States and Canada, whom I annually supply with my warranted garden seeds. I raise over one hundred varieties of vegetable seed on my three farms, and, as every practical farmer and gardener knows, it is for the interest of all who plant to get their seed *directly from the grower*. I invite special attention to my Cabbage, Onion, and Squash seed. My large vegetable and flower seed Catalogue, abounding with engravings sent *free* to all.

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**WE WILL PAY AGENTS A SALARY OF \$30 PER WEEK** and expenses, or allow a large commission, to sell our new and wonderful inventions. Address M. WAGNER & CO., Marshall, Mich. mar-6t

**TO THE PUBLIC.**—Having succeeded to the business of the late T. S. W. Mott, D. D., in the sale of Japan Clover seed, (*Lespedeza striata*), we are now prepared to furnish seed of the above named plant at the following rates:

Packages from one to four ounces at \$1 per ounce, or 5 ounces for \$4. Sent by mail, postage paid, or by express to any address on receipt of price. State name in full with P. O. Address. Send orders to Dr. TATE POWELL, Catawba Station, N. C.

Agents in Richmond, ALLAN & JOHN-son, 1506 Main street. dec-6m.

**CHESTER WHITE PIGS**

Premium Improved

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FOR SALE.

Satisfaction Guaranteed.

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**WRIGHT & SEEDS,**

Breeders and Shippers, mar-3m Columbiana, Ohio.

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**THE BLANCHARD CHURN** IS IN EVERY RESPECT the best ever offered for sale. It is simple, cheap, durable. It Churns, Works, and Salts without change of Dasher or touching the hands to the Butter. Five sizes made.

**30,000 in actual use.**

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Received the Highest Premium at the N. Y. State Fair, 1870.—Enclose stamp for Circular containing full particulars. Notices and Testimonials from nearly every State in the Union. Agents in all the principal cities of the United States. Price Low.

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**SOLID STEEL SWEEPS,**  
 and SCRAPERS,  
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Iron Ox Hurdle Fence, Iron Sheep Hurdle Fence, Wire Webbing for Sheep and Poultry Yards, Iron Farm Gates, Guards for Stable Divisions, Store Fronts, Factories, &c., Tree Guards,

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**CABBAGE, ONION, SQUASH,**

I have written three works on the cultivation of these vegetables. The works abound in engravings, and go into all the minute details so valuable to the beginner—completely exhausting the subject. Each treatise sent by mail for 30 cents.

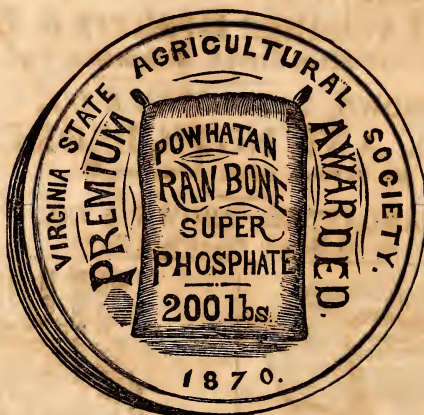
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## RAW



## BONE

# SUPERPHOSPHATE.

The above Fertilizer has now been used in Virginia for the past two years with entire success on every kind of crops. For Tobacco it has no superior, being prepared with great care, and especially for the Tobacco Plant. We publish below a few letters out of the many received:

Letter from Col. P. P. Gantt, of Albemarle County.

SCOTTSVILLE, February 21, 1871.

*Gentlemen*—In reply to your letter asking my opinion of the Powhatan Raw Bone Superphosphate, I prefer it to any Fertilizer I have ever used on Tobacco. I induced several of my neighbors to use it on their Tobacco; they were all pleased with it.

Yours truly,

P. P. GANTT.

Extract from letter from John W. Walke, M. D.

CHESTERFIELD COUNTY.

*Gentlemen*—Your Powhatan Raw Bone Superphosphate I used on Tobacco, side by side with No. 1 Peruvian Guano. The results in every particular were in favor of your Superphosphate. I have also used it on corn with entire success. The wheat on which I used it is looking remarkably well.

Respectfully,

JOHN W. WALKE, M. D.

WM. M. CABELL, Esq., of Buckingham County writes:

That his crop of Tobacco is doubled in quantity and tripled in value by its use, and prefers it to any commercial manure he has ever used.

Judge JAMES H. COX, of Chesterfield County writes:

That after measuring his wheat, has to say that our Phosphate compares favorably with any he has used, and proposes using some in the future.

We would give the opinion of many others, but think it unnecessary; but on application will take pleasure in mailing our Spring Circular to any that may favor us with their address. All orders shall have our prompt attention.

**Price \$50 Per Ton.**

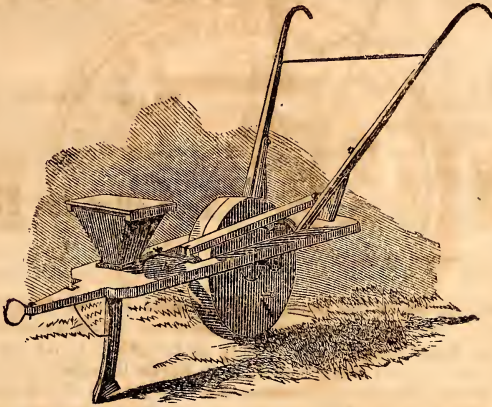
DOWNWARD, ANDERSON & CO.,

Manufacturers, 1331 Cary street, Richmond, Va.

JOHN WHANN, Sup't and Chemist.

mar—3t

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## CORN PLANTER.

We desire to call your attention to the above CORN PLANTER, which we have made and sold for many years. It is the simplest and best in use, and

**GIVES ENTIRE SATISFACTION**

to every one using it.


With it a boy with one horse can plant ten acres of corn a day. It opens the furrow, drops the corn, closes the furrow and rolls it, all in one operation, and does the work better than it can be done by hand, the dropping being perfectly accurate, and by rolling, the earth is pressed to the corn, and it germinates quicker and is less disturbed by birds. The number of grains to the hill can be regulated at will, from two to six or more. The distance apart can be regulated at twenty, thirty, or sixty inches between the hills.

We warrant the above Planter fully.

**Price \$16.**

We also make the same Planter with an excellent Guano or Fertilizing Attachment, that will drop guano or any fine fertilizer in the hill with the corn, and will not choke or clog.

**Price \$20.**

 *Liberal discount to the Trade.*

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1511 Cary street, Richmond, Va.



CROSCUP & WEST, PHIL.

# The Watt Plow,

PATENTED BY GEO. WATT,

Took all of the First Premiums

in the Plowing match of the Border Agricultural Fair at Danville, 8th November, 1867, against all the most Improved Plows, from North and South, and took premiums at the Fairs of last year (1869), as follows: 1. At the Eastern Alabama Fair, at Opelika; 2. At the State Fair of North Carolina, at Raleigh; 3. At the Border Agricultural Fair, at Danville, Va.; 4. At the South Carolina State Fair, at Columbia; 5. At the Valley Agricultural Fair, at Staunton, Va.; 6. At the Lynchburg Agricultural Fair; 7. At the Rockbridge Agricultural Fair, at Lexington, Va.; 8. Received the highest ratings at the great Field Trial in August last at the Experimental Farm of Pennsylvania, at which over fifty different patterns of Plows were tested.

During the months of October and November, 1870, the WATT PLOW has competed, in *closely contested field trials*, with the leading Plows of the United States, and has been awarded over TWENTY FIRST-CLASS PREMIUMS including Diplomas, Medals, and Silver-Plate, at the following places: Macon, Eatonton, Anderson, Thomasville, and Augusta, Georgia; Charleston and Columbia, South Carolina; Raleigh and Wilmington, North Carolina.

*At the Virginia State Fair there was no trial of Plows.*

“By their works ye shall judge them.”

Agents for the CLIMAX REAPER and MOWER, EXCELSIOR REAPER and MOWER, the best Grain Drill and the best Hay Rake and Gleaner, which we have selected as *the best*.

We sell in addition to the Implements of our own make all PLOWS and PLOW CASTINGS, and all kinds of FARM MACHINERY used in this country whether made in this city or elsewhere, and at the LOWEST PRICES of this or other markets; and we will supply all kinds of SEEDS for field or garden purposes.

## CHARLOTTESVILLE WOOLEN MILLS.

These celebrated Mills are now Prepared to offer to the trade a superior line of

### WOOLEN GOODS

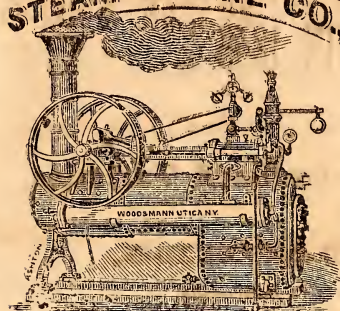
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Samples mailed merchants on application. Please address,

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H. C. MARCHANT, Sup't.

**WOOD & MANN  
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**STEAM ENGINES,**

From 4 to 500 Horse Power.

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PORTABLE ENGINES, &c.

**BOILERS**

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We have the best and most complete assortment of Steam Engines and Boilers and Saw Mills to be found in the country. We have over 2,000 Engines in operation, and they are considered by experts, to be superior to any in the market. The great amount of Boiler room, fire surface and cylinder area, which we give to the rated horse power make our Engines the most powerful and cheapest in use.

Our Saw Mills and Engine outfit combined is complete in every respect, and stands unrivaled.

SEND FOR CIRCULAR AND PRICE LIST.

**WOOD & MANN, Steam Engine Co.,**

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apl-3m

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**FURTHER REDUCTION IN PRICES.**

**ALLISON & ADDISON**

Offer Soluble Pacific Guano, (\$54 per ton,) Flour of Raw Bone, (\$60 per ton,) No. 1 Peruvian Guano, (Market Price,) Whann's Raw Bone Super-phosphate, (\$54 per ton,) Ground Plaster, (Market Price,) Agricultural Salt and Lime, for

**TOBACCO AND CORN,**

AND FOR

**TOP-DRESSING WHEAT and GRASS.**

Refer to the Farmers and Planters of Virginia and North Carolina, most of whom have had some experience with the use of our Fertilizers.

*Orders solicited, which shall receive prompt attention, whether by letter or in person.*

**ALLISON & ADDISON,**

apl-2m

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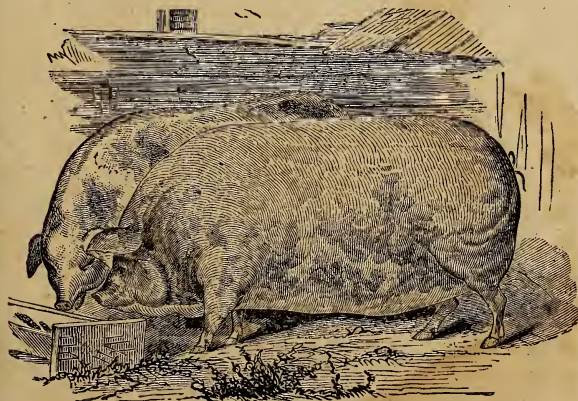
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