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FRANK: G. RUFFIN, EDITOR.

THE SOUTHERN PLANTER.



DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND THE

HOUSEHOLD ARTS.

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THE SOUTHERN PLANTER



Devoted to Agriculture, Horticulture, and the Household Arts.

Agriculture is the nursing mother of the Arts. Tillage and Pasturage are the two breasts of the State.—*Xenophon.* *Sully.*

FRANK. G. RUFFIN, EDITOR.

AUGUST & WILLIAMS, PROP'RS.

VOL. XVIII.

RICHMOND, VA., JULY, 1858.

NO. 7.

From the Canadian Agriculturist.

Laying Farm-Yard Dung on Clay Fallows for Wheat.

The preparation of clay lands for a succession of crops by the process of summer fallowing, which pulverizes the soil and removes all weeds and stones, reaches the condition of receiving farm-yard dung for manure in the end of August or during the month of September. Early operations are the most effectual, and the best performances get the land ready in August for the reception of lime and dung. The first article, in a pulverized condition, is spread evenly over the land, and harrowed into the ground by a double tine of the common-purpose harrows. The farm-yard is laid in small heaps on the land, spread by the hand-forks evenly over the surface of the ground, and covered by one furrow of the plough. The dung may be carried in the fresh condition from the cattle yards, being the production of the latest store cattle, and from the soiling beasts that consume the green food, or it may have been placed in a heap on the field of land from the month of March to the time of use, and will have reached a partially, if not a half-rotten condition, when it is spread over the ground in August. The lumps of dung will often not be covered by the plough, and lie on the surface, being pushed before the coulter, and not falling into the bottom of the furrow. A lad or woman with a hand-fork follows the plough, and throws the pieces of dung into the

hollows, where they are covered immediately by the next furrow of ploughing. This provision is made against the loss by evaporation from exposure of dung on the surface of the ground; but the theory of loss from exposure does not yet hold a confirmed dominion among undoubted facts.

The common plough opens drills with one furrow at convenient distances for green crops, and on light soils the dung is well covered by one furrow of earth being laid over it. Clay lands for wheat are drilled in the same way by one furrow, the dung is spread along the hollows, and covered by splitting the ridglets with the plough. In this way the plough opens a drill in going the length of the field, and in returning covers a drill of dung by reversing the furrow. This mode covers the dung very completely, and exhibits the field in the form of drills; not highly raised, or widely formed, as for green crops, but flatly done, and executed for the sole purpose of covering the dung from exposure. A cross harrowing is required to level the ground when the land is seed-furrowed in October. The two drillings of one furrow are less labour than one ploughing, and cover the dung much better. Even the harrowing that is required before the seed-furrow, does not raise the expense to an equality with the ploughing of the dung into the ground.

The wet nature of moist clay lands prevents the carting of dung on the surface in October, and consequently, the manure must be applied at an earlier period, and the land ploughed again for the sowing of seed. Cases occur

when the dung is applied in October; but chiefly on the grattans of beans and peas, and on some few clay lands of the driest nature. Few wheat soils admit the application of dung in October, unless the modern system of frequent draining has produced a dry condition to bear the necessary cartage. Consequently the dung is covered by ploughing in August, or in early September, and a seed-furrowing is done for sowing the seed in October.

The hitherto refrigeration of our globe from a state of expired combustion in a fiery mass, renders necessary the use of decomposing bodies as manures, to afford by decay the caloric to vegetables, and raise the temperature of the ground, and also to place bodies in quantity together in the ultimate elements at insensible distances, in order to produce the same results of caloric and temperature, by the mutual action of fusion and attrition. Hence there arises a most important consideration in what way, mode, or manner the articles of manure are to be applied, in order to afford caloric to the plants and temperature to the soil in the largest and most effectual manner that is possible. Farm-yard dung buried in the cold clay ground can excite little action to raise the temperature of the soil—the quantity is too small to overcome the opposing resistance of clay and cold moisture, and the benefit is corresponding. Manure laid on the surface of the ground affords caloric in two ways; by sheltering from cold the vegetable growth, and by the residual decomposition of the substances sinking into and mixing with the surface of the ground, and producing the usual effect of mixture and combination. Farm-yard dung will be best laid on young wheats as a top-dressing in February and March, by means of timber railways placed on the ground at regular distances, and moved to the required positions. On this railway there runs a light iron four-wheeled wagon, which receives the dung from the carts at the end of the field, conveys it along the railway, and the dung is thrown from it on each side over the land in the quantity allowed, and to the distance that is convenient to the strength of a farm. The dung is immediately spread over the surface of the ground, and most carefully broken into small pieces, in order to cover every inch of ground for the purpose of a close protection. This performance must be very carefully executed, as the effect mainly depends on its disposition. The vicissitudes of the weather in suns, rains, winds, frosts, and thaws, will destroy the matters of the dung, and exert a joint effect on the surface of the ground. In the usual dry season of sowing grass-seeds, the land is well harrowed, in order to mix the light alluvium with the remains of the dung, which will produce a most choice bed for the grass-seeds that are sown upon it, and pressed into a covering by an iron roll not less than a ton in weight. The harrowing produces an alluvium top-dressing for the wheat

that exerts a most wonderful effect on its growth and is regularly done in Poland as a part of wheat farming. The mixture of the dung with the fine earth in the present mode, raises a bed for the grass-seeds that is not equalled in any other way, and the heavy roll presses all matters together with the wheat plant almost invisible among the raised and compressed earth of the surface. The growth is quick and rapid from this bed of favourable competition, and surprises every observation and experience; the grass-seeds are delighted in the matrix of a most intimate comminution of soil that is so essential to their nature, and which is not obtained from the stale surface of a turn-sown wheat, and manured at that time. This advantage to the grass-seeds is very large and along with the superior benefit to the wheat crop, constitutes a mode of applying farm-yard dung that is much beyond the value of the common way during late summer or early autumn, which prevents the full action of the manure, by denying the opportunities that are necessary for the full development of its power. The cold of winter follows the winter application, the increasing warmth of the returning sun attends the use of the dung in the early spring.

It has happened to the writer of this essay to have had a very extensive and largely varied experience in practical farming, both on turn-sown lands and clay soils; and the length of the practice gave many opportunities of observation and experience. The prepared heap of farm-yard dung having failed to complete the manuring of a field of clay fallow in the end of August, a quantity of fresh dung from the stable door was applied to cover the remnants of the ground, and it was strawy and rough beyond the power of being covered by the plough, consisting of dry straws, and dry feces of the horse. The dung lay exposed till October when the land was seed-furrowed, and sown with wheat; the matters were better covered then than by the summer furrow, while the harrowing pulled into pieces, and spread the dung over the surface. In winter the ground was pretty well covered with fragments of dung, among which the wheat soon evinced a superiority that continued very visible till harvest and the crop was larger and thicker on the ground. The grass-seeds being sown in April the advantages are derived that have been mentioned, as arising from laying the dung on the surface of the ground. This casual experience confirmed the mode now recommended of applying farm-yard dung, and it destroyed in no small degree the theory of damage to farm-yard dung by evaporation from exposure. This theory has been very justly doubted though conviction requires a length of time to be entertained. There is also called in question the fermentation of dung in heaps, and the fresh condition showed greater, at least equal results.



THE SOUTHERN PLANTER.

RICHMOND, VIRGINIA.

Valedictory.

Prompted by a variety of reasons which are altogether private, and which therefore need not be recited, I have sold my interest in the Southern Planter, and at the same time have resigned its editorial chair to another. I have not been unmindful of the character of the paper or the interests of its subscribers in my successor, DR. JAMES E. WILLIAMS of Henrico county, a farmer, a man of industry and intelligence, and a gentleman of great suavity of manners and genuine kindness of heart. His purpose, as will be more fully announced by himself at the proper time, is to edit the Planter with diligence and fidelity to those who sustain it. I believe he will do it well also, in some respects, if not in all, better than I have done it. He assumes the duties of the place on the first of August, and I bespeak for him the support of all my friends.

It is natural that I should feel regret at dissolving the relations which I have held towards the agricultural public of Virginia for the last eight years, and proper that I should express it. In all that time I cannot hope to have escaped censure, if indeed I have been worth censuring; nor to have pleased every body, which, to say truth, I have preferred not to do. But whether from the kindness of my friends, or the generally proper discharge of my own duties, or from both together, I have the consolation to believe that I have had my full meed of approbation, if not more than I deserve. Under such circumstances it were ungracious not to say that I had much pleasure in editing the Southern Planter. It has placed me in closer contact with old friends, and has made me acquainted with some of the noblest men of the State, and a few out of it; and thus has produced cherished intimacies with some whom otherwise I should have known but slightly if at all

In the pleasure and improvement thus derived I have had a full reward for any time or trouble I may have expended on the Planter, to say nothing of the satisfaction I have experienced in enlarging the circle of my general acquaintance, and in the reception of the hospitalities which have always been tendered me whithersoever I have gone. Such pleasures can but remain with me, often to be recalled, for they are graven upon the tablet of grateful memory to have their end when I have mine.

I do not propose never again to enter the columns of the Planter, I presume I could not keep out of them if I would. At such times, then, as I may feel prompted by the spirit of the past, possibly too often for usefulness to others or profit to myself, I shall contribute to the Planter. And therefore I need not now utter that painful word, Farewell.

FRANK G. RUFFIN.

Summer Hill, Chesterfield Co., June 1858.

The New Tobacco Exchange in Richmond.

THE TOBACCO QUESTION.

Meeting of Tobacco Planters in Prince Edward.

At a regular meeting of the Bush and Briery Agricultural Club, held at the residence of John A. Scott, Esq., on Saturday, the 22nd May, 1858, the following preamble and resolutions were unanimously adopted, viz:

This Club apprehending that the establishment of a "Tobacco Exchange" in the city of Richmond is calculated to result in the transfer of the sale of all tobacco carried to that market, from the hands of the planter to the commission merchant, do resolve:

1st. That whilst we may use our commission merchants as agents for the sale of our produce, *at our own option*, we will not be compelled to resort to their agency against our will; and that we will resist such compulsion by every means in our power; and call upon our brethren throughout the tobacco growing region of Virginia to unite with us in this effort.

2nd. That a Committee be appointed to collect and report to the next meeting of this club, all the information in their power in regard to the establishment, management and probable effect (upon the planting interest) of the Tobacco Exchange in the City of Richmond; and particularly to ascertain whether and upon what terms the planters may sell at said Exchange.

3d. That the same Committee be directed to correspond with the agricultural clubs in the neighboring counties, and solicit some concert of action in resisting this violation of the long and well established usage of the country, and

invasion of the rights of the planter—by attempting to remove the sale of the great staple of the country, from the places appointed by law for its inspection and sale, to a self-constituted Board of Merchants.

4th. That we invite the attention of the planting community generally to this subject of common interest, and solicit of "The Virginia State Agricultural Society" such co-operation as will tend to the maintenance of the present system, which has existed and operated well from the foundation of the Government; by which every planter may be his own merchant; sell his own produce at the Warehouses established by law for inspection, with no other agency and at no other costs than such as the laws of the State have provided for his convenience and protection.

5th. That we respectfully request of the Editors of the Southern Planter, the Richmond, Petersburg, Lynchburg, Farmville, Danville, Fredericksburg and Charlottesville papers, generally, to publish these resolutions.

The following Committee was appointed under the second resolution, viz: A. D. Dickinson, F. P. Wood, John A. Scott, P. H. Jackson and Branch J. Worsham.

A Copy.

A. D. DICKINSON,
Secretary of the B. & B. Club.

Recently the merchants and manufacturers in Richmond, who deal in tobacco, complaining of certain grievances and certain inconveniences resulting from the customary mode of selling and buying this important staple, established an *Exchange*, or place of meeting, separate and apart from any of the warehouses, for the purchase and sale of this commodity.

This reform, operating certain changes in the mode of business heretofore pursued in regard to the sale of tobacco, has been made the subject of complaint by some parties, chief among whom are most of the Inspectors and some highly intelligent and liberal-minded Planters. Among these latter are certain friends of ours who, constituting an agricultural club, have brought its quasi official character to bear on this question by the adoption of a series of remonstrant resolutions. We publish those resolutions at the head of this article, not less from a desire to show all possible consideration to such worthy gentlemen, than because we mean to answer them, and think it but fair to let them speak for themselves in advance of our reply.

Taking advantage of the opportunity afforded us by the request to publish these proceedings, we propose to examine this subject, and to

prove that the merchants are altogether right in this movement, exercising nothing more than their own undoubted privileges, without the slightest "invasion of the rights of the Planter," and pursuing, from whatever motive the course of an enlightened and intelligent commercial spirit, whereby they confer a benefit on the very persons whose interests they are assumed to be assailing.

To understand the question we must go behind the present controversy, and glance at the course of the trade in tobacco; and in doing so we shall notice incidentally some objections brought by the Inspectors, or a portion of them, to this reform.

By the present law of Virginia, all tobacco previous to sale must be stored in one of certain warehouses which are provided at State cost for its reception. Over these warehouses the State has control, and there subject the tobacco to certain examinations and charges. In each warehouse are one or more Inspectors, with certain definite duties enjoined on them. These duties are two-fold: 1st. To inspect the condition and quality of the tobacco, and to mark it on a sample taken from the hogshead, and in part on the hogshead itself. 2nd. To attend to the weighing of the tobacco, so as to give the precise quantity to the seller. Of these duties the last, as being merely mechanical and a public convenience, may be tolerated, if the charges therefor be not too high. The first, or the inspection of quality and condition, is ridiculous folly. Whether an Inspector mark REFUSED, *i. e.* bad, or not, on a hogshead of tobacco, makes not one cent's difference in the price. The purchaser judges of its quality for himself, and his opinion and that of competitors, influenced by the specific demand, fixes the price. Every planter knows this, and therefore knows that his payment of the Inspector's fees, for inspection of quality, is a mere gratuity to political patronage, a tax on him for the support of a pernicious principle. This inspection of quality is indeed a barbarous remnant of a barbarous policy, that which attempted to secure a monopoly of the tobacco trade by burning all except the good tobacco, for which purpose every crop was required to be brought to a public warehouse where its quality might be ascertained. It ought at once to be abolished, as being alike a nuisance and a nonsense.

But for the support of these officials certain charges are levied on the community and on the individual; and apprehensions have been expressed that they will be increased to compensate the inspectors at Richmond, who, by the establishment of the Tobacco Exchange, are like to lose other perquisites whose legality is doubted by some, whilst the policy of allowing them is questioned by a still larger number.

The present charges are as follows:

For Inspector's salary in the city of Richmond, \$360.

On each hogshead, or cask, inspected by them, for opening, inspecting, coopering up, furnishing nails, marking and weighing it, fifty cents.

For each hogshead or cask delivered out of their warehouse, twenty-five cents; and for coopering up a bad hogshead seventeen cents.

For small hogsheads and for loose tobacco, less than five hundred pounds, half the above amounts.—*Code of Virginia*, pp. 408, 409.

In addition to this the inspectors receive twelve and a half cents on each hogshead sold by them as public criers, and one dollar on each hogshead sold by them "as crier or agent" of the planter. It is these latter charges which it is supposed the establishment of an Exchange will cause an inspector to lose, and which must be compensated to him by an increase of the other items of charge we have stated.

Supposing an inspector to lose these, and supposing his present services to be worth paying for, let us look at his present compensation to ascertain if there be any necessity for increasing it. As one of the inspectors of Shoekoe warehouse has been most conspicuous in opposition to the new movement, he must allow us, with a disclaimer of any feeling of hostility to him, with whom, indeed, we are happy to have very cordial relations, to select that warehouse in illustration of the fees of an Inspector's office. At that warehouse, as at all others in Richmond, are two inspectors. There are inspected there annually about 16,000 hogsheads of tobacco. At seventy-five cents per hogshead, the charge for inspection and delivery will be just twelve thousand dollars: the charges on loose tobacco are believed to be

not less than the half of that amount, or six thousand dollars.

At 75 cents per hogshead, the charge for inspection and delivery, is	\$12,000
On loose tobacco, believed to half the above,	6,000
Add Inspectors' salary, \$360 for each,	720
	\$18,720

Reliable business men engaged in this trade informed us more than two years ago that the inspectors, assisted by two active clerks at a salary of \$1,000 each, and fifteen active hands for coopering, sampling, &c., at a yearly charge of \$250 each, for hire and maintenance, would do all the work at this warehouse, the most extensive, and, until recently, the most popular in the State. This foots up \$5,750, which deducted from fees and salary as above, leaves \$12,970 for both inspectors, or \$6,485 as the salary of each.

We make no war upon the inspectors personally, in our hostility to the system they represent, nor will we do them intentional injustice. If, therefore, they feel disposed to correct these statements by producing the authentic items of their salaries, we shall cheerfully admit their correction. But we shall hold to our own statement in regard to the necessary, not the actual, expenses of inspection until they are disproved, because we have our estimates from disinterested gentlemen, not removed or displaced inspectors, who have an unquestionable acquaintance with all the details of the tobacco trade. If, then, their statements be reliable, there is no danger that the new system will produce any increase on the present charges on tobacco, or any other risk than a possible loss of the services of some of the present inspectors, by resignation, with the probability that their places will be greedily sought by others with as good capacity for the business in hand. For we may rely on it that six thousand dollars per annum will not go a begging in the State of Virginia.

The resolutions of our much respected friends of the Bush and Briery Club, assume that this movement of the commission merchant invades "the rights of the Planter." We respectfully ask, how? There are two classes of commission merchants engaged in selling tobacco in the State, to wit: the regular factor who sells at public outcry or by private contract for a

commission of 2½ per cent., and the inspector, who in his character of "crier," or "agent," sells at auction at his own warehouse, where, and by which mode alone, he can sell, for a fixed compensation of a dollar the hogshead. (We shall not stop to prove that the inspector is a commission merchant, for we presume no one will dispute so clear a fact.) Of these two classes, the regular factor has for his principals all the advantages of the market; but the inspector and "crier," or "agent," though he has great advantages for himself, has for his principals only the privilege of one mode of sale. The planter chooses between them for himself, and under a doubtful construction of a most impolitic law he elects—say—to sell through the inspector. The merchants make no complaint of the planter for so doing, but impelled by certain considerations publicly set forth, of their own motion and at the suggestion of buyers of all classes, they project certain alterations in their mode of dealing. To carry out these alterations they rent a house, adopt rules, and appoint an auctioneer. Now this may, or may not, be very unwise, but whose "rights" have they invaded? or what more have they done than assert certain privileges of their own? True, they disregard those interests which it is not their duty to protect, that is, the interest of the inspector's customers. But what code of moral obligation, or what legal enactment compels men to protect interests not entrusted to them, or to respect "a long and well established usage," when they believe it disadvantageous to the interests of those they represent. As they live by attending to other people's business, and as there is an active competition among them, it is but just to them, because true to human nature, to suppose that they consult their own interests in studying the interests of those who employ them; they have nothing to do with the interests of those who do not employ them. If a planter sends his tobacco to an inspector, and a competing merchant can obtain for his principal a better price and a speedier sale than the inspector can get for his, he is right to do it; and he should be encouraged to do it because it will tend to raise the price of tobacco. The charge that his means of doing this invade the rights of others who seek a different mode of sale, is itself an invasion of his and every man's rights, because

it is a blow, not so meant, but still a blow at freedom of trade, of action and opinion; whilst to assume that their proceeding will reduce the price of tobacco is but to argue, either that they are aiming to reduce their own profits, or that they do not understand their own business, which, on the contrary, is better understood by a class who were never engaged in it themselves, and therefore can never have known much about it.

But our friends may contend, to use the phraseology of their resolutions, that this proceeding of the merchants invades the rights of Planters by "removing the sale of the great staple of the country from the place appointed by law for its sale." We will answer that argument, if we can, when they show that the law ever has appointed a place where, and where only, tobacco shall be sold: and when that law is cited we shall prove that it is of the very essence of tyranny.

But what is the overt act in this invasion of rights? There were three tobacco warehouses in the city of Richmond until the exigencies of a rapidly increasing trade, which very fact proves that Richmond is the best market, or that people are fools, demanded a fourth; and it was last winter established by a law, unanimously enacted. There had been always previously a conflict of "sales," and this was increased by this new establishment; neither factor, buyer, nor manufacturer could attend all the "sales," and it was most inconvenient and laborious to them to attend the breaks; these sales were not only made at four different warehouses, sometimes at the same hour, but at the merchant's counter, on the street, any where. Obviously, as great inconveniences attended such an irregular mode of doing business, as if a man in the country, who was selling out, had to seek a purchaser for each separate article instead of including the whole of them in a sale of personal property. Four large warehouses made rather a large area for an exchange, to say nothing of offices and streets. To curtail it within reasonable limits, a room has been obtained of moderate and suitable dimensions, within which the samples of tobacco are collected, and around them the sellers and buyers. About half the day's offerings or more being disposed of privately, and most probably the whole having been the subject of

negotiation, the balance is either withdrawn from market for the time or set up at public auction to be cried by a man who is bound not to sell in any other way, and not to collect at all, his charge being 12½ cents per hogshead. If the planter prefer to sell by auction, a very small fee, 12½ cents only, entitles him to do so, the auctioneer taking charge of his samples at the warehouse, and producing them at the sale. Comparing this new system with the old, it would seem upon its face to present just the difference that there would be in the country between a sale at the house and a sale all over the plantation, saving time and labour to all parties, and increasing competition by the facilities offered to buyers. It certainly is no new thing. All over the world, where there is enough of a given commodity to sell, the necessities of trade have caused the establishment of just such institutions; and it is a shame, simply a shame to the merchants of Richmond that they have not established a tobacco and a corn exchange long years ago.

But our friends of the Bush & Briery Club see in this movement an effort to compel the Planter to sell through a merchant rather than by the cheaper agency of an inspector. This is a grave charge, involving not only the sincerity of their declarations, but the purity of their motives; and it is a charge which leaves out of view altogether the fact that the buyers, who, as a class, number as many as the commission merchants, have been as decided in their advocacy, and as prompt in their adoption, of the reform, as the merchants themselves. The following statement of the causes which induced the establishment of the Tobacco Exchange has been published to the world:

"Whereas, the experience of a few years past has produced the opinion generally with the tobacco dealers of the city of Richmond, that the increased facilities afforded to the farmers and planters of Virginia and North Carolina for the transportation of their produce to market, has induced them to send to this market a larger proportion of the tobacco crop than in former years; and whereas the great demand created by the large number of tobacco manufacturers of this city, and shippers who receive the principal orders, foreign and domestic, for the purchase of tobacco, makes it to the interest of planters generally to prefer the Richmond market, and therefore is most likely to induce hither a still larger proportion of the crop; and whereas the large and increasing

trade in this branch of business has been attended with great inconvenience, if not to all, at least to the greater number engaged in it, and is now found to be almost impracticable with any degree of convenience and satisfaction to those of us to continue the old system of attending the daily sales of tobacco at three or more warehouses located at distant points of the city; and whereas it is deemed desirable to afford the amplest facility to the trade at large, and believing that the interest of buyers and sellers will be greatly subserved in the economy of time as well as conduce to the convenience and comfort to all alike; It is, therefore, recommended that a suitable central and commodious room be procured for the purpose of concentrating and conducting the regular daily sales of tobacco, both privately and publicly, in lieu of the former custom of sales at the different inspection warehouses of this city. And whereas it has always been found conducive to the best interest of the trade that it should be conducted in accordance with such regulations as would best tend to protect the interest of all, secure unity of sentiment and action, and insure equality and fairness alike to all: Therefore, it is recommended that the following regulations be adopted by the trade."

This statement, which distinctly asserts certain facts as the cause of their action, was endorsed by the whole trade with a very few exceptions: men of antagonistic interests, but familiar with the subject, agreed to their truth. Now by what logic can it be contended that they are put forth in bad faith by one party only? Or upon what principle of human nature can it be shewn that two other parties, to wit: the speculators and the manufacturers, whose interests lie together in another direction, have volunteered in a conspiracy to compel the planter to pay commissions on his sales? What motive could influence *them* to such a course?

The assertion is simply that Richmond is the best market in the State; and statistics prove that there is more tobacco sold here than at all other points put together, and that the quantity is increasing: of course more buyers concentrate here. There is then an inducement, independent of sinister motives, to improve the cumbrous machinery of the trade; and the attempt is made to do it in conformity with the precedents of other Emporia. The question then is whether Richmond is ready to imitate their example; and in all such questions the first motive of commerce is policy; as it is the only motive which the public cares to consider,

for be its intents wicked or charitable, the public looks only to results.

But concede that this motive of compulsion actuates the merchant; he now sells three fourths of the tobacco, and wants the rest. But as by the argument of the Bush and Briery Club, he lowers the price of the whole, and therefore must drive a part elsewhere, he is adopting a policy which gives him but few more, if any additional customers, and less commissions out of those he keeps. Their argument then would not only convict the merchants of trickery, but of folly in that business which has been the study of their lives.

Of other objections to the new arrangement we can recall but one that we deem worthy of notice, and that is that the buyers cannot now see the tobacco as it is broke; to which the answer is that except to a certain extent we believe they never did see it. This morning, for instance, June 16th, the breaks commenced at Public Warehouse at 6½ o'clock, A. M. We would like to know how many buyers had shaved themselves by that hour. When several hundred hogshead are broke each day, it is an impossibility for one man, or one house to witness the breaks, however desirable it may be; and as the trade increases, if it shall increase, it will be still more beyond their ability to do it. We do not believe it is necessary, but if it be, it is either a reflection on the Planter's skill, or a stigma on his integrity, which, be it one or both, we would advise him to remove with all possible dispatch. If it be indispensable to watch them, it can be done for the future as it has been done in the past, by agents whom the buyers keep in their pay for that purpose.

One other point, and we have done. The inspector's duties are either worthless or valuable; and they are laborious if he discharges them. If they are worthless, then the office is a tax, and ought to be abolished. If they are valuable, then they ought to be discharged: and any employment of an Inspector's time which will interfere with their discharge is "an invasion of the rights of the Planter." Now our friends of the Bush and Briery Club think "the present system" of inspections "has operated well from the foundation of the government." But at the same time they do all in their power to impede it,

and advocate a policy, to wit: the encouragement of sales by the inspector, which would defeat it altogether. In his speech at the "meeting of the tobacco merchants" on the 22nd of May last, Mr. McDearmon said "he and his brother Inspectors represented at least one fourth of the Planters who send their tobacco to this market." One fourth of his own inspections is at least four thousand hogsheads, and he probably sells five thousand, to say nothing of loose tobacco, equal to at least one thousand more. Now six thousand hogsheads is the maximum sales of the largest commission house in Richmond, and it takes more than half the time of that firm, and the services of several clerks, to attend to the business. Can the Inspector do the same amount of work and attend to his own official duties besides? He cannot. Is not this then an offer of five thousand dollars to him to neglect his legitimate business?

But our friends of Bush and Briery invade not less the rights of the merchants, who ought to have some rights in another way. An Inspector is an officer of the law, sworn to decide impartially between certain parties. But they make him one of those parties, and give him interests which destroy, or tend to destroy, his impartiality, and to that extent destroy his usefulness; they make him a factor for a fixed compensation, and therefore a commission merchant, not only against the very policy which created his office, but in evasion of the Revenue laws of the State, which require a merchant to pay a tax on a license to trade. He trades but pays no tax: and this is not only an invasion but an outrage on the rights of others. If he be within the letter of the law, the law is a blot upon the statute book; if he be without the letter of the law, our friends encourage him to break or evade it. Our friends then of Bush and Briery hold this alternative, either that a useless office shall be continued that they may have the advantage of sales at less than the regular commissions, or that they shall have for a small consideration the benefit of services already pledged to the public for a very large one.

Of the policy of the Inspection laws we have nothing to say; nor of the mode in which the Inspectors discharge their duties. We have on a previous occasion spoken fully on the first,

and have laboured to have these laws repealed or modified. On the last we have nothing to say. We have no charges to bring against the Inspectors, and our paper is not the tribunal before which we would arraign them if we had.

We have not even supposed a case of misdemeanor in office lest we should be thought to insinuate a charge. Having the honour to be on the best terms with such of them as we have the pleasure to know, we have sought to argue this matter as much as possible on principle; to show impolicy, not impropriety; undue privileges, and not undue advantages; and if they or any one else wish to reply, we shall cheerfully accord them a place in the columns of the Planter. We have argued it because it was an important commercial question touching the interests of agriculture.

In conclusion we have to congratulate that large majority of Planters who acquiesce in, or approve, the reform, on its complete success.

White and Red Wheat.

Let us ask a question or so of the city millers.

When white wheat was worth two dollars a bushel, the price of red wheat was ten cents less. This was a discrimination of 5 per cent. against red wheat. Now when white wheat is worth one dollar and a quarter, why do the millers maintain a discrimination of the same amount per bushel, when the rate is advanced thereby to 8 per cent? And when wheat comes down to one dollar, if it ever does, do they mean to advance the discrimination to 10 per cent? Can it be possible that the relative quality of red wheat depreciates more rapidly than white?

We know it is said that the purpose is to encourage the growth of white wheat, which is now furnished in too small quantity. But, 1st. The discrimination has not corrected the alleged evil, for, as we learn from a city miller, there was rather more red wheat in the market the past season than there was the season before. 2nd. Every commission merchant knows that frequently there is more enquiry for red than for white wheat, red being wanted for mixing, and white being refused. 3d. We can hardly suspect as intelligent gentlemen as the millers of Richmond of so absurd a purpose. We say absurd, because it assumes that the

millers know better than the farmer, what kind of wheat his land will grow best, and mulet him, if he follow his own experience, from 5 to 10 per cent. according to a sliding scale, which slides the wrong way. If a farmer finds, as nine-tenths of them do, that red wheat is earlier and hardier, and therefore safer, than white wheat, he will raise it if left to himself. If discrimination induces him to attempt the more desirable but more delicate variety, then the miller has made him risk the production of wheat inferior both in quantity and sample. Now it is conceded that red wheat, from its thicker bran, does not make as saleable a flour, though really a stronger one, as white wheat, and that the difference is about 5 per cent. But we all know that quality and quantity is much more important to the market than mere variety.

If this be true, then it is plain that the present regulation injures both parties: if it be untrue, we should be glad to know it. One thing we venture to predict in confirmation of this view, and we appeal to all who may choose to testify: in the present season, when the fly, chinch-bug and joint-worm have been ravaging the crop, and rust, already apparent in some districts, threatens to sweep the State, the red wheat will yield better in quantity and sample than the white.

We know the millers may answer that the argument proves the correctness of a high discrimination, and that the farmer ought to be encouraged by a bounty on white wheat. But 1st. If so, the bounty ought to be uniform and not fluctuating; the standard ought to be the rule—red wheat—and not the exception—white wheat; so that there should really be a rise on the white wheat and not a fall on the red. And 2nd. Theirs would be a good answer if the white wheat was worth the difference. But as it is not, the true difference being about 5 per cent, any higher discrimination is fictitious and mischievous. When the miller deducts 5 per cent. from his purchases, he can lose nothing by deducting 5 per cent. from his sales, whilst his average gains will be greater in consequence of the greater quantity and superior quality of the wheat he grinds.

McCormick's Reaper.

Sometime ago, in an article we extracted from an exchange on the trial of Reapers at

Syracuse, no mention was made of McCormick's Reaper. We found none, and of course made none. Mr. McCormick calls our attention to the fact, and wishes us to correct the injustice thereby done him. We do so with pleasure, and state that McCormick's Reaper took the first premium at said trial. If Mr. McCormick had known that we had previously expressed the opinion that such a trial of Reapers was not worth a button to test the merits of any of them, at a time when the result of the trial had not been reported, he would not probably have had cause to complain.

A Fine Sale of Tobacco.

One of our subscribers, Mr. Littleton Flippo, of Caroline, has shown us the account sales of his crop of Tobacco, the product of ten and a half acres, sold at the Tobacco Exchange on the 8th ult. The ten hdds. brought \$2,455 65, or nearly \$240 to the acre. Average \$18 91.

No. 1, \$31 00; No. 2, \$27 50; No. 3, \$20 25; No. 4, \$25 25; No. 5, \$15 25; No. 6, \$19 75; No. 7, \$16 00; No. 8, \$13 62; No. 9, \$10 62; No. 10, \$9 87.

Kossuth.

We are requested to say that Kossuth will continue his season until the 1st of September. This is intended to give an opportunity to those persons whose mares dropped their foals late, to send to him again if they desire it. But others may avail themselves of the same opportunity.

To Subscribers.

In consequence of the change in the Proprietorship of the "Southern Planter," it is very important that our subscribers should remit the amount of their indebtedness with as little delay as possible.

The amount due from each subscriber is in itself comparatively trifling, but in the aggregate it makes up a very large sum, and if each subscriber will consider this as a direct appeal to *himself*, and promptly remit the amount of his bill, it will be of infinite service to us.

We commence sending with this number the bill to each subscriber who is in arrear, and shall continue to do so until all shall have been

sent out. We ask, as a favor, a prompt response from all.

The bills are made up to 1st January next. The fractional part of a dollar can be remitted in postage stamps.

AUGUST & WILLIAMS.

July 1st, 1858.

To Postmasters and Others.

We are satisfied, that with proper exertion, any person who will interest himself for us, will be able to make up a list of *new* subscribers for the "Planter," in almost any neighborhood, in this or any other of the Southern States. We offer as an inducement to those who are disposed to aid and encourage us in our efforts to extend the circulation of this paper, the following premiums in addition to our hitherto published terms:

To any person who will send us clubs of

3 *new* subscribers and \$6,—

The So. Planter for 1857.

6 *new* subscribers and \$12,—

The So. Planter for 1857 and '58.

9 *new* subscribers and \$18,—

The So. Planter for 1857, '58 and '59.

15 *new* subscribers and \$30,—

The So. Planter for 1857, '58 and '59,

and a copy of the Southern Literary Messenger for one year.

To single new subscribers we will send *the present* volume, (commencing with the number for January, 1858,) at the low price of \$1 50, *paid in advance*.

We call upon every one interested in promoting the progress and improvement of agriculture to lend us his aid in contributions of original articles on practical or scientific agriculture, in order that our paper may continue to be worthy of the confidence and support of those who have hitherto so liberally sustained it, and to whose interests its pages will continue to be zealously devoted.

AUGUST & WILLIAMS.

July 1st, 1858.

Such is the blessing of a benevolent heart, that, let the world frown as it will, it can not possibly bereave of all happiness, since it can rejoice in the prosperity of others.

To Teachers.

We call the attention of persons engaged in teaching to the farm No. 3, advertised by us in our list of farms, to be found in our advertising columns. The school has a large paying patronage, is situated in the most healthy region of Virginia, and presents to persons wishing to engage in such profession an opportunity rarely offered for a safe and profitable investment.

AUGUST & WILLIAMS.

See advertisement of a "Farm wanted in the Salt Water region of Virginia."

Horticultural Department.

Whortleberries.

In a paragraph in our last, we alluded to the improvement of the whortleberry by cultivation, referring to an example which had been made in this vicinity. We have since met with an interesting article by Wilson Flagg, in Hovey's *Magazine of Horticulture*, from which we take the following. We have long been of the opinion that the whortleberry was not duly appreciated, and trust that the arguments of Mr. F. may aid in causing a more just estimate to be placed on this "native American" fruit.—[Eds.]

The whortleberry is strictly an American fruit; for, although it is not unknown in middle and northern Europe and in some of the tropical Islands, it is in no part of the world so abundant as in North America. It is indeed highly probable that the whortleberry tribe of plants originated here, and from this point have spread themselves over other tracts. Whortleberries, however, are most abundant near the coast, especially in the northern parts, and form in the New England States one of the principal features of the landscape. No single species of this tribe has been reduced to cultivation, though any of them would probably well reward the labor of the cultivator, if they were not abundant in a wild state. The fruit of these plants is well known only to the inhabitants of the New England States; very little has been written upon it, and there are but few persons who are aware of the importance of this gift of Nature to the inhabitants of North America.

In the study of geographical botany we find groups of certain tribes of plants prevailing over extensive tracts of country, and abounding generally in regions that are contiguous. But sometimes they are widely separated, like the heaths which are found in Europe and in the Southern part of Africa. The whortleber-

ries supply in America the place of the heaths in Europe, and in no part of the world are these two tribes found associated. The whortleberries are by far the most valuable gift of Nature of the two, being hardly less beautiful when in flower, and bearing also an excellent fruit. In this country they are sufficiently numerous to constitute alone a distinguishing feature of the landscape. They are most abundant in the northern Atlantic States; but they are found along the whole coast as far as the Cape of Florida. In the southern States are one or two species approaching the size of trees, one of which, called the farkleberry, (*Vaccinium arboreum*,) is an evergreen, and bears a very good fruit.

In New England we reckon about nine or ten distinct species of *Vaccinium*. Botanists make no generic distinction between the blueberry or bilberry, and the whortleberry; but all who have eaten the fruit distinguish at once the whortleberry from the blueberry, by the flavor and not entirely by the color. The former is less acidulous, less mucilaginous, and contains a harder seed than the latter, so that they may be easily distinguished, when eaten, though their color and external appearance are the same. I observe that Bigelow makes the distinction between them in the English names he applies to the species, while Emerson calls them, indiscriminately, whortleberries. The flowers of the two kinds differ as widely as their fruits; those of the whortleberries are more of a redish color, smaller and more contracted in the mouth than those of the blueberries.

In the whortleberry division of this tribe of plants, are usually reckoned five species: 1. *Vaccinium resinum*, which is the common whortleberry, or huckleberry. I prefer the former word because it indicates its derivation from *hurdle*, signifying berries growing on *hurdles* or sticks. After the bushes were cut and bound into faggots, the berries being found upon them gave origin to their name. This first species is the type of the division. 2. *V. frondosum*, dangle-berry, sometimes called bullet-berries. This is a late species, but the fruit is large and finely flavored. I have found it near Bartholomew's pond in Danvers, but it is rare. 3. *V. virgatum*, the blue whortleberry, a species that bears more showy flowers than the others, and more elegant foliage. The fruit is not superior, however, to that of the *resinum*. 4. *V. stamineum*, green whortleberry, or deer-berry. This species is common at the South, and ripens its fruit, which is inferior, in September. 5. *V. dumosum*, the hairy whortleberry, a large shrub, with very showy flowers and insipid fruit.

In the bilberry division, there are four species described by botanists: 1. *V. tenellum*, the low blueberry, which bears the earliest and most beautiful fruit of the whole tribe, and is the smallest shrub of the genus. 2. The high-

bush blueberry, *V. corymbosa*, which is a very large shrub, bearing a fine fruit. This, next to the *V. resinosum*, is the most valuable species. 3. *V. discolorophum*, the black bilberry, resembling the last in all respects, except that its fruit is smaller, and black like that of the common whortleberry.

There is no tribe of plants that runs into so many varieties. There are no less than five or six intermediate varieties between the low blueberry (*V. tenellum*) and the high blueberry (*V. corymbosa*); and the black bilberry, corresponding in size with the last, subdivides itself into several distinct varieties of all sizes, down to a dwarf species, as minute as the low blueberry. All these differ also very materially in their quality, the best comparing with the poorest, as the Baldwin apples compare with the common fruit for the cider mill. With regard to the color of the different berries, it may be remarked, that although there are bilberries which are of a jet and glossy black, there is no whortleberry which is decidedly blue, like the low blueberry.

It would be impossible to estimate the value of these fruits to all classes of our inhabitants; but it may be safely asserted, that were the cherry and the whortleberry, with all their varieties, to become extinct, the absence of the latter would be the most painfully felt by the majority of our population. We have learned from Europeans to set a higher comparative value upon the cultivated fruits, even those which are equally perishable, because the western Europeans have no whortleberries, and have never learned to prize them. "In Scotland," said a company of little Scotch girls whom I met in a whortleberry pasture, "we have no wild fruits; all our fruits are in gardens." In this country, where whortleberries are so common and so abundant as to be found in all wild lands that are not too deeply wooded, these fruits are indeed one of our staple productions, of vastly greater value to us than the cranberry, though the latter, being a less perishable fruit, is made an article of commerce and is more profitable to the individual owner of the lands that produce it. But for the space of two months of the year, from the middle of July to the middle of September, millions of bushels of whortleberries are consumed in the New England States, and are as great a luxury in their season as any fruit that can be named.

A fruit seems to be valuable to the public in proportion as it can be made an article of commerce. There is some fallacy, however, in this mode of reckoning its value. If a farmer owns a cranberry meadow, that produces an annual crop of one hundred and fifty bushels, on the average, from which he obtains a clear annual profit of two hundred dollars, it must be admitted that this fruit is of more value to him than a whortleberry pasture that would produce double this quantity of fruit. He gathers,

packs into barrels, and sells the former, with a certainty of profit, and without danger of loss; while the latter, if gathered and sold in the market, would but poorly remunerate him for the labor and expense of gathering it. But were the value of the two kinds of fruit measured by his own and his family's consumption of them, the whortleberry pasture would be more valuable than the cranberry meadow, because his family would consume a greater quantity of whortleberries and blueberries than of cranberries. In a commercial sense, and considered with reference to the gains of the proprietor, the cranberry is the most valuable fruit; but in a political sense, and considered with reference to the public, the whortleberries are the most valuable, and probably more so than any other equally perishable fruit which the country produces.

People have always been deceived by measuring the general value of an article by its commercial value. Hence the whortleberry pastures are called waste lands, which are worth nothing at all except for pasturage. But were all these waste lands deprived of their produce of fruit, the want of it would be a grievous affliction to the community. How many indigent families depend on them for their whole supply of summer fruit! and how many earn their livelihood, during the whortleberry season, by gathering these berries and carrying them to market! How many boys are prevented from robbing the orchards of cherries, pears and early peaches, by the opportunity of obtaining fruit in the whortleberry pasture! The robin, the wax-wing, and other birds that consume our cherries, are diverted from the orchard and the garden by a good supply of blueberries in the neighborhood; and our farmers would save deprecations upon their trees, in considerable measure, by cultivating the earliest varieties of the high blueberry, by the sides of their fences and stone walls, instead of vainly attempting to keep these borders free from weeds and brambles.—*Boston Cultivator*.

From the Am. Farmers' Magazine.

Trees and Fruit Buds vs. Cold Water.

MR. EDITOR:—I may not be regarded as a "careful observer," but I will nevertheless attempt to give my views on the causes that kill fruit trees and fruit buds. Now, I may err in what I shall advance on this subject, for it is a theme upon which many singular opinions can be put forth, and yet all of them may look more or less plausible.

In the county in which I live, (and it is more or less so in all the Northern States,) we often, in the winter months, have very cold weather, particularly, you know, in January and February. The bud of the peach tree and other fruit trees sometimes expands in the fall, so that it is made more or less forward. Well, now, the cold weather of January comes on; mercury

drops in the tube of the thermometer down to 14° or 15° below zero; the germ of the bud—a little peach in every sense of the word, just fairly organized—can not withstand this condition of the weather (15° below zero) and consequently dies; and when the weather “slackens up,” or grows more moderate, the small miniature peach turns black, and never again recovers from the stroke it has received. The tree, which has grown rapidly, the shoots of which are vigorous and juicy, also receives a death stroke many times through intensely cold weather, when the thermometer indicates a condition of the atmosphere 15° or 20° below zero. There is a point in almost every thing beyond which it will not do to go. The peach tree in our more northern climates is particularly subject to be killed by frost, and there are counties in New York State where the peach can not be raised, the country being too frosty. On high elevations it seems to do the best. We hear it reported that in Northern Illinois the people have not raised many, if any peaches, within the last two or three years. Why is this? Plainly because the weather was too cold for the trees to recover from its effects in the spring. The apple and other trees also have died in that State, as well as in Wisconsin.— Now, we have a large peach orchard, and in the winter of 1856, the weather being *very cold*, thousands of branches died, and I removed them in the spring. Our apple trees also suffered amazingly hereabouts. Indeed, we really thought that a new system of the laws of nature had dawned upon us, so poorly did many of our quince, apple, peach and other trees look. Sometimes, very many times, fruit buds are killed in consequence of the cause which you mention, namely, “*a sudden freezing after mild weather*,” but I believe this is not the case so frequently as through intensely cold weather. A peach blossom, or any other blossom, will stand quite a little frost, and yet the fruit will not be materially injured. Now, for instance, I have been making an examination of some of our peach buds. I notice that about two-thirds of them are dead this season, while what remain look very well. Where the west wind struck the most severely during the 24th of February, or about that time, mercury being about 8° or 10° below zero, at that point the buds are more frequently dead than on the east side of the limbs or trees. Immediately after the cold “snap,” I went into the orchard and made the examination, and the buds turned out to be dead as above mentioned. We all have our peculiar notions about these matters, but I know that a shoot on a tree which has had a rapid growth during the summer, is most likely to suffer from the cold of a subsequent winter on account of its tender organization. Now, a tree that is thoroughly acclimated, a native of the country, will stand the winter much better than some of “those celebrated imported varieties” from France, &c. We can not raise the

“raisin grape” with any kind of success in New York, and it does not grow very well, I believe, in the southern part of Ohio. From these observations, if they be mainly true, it will be seen at once that the weather has its perceptible effects upon trees and their organizations, and that fruit buds must die on peach trees when the thermometer indicates from 12° to 15° below zero. Apple tree buds are more hardy, and will come out safe many times when the weather is intensely severe, but when you gather the fruit, then you see what perceptible inroads the cold weather of the previous winter has made upon your apples, &c.

About the contraction and expansion of water—that matter I shall willingly leave to yourself and your correspondent. The subject is a very good one, but how to preserve our trees from the effects of cold weather is still more important in my opinion. Last winter the weather was generally mild, though we had our “cold snaps” in February. The season, however, promises very well for fruit of most kinds. The country will not, I think, be over supplied with peaches, but aside from this wholesome fruit, we may look forward to a bountiful fruit harvest.

In conclusion, allow an old reader of your Journal to express his approval of the variety of matter which the “*Farmers’ Magazine*” contains. Give us a variety, with a rich spice of miscellany, if you please. It is taken for granted, though, that you know how to manage your own Journal.

W. TAPPAN.

Baldwinsville, Onondaga Co., }
N. Y., April 10, 1858. }

From the *Am. Farmers’ Magazine*.

Powers of Vegetation to resist Extremes of Temperature.

BY A FRIEND.

It is most essential to the success of the operations, both of the agriculturist and the horticulturist, that as comprehensive a view as possible should be obtained of the organization of the vegetable kingdom, and of the powers of resistance that it possesses of the extremes of temperature. For although practically he may pass through life without ever even seeing the moss which in Lapland not only lives, but *grows* beneath the snow, and furnishes the frugal meal of the docile reindeer, and without boiling eggs for his breakfast reposed upon the herbage which we shall presently advert to as growing in the hot springs of the Himalaya mountains, yet the knowledge of such powers of endurance in different families of plants, when combined with other knowledge of various descriptions, connected with the organs of plants, tends immensely (if it does nothing else) to make the inquiring agriculturist cautious and careful in his experiments, and in the deductions which he draws from them.

Hastily-formed conclusions are seldom very accurate in whatever branch of scientific inquiry they arrived at, and applied to. But in no department of practical knowledge is it more needful to guard against them, than in the prosecution of agricultural pursuits. Slight differences of temperature, of moisture, or of atmospheric change, have frequently been sufficient to confound and to obscure the most carefully conducted experiments. And in the much canvassed, but yet unsolved, problem of the potato disease, we have at this moment unfortunately patent evidence that our present acquisitions in agriculture, have by no means attained a degree of efficiency, with which we can rest satisfied.

Nothing is more surprising in the study of vegetable physiology than the variation of the powers of endurance of the extremes of heat and cold in different families. And this is the more remarkable, because those powers appear to have little or nothing in connection with the texture of their organization. In reference to the powers of endurance of moisture and drought, it is otherwise, at least to a considerable extent. For we find the *Cacti* family, and many others that are indigenous to climates that have long seasons of drought, are provided with organs that are calculated to retain, as it were, reservoirs of moisture, whilst the organization of their cuticle is such as to lessen evaporation and exhalation from their surface. But in regard to the powers of resisting extremes of heat and cold, many families of plants with organizations of the most fragile texture, are found to have these powers equally; some as to heat, others as to cold.

This is a subject that deserves consideration in connection with the study of climate, to which we have directed attention in recent numbers of this magazine, and the following description of the hot-springs of the Himalaya from Dr. Hooker's Journal, to which interesting work we referred in a preceding article, are well deserving attention:

"The hot-springs (called Soorujkoond) near Belcuppee (altitude 1219 feet) in the Behar Mountains, north-west of Calcutta, (lat. 24 N., long. 86 E.,) are four in number, and rise in as many ruined brick tanks about two yards across. Another tank fed by a cold spring about twice that size flows between two of the hot, only two or three paces distant from one of the latter on either hand. All burst through the Gueiss rocks, meet in one stream after a few yards, and are conducted by brick canals to a pool of cold water about 80 yards off.

"The temperatures of the hot springs were respectively 169°, 170°, 173°, and 190° of the cold, 84° at 4 P. M., and 75° at 7 A. M. the following morning. The hottest is the middle of the five. The water of the cold spring is sweet but not good, and emits gaseous bubbles; it was covered with a green floating *conferva*. Of the four hot springs the most copious is about

three feet deep, bubbles constantly, boils eggs, and though brilliantly clear, has an exceedingly nauseous taste. These and the other warm ones cover the bricks and surrounding rocks with a thick incrustation of salts.

"*Conferva* abounds in the warm stream from the springs, and two species, one ochreous brown and the other green, occur on the margins of the tanks themselves, and in the hottest water: the brown is the best salamander, and forms a belt in deeper water than the green; both appear in broad luxuriant strata, whenever the temperature is cooled down to 168°, and as low as 90°. Of flowering plants, three showed in an eminent degree a constitution capable of resisting the heat, if not a predilection for it; these were all *cyperacea*, a *cyperus*, and an *elecharis*, having their roots in water of 100°, and where they are probably exposed to greater heat; and a *timbristylis* at 98°; all were very luxuriant. From the edges of the four hot springs I gathered sixteen species of flowering plants, and from the cold tank five, which did not grow in the hot. A water-beetle, colymbetes, and notonecta, abounded in water at 112°, with quantities of dead shells; frogs were very lively, with live shells at 90°, and with various other water-beetles. Having no means of detecting the salts of this water, I bottled some for future analysis."

From the foregoing quotation it will be perceived that the temperature of the hottest spring was 190° Farenheit, which is but little below that of boiling water. And although not so luxuriant as in the cooler springs, yet vegetable life was found to exist and grow in that high temperature. Had a cabbage or a potato been placed by the side of the *conferva* in that spring, it would have been soon cooked ready for the dinner-table; and the powers of endurance of the action of heat possessed by a living plant, therefore, can be easily conceived.

With such well attested facts before us, we may well hesitate before we form a decided opinion upon the adaptability of any plant of a new character, that it may appear desirable to introduce as an agricultural crop. It is not possible to judge of many, from the result of two or three trials only. Because although oftentimes we may be quite right in the view we take of our first experiments, yet it will frequently occur that until by repeated trials we become by experience well acquainted with the constitution of a new plant, we may attribute our success or our failure to causes which in fact had nothing to do with either. And therefore we may so be led into error which further experiment would dispel.

That this is so, will be evident to any one who is familiar with the vast changes that have taken place within the last few years in the cultivation of fruits and vegetables. Many crops that some years back were considered to require years (especially in fruits) of previous care of the plants to produce them, are now

produced in less than one. And this with things that have been familiar to the gardener for above a hundred years.

In fact the agriculturist no less than the horticulturist, who would prosecute his calling with due reference to the guidance of scientific principles, will never assume that he has arrived at a knowledge of the *best* mode of cultivating *any* crop. Whilst he will be cautious not to experimentalize without due regard to prudence and to principles, he will nevertheless be ever earnest in the "forward" effort, and will take care that his labors are as steadily directed by his judgment, as his plow is by his hand.

From the Report of the Ohio Pomological Society.

Grape Culture.

At a meeting of the Society, on the 10th of July last, the undersigned were appointed a committee to inquire into the feasibility of grape culture for wine making, as a *remunerative* crop, and to suggest such remedies for mildew, and other incidental diseases of the grape, as might be supported by facts. After mature deliberation your committee present the following as the result of its investigations:

That the crop may be made amply remunerative in this vicinity and elsewhere, in positions favorable for its cultivation, *there can be no doubt*. The experience of many years by numerous cultivators has decided this question beyond a cavil. The best proof in support of this assertion is, that grape culture is now widespread throughout the West and South-west, and largely on the increase. For every vineyard abandoned from bad position, caprice, or carelessness, twenty new ones are planted. That the crop—like most other crops—is subject to casualties, no one will deny; but experience has proved it to be as reliable as the apple, the hardiest of all our fruits. Even this year—the worst for mildew and rot that we have ever had—a majority of our vineyards in this vicinity will more than pay expenses, and a few will yield a handsome profit, while a small number prove almost an entire failure. In Missouri, the vintage this year is the best ever known in that State—some of the vineyards producing over one thousand gallons to the acre; and in Georgia, even after injury from late spring frosts, the yield is very good. It is *estimated* that in this region vineyards favourably situated will average, for a series of years, with ordinary attention, two hundred gallons to the acre. It is *known* that one hundred gallons per acre will more than pay expenses. From this data the crop would appear to be remunerative.

The great enemies to grape culture in this climate are the diseases known as the mildew and the rot, both closely allied, and both arising from atmospheric changes. A sudden change of temperature, will produce mildew, in the form of a white powder, on the newly-

formed bunches of grapes, and at a later period the rot, when the berries are almost full grown, is caused by the fungi known as the mildew, settling on the pedicel of the berry, and on the berry, itself, discolouring and destroying it. In a brief report like the present, it would be useless to attempt a detailed scientific description of these diseases, for they are well known to all vine-dressers. And the committee regret to state that no certain remedy has yet been discovered for their prevention or cure.

On gravelly or sandy soils, or porous or well drained subsoils, these diseases are less prevalent than on strong clay lands, and hill-sides are preferable to level or gently undulating positions. But no position has been found entirely free from them; nor has any kind of special cultivation or of pruning, after many experiments, been successful as a remedy.

From all the information the committee has been able to collect both in this country and in Europe, an application of *sulphur and lime*, according to the annexed directions, promises to be more successful than any remedy yet tried. In France it is said to have succeeded this season in preventing the ravages of the "Oidium," a disease similar to the rot; and a member of this society, Wm. Orange, tried it on a portion of his vineyard with marked success. Vine-dressers are earnestly requested to give it a fair trial, and report progress at the end of the next season.

R. BUCHANAN, }
S. MOSHER, } *Committee.*
M. KELLY, }

Cincinnati, December 3, 1857.

Recipe for the use of Sulphur and Lime.

Put half a bushel of unslacked lime and ten pounds of flour of sulphur in a forty gallon barrel, add five or six gallons scalding water, and keep stirring it till thoroughly mixed; then fill up the barrel with cold water, and cover up tight till wanted for use. This mixture syringed over the young bushes of grapes shortly after they are formed, it is said, will prevent mildew; and again when the berries are nearly full grown, an application in the same manner may prevent rot.

The flour sulphur alone is applied by dusting it over the bunches of grapes, and on the ground under them, at about the same periods of their growth, and omitting to syringe with the sulphur and lime-water. Both applications might be tried on a portion of the vineyard to ascertain which is the best—the sulphur and lime, the sulphur alone, or both together.

R. BUCHANAN, }
S. MOSHER, } *Committee.*
M. KELLY, }

N. B.—Syringing plum-trees with the sulphur and lime-water, it is said, will prevent the ravages of the curculio.

Tobacco.

Respecting this popular article, and the manufacture of cigars, it may be expected, in our rambling notes that we should say a few words. It is well known that the tobacco plant is the product of but a small portion of the island—the southwest. A person confining himself to short rides from Havana and to the vicinity of the railroads, would see about as much of the weed growing as he would in Pennsylvania or Connecticut, the soil in the other parts not being more propitious to the flavor than that of our own country. Good tobacco is thus a dear article, and becoming annually more so, as the cultivation recedes from the great mart by the wearing out of the land, which is the case yearly. Formerly the tobacco lands were about eighteen miles from the city; they are now at least one hundred and fifty miles distant. Large dealers in cigars make their own cigars from the crops of the extensive cultivators whose tobacco is known to them and thus acquire a kind of monopoly of the best; smaller operators endeavor to have as good an article by assisting the grower to new lands and taking an interest in them. The consumer of a few thousand cigars watches his opportunity, and when sure of a good seroon or two, purchases and conveys it to his own house, where it is manufactured under his own eye, from a known article, and therefore to his taste. The cigar-maker comes in to him for a week, more or less, and charges by the thousand.

In addition to these plans, varied with the various degrees of enterprise, and capital embarked, there may be seen all over Havana, blacks and whites most industriously employed in rolling cigars; and, ten chances to one, if you stop at a posada in your rides in the neighborhood, however humble, there will be found under a shed or in some corner, a parcel of dark looking fellows similarly engaged; and yet, with all this industry, it is still a wonder whence proceed all the million of smoking cigars which perfume the whole civilized world. Their source is to be sought for in out-of-the-way places, in garrets and private domains which are out of sight, which are delivered more or less, daily, to the great dealers who supply the capital and the raw material. Cigarritas are made by women and men who can follow at the same time another employment, such as keeping watch at the door of a hotel, &c.

Numerous small manufacturers sell their article at a low figure to the great dealers like Partigas or the Cubanias' houses, who subject them to a rigid picking; the best looking on the outside, and which may have cost, in the unpicked state, ten dollars per thousand, are number one and will be charged to the unthinking American customer, who looks only to the external appearance, at fifty dollars, the second at twenty or thirty, and the culling will find a market at about the original price; so that one

man smokes at six or seven cents the same tobacco exactly that the better informed and more economical people get for one cent. The reputation of the (nominal) maker has much to do with the price, and this reputation, as in a thousand instances in all countries, is kept up *outside appearance*. When a particular brand, size, and shape have become popular in any country, strong efforts are made to keep up this appearance, and a stimulated article has to be resorted to the moment the demand exceeds the supply, which is always limited. Then come the various methods of deception; the wrapper must be exact in color and it is dyed; the shape must be the same, and the maker skilled in this particular form must have a higher price, or he will go over to a rival house.

Instances of this kind of difficulties are constantly related, and an employer has frequently to advance large sums to his best workmen to keep them in good humor; when this quality fails them, the rival will pay all they owe to get them into his workshop, the best makers being always in demand, and earning from two to six dollars a day, according to their skill.

The leaf requires to be in a particular stage of moisture to work to advantage, and you may see, as the evening hour of closing the factory comes on, the master mind is dropping or sprinkling his leaves and laying them out all over the rooms in various proportions, according to ascertained necessity. And here another process is resorted to; this is of course the moment for dyeing the wrapper; but it is also the opportunity embraced to *flavor* what is to constitute the interior; a popular brand must be kept as nearly as possible of one *taste*; as in wine, it is easy to deceive in this particular, and the *filling* is immersed in a solution of other tobaccos, made to resemble as nearly as possible the flavor required. Thus, a good tasted crop will flavor a whole invoice of cigars very probably manufactured from Virginia, or tobacco imported from some other island. This is done in wines of all countries, and it is surely as fair a transaction in cigars.

Cigar making is a profitable operation, though it may be deemed of importance to the sugar. Both combined have made money extremely abundant during the late season of high prices. Eight millions of specie arrived in Havana in March, and the rate of interest was but two per cent. per annum; new banks were going into operation on a speculative scale, and it was seasonably argued that cash so easily collected as it was would lead to the ruin of many now called wealthy. Cuba has its revulsions as well as New York and Philadelphia.

The cultivation of the island is slovenly in the extreme. There is often as much difficulty experienced in ploughing the land as in a new clearing incumbered with stumps in the United States, from the underlying coral rock.—*Horticulturist*.

From the Farmer's Practical Horse Farriery.

The Horse and how to use Him.

(CONCLUDED.)

HOW TO HALTER AND LEAD A COLT.

As soon as you have gentled the colt a little, take the halter in your left hand and approach him as before, and on the same side that you have gentled him. If he is very timid about your approaching closely to him, you can get up to him quicker by making the whip a part of your arm, and reaching out very gently with the butt end of it; rubbing him lightly on the neck, all the time getting a little closer, shortening the whip by taking it up in your hand, until you finally get close enough to put your hands on him. If he is inclined to hold his head from you, put the end of the halter strap round his neck, drop your whip, and draw very gently; he will let his neck give, and you can pull his head to you. Then take hold of that part of the halter which buckles over the top of the head, and pass the long side, or that part which goes into the buckle, under his neck, grasping it on the opposite side with your right hand, letting the first strap loose—the latter will be sufficient to hold his head to you. Lower the halter a little, just enough to get his nose into that part which goes around it, then raise it somewhat, and fasten the top buckle, and you will have it all right. The first time you halter a colt, you should stand on the left side, pretty well back to his shoulder, only taking hold of that part of the halter which goes around his neck, then with your two hands about his neck, you can hold his head to you, and raise the halter on it without making him dodge by putting your hands about his nose. You should have a long rope or strap ready, and as soon as you have the halter on, attach this to it, so that you can let him walk the length of the stable without letting go of the strap, or without making him pull on the halter, for if you only let him feel the weight of your hand on the halter, and give him rope when he runs from you, he will never rear, pull, or throw himself, yet you will be holding him all the time, and doing more towards gentling him than if you had the power to snub him right up, and hold him to one spot; because he does not know anything about his strength, and if you don't do any thing to make him pull, he will never know that he can. In a few minutes you can begin to control him with the halter, then shorten the distance between yourself and the horse, by taking up the strap in your hand.

As soon as he will allow you to hold him by a tolerable short strap, and step up to him without flying back, you can begin to give him some idea about leading. But to do this, do not go before and attempt to pull him after you, but commence by pulling him very quietly to one side. He has nothing to brace either side of his neck, and will soon yield to a steady,

gradual pull of the halter; and as soon as you have pulled him a step or two to one side, step up to him and caress him, and then pull him again, repeating this operation until you can pull him around in every direction, and walk about the stable with him, which you can do in a few minutes, for he will soon think when you have made him step to the right or left a few times, that he is compelled to follow the pull of the halter, not knowing that he has the power to resist your pulling; besides, you have handled him so gently that he is not afraid of you, and you always caress him when he comes up to you, and he likes that, and would just as leave follow you as not. And after he has had a few lessons of that kind, if you turn him out in a lot he will come up to you every opportunity he gets. You should lead him about in the stable some time before you take him out, opening the door, so that he can see out, leading him up to it and back again, and past it. See that there is nothing on the outside to make him jump when you take him out, and as you go out with him, try to make him go very slowly, catching hold of the halter close to the jaw with your left hand, while the right is resting on the top of his neck, holding to his mane. After you are out with him a little while, you can lead him about as you please. Don't let any second person come up to you when you first take him out; a stranger taking hold of the halter would frighten him, and make him run. There should not be even any one standing near him. If you are alone, and manage him right, it will not require any more force to lead or hold him than it would to manage a broke horse.

HOW TO LEAD A COLT BY THE SIDE OF A BROKE HORSE.

If you should want to lead your colt by the side of another horse, as is often the case, I would advise you to take your horse into the stable, attach a second strap to the colt's halter, and lead up your horse along side of him. Then get on the broke horse and take one strap around his breast, under his martingale, (if he has one on,) holding it in your left hand. This will prevent the colt from getting back too far; besides, you will have more power to hold him, with the strap pulling against the horse's breast. The other strap take up in your right hand, to prevent him from running ahead: then turn him about a few times in the stable, and if the door is wide enough, ride out with him in that position; if not, take the broke horse out first, and stand his breast up against the door, then lead the colt to the same spot, and take the straps as before directed, one on each side of his neck, then let some one start the colt out, and as he comes out, turn your horse to the left, and you will have them all right. This is the best way to lead a colt; you can manage any kind of a colt in this way, without any trouble, for if he tries to run

ahead, or pull back, the two straps will bring the horses facing each other, so that you can very easily follow up his movements without doing much holding, and as soon as he stops running backward, you are right with him, and ready to go ahead. And if he gets stubborn and does not want to go, you can remove all his stubbornness by riding your horse against his neck, thus compelling him to turn to the right, and as soon as you have turned him about a few times, he will be willing to go along. The next thing, after you are through leading him, will be to take him into a stable, and hitch him in such a way as not to have him pull on the halter, and as they are often very troublesome to get into a stable the first few times, I will give you some instructions about getting him in.

HOW TO LEAD A COLT INTO THE STABLE AND HITCH HIM WITHOUT HAVING HIM PULL ON THE HALTER.

You should lead the broke horse into the stable first, and get the colt, if you can, to follow in after him. If he refuses to go, step up to him, taking a little stick or switch in your right hand; then take hold of the halter close to his head with your left hand, at the same time reaching over his back with your right arm, so that you can tap him on the opposite side, with your switch; bring him up facing the door, tap him lightly with your switch, reaching as far back as you can. This tapping, by being pretty well back, and on the opposite side will drive him ahead, and keep him close to you, then by giving him the right direction with your left hand, you can walk into the stable with him. I have walked colts into the stable this way, in less than a minute, after men had worked at them half an hour trying to pull them. If you cannot walk with him at once in this way, turn him about and walk him around in every direction, until you can get him up to the door without pulling at him. Then let him stand a few minutes, keeping his head in the right direction with the halter, and he will walk in, in less than ten minutes. Never attempt to pull the colt into the stable; that would make him think at once that it was a dangerous place, and if he was not afraid of it before, he would be then. Besides, we don't want him to know anything about pulling on the halter. Colts are often hurt, and sometimes killed, by trying to force them into the stable; and those who attempt to do it in that way, go into an up-hill business, when a plain smooth road is before them.

If you want to hitch your colt, put him in a tolerably wide stall, which should not be too long, and should be connected by a bar or something of that kind to the partition; so that after the colt is in, he cannot get far enough back to take a straight backward pull on the halter, then by hitching him in the centre of the stall, it would be impossible for him to pull on the halter, the partition behind

preventing him from going back, and the halter in the centre checking him every time he turns to the right and left. In a stall of this kind you can break every horse to stand hitched by a light strap, any where, without his knowing any thing about pulling. But if you have broke your horse to lead, and have learned him to use the halter, (which you should always do before you hitch him to anything) you can hitch him in any kind of a stall and give him something to eat to keep him up to his place for a few minutes at first, and there is not one colt out of fifty that will pull on his halter.—*Ohio Farmer.*

Saddle Horses.

WHAT THEY ARE, AND WHAT THEY OUGHT TO BE.

The Americans have much to learn in the matter of saddle-horses; even the Southerners who ride a great deal, much more we of the North, who ride comparatively little. An easily and stylishly going hack, well bitten and broken, is a phenomenon of rare occurrence among us.

This doubtless is, in some measure, owing to the greater demand for harness horses, which carries off nearly all the best animals in that direction. But the actual saddle-horse material in market is shamefully mismanaged. Very few dealers, stable-keepers or horse fanciers of any sort, have the first conception of what a saddle-horse is. (Our having no term that corresponds to the English *hack*, is an incidental proof of this.) Their only idea of one is that he can carry a man without falling down or running away. They do not even know what his gait should be. Thus I read some time since, in your western correspondence, that "a horse which could not *rack* was only half a saddle horse;" and this opinion, I am sorry to say, is not confined to the West. Now, if there is anything more than another utterly ruinous to the formation of a class of hacks, (I shall continue to use the English term without fear of being misunderstood,) it is the idea that a hack should travel camel-fashion, with both legs on the same side of the ground at once.

In the first place, this gait (call it ambling, racking, pacing, or what you will,) is the most ugly and ungraceful ever devised for a quadruped. Some rackers look less ugly in motion than others, particularly some of the very fast pacers, which is partly because they are going at such a lo-

Comotive velocity that you have not a chance to criticise their action. But *style* and *beauty* are terms inapplicable to the action of any racker. This I say not only of American horses, but of *all* horses that pace. When the Persians appeared last year in Paris, the general remark among connoisseurs was, "What fine horses, if they were only broken to a proper gait!"

But the rack is defended on the ground of its *easiness* (to the *rider*, of course; that it is a fatiguing gait to the horse, is generally admitted.) Even here I believe its claims much overrated. If the racking motion does not lift the rider from the saddle, it often swings him (or her) sideways in a not very pleasant manner. It is as great a mistake to suppose all rackers easy, as all trotters hard. But let us admit that the rack is, on the whole, an easier gait than the trot; it is not by any means so easy as the canter, which our people would soon find out, if one in a hundred of them ever rode or *saw* a properly cantering horse.

What is usually called a canter, in America, is a hand-gallop, as fast or faster than a good round trot, and one of the hardest gaits a horse has, particularly if not accustomed to it. Thus I have seen a gentleman riding a 3.15 trot, and a lady *cantering* alongside him. Now the real canter is something very different from this; and as it is the *essential* pace of a hack (though not by any means his *only* pace, as we shall have occasion to remark further on,) it may be well to explain it in detail. The canter proper is a *slow* gait, rather under than above eight miles an hour. A small or short-bodied horse usually has a short stride, which is generally the easiest, though not the handsomest canter. A large horse with some blood (and a large horse must have some blood to be a good hack,) usually has a long stride, and may *appear* to be going faster than the rate above mentioned, but in reality is not, for he *rests* or *dwells* in his canter, lifting his feet slowly.

The horse must canter *on his right leg*—that is to say, he must put out his off fore-leg in his stride. The reason sometimes assigned for this, that he looks better thus, is not the real one. There may be a sort of conventional beauty in it. In London or Paris it does not look well—that is to say it looks *odd*—to a connoisseur to see a

horse cantering on the left leg, because all hacks are trained to canter on the right, but some horses are actually more showy—higher in their action, and more inclined to prance and curvet on the left leg than on the right. The real reason is a better one, that the canter of most horses is much easier when they put the right leg foremost. I say of *most* horses, for there are exceptions to this rule, as to all others. Now and then you will meet a horse who who canters *naturally* on his left leg; it is very difficult to start him on the right leg, and when you succeed in doing so, his pace is not so easy. But these are rare exceptions. Most horses are sensibly easier on their right leg; there is no necessity for looking down to *see* which leg is first, you might tell it blindfold.

He must start on his canter *easily*, without pulling or rushing. Whether he is walking or trotting, a gentle lift of the hand should set him off in a hand-gallop for the first fifty yards before he settles, nor require a hard pull afterwards to keep him from *unsettling* himself again, by quickening his pace to the same gallop. Still less must he slide into a trot, when not wanted to leave off cantering.

But though the canter is the most essential pace of the hack, it is not by any means his only one. When you *do* find an American saddle-horse that can really canter, he is pretty sure to have learned it at the expense of all idea of trotting.—But the hack must know how to trot at a moderate pace, both on his own account and his rider's. On his own account, because the canter is an artificial gait, and however easy to the horseman, fatiguing to the horse if constantly persisted in. On his rider's, for many reasons. The canter is peculiarly a gait for summer; in cold or raw weather it is really *too* easy, and not exercise enough. The trot is a more appropriate gait in many situations, especially in passing through a town or village.—The canter is a slow pace, and should the equestrian be pressed for time, if his horse will not trot, he must run him, which is not pleasant on a high road, nor particularly beneficial to the horse's legs and feet. For these and many other reasons, the hack should be able to trot a good round trot of ten or eleven miles an hour. He must also have some notion of running, fast enough, at any rate, to get out of the

way of any crowd of trotters or pacers—the only case in which it is right and proper to run a horse on the road. He should be capable of being brought down from his run in somewhat less time than it takes to pull up a locomotive. Of course, he cannot be expected to run as he canters, always on the right leg. He will sometimes even change legs while running.

Finally, he must be a good walker—not merely a safe one, but with a certain speed, say $3\frac{1}{2}$ miles an hour; otherwise he will always be “padding,” or going “butter and eggs” in company with other horses. The end of walking is to repose both horse and rider, and this kind of jig-jog does neither. There is a kind of dancing or dwelling trot, slower than a good walk, which some spirited and highly-trained horses have. It is a very nice accomplishment for a fashionable hack, but he ought always to be able also to walk when required.

A man riding much alone, and in all sorts of weathers, except the very worst, wants a pretty lively horse under him, one that is rather frisky than otherwise, and never requires urging. But riding in company, especially in ladies' company, he wants a quiet horse. Now the difficulty is that horses are very apt to excite one another when together; the same animal who, alone, will canter five miles without once bearing on the rein, or changing legs, will begin to haul and jump when he finds himself in a party. I have strong doubts if the two things are compatible. At any rate, it is well to bear this in mind. If a man rides enough to require two saddle-horses, (and few who ride regularly can do with only one,) it is easy to choose them of different temperaments; otherwise he must make his selection according as he is likely to ride oftener alone or in company.

It would be foreign to our present purpose, and would occupy too much time to treat of the hack's points. We have only undertaken to speak of his gait. Nevertheless, a few hints may not altogether be out of place. The first essential for safety is that he have a good oblique shoulder. I say *the first*, for a horse with weak legs, or unsound feet, *may* break down, but a horse with a straight shoulder *must*, and will probably come on his knees just when you least expect it. Next to the shoulder come the fore legs and feet, which should

be unexceptionable. A thrush, for instance, is only a small blemish in a harness horse, but a dangerous defect in a hack. Of the sort of neck that a hack should have, I treated at length last winter in an essay on Martingales. A horse that is short in the body will not be likely to run fast or pleasantly. Never buy a horse for the saddle if you can find traces of “interfering” anywhere on him, behind or before. Bad shoeing *may* have caused the habit, it is true, and good shoeing may be able to cure it, but the experiment is a risky one; and recollect you cannot put a boot on him, as you may on a carriage horse.

It is a pity our people do not ride more. The climate is sometimes made an excuse, but nobody who owns a “flyer” ever thinks it too cold to drive, and driving is much colder work than riding. If the summer mid-day is too warm, the mornings and evenings are delicious. There is nothing like riding for the liver, the part of the human frame most usually out of order in America. The 2:40 flyer is a great institution, and very well in his way, but for health and real enjoyment nothing equals the saddle.—CARL BENSON, in *N. Y. Spirit of the Times*.

REMARKS.—Few men have enjoyed better opportunity for observation, with better taste for judging, than the writer of the above. We knew his good father—a most eloquent clergyman of the Church of England, sojourning in New England, over thirty years ago. But Charlie was rich, from a family alliance with John Jacob Astor, and has spent much of his time in Europe, living in clover; and if there are good horses in the world, and good horsemanship, he is as likely to know about them as any one. There are capital points in the above chapter.—*Ohio Cultivator*.

Galls from Harness or Saddle.

Major Long, in his written and valuable account of his expedition to the Rocky Mountains, says that his party found white lead, moistened with milk, to succeed better than anything else in preventing the bad effects of gall on their horses' backs, in their fatiguing march over the plains that border the mountains. Its effects in soothing the irritated and inflamed surface was admirable.—*Amer. Farmer*.

From the Country Gentleman.

Fatal Disease in Horses.

We published some months since, an account of a disease in horses, then prevalent in Tennessee, together with an inquiry as to its cause and cure, from E. LINK, Esq. This was copied in the *Spirit of the Times*, in a late No. of that paper we find the following letter on the subject:

Albuquerque, New Mexico, Aug. 10, 1855.

MY DEAR COLONEL—I cut the above notice of a "Fatal Disease in Horses," from a "Spirit of the Times," published in June of this year.

When I arrived in Albuquerque, in September, 1853, the horses of my company were in very good health. In two or three weeks I observed that two of them were attacked, as I supposed, with *blind staggers*, and I treated them for that disease. They died in ten hours after they were first attacked. Shortly afterwards I observed one of my horses standing with his forehead pressed forcibly against the wall of the stable. It required great efforts on the part of two or three men to drag him away from the wall. The moment he lost the support it afforded, he staggered wildly about the stable, and finally fell down and died, in great agony, in two or three hours. Shortly afterwards I observed a horse attacked with a fit of trembling, as if he experienced some horrible fright. A cold perspiration broke out all over him, the water falling in frequent drops from his belly and flanks. No remedies which I could devise seemed to afford the least possible relief. This horse also died in a few hours. Others were attacked in a similar manner to those to which I have alluded, and I never, by any method of treating which I could glean from books, or from others' experience, succeeded in saving a single one, until fourteen had died in about twelve days.

I observed that the *first* symptoms of an approaching attack which each horse appeared to indicate—however Proteus-like in its phases the disease might eventually show itself—was a frequent shaking of the head and "flopping" of the ears. Then, generally, in an hour or two, would commence moving about in a circle, if he were left in an open yard—frequently staggering and stumbling in his walk. As his sufferings became more intense, he would sometimes beat his head against a wall, until his eyes would become so swollen as to deprive him completely of sight. The horse never ate or drank after he became so far gone as to walk about as if on a ring; and I never saw one that seemed to take the least notice of passing objects after that time.

After failing in every method I could adopt to save even one of the fourteen which I lost, I at length got Surgeon Abadie, of the Army, to dissect the head of one which had just died, with a view to discover, if possible, the cause of this singular disease. The vessels of the

brain were found very much engorged with blood, and a quantity of water was found between the integuments that enveloped it. The skull was sawn asunder so as to expose the courses followed by the tortuous gallery in which are situated the organs of hearing. In this gallery, with his head imbedded in the tympanum of the ear, and his body so enlarged as to deprive him of the power of retrograding, even if he had desired to "back out" of his position, the doctor found a large tick. He believed that the horse had died from the presence of this insect, and the irritation resulting from his persistent bite. The doctor suggested pouring a tea-spoonful of sweet oil into each ear of every horse, and then in pouring a tea-spoonful of a *strong* decoction of tobacco (with, say, a gill of *aqua ammonia*, to six gills of the decoction,) also put into each ear of every horse. This I did as often as once a month for the whole of the succeeding winter. And from that time to the present, whenever I have seen a single horse holding his head on one side, and "flopping" his ears, I have had the whole number treated in this manner. Since then I have lost but three horses from this cause, and I have had more than a hundred at a time in my stables, at different periods since the fall of '53. I believe the disease alluded to by the correspondent of the "Albany Country Gentleman," is the same which I had in my stables. If so, perhaps this communication, which I had but a few moments to scribble off, may be of some service.

JAMES HENRY CARLTON, U. S. A.

From the Ohio Valley Farmer.

County Court Day at Paris, Ky.

It is a custom long established in some of the interior counties of Ky., to make "County Court Day" the occasion for the sale of mules, cattle, horses, and anything else that owners see proper to offer. Upon arriving in Paris last court day, (1st Monday in April,) I found the streets literally jammed with men, quadrupeds and vehicles. The noise was suggestive of Babel. Here was an auctioneer upon horseback, selling a herd of mules, which owners and bidders had surrounded, and thus kept together. Near by was another auctioneer, mounted upon a wagon, selling a lot of sewing machines; farther along a livery stable was undergoing the vendue ordeal. Scattered at random through the streets were vendors of carriages, saddles, bridles, harness, fruit trees, and patent corn planters, which last, as explained by a native, "drapped and kivered both." Occupying the more retired positions, were representatives from the mountain counties, with white pines, chinkapins, mountain honeysuckles, and tar for sale. The tar was put up in little kegs, with a view of being sold direct to the consumer. I was especially

amused and gratified with one feature of the day's transactions.

Just as an auctioneer had concluded one of his principal sales, a venerable looking old negro woman, mounted upon an ancient piece of horse-flesh, rode up and requested him to sell her horse, which he proceeded to do, after "Aunt Ann" had enumerated the many good qualities of her charger. These he repeated, adding: "Gentlemen, you all know Aunt Ann won't tell a lie." After laboring about as hard as though a valuable thorough-bred of a grandee owner was under his hammer, he affected a sale at handsome figures. During the sale "Aunt Ann" remained in the saddle, and although she was the most prominent feature of the crowd, she at no time, was treated with other than respect and consideration.

Annexed will be found a condensed report, from the *Paris Flag*, of the principal sales of the day.

I. N. L.

GREAT MONTHLY SALE OF LIVE STOCK, &c., AT BOURBON COUNTY COURT.—Last Mondy was decidedly the liveliest sale day we have had since the financial pressure commenced, though not to be compared to the sale days before that time, when over \$200,000 worth of stock and \$1,500,000 of money changed hands. Mr. Hibler, the principal mule auctioneer, reports about 800 head of mules, 500 head of cattle and great numbers of horse offered. There was a decided improvement in the prices of all kinds of stock, and sales were more readily effected than at late courts. From his reports, and our own observations, we condense the following:

Sixty-two head of two year old mules sold at \$116 per head; twenty do. at \$146 75; thirteen do. at \$108 25; others down to \$86; nine yearlings at \$95 10; forty nine do. at \$93 80; others as low as \$66; broken mules at \$350 to \$293; horses from \$347 to 59. Cattle two and three years old at \$43, \$37, \$23, &c., yearlings at \$30, \$21, \$16, &c. Mr. Hibler's sales reached about \$35,000. The sales of the other auctioneers would swell the amount to \$50,000.

The banks afforded some accommodations. The private money dealers operated at one and two per cent., many paying the latter price to prevent suit against them at coming court. The show of stallions was indeed a splendid one, about twenty-five of the finest horses in the country being upon parade.—*Paris (Ky.) Flag*.

The Ingalls Cow.

We publish the following account of the INGALLS COW for a reason. It is that persons who have animals of such qualities may turn their attention to perpetuating their stock. Many a man has an animal of similar, only

not so remarkable properties, of no particular breed, which might be made, by judicious breeding, to leave descendants quite as good as herself. Now, indeed, such cases are accidental because very few cows are bred to particular bulls with reference to perpetuating their milking qualities; but if this were done, the accident would become the rule. The plan of doing it is exceedingly simple, and is as follows: Let every one who wishes good milking kine get Guerrer's pamphlet—from J. W. Randolph, price 37 cents—and study the six or eight best escutcheons for milk—then select from his stock such animals as present these marks, and a bull of similar marks; have the cows well milked and await the event in patience; when after years of trial, such observers as Messrs. James Newman, of Orange, Raleigh Colston and R. W. N. Noland of Albemarle, John B. Crenshaw of Henrico, George Watt of Richmond and Wm. B. Sydnor of Henrico say a thing is true—as they do most emphatically of Guerrer's theory—it is time that other men of sense were beginning to act on it.

Heretofore no breed of cattle has ever been raised with reference to quantity and quality of milk, and durability in milking. But it is as easy—nay, easier, to establish such a breed than to have brought the Short Horns or the Devons to their present high development.

[ED. SO. PLANTER.]

This cow was owned by Hon. H. Ingalls, of Mercer, and sold by him to a gentleman in Lowell, Massachusetts. While on her way to Massachusetts, she passed through this city, one morning, having travelled nearly all of a warm night, and while she stood panting and weary, resting in the shade, we had a daguerreotype taken of her by Lamson, from which the above engraving was made. This will account for the attitude she is in, and her lank appearance, for which the reader will make due allowance. One part of the portrait is, however, very correct, viz: the udder, which, though at the time not so full as it sometimes was, is however, so well developed, that every one can judge that she was a superior milker.

At that time (1847) we published in the Farmer answers to queries in regard to the cow. Mr. Ingalls gave us the following, being a statement of the yield of his

cow, in milk and butter for fourteen days, ending June 27:—

First week, whole weight of milk,	353 lbs.	
Average per day,	50 "	7 oz.
Greatest weight in one day,	53 "	8 "
Whole weight of butter 1st week,	19 "	10 "
Second week, whole weight of milk,	367 "	4 "
Average per day,	52 "	8 "
Greatest weight in one day,	56 "	4 "
Whole weight of butter 2d week,	21 "	

Making 40 lbs. 10 ounces of butter in fourteen days, requiring 18 lbs. of milk to make one pound of butter.

The cow is from the native breed crossed with the Durham, and is nine years old, of good size, gentle and docile, and does not look to be more than six years old.

In answer to inquiries made in the Farmer respecting the parents of the cow; Mr. A. J. Downes, of Mercer, a neighbor of Mr. Ingalls, states that this (the Ingalls) cow was raised by Mr. Newcomb True, of Mercer, and calved December, 1837. Her mother was brought into the town of Luther Burr, Esq., who bought her (the mother) of John Frizzell, of Starks, when she was two years old. Mr. Burr describes her as being a little black cow of the native breed. She had a calf when two years old, and at that time gave a very large quantity of rich milk, and continued to increase in milk, till she was six years old. This season, running with two or three other cows in a very rich pasture, she gave a very large quantity of milk, and so large was her bag in proportion to her very diminutive body, that she excited great admiration.

But she began to run down, and finally got so feeble that she could not get up alone, and all this time gave as much milk as either two of the other cows, which were considered first rate. As no one could tell what the matter was, a farrier was sent for, who examined her, but could not find that there was any disease about her.

He ordered her to be kept up and fed on hay, as upon this fare she began to gain strength, after a while a little Indian meal

was added, and she finally got over her weakness.

Neither her milk nor butter was ever weighed, but it is thought that she gave as much as the Ingalls cow.

The infirmities of age began to creep upon her while young; her eyes began to grow dim, and her ears dull of hearing, and she finally became blind and deaf, but her appetite never failed. She would eat anything in the shape of food.

She, like the celebrated Morgan horse, left a large family to hand her good qualities down to posterity. All her calves, with one exception, were heifers, and made first-rate cows for milk; and they all seemed to inherit the good qualities of their mother to the third and fourth generation.

When about worn out, she was disposed of to Mr. True for ten dollars, and with much care and nursing he succeeded in raising from her one of the best cows this country ever afforded, the "Ingalls cow."

This history comprises all that is known respecting the origin of the breed. Mr. Frizzil is not able to give any account of her—does not recollect what cow she came of. He kept at the time a number of cows which were good, but nothing extra. He thinks their superior milking qualities were not hereditary.

This cow was certainly a very remarkable one, but no satisfactory reasons can now be given why she and her descendants have proved themselves so much more valuable for dairy purposes than many cows of this country.

To Keep Butter Hard and Cool.

A writer in the *Scientific American* recommends to the ladies a very simple arrangement for keeping butter nice and cool in the hottest weather. Procure a large, new flower pot of sufficient size to cover the butter plate, and also a saucer large enough for the flower pot to rest in upside down; place a trivet or meat stand, (such as is sent to the oven when a joint is baked) in the saucer, and put on this trivet the plate of butter; now fill the saucer with water, and turn the flower pot over the butter, so that its edge will be below the water. The hole in the flower pot must be fitted with a cork; the butter will then be in what we may call an air-tight

chamber. Let the whole of the outside of the flower pot be then thoroughly drenched with water and place it in as cool a place as you can. If this be done over night, the butter will be as "firm as a rock" at breakfast time; or, if placed there in the morning, the butter will be quite hard for use at tea hour. The reason of this is, that when water evaporates, it produces cold; the porous pot draws up the water which in warm weather quickly evaporates from the sides and thus cools it, and as no warm air can now get at the butter, it becomes firm and cool in the hottest day.

Quantity of Milk for a Pound of Butter.

Much difference of opinion is entertained in relation to the quantity of milk required to make a pound of butter. It is true that there is a very great difference in the quality of milk from different cows. The feed, also, has much influence upon the richness of the milk. The milk of the Alderney cow will give much more butter from a given quantity of milk, than any other breed with which we are familiar—but it is very desirable to ascertain, as far practicable, what is the fair average of dairies, composed of the dairy cows of this country, and treated as our best dairy cows are by good dairymen.

We requested a dairyman in this State, Joshua Holbert, of Chemung, to make the experiment, and furnish us with the result. He has done so and his statement will be found annexed. From this it will be seen that the fair average of the dairy, taking the season through, is *fourteen quarts of milk for a pound of butter*. We have made extensive inquiries since the statement was furnished, and the general expression of dairymen, in our own and adjoining States, corresponds with that of Mr. Holbert.

It will be seen in the report which we give of Mr. T. Horsfall, of England, on the management of dairy cattle, that the same average is found in Mecklenburg, Prussia, Holland and Great Britain.

It is very important that our dairymen should make careful trial of different varieties of feed, testing the qualities of each, and thus ascertain what is the most beneficial, in addition to the ordinary pastures of the farm. Indian corn for soiling has been very successfully used in this State for dairy cattle—and in the severe

drought of 1854, those of our dairymen who had this resource, were enabled to make their full complement of butter, while others suffered a very great reduction in their annual produce. The Chinese Sugar Cane is recommended as favorable for this purpose, and its extensive culture during the approaching season will doubtless test its value. The Stowell Evergreen corn has proved the most valuable variety for soiling that we have known in this State. We hope our dairymen will give attention to the subject, and communicate to the Society the results of the trials which may be made, with any variety of corn for soiling.

JOSHUA S. HOLBERT'S STATEMENT.

B. P. Johnson, Esq: In order to ascertain the quantity of milk necessary to make a pound of butter, I have measured several churnings of milk, and then weighed the butter, and it takes now 15 quarts of milk to make one pound of butter. I think, to take the whole time of milking for the year, it will take 14 quarts. My father, John Holbert, thinks it will take between 13 and 14. Last fall, while feeding pumpkins, about 9 quarts made a pound. JOSEPH HOLBERT. *Trans. N. Y. State Ag. Society.*

The Ox Breeze Fly.

ŒSTRUS BOVIS.

This fly has received various names, but in the larvæ state it is generally known as warbles, or wormuls, a corruption of the word wormholes. The parent fly, magnified, is a little larger than the common house fly, but is very hairy, and resembles a small humble bee, differing, however, in the number of its wings, of which, like the house-fly, it has two only. The Thorax is black, the abdomen barred black and white, the tip orange, the head brown with black eyes, antennæ small, legs blackish, the whole body hairy, or downy, and the wings transparent, and $\frac{7}{8}$ of an inch in extent. The ovipositor of the female, like that of all the breeze flies, is composed of a number of tubes which slide into each other like those of a telescope; when she intends to deposit her eggs, she extends her ovipositor with an egg held at the end of it, and leaves the egg among the hairs, and on close contact with the skin.

Writers have differed considerably in regard to the method by which the parent insect deposits her eggs. The earlier authors stating that she bored a hole in the skin of the ox, in which was deposited an egg; but later and more accurate observers have shown that this is not the case. When the egg is hatched, the little footless worm immediately penetrates the skin, and forms a cell under it, living upon mucus, or pus, formed by the irritation produced by its presence. When fully grown, it presents somewhat the shape of an ordinary grist loom, of a brownish color and rough. The hole by which it enters the skin when young, still remains open, and through this the animal breathes, the spiracles being placed at the apex of the abdomen, and this part of the body is always visible in the aperture. When the larvæ has obtained its full growth, it works itself through this hole and falls to the ground, which it enters, and then undergoes its transformation to a pupa of a blackish color. These warbles are generally found on young cattle, or those in good condition; the fly selecting such, as better suited to the rearing of its young. Much difference of opinion exists as to the amount of damage which they do. Some think that their presence is rather beneficial than otherwise; when they are very numerous, however, the animal loses flesh, and does not present as healthy an appearance as it did formerly. The best method of destroying these grubbs, is to open the hole a little with a sharp pen-knife, and press the tumor sufficiently to expel its inhabitant; afterwards keep the part clean, and it will soon heal up. The grub should not be killed in the tumor and left there, as it will putrify and produce a much worse state of things than if left entirely alone. Cattle are much excited by the presence of the flies, and run about in apparent terror.—*Ohio Farmer.*

The Potatoe Weevil.

Why is it that no notice is ever taken of this very destructive insect? The top of wheat by the grain weevil bears a far less annual proportion to its market value, than the potatoe suffers by a similar cause.—Our agricultural press is so silent on the subject, that full seventy-five per cent of potatoe growers are unaware of the in-

sect's existence, or the loss they suffer by it.

The insect is nearly the size of the curculio, or plum weevil. So far as I have been able to ascertain, the egg is deposited in the stalk of the potatoe about the end of June or beginning of July. The grub or worm is fully grown in a few weeks afterwards, and commences with its existence to bore downwards through the heart of the stalk, so weakening the power of the stalk to draw its proper supply of moisture from the soil, that the first warm August sun completely dries up the plant, and all growth of the potato tubers of course at once ceases. But the larvæ remains so long as the least particle of nutriment, as is left, when it very rapidly passes through its chrysoloid existence to its common beetle form; and about the end of September or beginning of October, passes out of the stems into the soil, ready to commence with the return of spring its annual depredations.

The damage done by the insect is greater in dry seasons than in wet ones, for obvious reason. From careful observation, I have no hesitation in saying that, in my opinion, the insect has done more to shorten our crops this season than the hot sun did. The late crops have done considerably better than the earlier ones, not because in the earlier part of their existence they had not as hot suns to contend with, but chiefly because the strength of the insect is principally expended on the early crops. I believe it would not be too much to rate the loss to the potato crop by this insect, in this region at least, at 50 per cent on the full crop.

The history of this insect seems to be enveloped in mystery. Its existence in any numbers seem to be coeval with that of the potato disease. My own experience of it is limited to the last four years, when examining some stalks in a three acre patch at Holmesburg, quite dead in the middle of August, 1852. I found the grub in every stem. Since then I have found that the insect had been observed by other parties of more investigating dispositions, before. Whether it had any bearing on the original potato disease I feel unable to decide; but the appearance of the two about the same time is a remarkable coincidence. I may, however, observe, that with the potato disease as it

was at first developed, I am well acquainted; but have never seen since by any operation of this insect, nor indeed by any other agency the same appearance, and I am led to conclude that if this insect had no connection with the original disease, that peculiar disease has entirely left us, as I think, all our present losses are entirely attributable to it.

Fortunately, in this instance we have the remedy in our own hands. About the middle of September, or earlier, if the stalks decay, they can be collected and burnt. Two or three years of this practice would go far to eradicate them, if generally practiced. Even by the time this gets into print, many may still be found in the dead stems; and, by being burnt, will go far to lessen the strength of the enemy for next season's campaign. I should have noticed it earlier, and in time to have rendered the advice more useful, had I not expected that some account from worthier pens would have appeared somewhere; as I know many parties better acquainted with the habits of the insect than I am, and more fitted to point out the mischief it is causing. Of late years there is too much tendency in some quarters to ridicule and satirise any new idea; and purely scientific persons, who have no pecuniary interest to serve by publishing their observations, shrink from the risk of controversy with those who, in their zeal for their own opinions, lose both good temper and the proprieties of literary intercourse; and thus the existence of many useful facts is unknown to those most interested, until blundered on by thick-skinned writers, like myself, whom the frequent use of the lash has rendered indifferent to praise, or callous to censure; to the great injury of practical men.

[*Germantown (Pa.) Telegraph.*]

Remedy for Fleas.

MESSRS. EDITORS—J. E. W., in your paper of 10th September, asks for a remedy for fleas. Nothing, I believe, but the Frenchman's powder will kill them; but the following will keep them from his bed. Take five or six pieces of camphor of the size of a walnut; tie them up separately in pieces of cloth; take them to bed, placing them in different parts top and bot-

tom, and I think he will sleep with less annoyance from the pests.

I learned the above remedy many years ago when in Paris, where fleas abound.

A SUBSCRIBER.

Jamaica Plains, Mass.

[*Country Gentleman.*]

Antidote to Mosquitoes.

The following letter was addressed to a London paper:

"Sir: Allow me to hand you the following recipe as a certain preventive to attacks of mosquitoes, black flies, &c.; glycerine 4 oz., oil of spearmint $2\frac{1}{2}$ drachms; oil of turpentine 4 drachms. The face, neck, hands, in fact all parts exposed, to be rubbed with the mixture. This was given me by an eminent American physician previous to going into the State of Maine on a hunting expedition. I never knew it used without perfect success."

Overseers' Rules.

The following rules were laid down by a good overseer in Jackson Parish, La., and published in the Times. Read them:

1. Before going to bed, I will think over what I have to do the next day, and note it down upon my slate, in order that it may be recollected on the morrow.

2. I shall rise early, and never let the negroes catch me in bed of a morning, but see that they are all put regularly to their work.

3. After rising I shall not idle about, but go directly at the business of my employer. I shall see that the negroes are at their work; that the horses have been fed, the cattle attended to, &c. If any of the negroes have been reported as sick, I shall at once see that proper medicine and attendance are given.

4. Wherever the negroes are working, I shall consider it my duty to be frequently with them, in order that I may see how they get along. I shall not content myself with doing this once a day, but I shall do so repeatedly, observing every time what they are doing, and how they do it. I shall never permit them to do any work wrong if it takes the whole day to do it right.

5. *Negroes.*—I shall see that the negroes are regularly fed, and that they keep themselves clean. Once a week at least,

I shall go into each of their houses, and see that they have been swept out and cleaned. I shall examine the blankets, &c., and see that they have been well aired; that everything has been attended to which conduces to their comfort and happiness.

6. *Horses.*—I shall consider it my business to see that the horses are properly fed and rubbed; their stable is well littered. When harnessed and at work, I shall see that their harness fits, and does not gall them, recollecting that these animals, though dumb, can feel as well as myself.

7. *Cattle.*—I shall daily see that the cattle have been penned, that they have good water to drink; and I shall at once see how I can best procure a pasture for them. I shall let the cattle minder know that he is watched and held responsible for these things.

8. *Milk Cows.*—I shall contrive to procure these the best pastures, if possible. I shall feed them night and morning, and shall so manage it as always to have something for them to eat when penned.

9. *Houses, Fences, &c.*—I shall endeavor never to let these get out of order. The moment I discover any of them out of repair, I shall have them attended to, never forgetting that "a stitch in time saves nine."

10. *Carts, Wagons, &c.*—I shall observe the same rules about these as about the horses, &c., and shall never put off attending them until I may want to use them, when I shall not have time to do so.

11. *Time.*—I will always recollect that my time is not my own, but my employer's, and I shall consider my neglect of his business, as so much unjustly taken out of his pocket.

12. *Visits.*—If any one calls to see me I shall entertain him politely; but I shall never forget to attend to business on that account. "Business first, and amusements afterwards" shall be my motto. If any of my friends are displeased at this rule, the sooner they cease to be friends the better.—*Southern Cultivator.*

All About Overseers.

In this age of humanity and Christian enlightenment, no change of society is more remarkable, than that which has substituted moral, for physical force, persua-

sion for compulsion. In all the ramifications of life, where authority is necessary this peculiarity may be traced from the extreme of capital punishment, to the minor penalties of social insubordination. The government has thought proper to do away with flogging in the Navy, States have abandoned the same in the penitentiaries and common prisons, and down has the reform come, until even the sage counsels of Solomon have been disputed, and "the spare rod and spoil the child" system of social management, has given way to appeal, to moral sense and considerate reason. A reform so general and universal in its application could not take place without benefitting in some degree the negro, who, of all classes of society, is most dependent for happiness upon the kindness and humanity of those who control him. The ameliorations in this respect, consist in the better character of overseers. As a class, they exercise an influence that is felt, wherever the reign of King Cotton is acknowledged. Upon their prudence, skill and industry, depends the millions of money for which the cotton crop is annually exchanged. Upon their discretion, judgment and humanity depends the happiness, to a great extent, of the millions of slaves, whose muscular energies wield the implements of Southern husbandry.—Standing midway between the proprietor and his estates, it is in their power to strengthen the influence of the one by enlarging the revenues of the other. Occupying grounds between master and slave, it is in their power to lessen the responsibility of the former, by judicious management of the other. With such facts before us, how important to have the right sort of overseers? and what then constitutes a good overseer?

First, then, he should be morally honest. Without this, it is not only in his power to wrong his employer, but even the rights of the negro are, in a great measure, in his hands. The proceeds of the plantation being placed under his care, or rather its means of subsistence, he can appropriate them to his use slightly to the detriment of the proprietor, but greatly to the suffering of the negro.

Second, he should be humane. That is, he should have enough of true and genuine charity about him, to be above the revolting consequences of malignant passion,

and deal with a conservative hand, in all matters affecting the rights and bodily comfort of the slave.

Third, he should be industrious. Without this, the interests of his employer would be jeopardized, while the happiness of the negroes themselves would in no wise be enhanced. The consequences of his sloth would be felt in the receipts of the plantation, while the negroes would grow vicious and turbulent for want of proper restraints. Decay would soon write his name upon all the perishable objects around him, while disorder, confusion and misery each would struggle in a war of extermination, for an impious ascendancy. A lazy overseer is a great evil to his employer, but a positive curse to the negroes.

Fourth, he should be a man of decision. This would always find him ready for emergencies, while it would enable him to guide with a steady hand the regular rounds of business. Without it, a loss of time, a wrong application of labor and train of general ills would follow. His positions once taken, and his choice made, his whole available force would move with the quick-step of an army. The piteous but deceitful whinings of the lying could not unnerve him, nor the insolent threats and menaces of the rebellious alarm him. With this, he could appropriate his labor to advantage, and keep a regular system of plantation economy. As weather and seasons changed, so he could dispose of his time and labor, and turn it to the greatest account. To see a man trying to kill grass with a hoe when his land is in order for the plow, or take ten men to do a job which five can accomplish is evidence of culpable indecision and want of method. Besides all this he often has rights to adjudicate among negroes, and without a firm discriminating mind, his decisions would conflict with the plainest demands of justice and common sense.

Fifth, he should be a man of strict truth. Truth is not only a high moral embellishment, but it is actually useful in all the relations of life. It prevents mistakes and wrangling on the plantation by keeping up a fair understanding, and making each one bear his own responsibility. An overseer to be swearing that he has corn as high as his head, and as clean as a parlor floor, when it is not a foot high, and every square inch covered with a crop of verdant green which

he didn't plant, or to throw responsibility from his shoulders when censured by his employer, by swearing he told a negro to do thus and so, for which, to prove his sincerity, he will whip the negro, makes but a despicable show of character.

Sixth, he should be a moral man. The idea that a man must swear, because he has negroes to manage, is a poor apology for the indulgence of a miserable, vulgar habit. An overseer can have a well defined and prompt discipline without the use of profanity, and by keeping his temper and controlling himself with becoming dignity, can acquire a much easier command over negroes, than by fretting himself into a passion, which he must throw off by raging profanity. If he once gets into such a habit, negroes will watch for it like a sort of moral thermometer, and wait for his temper to get to cursing point, before they feel inclined to heed him much. Then the example to them is pernicious. Every overseer should be an exemplar of decency at least to the negroes under his charge. It is rather an unfavorable argument for the institution of slavery, to say, that a man cannot manage negroes without swearing, and one that we know to be false.

Seventh and lastly, an overseer should be intelligent. The duties of a plantation require a clear practical mind, which should be cultivated by reading. Every overseer should take two or three papers, a majority of which should be agricultural. These he should read carefully, because they enlighten him on the subjects in which he is interested. Beyond that he might read, with profit, a few elementary works on agricultural chemistry. Time spent in this way will not only make him wiser, but it will give him character, and that will command situations at any time and place, at the highest rates. In this feature, overseers are more deficient than any others. The most of them we know to be poor men, who have had no advantage of education, and think that because they had not early opportunities, there is no use in trying for improvement at a later period of life. But this is all a mistake. The history of our country abounds in instances of men, who have made themselves eminently great, by application to books, after the period and responsibilities of manhood had begun; and

there is no man of ordinary natural mind who cannot add much that is useful and ornamental to his acquirements, by reading during spare hours.

These are among the foremost characteristics, necessary to constitute a good overseer, and he that has these, will have the minor accomplishments growing from them. It is time, that overseers, as a class, were aspiring to that elevation of character to which they are entitled, and we are glad to know, that in a few years past, an evident change has taken place in their aims and position. The time is past, when the mere bull-dog qualities of a severe driver or task-master, are only required. While planters wish to employ men who are good disciplinarians, and such as know how to command with decision, and order with discretion, they, in no instance, wish the services of the tyrant, whose delight is in punishment and cruelty. Overseers, as thousands of instances readily attest, can secure the respect as well as the fear of the negro, and govern the plantation in the absence of the proprietor with humanity and kindness. There are no set of men in the State, who could impart more valuable information upon the system, if such it may be called, of Southern agriculture, and we invite them not only to subscribe to the *Planter & Mechanic*, but to adorn its pages with the lights of their experience. Our friend Harmon of Utica, has set them a good example, which it is hoped many will follow. By reading agricultural papers, and observing closely the operations of nature in his pursuits upon the farm, he has made himself a ready writer and valuable correspondent to the leading agricultural papers of the South. He has promised in future to pay his special respects to the *Planter & Mechanic*, and we know of no correspondent whose communications deserve more attention either from the *Planter & Mechanic*, or its readers. In conclusion let us urge upon overseers the propriety of taking our paper, and reading it, and then writing for the same. The profits will be mutual, for while they will send us their dollar, we will send them a journal from which they will reap much valuable information, and through which they can impart to others the same. There are other things to be considered in a future number.

From the Cotton Planter and Soil of the South.

Short Letters to Overseers—No. 1.

DR. CLOUD—*Dear Sir.*—Few positions in life are more responsible than that of an overseer on a Southern plantation, and it is to be feared that many persons undertake it without being aware of its responsibilities. You will therefore not think it amiss, if I preface what I have to say with a few remarks upon the nature of the vocation in which you are engaged. An overseer is the equal of his employer; he is his confidential agent. He is entrusted with the care of his employer's estate, and upon the fidelity with which he discharges that trust, in a very large degree must depend the prosperity of that estate. You are just as responsible as the head clerk to whom the merchant would entrust the management of his mercantile affairs; or the superintendent to whom the capitalist would confide a manufacturing establishment, or the teacher to whom a parent would commit the education of his children. The nature of the trust is precisely the same in your case that it is in either of the other instances, though the duties which you may have to perform are different. Nor is your trust less complex than that of either of the other agents to which I have referred. The management of a Southern plantation involves faithful attention to a great variety of details. From the proper treatment of slaves which are placed under you, down to the most trifling matter on the plantation, are a thousand interests demanding your attention, and if you are unfaithful in any of these particulars, the interests of your employer must suffer somewhat. You have in your hands not only the result of the crop, and to that extent, the annual income of your employer, but the health and lives of the negroes, the care of the live stock and the farming utensils, are all, in a great measure, entrusted to your keeping, and thus you control not only the annual income, but the active investment of your employer. With all these interests in your hands, you perceive that you are entrusted not only with the estate, but very largely with the peace of mind and consequent happiness of those who employ you. Surely, then, yours is a responsible office, and it would be well if you should impress upon your mind a

sense of this responsibility. Every principle of honesty and fair dealing requires that you should not carelessly undertake the duties of a relation which involves so much of responsibility. So necessary do I regard that you should fully appreciate the importance of this thought, that I will not divide your attention by introducing any other thought in this letter. You will hear from me again next month.

JUSTUS.

From the Country Gentleman.

Best Mode of Curing Hay.

Messrs. Editors.—I notice that a controversy still goes on respecting the time of cutting and manner of curing hay, especially timothy. I now intend giving my views at length, as it has been my study for half my life-time, to cut and cure at the time and in the manner most palatable to animals, and at the same time most nutritive. I believe nothing of food kind is nutritive, unless it has a good flavour or smell; therefore it is important, both for our own interests and for the comfort of the dumb animal under our care, that we should have their winter food prepared in the best manner we can to retain a good flavour. I will state my reasons for this opinion: I was informed long ago, by one who I suppose knew, that to make the tobacco plant a narcotic, it had to be gathered at a certain time, and cured in a peculiar manner. If not so gathered and cured, it would be insipid, or lose its narcotic quality, and would not be used by man; and that beautiful flower, the fox-glove, requires to be gathered at a certain stage of its growth, and cured in a very peculiar manner, being dried in the dark, and then called *Digitalis*, a powerful medicine for both man and beast. So it is with other medicinal flowers and herbs; they need a certain treatment, both in the time of gathering and curing; otherwise they are worthless. Such reading led me to try, and, if possible, find the best time for cutting and manner of curing hay; and I doubt not, had hay been made for man, that centuries before the nineteenth, it would have been a settled point by man, or good housewives, as to which is the best time of cutting and curing it, to answer our tastes.

I will now give my time of cutting, and

also manner of curing when cut by scythes, as also the manner which I think indispensable when cut by machines.

As to time of cutting, I know that every farmer will agree with me, that nothing they ever fed to cattle, (that are fairly fed during the winter,) will put on as much fat or increase their weight near as much in a given time, (say two months,) as rich pasture. Therefore I argue that grass should be cut for hay, and not let it stand until it becomes dried hay before it is cut. If I could cut all my hay in a day or two or a little longer, I would let timothy stand until the seed was formed, but still quite soft; but as that cannot be accomplished in the time mentioned, I begin when in full flower.

When cut with the scythe, and the grass heavy, I did all the curing in the swath. Grass will stand a good deal of rain without injury, if left in the swath, when cut green. When I intend to take it in, if not thoroughly dry on the lower side, if wet from rain I turn the swaths over before raking, if even somewhat green on the underside of the swath; but if no rain had fallen, I raked it up, and took it into the barns. In that way it took a sweat if a heavy crop in the swath, and another sweat in the mow; and I hold it indispensable that hay, for either sheep or cattle, should have a sweat, and it is equally requisite as that tobacco or fox-glove should have their peculiar modes of curing and time of cutting. If a light crop cut with scythes, as soon as a little wilted, I raked up, put in good sized or rather large cocks, let it take a good sweat in the cocks, and let them alone until dry enough to take in. (Timothy hay cut green and cocked in a green state, will stand much rain without much injury if let alone.) In this way I always made fine flavoured hay, and my stock always did well upon it.

But since we all around here cut our grass with machines drawn by horses, the mode of curing must be somewhat different to make fine flavoured nutritive hay. The machine cuts and spreads it as evenly as it grows on the ground; therefore it dries much more suddenly than if cut by scythes, and the horse-rake ought to be started a few hours—(more or fewer, according to the temperature)—after the machine is started, and the grass put in cock, and not left until the machine has

done a day's work, and until the dew goes off next morning. If a high temperature, your hay will then be so dry that it will take no sweat; hence no flavour, and much less nutriment. The trouble with those men who make a trial of cutting green, is that they dry it so much in the hot sun that it cannot sweat in either cock or mow. I have seen stacks of hay in many places, the hay having been put up so dry, that if my arm had been long enough I could have put my hand through them, and that after they had stood for months, and the hay had no more flavour, (except the little ripe seed left on,) than brush from a dead tree. I want to see no stacks or hay mows put up for me but will in a week or ten days become so solid that it is with difficulty you can push your hand into them one foot.

Now, Messrs. Editors, I have given you as lucidly as I can my views and reasons for deviating from the rules laid down by far more learned men, as to the time for cutting and manner of curing timothy hay, and indeed all other kinds of hay I have had any experience with in this hot climate. Yet I have no doubt but some of those men, possessed of good talents, will criticise my mode not a little, but all I ask is, that my *brother working farmers* will prove me and try me, and see whether I know anything of the true principles of making and time of cutting hay. Let them follow my plan strictly, and then either approve or condemn it, according as they find it. As haying will be in less than two months, I should be pleased if five hundred farmers in the State of New York would give my plan a trial and report.

It is high time, in this age of enterprise in the world, that the true time and method of cutting and curing hay was known, so as to make it most pleasant to the taste of the dumb brutes, and most profitable to the owner.

JOHN JOHNSTON.

Near Geneva.

Few things tend more to alienate friendship than a want of punctuality in our engagements. I have known the breach of a promise to dine or sup, break up more than one intimacy.

Functions of the Roots and Leaves of Plants.

A growing plant gains a new mouth and stomach with every additional root and new leaf. The moisture of the soil which forms the sap of the plant, is taken into it by the extremity of the roots, or rather by the spongioles which terminates the ends of the fibrous roots. These possess the power of absorbing and selecting the appropriate food required for each variety of plants. At least, we cannot on any other principle, so well assign a plausible reason for the many and varied phenomena in vegetable life with which we are so familiar. As a simple illustration of this, we will refer to chemical analysis.

The straw of wheat requires much silica in its composition, amounting in the ash of good wheat straw to over 28 per cent., while in the straw of haulm of the field bean there is less than 2¼ per cent. of silica. In the ash of the stems and leaves of beans there is 16½ per cent. of potash, in the ash of wheat straw is less than one per cent. Why this difference of mineral matter in the two plants? We all know they can be successfully grown side by side in the same field. Each different plant *selecting* from the soil just so much and no more, of the several soluble inorganic substances as are required for the perfection and maturity of each particular variety or species of plant. All the various phenomena of nature are the results of fixed laws, and no other reason can be assigned for their existence, than the will of the Creator—He hath so ordained it.

The fluid taken from the soil by the roots of a plant, consists chiefly in water, holding in solution some of the gases and minute portions of saline and earthy ingredients, such as potash, soda, lime, silica, &c. The soluble substances in water or sap, as it rises into the stem and branches of the plant, for aught we know, may be gradually undergoing a series of changes from the time it enters the roots till it passes into the leaf. In the leaf we know it is to experience various important changes or modifications.

The nearly crude sap in the leaf is subjected to the process of exhalation. By carefully conducted experiments, it has been pretty clearly ascertained, that of the whole amount of the water taken up by the roots of plants, about two-thirds of

it passes off by exhalation, or evaporation of the leaves. The amount of water daily evaporated by large-leaved plants, like the cabbage, pumpkin, grape, and sunflower, especially when under the influence of a warm, dry atmosphere, aided by the direct rays of the sun, is much greater than some persons may be aware of. Hales made an experiment with a sunflower three feet high, inclosed in a vessel, which he kept for fifteen days; and inferred from it, that the weight of the fluid daily exhaled by the plant was twenty ounces. Mr. Everett in his address at Buffalo, stated there had grown seven millions of counted leaves on a single tree." If Hale's three feet sunflower, with its dozen leaves, exhaled twenty ounces of water per diem, how many pounds will daily be evaporated by the "seven millions of leaves on a single tree?" Can any of our juvenile readers figure it out for us?

From the foregoing it will be seen that one of the important functions of the leaves of a plant, is to carry off the surplus water—to boil down, as it was, the crude, dilute sap, holding in solution the various salts or mineral ingredients that make up "part and parcel" of all plants—and thus, by a greater concentration of the mineral ingredients held in solution by the sap, they are more fully prepared to enter into the various chemical combinations with carbon, and the other organic constituents which make up the entire and perfect plant in all its varied parts.

But the leaves of plants, besides their exhaling power, have another important function to perform in the phenomena of vegetable life. It is through the agency of the leaves that most of the woody and other carbonaceous structures of plants are derived. Carbon in one form or another, is the leading combustible substance in all fuel generally used—in wood, coal, charcoal, oil, resin, pitch, &c. While burning, the carbon unites with the oxygen of the atmosphere, resulting in carbonic acid—and every cord of wood burned, restores to the atmosphere just carbon enough to grow another cord. By passing into the air, the carbon is not lost; there is no such word as *lost* in the whole vocabulary of nature. Carbonic acid gas, though much heavier than common air, is by the great law of gaseous diffusion, equally diffused

through the atmosphere, composing about 1-2500th part of it.

When sugar or salt is mixed with water, it dissolves and becomes invisible—when carbon is burned, it is in fact dissolved in oxygen gas, and the carbon becomes invisible. By evaporating the water holding the sugar or salt in solution, we again obtain the sugar and salt in precisely the state they were in before solution. But we cannot, by any known chemical or other process, obtain carbon from carbonic acid in the form of wood, oil or starch. To do this requires the more efficient agency of vegetable chemistry.

In the economy of nature, it has been so arranged that the healthy leaves of plants in sun light, can and do inhale from the air with which they are surrounded, the carbonic acid that seems so sparsely mingled with it—to do this the leaves have been endowed with very nice discriminating powers; and further, they have the power of decomposing the carbonic acid, that is, separating the oxygen from the carbon, which they retain, and returning to the atmosphere the oxygen in a pure form.

When a fresh leaf is examined by a microscope, its whole surface is seen to be covered with minute pores on each side of the leaf; each of these pores is a species of mouth, intended to receive food or to give off something that the plant no longer requires. A high magnifying power discovers more than 100,000 openings in a square inch upon the surface of some leaves; others have not more than 600 700. Analogous to this is the skin of animals, which is perforated with a thousand pores in the length of an inch, through which the insensible perspiration passes.

It is no more marvellous that the leaf of a plant can take in the carbonic acid of the air, separate it, and retain the carbon and reject the oxygen,* than it is that a grown up boy can take into his mouth a ripe peach and separate the stone and pulp, and swallow the pulp and spit out the stone. From whence did the boy derive his ability to pass the pulp of the peach through the gullet into the stomach? From the same Being that endowed the leaf

* In 22 lbs. of carbonic acid, there is 6 lbs. of carbon and 18 lbs. of oxygen.

with its inhaling and exhaling and separating powers. One of these cases is as much a miracle as the other.

To all land animals, when alive, has been given the power of inhaling atmospheric air. While in the lungs it undergoes a chemical change—the oxygen inhaled combines with carbon derived from the food, and is exhaled from the lungs as carbonic acid. This process goes on continually, and alike successfully in the wise man and in the idiot, in the sane and insane, asleep or awake; and man is almost as unconscious of this operation as the brute; and the brute is as unconscious of it as is the leaf, in reversing the order of this operation.

From the foregoing physiological views, we are enabled to draw some useful and practical hints in farm culture.

As it is through the agency of the roots of plants that they derive their moisture and earthy constituents, and about one-third of their carbon, it is reasonable to suppose the greater the number of roots a plant has, the more rapid and larger its growth; for at the ends of the rootlets are placed the mouths of the plant for supplying it with that portion of its food derived from the soil; therefore deeply worked and finely pulverized soil is much more favorable to a luxuriant growth of plants (other conditions being equal,) than a hard, shallow-worked soil. In the well prepared soil the roots can freely penetrate every square inch of it in search of food and moisture every where disseminated through it, while the roots in the hard, ill-prepared soil will be few in number, feeble and stunted, and unable to supply the plant with food necessary to a luxuriant growth. After a farmer has prepared his land in the best possible manner for a corn crop, can it be for his interest, at the second and third time hoeing it, to run the horse-plow or other deep-stirring implement so as to sever or cut off a large portion of the roots of his growing corn? We have witnessed such a performance many a time. Corn under such circumstances may, in favorable seasons, throw out new roots, and in part restore the loss, and a tolerable crop may be harvested, but it is our impression that such a course not only retards the growth, but lessens the amount of the crop. Why does the cabbage and turnip plant wilt and droop when trans-

planted? 'Tis in consequence of having lost a portion of their roots and the exhalation of moisture by the leaf is greater than its supply by the mutilated and reduced number of roots.

Every one that has transplanted evergreen trees knows how important it is to preserve the fibrous roots and keep them moist if they expect to be successful in planting them out.

Cut off the root of a maple tree in "sap time," and the sap will flow from the severed root as freely as it will from an auger hole bored into the body of the tree. Sever the roots of growing corn, and the sap will ooze from the cut roots so as to render the soil about them quite wet. This loss of moisture by the roots, with that escaping by evaporation by the leaves, causes the corn to wilt, and in very warm and dry weather, we have known the leaves to become completely dried under such management, while adjoining rows of corn, not having been disturbed by the plow, remained unscathed.

As already observed, by the leaves the surplus water is exhaled, and carbonic acid inhaled and decomposed, and doubtless there are other important chemical combinations and changes effected by and in the leaf. If so, is it good policy to pluck from growing cabbages, beets, turnips, carrots, and other succulent plants, a portion of their leaves for feeding cows, hogs, &c.

Is the quality of the grape improved, and its maturity hastened by removing a portion of the leaves from the fruit-bearing branches of the vine a month or so before the usual time of the ripening of the fruit? We have seen this plucking off the leaves of a grape vine performed more than once, from the mistaken idea that the fruit would be larger and earlier by the removal of a goodly portion of the leaves of the vine.

Will the crop of corn be as heavy and valuable, if the stalks are cut when the kernels are in the milk, as if left uncut, or until they had become dry? Says R. L. Allen:

"The talks of corn ought never to be cut above the ears. The sap which nourishes the grain is drawn from the soil, and passing through the stem, enters the leaf, where a material change in the sap takes place. This prepares the sap for conden-

sation and conversion into the grain. But the leaves which digest the food for the grain are above it, and it is while passing downward that the change takes place. If the stalk be cut above the ear, nourishment is at an end—the corn may become firm and dry, but it will not increase in quantity; while if cut near the root, it not only appropriates the sap already in the plant, but it also absorbs additional matter from the atmosphere, which contributes to its weight and perfection.”

In the above capital remarks we find only one thing to except to. It seems to be inferred that the depth and tilth of a given soil being sufficient, it is injurious ever to break the roots, and corn and cabbages are given in proof of the inexpediency of cutting the roots. Now it is true, we think, that if the roots of the plant are disturbed when the plant is fructifying, injury is done thereby to the product; but while the plant is young, we think that with some sorts, breaking the roots is a decided advantage. Thus the cabbage is always larger and better if “pricked out,” before it is transplanted—*i. e.*, if it is transplanted, and as soon as it begins to grow, transplant-

ed again. Again, in the case of tobacco, every planter knows that when his plants are spindling, and the leaf narrow, that a close coultering, which runs so nearly under the roots, that the plants shake as the coulter passes under them and the leaves wilt directly after that, a much more vigorous growth with a broader development of leaf follows immediately—and the effect is equal to a good manuring. It is with cabbages likewise.

With corn, especially when the tendency is to run to stalk, a ploughing *at the proper time*, say when the corn is from knee to waist high, that gives a deep tilth and necessarily breaks the roots, causes it to throw out more roots, and to change its habit of growth to the manifest benefit of the ear.

Whether it be that there is a tendency in every plant where vitality is impaired to reproduce itself more quickly, on the principle of “a poor man for children,” we do not pretend to say, though that is the theory of an eminent French Physiologist. But the fact is indisputable, and is judiciously acted on by both the gardener and the farmer.—ED. SO. PLANTER.

SIXTH ANNUAL EXHIBITION
 OF THE
 VIRGINIA STATE AGRICULTURAL SOCIETY,
 TO BE HELD AT PETERSBURG
 ON THE
 2nd, 3rd, 4th, and 5th of November, 1858.

SCHEDULE OF PREMIUMS.

BRANCH I.

Premiums for Experiments.

First Grade.

1 to 5. For each of five best experiments on any important and doubtful or disputed question or questions of practical agriculture; each experiment covering not less than four acres of land and including a series of not less than eight different matters of trial, observation, measurement, correct estimate, or comparison of results; and moreover, by its proper direction, accuracy of performance and the careful and full report of procedure and results thereof, shall serve to furnish valuable instruction for practice on the subject investigated, to which it relates, whether two or more experiments shall be on the same subject, each, on a different one, a premium of

Second Grade.

6 to 15. For each of ten other next best experiments, of similar character and merit with the above described, but falling short of the full requisitions for the foregoing, a premium of

Third Grade.

16 to 35. For each of twenty other accurate and instructive experiments, or se-

ries of experiments on one general subject, of merit and useful value, a premium of 10

Judges.

- Edmund Ruffin, Jr., Prince George.
- Dr. Jno. B. Harvie, Powhatan.
- Dr. Cary C. Cooke, Fluvanna.
- James B. Jones, Chesterfield.
- R. H. Cunningham, Culpeper.

SUBJECTS FOR EXPERIMENTS SUGGESTED.

While it is by no means intended to limit the range of selection to the subjects here enumerated, it has, nevertheless, been thought proper to suggest them, as of practical importance, and worthy to be tested by careful investigation.

COMPARATIVE EXPERIMENTS OF THE SECOND GRADE.

- 1. *In Feeding Cattle*—Showing the comparative cost of fattening in the open air, and in sheltered stalls, on ground and unground, cooked and uncooked food. \$100
- 2. *In Feeding Sheep*—Showing the comparative cost of fattening at large or in confinement under like conditions as above.
- 3. *In Feeding Hogs*—Showing the comparative cost of fattening under like conditions as above. 25
- 4. *In Manuring Wheat*—Showing the relative effect of ammonia and the phosphates, and a combination of both kinds of manure.

5. *In Feeding Farm Horses*—The best and most economical mode of feeding farm horses. The cost to be stated.

6. *In Draining Land*—The best experiment on thorough draining of not less than two acres of land, with or without tile—the approximate cost and the improvement compared with similar adjacent undrained land to be stated.

7. *In Drilling and Broad-Casting Wheat*—The best experiment, having particular reference to superiority of product, economy of seed and less liability to "heave" in winter.

8. *Selecting Seed Corn*—For the best experiments in selecting seed corn, with a view to increase the number of ears—showing the effect of such increase on the weight of the corn, and its capacity, if any, to increase the amount of corn grown on a given quantity of land. For instance, can ordinary up-land be made to grow a good three-eared stalk on the same area that produced a good one-eared stalk?

EXPERIMENTS OF THE THIRD GRADE.

9. *Manuring Corn*—For the best experiments in finding manure to corn, showing the kind, quality, and cost of manure, and the mode of its application.

10. *Level and Ridge Culture of Corn*—For the best comparative experiment, showing which is the most economical and profitable mode of cultivation.

11. *Corn Culture in Drills and in Checks*—For the best comparative experiment, showing which is the most economical and profitable mode of cultivation.

12. *The Proportion of Shucks per Barrel of Corn*—The best experiment to ascertain the proportion which shucks and corn reciprocally bear to each other.

13. *On Continuous Cropping*—For the best experiment on the continuous cropping of the same field in Indian corn.

14. For the best experiment on the continuous cropping of the same field in wheat.

15. For the best experiment on the continuous cropping of the same field in oats.

16. *Application of Phosphate of Lime*—For the best experiment applied to clover and peas.

17. *Application of Ammonia*—For the best experiment applied to clover and peas.

18. *Combined Application of Ammonia and Phosphate of Lime*—For the best experiment of the application of these, in certain definite proportions, to clover and peas.

19. *Yield of Flour from Wheat*—For the best experiment to show what ought to be the proportion of flour yielded by a given quantity of wheat.

Remarks and Special Rules for Branch I.

The superiority of merit or value of any two experiments, claiming the same or like premiums, will be decided in reference to the nearest approximation to the following conditions:

1st. The comparative extent and completeness

of the processes of experiment, and the apparent accuracy of the procedure.

2nd. The clearness of the report.

3rd. The utility of the information so conveyed.

Exact measurements of results always will add much value to reports of experiments, and should not be omitted whenever the case may require such exactness. But in many other cases, estimates of comparative results, or products, by the eye, may serve, if sufficient for the case and for reaching correct conclusions.

BRANCH II.

Premiums for Written Communications.

First Grade.

36 to 40. For each of the five best essays or written communications, whether on the same or on different subjects of practical agriculture, or on scientific agriculture, strictly and usefully applicable to practice, of high order of merit and utility for instruction—and conforming to the requisitions of the general rules on the subject, a premium of \$50

Second Grade.

41 to 50. For each of ten other and next best essays or written communications as above described, but which may fall short of the requisitions for the higher offers, a premium of 20

Third Grade.

51 to 70. For each of twenty other next best instructive written communications of new facts in agriculture, a premium of 10

71. For the best treatise on gardening, suited to the climate of Virginia, to be not less than one hundred pages, 25

72. Best treatise on the culture and management of Broom Corn; 10

Judges.

J. Ravenscroft Jones, Brunswick.

Richard Irby, Nottoway.

James C. Bruce, Halifax, Va.

B. Johnson Barbour, Orange.

Alex. R. Holladay, Henrico.

Remarks on, and Special Rules for, Branch II.

ESSAYS AND OTHER WRITTEN COMMUNICATIONS.

1. Essays and other written articles on practical subjects, must be founded mainly, and on scientific subjects, at least partly, on the writer's practical experience and personal observation or investigation; though portions of each may rest on other authorities, to be stated particularly or generally, as required by the case.

2. The award of superiority to any one writing over others on the same subject, will be made in reference to its probable greater utility to agricultural improvement or profit, as well as to the ability with which the subject is treated.

3. In matter designed to instruct or to guide

practical labours, clearness and fullness of details will be deemed a high claim to merit—and next conciseness. Nothing necessary for instruction should be omitted, and nothing included that can be omitted without injury to the value of the instruction.

4. Written Communications to the Executive Committee may be sent in at any time—the earlier the better—as they will at once be referred to the Committee on Essays, who will thus be enabled to scrutinize, and the more correctly to estimate by comparison, the relative merits of the different Essays submitted for their examination.

5. It is required that all written communications to the Society, received at any previous time and published by order of the Executive Committee, and which have not been duly considered, and denied premiums by the judges, shall be still held and considered—as claiming, and in competition with any more recent writings for premiums offered, and for which any such writings may be suitable, and farther, even the previously published writings, which had been duly considered by the judges at the preceding Fair, and to which premiums were denied, shall still be held under review and consideration, by the judges for the next year's premiums, not to again be placed in competition, but for the purpose of being compared as to degrees of merit with the later writings then under consideration and adjudication for premiums.

6. When a premium has been awarded at a previous time to an essay, any other and later essay or written communication on that subject, to obtain a premium, must be either deemed to have important additional value compared with the former one so honoured, or otherwise be very different in matter, or manner of treatment, as well as of a sufficiently high order of merit.

7. All written communications to which may be awarded premiums, will be published in the Transactions of the Society; and any others offered to compete for premiums, and not obtaining that honour, will be published in like manner, if deemed worthy by the Executive Committee.

BRANCH III.

BEST CROPS OF DIFFERENT FARMS.

For the best product averaged per acre, of each of the following crops grown in 1857, or 1858:

1st Class.

If raised on ten acres of land in a body, the annexed premiums.

73. Indian corn, low-grounds,	\$50
74. do., high-land,	50
75. Wheat,	50
76. Tobacco,	50
77. Cotton,	30
78. Oats,	30
79. Field peas,	30
80. Rye,	30
81. Barley,	30

82. Timothy, herds-grass, or other hay, of artificial grass or clover, 30
If raised on five acres of land in a body, the annexed premiums.

83. Clover seed, weighing 60 lbs. to the bushel,	\$20
84. Timothy seed, weighing 46 lbs. to the bushel,	20
85. Orchard-grass seed, weighing 14 lbs. to the bushel,	20
86. Sweet potatoes,	30
87. Buckwheat,	20
88. Irish potatoes, if raised on 2 acres of land in a body,	20
89. Turnips, if raised on 2 acres of land in a body,	20
90. Pumpkins, if raised on 1 acre of land in a body,	10
91. Ground peas, if raised on 1 acre of land in a body,	10

Crops offered as largest products must have their amounts fixed with sufficient accuracy to enable the judges to decide upon their merits. The testimony will be the best that the nature of the case may admit, and such as will be satisfactory to the judges.

Judges.

- Chas. P. Moncure, Culpeper.
- Philip B. Jones, Orange.
- A. Nichol, Petersburg.
- J. J. Hite, Clarke.
- Edward Hill, King William.

2nd Class.

BEST SAMPLES OF TOBACCO.

For the best sample of prized Tobacco of the growth of 1857, not less than 5 pounds, the annexed premiums.

92. For the best English shipping leaf,	\$20 00
93. For the second best,	10 00

Judges.*

94. For the best Continental shipping leaf,	20 00
95. For the second best,	10 00

Judges.*

96. For the best fine bright Manufacturing Wrapper,	20 00
97. For the best sweet chewing Manufacturing Fillers,	20 00

Judges.*

The samples must be carefully boxed, marked and forwarded to the Secretary's office at least one week before the Fair, that they may be arranged for exhibition in their appropriate classes.

BRANCH IV.

HORSES.

Thorough Bred—1st Class.

Awards to be made without regard to performance on the turf, and the judges are required to reject any animal competing in this

* The Judges are not yet appointed.

division, with which there is not furnished a complete pedigree, showing the purity of blood on the side of both dam and sire.

98. For the best thorough bred stallion, \$40 00
 99. For the second best, 20 00
 100. For the third best,

CERTIFICATE OF MERIT.

101. For the best thorough bred mare, 20 00
 102. For the second best, 10 00
 103. For the third best,

CERTIFICATE OF MERIT.

104. For the best entire colt foaled since 1st January, 1855, 10 00
 105. For the best entire colt foaled since 1st January, 1856, 10 00
 106. For the best entire colt foaled since 1st January, 1857, 7 50
 107. For the best filly foaled since 1st January, 1855, 10 00
 108. For the best filly foaled since 1st January, 1856, 10 00
 109. For the best filly foaled since 1st January, 1857, 7 50
 110. For the best foal dropped since 1st January, 1858, 5 00

No premium to be given in the foregoing class to an animal that is unsound.

Judges.

Wm. W. Crump, Richmond,
 Geo. Booker, Hampton.
 W. H. Southall, Albemarle.
 O. P. Hare, Prince George.
 W. H. E. Merrett, Brunswick.
 D. W. Haxall, Charles City.

The Horse of General Utility—2d Class.

111. For the best stallion for useful and elegant purposes combined, \$40 00
 112. For the second best, 20 00
 113. For the third best,

CERTIFICATE OF MERIT.

114. For the best brood mare for useful and elegant purposes combined, 20 00
 115. For the second best, 10 00
 116. For the third best,

CERTIFICATE OF MERIT.

117. For the best entire colt foaled since 1st January, 1855, 10 00
 118. For the best entire colt foaled since 1st January, 1856, 10 00
 119. For the best entire colt foaled since 1st January, 1857, 7 50
 120. For the best filly foaled since 1st January, 1855, 10 00
 121. For the best filly foaled since 1st January, 1856, 10 00
 122. For the best filly foaled since 1st January, 1857, 7 50
 123. For the best foal dropped since 1st January, 1858, 5 00
 124. For the best pair of matched horses, 25 00
 125. For the second best pair of matched horses, 10 00
 126. For the best single harness horse, mare, or gelding, 15 00

127. For the second best, 10 00
 No premium to be given in the foregoing class to an animal that is unsound.

Judges.

Charles Selden, Charles City.
 Marcellus Bell, Petersburg.
 Benjamin Wood, Albemarle.
 Samuel S. Bradford, Culpeper.
 Dr. T. P. Temple, Hanover.

Quick Draught Horses—3rd Class.

128. For the best stallion for quick draught, \$40 00
 129. For the second best, 20 00
 130. For the third best,

CERTIFICATE OF MERIT.

131. For the best brood mare for quick draught, 20 00
 132. For the second best, 10 00
 133. For the third best,

CERTIFICATE OF MERIT.

134. For the best entire colt foaled since 1st January, 1855, 10 00
 135. For the best entire colt foaled since 1st January, 1856, 10 00
 136. For the best entire colt foaled since 1st January, 1857, 7 50
 137. For the best filly foaled since 1st January, 1855, 10 00
 138. For the best filly foaled since 1st January, 1856, 10 00
 139. For the best filly foaled since 1st January, 1857, 7 50
 140. For the best foal dropped since 1st January, 1858, 5 00

141. For the best pair of matched horses for quick draught, 25 00
 142. For the second best, 10 00
 143. For the best single harness horse, mare, or gelding, 15 00
 144. For the second best, 10 00
 Mares and geldings that have been run in a regular race cannot compete for the above premiums.

No premium to be given, in the foregoing class, to an animal that is unsound.

Judges.

Samuel B. Finley, Augusta.
 Albert Akin, Henrico.
 Thomas Branch, Petersburg.
 Wm. M. Harrison, Richmond.
 Dr. Wm. P. Braxton, King William.

Heavy Draught Horses—4th Class.

145. For the best stallion for heavy draught, \$40 00
 146. For the second best, 20 00
 147. For the third best,

CERTIFICATE OF MERIT.

148. For the best brood mare for heavy draught, 20 00
 149. For the second best, 10 00
 150. For the third best,

CERTIFICATE OF MERIT.

151. For the best entire colt foaled since 1st January, 1855, 10 00

152. For the best entire colt foaled since 1st January, 1856,	10 00
153. For the best entire colt foaled since 1st January, 1857,	7 50
154. For the best filly foaled since 1st January, 1855,	10 00
155. For the best filly foaled since 1st January, 1856,	10 00
156. For the best filly foaled since 1st January, 1857,	7 50
157. For the best foal dropped since 1st January, 1858,	5 00
158. For the best pair heavy draught horses,	20 00
159. For the best team of heavy draught horses, not less than four,	30 00

[To be tested on the Fair Grounds according to such plan as may be prescribed by the judges.]

No premium to be given, in the foregoing class, to an animal that is unsound.

Judges.

- Richard G. Haden, Botetourt.
- Wm. Rogers, Loudoun.
- Geo. W. Mowry, Augusta.
- Ro. Blackwell, Lunenburg.
- Silvanus Johnson, Petersburg.

Saddle Horses—5th Class.

160. For the best stallion for the saddle,	\$40 00
161. For the second best,	20 00
162. For the third best,	

CERTIFICATE OF MERIT.

163. For the best brood mare for the saddle,	20 00
164. For the second best,,	10 00
165. For the third best,	

CERTIFICATE OF MERIT.

166. For the best entire colt foaled since 1st January, 1855,	10 00
167. For the best entire colt foaled since 1st January, 1856,	10 00
168. For the best entire colt foaled since 1st January, 1857,	7 50
169. For the best filly foaled since 1st January, 1855,	10 00
170. For the best filly foaled since 1st January, 1856,	10 00
171. For the best filly foaled since 1st January, 1857,	7 50
172. For the best foal dropped since 1st January, 1858,	5 00
173. For the best saddle horse, mare, or gelding,	20 00
174. For the the second best saddle horse, mare, or gelding,	10 00
175 For the best pony,	5 00

Judges.

- L. D. Crenshaw, Richmond.
- Dr. Henry Lewis, Brunswick.
- Burwell Whiting, Clarke.
- F. W. Eppes, Nottoway.
- Dr. J. P. Goodwin, Dinwiddie.

MULES AND JACKS—6th Class.

176. For the best jack,	\$40 00
177. For the second best,	20 00
178. For the best jennet,	20 00
179. For the second best,	10 00
180. For the best pair of mules, to be owned and worked one year preceding their exhibition,	15 00
181. For the best team of mules, 4, or more, to be owned and worked 1 year preceding their exhibition,	25 00
182. For the best mule colt, 3 years old, foaled in Virginia,	10 00
183. For the best mule colt, 2 years old, foaled in Virginia,	10 00
184. For the best mule colt, 1 year old foaled in Virginia,	7 50
185. For the best mule colt, a suckling, foaled in Virginia,	5 00

Judges.

- Nath. Burwell, Clarke.
- Wm. Berkeley, Loudoun.
- A. H. Drewry, Chesterfield.
- Samuel McGehee, Charlotte.
- Col. Christopher Haskins, Lunenburg.

CATTLE.

Short Horns or Durhams, and Herefords, of Native Stock—1st Class.

186. For the best bull, 3 years old and upwards,	40 00
187. For the second best,	20 00
188. For the third best,	

CERTIFICATE OF MERIT.

189. For the best cow, 3 years old and upwards,	40 00
190. For the second best,	20 00
191. For the third best,	

CERTIFICATE OF MERIT.

192. For the best bull between 2 and 3 years old,	30 00
193. For the second best,	15 00
194. For the third best,	

CERTIFICATE OF MERIT.

195. For the best bull between 1 and 2 years old,	20 00
196. For the second best,	10 00
197. For the best heifer between 2 and 3 years old,	20 00
198. For the second best,	10 00
199. For the best heifer between 1 and 2 years old,	20 00
200. For the second best,	10 00
201. For the best calf or heifer under 1 year old,	10 00

For the best Imported Short Horns and Herefords, same premiums as the above, but the Imported breeds shall compete only in their own class.

Judges.

- Joseph Cloyd, Pulaski.
- D. S. Read, Botetourt.
- James K. Marshall, Fauquier.
- Wm. B. Brown, Leesburg, N. C.
- C. W. C. Whiting, Culpeper.

Devons, of Native Stock—2d Class.

202. For the best bull, 3 years old and upwards,	\$40 00
203. For the second best,	20 00
204. For the third best,	

CERTIFICATE OF MERIT.

205. For the best cow, 3 years old and upwards,	40 00
206. For the second best,	20 00
207. For the third best,	

CERTIFICATE OF MERIT.

208. For the best bull, between 2 and 3 years old,	30 00
209. For the second best,	20 00
210. For the third best,	

CERTIFICATE OF MERIT.

211. For the best bull, between 1 and 2 years old,	20 00
212. For the second best,	10 00
213. For the best heifer, between 2 and 3 years old,	20 00
214. For the second best,	10 00
215. For the best heifer, between 1 and 2 years old,	20 00
216. For the second best,	10 00
217. For best calf or heifer under 1 year old,	10 00

Best *Imported Devons*, same premiums as the above, but the *Imported* breeds shall compete only in their own class.

Judges.

A. S. Matthews, Wythe.
T. L. Farish, Albemarle.
Daniel Hatton, Nansemond.
H. K. Burgwynn, Halifax, N. C.
Cassius Dulany, Prince William.

Ayrshires and Alderneys, of Native Stock—3rd Class.

218. For the best bull, 3 years old and upwards,	\$30 00
219. For the second best,	15 00
220. For the third best,	

CERTIFICATE OF MERIT.

221. For the best cow, 3 years old and upwards,	30 00
222. For the second best,	15 00
223. For the third best,	

CERTIFICATE OF MERIT.

224. For the best bull, between 2 and 3 years old,	15 00
225. For the second best,	8 00
226. For the third best,	

CERTIFICATE OF MERIT.

227. For the best heifer, between 2 and 3 years old,	15 00
228. For the second best,	8 00
229. For the best bull, between 1 and 2 years old,	15 00
230. For the second best,	8 00
231. For the best heifer between 1 and 2 years old,	15 00
232. For the second best,	8 00
233. For the best calf or heifer, under 1 year old,	10 00

For the best *Imported Ayrshires* and *Alderneys*, same premiums as the above, but the *Imported* breeds shall compete only with their own class.

Judges.

Col. J. W. Fairfax, Loudoun.
Dr. John R. Woods, Albemarle.
F. T. Ridley, Southampton.
John Willis, Orange.
Wm. B. Sydnor, Hanover.

Grades—4th Class.

234. For the best cow, 3 years old and upwards,	30 00
235. For the second best,	15 00
236. For the third best,	

CERTIFICATE OF MERIT.

237. For the best heifer, between 2 and 3 years old,	10 00
238. For the second best,	5 00
239. For the third best,	

CERTIFICATE OF MERIT.

240. For the best heifer, between 1 and 2 years old,	10 00
241. For the second best,	5 00
242. For the best heifer, under 1 year old,	5 00

This class includes native stock or crosses of any of the foregoing breeds with the native stock.

Judges.

Henry B. Jones, Rockbridge.
T. F. Epes, Nottoway.
D. C. Kent, Pulaski.
Dr. A. A. Campbell, Nottoway.
John Page, Clarke.

DAIRY COWS.

5th Class.

243. For the best cow for the dairy,	\$30 00
244. For the second best,	15 00

Judges.

Raleigh Colston, Albemarle.
James Newman, Orange.
John B. Crenshaw, Henrico.
Edward Sydnor, Hanover.
Wm. S. Fontaine, King William.

Working Oxen—6th Class.

245. For the best yoke of oxen over 4 years old,	\$30 00
246. For the second best,	15 00
247. For the best yoke of oxen under 4 years old,	30 00
248. For the second best,	15 00

The oxen to be tested according to rules to be prescribed by the Committee of Award.

Judges.

S. T. Stuart, Fairfax.
Dr. William R. Nelson, Hanover.
Wm. S. Jones, Frederiek.
Wm. C. Scott, Orange.
C. W. Burwell, Roanoke.

FAT STOCK—CATTLE.

7th Class.

240. For the best pair aged fat steers,	50 00
250. For the second best pair,	30 00
251. For the best pair of fat steers, under 4 years old,	50 00
252. For the second best pair,	30 00
253. For the best pair fat cows or heifers,	50 00
254. For the second best,	30 00
255. For the best fat cow, over 4 years old,	25 00
256. For the second best,	15 00
257. For the best fat heifer,	25 00
258. For the second best,	15 00
259. For the best single fat steer,	25 00
260. For the second best,	15 00

The owner will be required to state the mode of fattening in all cases.

Judges.

Samuel H. Bell, Augusta.
 Cloyd McGavock, Pulaski.
 C. J. Amiss, Augusta.
 C. J. Stovin, Fauquier.
 Dr. Edwin Watson, Pulaski.

SHEEP AND SWINE—8th Class.

261. For the best pen fat sheep, 4 or more,	10 00
262. For the best pen fat hogs, 4 or more,	10 00
263. For the best slaughtered mutton,	5 00

Judges.

Wm. Patrick, Augusta.
 Col. J. S. Clarke, Surry.
 H. Carrington Watkins, Chesterfield.
 E. C. Robinson, Amelia.
 Dr. J. F. Early, Greene.

SHEEP.

FINE WOOL, OF NATIVE STOCK.

1st Class—Including Spanish, Saxon, French, and Silisian Merinos.

264. For the best ram,	20 00
265. For the second best,	10 00
266. For the third best,	
CERTIFICATE OF MERIT.	
267. For the best pen of ewes, three in number,	20 00
268. For the second best,	10 00
269. For the third best,	

CERTIFICATE OF MERIT.

270. For the best pen of ewe lambs, 4 in number,	10 00
271. For the best pen of ram lambs, 4 in number,	10 00

Grades—2nd Class—Including the same varieties as 1st Class.

272. For the best pen of ewes, 3 in number,	20 00
273. For the second best,	10 00
274. For the third best,	

CERTIFICATE OF MERIT.

275. For the best pen of ewe lambs, 4 in number,	10 00
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Judges.

Col. R. H. Allen, Lunenburg.
 R. Y. Henley, King and Queen.
 Dr. C. R. Prichard, Warrenton.
 Gen. M. W. Ransom, Garysburg, N. C.
 Dr. Ro. Randolph, Clarke.

MIDDLE WOOLS, OF NATIVE STOCK.

South Downs—3rd Class.

276. For the best ram,	20 00
277. For the second best,	10 00
278. For the third best,	

CERTIFICATE OF MERIT.

279. For the best pen of ewes, 3 in number,	20 00
280. For the second best,	10 00
281. For the third best,	

CERTIFICATE OF MERIT.

282. For the best pen of ewe lambs, four in number,	10 00
283. For the best pen of ram lambs, four in number,	10 00

South Down Grades—4th Class.

284. For the best pen of ewes, 3 in number,	20 00
285. For the second best,	10 00
286. For the third best,	

CERTIFICATE OF MERIT.

287. For the best pen of ewe lambs, 4 in number,	10 00
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Oxford Downs—5th Class.

288. For the best ram,	20 00
289. For the second best,	10 00
290. For the third best,	

CERTIFICATE OF MERIT

291. For the best pen of ewes, 3 in number,	20 00
292. For the second best,	10 00
293. For the third best,	

CERTIFICATE OF MERIT.

294. For the best pen of ewe lambs 4 in number,	10 00
295. For the best pen of ram lambs, 4 in number.	10 00

Oxford Down Grades—6th Class.

296. For the best pen of ewes, 3 in number,	20 00
297. For the second best,	10 00
298. For the third best,	

CERTIFICATE OF MERIT.

299. For the best pen of ewe lambs, 4 number,	10 00
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Judges.

Richard J. Gaines, Charlotte.
 J. Marshall McCue, Augusta.
 Rufus K. Fitzhugh, Greene.
 John A. Scott, Prince Edward.
 John A. Lancaster, Buckingham.

LONG WOOLS, OF NATIVE STOCK.

7th Class.

300. For the best ram,	20 00
301. For the second best,	10 00
302. For the third best,	

CERTIFICATE OF MERIT.

303. For the best pen of ewes, 3 in number,	20 00
304. For the second best,	10 00
305. For the third best,	

CERTIFICATE OF MERIT.

306. For the best pen of ram lambs, 4 in number,	10 00
307. For the best pen of ewe lambs, 4 in number,	10 00

The long woolled breeds include Bakewell or Leicester, Cotswold or New Oxfordshire and Lincoln.

Long Wool Grades—8th Class.

308. For the best pen of ewes 3 in number,	20 00
309. For the second best,	10 00
310. For the third best,	

CERTIFICATE OF MERIT.

311. For the best pen of ewe lambs, 4 in number,	10 00
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This class of Grades comprises any of the crosses of the above long wools on native stock.

Judges.

Benj. A. Donald, Bedford.
O. R. Funsten, Clarke.
Sterling E. Edmunds, Halifax.
T. G. Baylor, Prince George,
Capt. William Dillard, Surry.

FOREIGN SHEEP.

9th Class.

312. For the best imported Merino ram,	20 00
313. For the second best,	10 00
314. For the best imported Merino ewe,	20 00
315. For the second best,	10 00
316. For the best imported South Down ram,	20 00
317. For the second best,	10 00
318. For the best imported South Down ewe,	20 00
319. For the second best,	10 00
320. For the best imported Oxford Down ram,	20 00
321. For the second best,	10 00
322. For the best imported Oxford Down ewe,	20 00
323. For the second best,	10 00
324. For the best imported Bakewell or Leicester ram,	20 00
325. For the second best,	10 00
326. For the best imported Bakewell or Leicester ewe,	20 00
327. For the second best,	10 00
328. For the best imported Cotswold or New Oxfordshire ram,	20 00
329. For the second best,	10 00
330. For the best imported Cotswold or	

New Oxfordshire ewe,	20 00
331. For the second best,	10 00
Imported sheep not allowed to compete with natives.	

The judges of awards on fine wools will also adjudge the premiums on imported Merinos. The judges on middle wools, the premiums on imported South Downs and Oxford, and the judges on long wools, the premiums on imported Bakewells and Cotswolds.

Cashmere Goats—9th Class.

332. For the best pair Cashmere goats, male and female,	20 00
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333. For the best pair, cross of Cashmere with native goat,

CERTIFICATE OF MERIT.

Judges.

Mann P. Nelson, Jefferson.
James M. Sublett, Powhatan.
Capt. William Nelson, Hanover.
John H. Flood, Appomattox.
Dr. S. P. Christian, New Kent.

SWINE.

Large Breed.

334. For the best boar over 2 years old,	20 00
335. For the second best,	10 00
336. For the best boar 1 year old,	15 00
337. For the second best,	8 00
338. For the best breeding sow over 2 years old,	20 00
339. For the second best,	10 00
340. For the best sow not less than 6 months and under 18 months old,	15 00
341. For the second best,	8 00
342. For the best lot of pigs, not less than 5 in number, nor less than 2, and under 5 months old, and of the same litter,	10 00
343. For the second best,	5 00

The large breed includes Chester, Russia, Bedford, Woburn, Graziar, Hampshire, Duchess County, native and grades.

Small Breed.

344. For the best boar over two years old,	20 00
345. For the second best,	10 00
346. For the best boar 1 year old,	15 00
347. For the second best,	8 00
348. For the best breeding sow, over 2 years old,	20 00
349. For the second best,	10 00
350. For the best sow, not less than 6 months nor more than 18 months old,	15 00
351. For the second best,	8 00
352. For the best lot of pigs, not less than 5 in number, nor less than 2 and under 5 months old, and of the same litter,	10 00
353. For the second best,	5 00

The small breed includes Neapolitan, Suffolk, Sussex, Essex, Berkshire, Chinese, natives and grades.

Judges.

E. C. Jordan, Jordan's Springs.
 John Trimble, Augusta.
 John F. Booten, Madison.
 Abm. Carrington, Prince Edward.
 John W. Dyer, Chesterfield.

Additional Premiums to Premium Animals.

- 354. For the best bull of any breed on exhibition,
- 355. For the best cow of any breed on exhibition,
- 356. For the best stallion of any breed on exhibition,
- 357. For the best brood mare of any breed on exhibition,
- 358. For the best ram of any breed on exhibition,
- 359. For the best ewe of any breed on exhibition,
- 360. For the best boar of any breed on exhibition,
- 361. For the best breeding sow of any breed on exhibition,

CERTIFICATE OF MERIT.

Judges.

S. W. Ficklin, Albemarle.
 Chas. C. Tate, Wythe.
 Dr. A. T. B. Merritt, Richmond.
 Robert Carter, Fauquier.
 Hugh G. Guthrie, Augusta.

POULTRY.

Chickens—1st Class.

- 362. For the best pair Cochin China, \$2 00
- 363. For the best pair Imperial China, 2 00
- 364. For the best pair White Dorkings, 2 00
- 365. For the best pair Red Chittagong, 2 00
- 366. For the best pair Gray Chittagong, 2 00
- 367. For the best pair Black Poland, 2 00
- 368. For the best pair White Poland, 2 00
- 369. For the best pair Silver Pheasants, 2 00
- 370. For the best pair Golden Pheasants, 2 00
- 371. For the best pair Spangled Hamburg, 2 00
- 372. For the best pair white or red game, 2 00
- 373. For the best pair Bramah Pootra, 2 00
- 374. For the best pair Virginia game, 2 00
- 375. For the best pair Black Spanish, 2 00
- 376. For the best pair Indian Mountain, 2 00
- 377. For the best pair Wild Indian game, 2 00
- 378. For the best pair Sumatra game, 2 00
- 379. For the best pair Ostrich game, 2 00
- 380. For the best pair Bolton grays, 2 00
- 381. For the best pair Sea-bright Bantams, 2 00
- 382. For the best pair Java Bantams, 2 00
- 383. For the best pair Great Malay, 2 00
- 384. For the best pair Jersey Blues, 2 00

Turkeys—2nd Class.

- 385. For the best pair common Turkeys, 2 00

- 386. For the best pair wild Turkeys, 2 00
- 387. For the best pair crested Turkeys, 2 00

Geese—3rd Class.

- 388. For the best pair common Geese, 2 00
- 389. For the best pair wild Geese, 2 00
- 390. For the best pair China Geese, 2 00
- 391. For the best pair Bremen Geese, 2 00
- 392. For the best pair Poland Geese, 2 00
- 393. For the best pair African Swan Geese, 2 00

Ducks—4th Class.

- 394. For the best pair of white Poland Ducks, 2 00
- 395. For the best pair Muscovy Ducks, 2 00
- 396. For the best pair Aylesbury Ducks, 2 00
- 397. For the best pair common Ducks, 2 00
- 398. For the best pair summer Wild Ducks, 2 00

5th Class.

- 399. For the greatest variety of Poultry by one exhibitor, 10 00

Judges.

William M. Bagley, Lunenburg.
 J. McL. Anderson, Caroline
 Rev. Jeremiah Porter, Richmond.
 Daniel Dyson, Chesterfield.
 Wm. P. Winfree, Chesterfield.

BRANCH V.

AGRICULTURAL IMPLEMENTS.

Remarks and Special Rules for Branch V.

All machines, implements, or other products of mechanical art, must be exhibited by or for their respective makers or inventors or improvers, to or for whom only, premiums for such articles must be awarded. Persons who hold such articles by purchase, or as matters of traffic, will have no claim to a premium.

Every machine or implement offered for premium, must be designated by the offerer by its commercial name, or otherwise such other concise description be given as will serve to identify it to future purchasers; and also the then selling price of the article must be stated and marked on the labels and in the published reports of premium articles.

The judgment of superior value must have due regard to the cheapness and durability of any machine or implement, as well as to its more effective operation while in good working order.

CLASS I.

Ploughs, Cultivators, &c.

- 400. For the best 3 or 4 horse plough, \$10 00
- 401. For the best 2 horse do, 8 00
- 402. For the best single do, 5 00
- 403. For the best shovel do, 5 00

404. For the best sub-soil plough,	5 00
405. For the best new-ground or coalter plough,	5 00
406. For the best hill-side plough,	5 00
407. For the best cultivator for corn,	5 00
408. For the best cultivator for tobacco,	5 00
409. For the best cultivator for two horses,	5 00
401. For the best wooden-frame harrow,	6 00
411. For the best iron-frame harrow,	6 00
412. For the best draig and furrow plough for opening and cleaning out water furrows,	10 00

Judges.

John A. Porter, Orange.
Z. R. Lewis, Nelson.
Dr. Richard Epps, Nottoway.
W. W. Anderson, Dinwiddie.
John Coleman, Halifax.

CLASS II.

Drills, Broadcasters, &c.

413. For the best broadcasting or drilling machine for sowing grain or grass seed,	\$20 00
414. For the best wheat drill,	20 00
415. For the best broadcasting machine for sowing guano,	20 00
416. For the best lime spreader,	20 00
417. For the best corn planter,	10 00
418. For the best seed drill,	3 00
419. For the best attachment to drill for drilling guano,	15 00
420. For the best implement for sowing and covering peas among corn, at or immediately following the last tillage, and either with or without guano,	15 00

Judges.

T. J. Randolph, Albemarle.
John Haw, Hanover.
Robert Douthat, Charles City.
Dr. Robert Harrison, Prince George.
Augustus Drewry, Chesterfield.

CLASS III.

Wagons, Carts, Harness, &c.

421. For the best wagon for farm use,	\$10 00
422. For the best dumping wagon,	10 00
423. For the best horse cart,	8 00
424. For the best ox cart with iron axle,	10 00
425. For the best wagon body, or loader, for hauling wheat in the sheaf, or hay, or straw, may be exhibited by model,	5 00
426. For the best set of wagon harness,	5 00
427. For the best harness for horse cart,	2 50
428. For the best ox yoke,	2 50

Judges.

Charles Friend, Prince George.
Col. Joseph Tuley, Clarke.
Wm. H. Betts, Lunenburg.
Col. Josiah Dabbs, Halifax.
E. R. Turnbull, Brunswick.

CLASS IV.

Rollers, Clod Crushers, and Farm Gate.

429. For the best smooth roller,	\$10 00
430. For the best pegged roller, to be exhibited by model,	10 00
431. For the best clod crusher,	10 00
432. For the best farm gate, including best hinge and fastening, to be exhibited by model,	5 00

Judges.

B. F. Dew, King and Queen.
John A. Scott, Farmville.
Wilson Winfree, Powhatan.
Dr. Richard Haskins, Brunswick.
Dr. Brodnax, Gaston, N. C.

CLASS V.

Horse Powers, Threshers, Separators, &c.

433. For the best sweep horse power,	\$25 00
434. For the second best sweep horse power,	10 00
435. For the best threshing machine,	20 00
436. For the best machine for threshing, cleansing and separating wheat at one operation,	30 00
437. For the best machine for gathering clover seed,	20 00
438. For the best machine for hulling and cleansing clover seed,	20 00

Judges.

Charles H. Carter, Nottoway.
Wm. Irby, Lunenburg.
James Beazley, Greene.
Thomas Bruce, Halifax.
W. H. Anderson, Prospect Depot.

CLASS VI.

Straw and Root Cutters, Corn Shellers, Mills, &c.

439. For the best hay or straw cutter for horse power,	\$10 00
440. For the best hay or straw cutter for hand power,	5 00
441. For the best horse power cutter, for cutting cornstalks for fodder,	15 00
442. For the best corn sheller for horse power,	10 00
443. For the best corn sheller for hand power,	5 00
444. For the best grist mill for horse power,	10 00
445. For the best saw mill, for farm use,	10 00
446. For the best corn and cob crusher,	10 00
447. For the best root cutter,	2 50
448. For the best steam boiler for cooking food for stock,	20 00

Judges.

Peter P. Batte, Prince George.
S. S. Gresham, King and Queen.
Wm. Overton, Louisa.
Dr. Robert Patteson, Littleton, N. C.
John Harris, Mansborough.

CLASS VII.

Fan Mill, Hay Press, Ditching Machine, &c.

449. For the best fanning mill,	\$10 00
450. For the best hay press,	15 00
451. For the best stump machine,	30 00
452. For the best ditching machine,	30 00
453. For the best rotary digger,	30 00
454. For the best steel spade fork,	2 00
455. For the best horse rake for hay,	5 00
456. For the best gleaner,	3 00
457. For the best brier hook,	1 00

Judges.

D. R. Stokes, Lunenburg.
 George Shuey, Augusta.
 William C. Graves, Orange.
 George Watt, Richmond.
 John Taylor, Jr., Culpeper.

CLASS VIII.

458. For the most extensive and valuable collection of useful machines and implements exhibited and made at any one factory, whether including subjects for other premiums or not, a premium of \$25 00

Judges.

P. P. Nalle, Culpeper.
 W. J. Watkins, Charlotte.
 E. G. Booth, Nottoway.
 John Rowlett, Petersburg.
 Judge Thomas Ruffin, Alamance, N. C.

CLASS IX.

Miscellaneous.

459. For the best pump adapted to deep wells,	\$10 00
460. For the best water ram in operation,	10 00
461. For the best scoop or scraper,	10 00
462. For the best levelling instrument, suitable for draining operations,	10 00
463. For the best churn,	4 00
464. For the best sausage cutter,	2 00
465. For the best washing machine,	2 00
466. For the best sewing machine,	10 00
467. For the best machine for shearing sheep,	15 00
468. For the best tide-gate or model of same,	10 00

Judges.

Ed. Friend, Dinwiddie.
 Andrew Nichol, Petersburg.
 John G. Powell, Nottoway.
 M. L. Anderson, Albemarle.
 F. P. Wood, Prince Edward.

CLASS X.

Agricultural Steam Engine.

469. For the best steam engine, applicable to agricultural purposes generally, as a substitute for horse power, \$50 00

Judges.

Wm. Allen, Surry.
 Dr. M. M. Harrison, Brunswick.
 E. H. Herbert, Princess Anne.
 William Benton, Jr., Loudoun.
 H. E. Shore, Nottoway.

CLASS XI.

Ploughing Match.

470. For the best ploughman with horses,	\$10 00
471. For the second best ploughman with horses,	5 00
472. For the best ploughman with steers,	10 00
473. For the second best ploughman with steers,	5 00
474. For the best dynamometer,	10 00

Judges.

Fielding L. Douhat, Charles City.
 L. H. Taliaferro, Culpeper.
 Ed. A. Marks, Prince George.
 Wm. Michaux, Powhatan.
 Wm. H. Turnbull, Dinwiddie.

CLASS XII.

Trial of Ploughs.

475. For the best two horse plough adapted to the section in which trial is to be instituted,	\$20 00
476. For the best three or four horse plough adapted to the section in which trial is to be instituted,	20 00

There shall be three separate trials of ploughs; one for the Tide-water, one for the Piedmont, and one for the Trans-montane section of the State. These trials shall be held respectively, after due public notice, at such times and places as shall be appointed by the chairman of the Committee of Award for the section in which the trial is to be made.

The judges will award the premiums offered, only to such implements as may be deemed fully worthy of that distinction.

The relative merits of all the ploughs submitted for trial shall be tested upon each of the several points contained in the following scale, and full report thereof shall be made to the Executive Committee.

SCALE OF POINTS FOR PLOUGHS.

1. <i>Economy of Power</i> , or the least resistance to draught according to depth and width of furrow,	20
2. <i>Facility in changing the set</i> , so as to give more or less land, or greater or less depth, without disturbing the proportionate width of furrow and without alteration of harness,	10
3. <i>Steadiness of action</i> , with as little labour to the ploughman as comports with the proper control and guidance of the plough,	10
4. <i>Adjustment of all the parts in harmo-</i>	

nious relation to each other, so that each shall duly perform its appropriate function,

5. *Effectiveness of operation*, cutting a furrow, the width of which shall bear a due proportion to the depth thereof, and also cutting the furrow slice of uniform thickness and lifting and turning it at the proper angle with the least degree of friction,

6. *Strength, durability and simplicity of construction*.

7. *Price and facility, and economy of repairs*,

Judges.

TIDE-WATER.

- Robert Douthat, Charles City.
- Robert M. Taylor, Henrico.
- J. M. Willcox, Charles City.
- Dr. Richard Eppes, Prince George.
- Fielding L. Taylor, Gloucester.

PIEDMONT.

- Richard H. Carter, Fauquier.
- Dr. R. C. Mason, Fairfax.
- R. H. Dulany, Loudoun.
- Dr. William N. Welford, Culpeper.
- William Benton, Sr., Loudoun.

TRANS-MONTANE.

- Charles Grattan, Rockingham.
- John A. Herring, Rockingham.
- John McCue, Augusta.
- James M. Ranson, Rockbridge.
- R. G. Haden, Botetourt.

CLASS XIII.

Trial of Reaping and Mowing Machines.

- 477. For the best reaping machine, \$25 00
- 478. For the best mowing do, 20 00
- 479. For the best grain cradle, 5 00

Judges.

- Tucker Carrington, Clarksville.
- J. Randolph Bryan, Gloucester.
- Thomas M. Bondurant, Buckingham.
- Clayton G. Coleman, Louisa.
- Joseph Jesse, Caroline.

BRANCH VI.

CLASS I.

FRUITS AND FRUIT TREES.

- 480. For the best and largest variety of apples suitable for Southern raising, each labelled, \$10 00
- 481. For the best and largest variety of pears, 8 00
- 482. For the greatest number of choice

- varieties of different kinds of fruit, 10 00
- 483. For the best and largest collection of apple trees, suitable for Southern raising, 10 00
- 484. For the best pear trees, 10 00
- 485. For the best peach trees, 10 00
- 486. For the best fig trees, 5 00
- 487. For the best grape vines, 5 00
- 488. For the best strawberry vines, 3 00
- 489. For the best raspberry plants, 3 00
- 490. For the best bushel dried apples, 3 00
- 491. do do peaches, 3 00
- 492. Model or drawing of the best kiln for drying fruit, 10 00

Judges.

- Paul C. Venable, Mecklenburg.
- Gen. E. P. Scott, Greenville.
- Col. Wm. P. Tate, Greenville.
- Julian C. Ruffin, Prince George.
- Yardly Taylor, Loudoun.

CLASS II.

FLOWERS.

- 493. For the largest and choicest collection of plants, \$10 00
- 494. For the second best, 5 00
- 495. For the best and greatest variety of dahlias, 2 00
- 496. For the best twelve dahlias, 2 00
- 497. For the greatest variety of roses, 5 00
- 498. For the best twenty-five roses, 2 00
- 499. For the best and largest collection of chrysanthemums, 3 00
- 500. For the best floral ornament, 5 00
- 501. For the best hand bouquet, not more than eight inches in circumference, 2 00
- 502. For the best and largest collection of verbenas in bloom, 3 00
- 503. For the best and largest collection of evergreens, 5 00
- 504. For the best and largest collection of hardy flowering shrubs, 5 00

Judges.

- Rev. A. J. Leavenworth, Petersburg.
- Thos. T. Giles, Richmond.
- Col. Alex. Taliaferro, Culpeper.
- Robert B. Bolling, Petersburg.
- John E. Lemoine, do.

CLASS III.

VEGETABLES.

- 505. For the largest and best assortment of table vegetables \$10 00
- 506. For the best dozen long blood beets, 2 00
- 507. For the best dozen head of cabbage, 2 00
- 508. For the best dozen cauliflower, 2 00
- 509. For the best dozen broccoli, 2 00
- 510. For the best dozen carrots, 2 00
- 511. For the best dozen egg plants, 2 00
- 512. For the best peck of onions, 2 00
- 513. For the best dozen parsnips, 2 00
- 514. For the best bushel of Irish potatoes, 2 00

515. For the best bushel of sweet potatoes, 2 00

Judges.

Wm. Sayre, Hanover.
Joseph Sinton, Henrico.
Henry Irvine, Norfolk.
Thomas Gentry, Prince George.
James R. Read, Dinwiddie,

BRANCH VII.

CLASS I.

BUTTER AND CHEESE.

516. For the best specimen of fresh butter, not less than ten pounds, \$10 00
517. For the second best specimen of fresh butter, not less than five pounds, 5 00
518. For the best firkin or tub of salted butter, not less than six months old, 10 00
519. For the second best firkin or tub of salted butter, not less than six months old, 5 00
520. For the best cheese, not less than 20 pounds, 10 00

The method of making and preserving the butter and cheese to be stated by the exhibitor.

Judges.

Daniel Lyon, Petersburg.
Cary Breckenridge, Botetourt.
T. M. Ambler, Fauquier.
Wm. Brownley, Petersburg.
Ed. O. Watkins, Chesterfield.

CLASS II.

Honey, Bee Hives, and Bacon Hams.

521. For the best specimen of honey, not less than ten pounds, 5 00
The honey to be taken without destroying the bees—the kind of hives used, and the management of the bees to be stated by the exhibitor.
522. For the best bee live, 10 00
523. For the best ham, cured by exhibitor, 8 00
524. For the second best, 4 00
Manner of curing to be described by exhibitor, and the hams exhibited to be cooked.

Judges.

Alex. Garrett, Richmond.
John F. Whitfield, Powhatan.
Dr. T. J. Pretlow, Southampton.
Thomas S. Gholson, Petersburg.
Wm. B. Green, Dinwiddie.

CLASS I.

Household Manufactures.

525. For the best quilt, 5 00
526. For the second best quilt, 4 00
527. For the best counterpane, 5 00
528. For the second best counterpane, 4 00
529. For the best pair home made blankets, 5 00

530. For the best home made carpet, 5 00
531. For the best home made hearth-rug, 3 00
532. For the best set home made curtains, 5 00
533. For the second best set home made curtains, 3 00
534. For the best piece, not less than 7 yards home made negro shirting, 3 00
535. For the best piece, not less than 10 yards, winter clothing for negroes, to be woven by hand, 5 00
536. For the best piece, not less than 10 yards, heavy woollen jeans, to be woven by hand, 5 00
537. For the second best piece, not less than 10 yards, heavy woollen jeans, to be woven by hand, 3 00
538. For the best piece linsey, not less than 7 yards, to be woven by hand, 5 00
539. For the second best, 3 00
540. For the best 5 lbs. maple sugar, 5 00

Judges.

D'Arcy Paul, Petersburg.
J. B. Ferguson, Richmond.
A. G. Mellwaine, Petersburg.
W. C. Hume, Orange.
W. B. Ross, Culpeper.

CLASS II.

541. For the best fine long yarn hose, 3 00
542. For the best fine long cotton hose, 3 00
543. For the best silk hose of home made silk, 5 00
544. For the best specimen of home made wine, 5 00
545. For the best home made bread, 5 00
546. For the best home made pound-cake, 3 00
547. For the best home made sponge-cake, 3 00
548. For the best varieties home made pickles, 3 00
549. For the best varieties home made preserves, 3 00
550. For the best varieties home made fruit jelly, 3 00
551. For the best sample home made soap, the process of making to be described by the exhibitor, 5 00

Judges.

A. C. Morton, Petersburg.
Lewis Graves, Orange.
Edward Cunningham, Powhatan.
Dr. E. Robinson, Petersburg.
H. A. Hall, Fauquier.

CLASS III.

Ladies' Ornamental and Fancy Work.

552. For the best specimen of embroidery, 8 00
553. For the second best, 6 00

554. For the best specimen of worsted work,	8 00
555. For the second best,	6 00
556. For the best specimen of crocheted work,	8 00
557. For the second best,	6 00
558. For the best specimen of wax work,	8 00
559. For the second best,	6 00
560. For the best specimen of shell work,	8 00
561. For the second best,	6 00
562. For the best specimen of ornamental leather work,	8 00
563. For the second best,	6 00
564. For the best specimen of block work,	8 00
565. For the second best,	6 00
566. For the best specimen of knitting,	8 00
567. For the second best,	6 00
568. For the best specimen of netting,	8 00
569. For the second best,	6 00
570. For the most extensive variety of useful, ornamental, and fancy work, not excluding articles which may have had premiums awarded them under any of the above specifications,	10 00

Judges.

Mrs. John S. Williams,	} Petersburg.
“ James Ayres,	
“ M. P. Dunn,	
“ Wm. Bragg,	
Miss Susanna Parrish,	

DOMESTIC MANUFACTURES.

CLASS I.

571. For the best flour of white wheat,	
572. For the best flour of red wheat,	

CERTIFICATE OF MERIT.

Judges.

David H. Branch, Petersburg.
 Andrew Kevan, do.
 Asa M. Janney, Richmond.
 Branch T. Hurt, Petersburg.
 Wesley Grigg, do.

CLASS II.

573. For the best manufactured tobacco.	
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CERTIFICATE OF MERIT.

Judges.

Nath'l Blick, Petersburg.
 Geo. P. Holman, Fluvanna.
 Wm. Martin, Henry.
 V. Witcher, Pittsylvania.
 Samuel Williams, Petersburg.

CLASS III.

574. For the best shod horse,	5 00
575. For the best horse shoe,	5 00

Judges.

Reuben Ragland, Petersburg.
 Alex. Kerr, Richmond.
 Dr. James E. Williams, Henrico.
 Charles Mann, King George.
 F. K. Nelson, Albemarle.

CLASS IV.

576. For the best pair bed-blankets,	} CERTIFICATE OF MERIT.	
577. For the best pair servant's blankets,		
578. For the best piece of woollens,		
579. For the best piece of cotton cloth,		
580. For the best piece of cloth or webbing, suitable for horse collars and harness,		
581. For the best and greatest variety of coarse, strong, and cheap shoes,		
582. For the best and cheapest wool hats,		
583. For the best collection of coarse wool-len fabrics for farm purpose,		
584. For the best and cheapest negro brogues,		\$10 00

Judges.

T. M. Leitch, Buckingham.
 James M. McNutt, Farmville.
 James P. Marshall, Charlotte.
 Col. D. A. Weisiger, Petersburg.
 Josephus Hurt, do.

CLASS V.

585. For the best dozen baskets of different kinds, made in Virginia, of Virginia grown material.	5 00
586. For the best set of plantation hampers and baskets, not less than three in number,	5 00

Judges.

James C. Gates, Chesterfield.
 Henry Cox, Henrico.
 Wm. C. Jones, Surry.
 Thos. Jones, Richmond County.
 Col. Alex. Fleet, King & Queen.

CLASS VI.

587. To the first individual in Virginia who shall establish and maintain in successful operation for six months, a factory for tubular draining tiles, on the most improved plan, a premium of	50 00
588. For the best and cheapest specimens of tubular draining tiles,	5 00
589. For the best hydraulic water pipes,	10 00

Judges.

Julian C. Ruffin, Prince George.
 J. Percival, Richmond.
 P. Slaughter, Culpeper, (Woodville.)
 R. C. Mason, Fairfax.
 James M. Garnett, Henrico.

BRANCH VIII.

Honorary Testimonials to each individual of Virginia who, previous to 1858, has discovered or introduced, or brought into use any principle process or facility generally, or any improvement by which important value has been gained for the agricultural interests of Virginia.

Judges.

- N. Francis Cabell, Nelson.
- Wm. C. Rives, Albemarle.
- Wm. B. Harrison, Prince George.
- Thos. J. Randolph, Albemarle.
- R. M. T. Hunter, Essex.
- John Todd, Isle of Wight.
- J. Mayo, Westmoreland.
- Wm. S. Simpson, Petersburg.

BRANCH IX.

CLASS I.

Special Premiums for any useful subjects not embraced under any of the foregoing heads.

590. Discovery in Virginia of mineral phosphate of lime in sufficient quantity to be valuable for sale and distant transportation as manure, a premium of 50 00

If more than one claimant, the most valuable discovery to have the award.

Judges.

[Same committee as Class II.]

CLASS II.

591. For the best drained farm, or part thereof, the formerly wet and then well drained portion of land to be not less than one hundred acres. The superiority of claim to be determined by the extent and labour of the works, their fitness and successful results, the amount and benefits produced, and profits made by the operation, a premium of 50 00

592. For the best drained 20 acres, to be determined in like manner, a premium of 20 00

593. For the best drained farm by open ditches, and water furrows, reference being had to costs, 20 00

To obtain the first and second named premiums, it is required that the claimant shall present an accurate map or ground plan, of his drained land, and of the principal drains, with approximate and sufficiently correct representations of all necessary minor points, also profiles or levelled lines of cross-sections and the principal lines of drains; together with a sufficiently clear written description of the whole work and the general results thereof.

Judges.

- Wm. W. Gilmer, Albemarle.
- Josiah Burruss, King William.
- Robert Tomlin, Hanover.
- John G. Lane, Rappahannock.
- Wm. H. Clarke, Halifax.

CLASS III.

594. For the fullest and best chemical analysis of the whole vegetable product of any good manuring variety of the Southern pea, in vines, leaves, roots and pods, at the time of the first pods being ripe—or of each of these products separately, and their relative dry weights stated—and also separately of another sample of like ripe seed of the same variety—with the results (and particularly of nitrogen) stated, together and in comparison with the results, heretofore ascertained and published by chemists, of Indian corn, wheat, oats, European peas, clover, &c., a premium of 50 00

Judges.

- Prof. S. Maupin, University of Va.
- Prof. Wm. Gilham, Va. Mil. Institute.
- Prof. J. S. Campbell, Wash. College.

CLASS IV.

595. For the best plan of preserving wheat from the time of harvest until it is sent to market, including shocking, stacking, and securing against weevil—to have been tested by satisfactory personal experience, and to be accompanied by full and accurate written descriptions and drawings if necessary, 15 00

Judges.

- Wm. Overton, Louisa.
- William B. Harrison, Prince George.
- Gen. John H. Cocke, Fluvanna.
- Wm. Old, Sr., Powhatan.
- Thos. S. Watson, Louisa.

DISCRETIONARY PREMIUMS.

Judges.

- Gen. O. G. Clay, Campbell.
- Henry T. Garnett, Westmoreland.
- Col. Geo. Townes, Pittsylvania.
- Dr. W. H. Perry, Lunenburg.
- Alexander Donnan, Petersburg.

BRANCH X.

Premiums offered by Individual Donors.

Premiums to be proposed of not less than twenty dollars value by any public spirited individual or association of individuals, who may thus desire to induce experiment, investigation, or discussion, on any particular subject of inquiry which shall come under the general objects of the Society: In any such case the premium shall be offered in and by the name of the individual donor, or association, but shall be awarded, as all other premiums, by the Executive Committee, acting under the general regulations of the society. Offers under this branch may be made at any time, admitting of sufficient public notice thereof being given previous to the day of awards.

For the Southern Planter.

Defects in the Agricultural Productions of Albemarle County.

An Essay read before "Hole and Corner Club, No. 2, of Albemarle Co.," by Dr. Jno. R. Woods.

The duty imposed on me of preparing an essay on some subject connected with agriculture, has been delayed in its performance, from the fact that every topic I could think of had so often been discussed, nothing new was left at my disposal.

Under the circumstances, I shall endeavor to expose what I conceive to be errors in our system of farming, and to suggest changes which I deem necessary for that improvement and regeneration of the soil, which every enlightened agriculturist must desire. The heavy tax incurred in the purchase of Peruvian Guano, the large amount of labor and manure expended in the cultivation of tobacco and the almost universal habit of cultivating so extensive a surface, are errors which, unless corrected, must greatly retard the improvement of the country in many respects.

The delusive impression, that guano would not only produce remunerative crops of wheat, but permanently improve the soil, stimulated the farmers to purchase an immense amount, and too late, they find it to be only a powerful stimulant, losing its efficacy unless the dose is considerably increased and ultimately impoverishing the soil.

While it has benefited a few, if it had never found its way into our country, I allude to our peculiar region, I am confident its condition would have been far better than we find it to be at this time. Enabling us as it has done, to grow wheat on soils too much exhausted for this peculiar crop, has, to some extent, paralyzed efforts which we would have been driven to make, to bring them up to that degree of fertility which has been styled the wheat point. Let me suppose for a moment, that the amount expended in its purchase, had been invested in what are known to be permanent fertilizers, the different salts of lime, the sulphate, carbonate and phosphate, and food for the fattening of cattle, does any one doubt, but that the capacity of the soil, for the growth of both grain and grass crops, would have been greatly increased.

In riding over several farms, on which guano had been extensively applied, and the usual quantity of grass seed sown, I was struck with the naked appearance of the field,—I had never seen them presenting so bare and uninviting an appearance. This may be partly attributable to the several dry springs, but the repeated failure in the stand of clover for a series of years, since the introduction of guano, leads me very strongly to suspect that its application is peculiarly prejudicial to the early growth of this our most valuable fertilizer. That the expen-

diture of so large a sum has very sensibly increased the monetary pressure I have no doubt, and but for the high price which tobacco has commanded, the effect would be much more seriously felt. It is needless for me to enlarge on this: a subject affecting so immediately our pocket nerve, must command attention.

We come now to the remaining proposition, that the labor and manure expended in cultivating large crops of tobacco and such an immense surface, are the greatest obstacles to successful improvement. I do not wish to be understood as recommending that high degree of cultivation practised in parts of Europe, where labor is exceedingly cheap and lands enormously high, but seeing what has been done, by renters or tenants, not the owners of the land, in soils far inferior to ours naturally, should at least stimulate us to imitate their example, as far as our altered circumstances will admit.

To make the tobacco crop at all remunerative when selling at ordinary prices, not only must it occupy the choicest spots on our farms—but all of the manure gathered together from every available source must be rendered tributary to it, all other work must yield to the planting, almost endless worming and succoring, the cutting and curing, &c. To the growers of tobacco, I need scarcely allude to the everlasting struggle which a full crop entails, and the imperfect and hurried manner which all of our farming operations are performed. If we had such a soil as that of Southern Kentucky, Illinois or Missouri, where tobacco is grown, on any portion of the farm, without consuming all of the manure made, its extensive cultivation would be less objectionable, but, its application entirely to soil already good, for the production of a crop returning nothing to it, must ultimately render the largest portion cultivated in other crops still poorer. Clover and plaster may assist in preserving somewhat its fertility, but when relied upon alone, before many years their efficacy will be greatly impaired. I by no means wish to recommend the total abandonment of the cultivation of tobacco, when commanding remunerative prices, but the making of only sufficient to give employment in weather too disagreeable for the performance of out door labor,—that the return realized for a few years, would be considerably curtailed, I readily admit; any change from the worst to the best system, will be liable to this objection.

The advantages of this change in all of its bearings, would more than compensate. It would enable us to perform all of our farming operations more thorough and perfect, to erect more permanent and substantial farm buildings; to sow our wheat much earlier, making the chances for a good yield much better, and almost ensuring a good stand of grass, which is very uncertain when sown as late as we are generally in the habit of seeding a considerable part of our crop. To apply more labor and manure to the corn crop, to attend more to the

making and saving of hay, a crop too much neglected and indispensable to the rearing of fine horses and cattle. To save our own grass seeds, clover, timothy and orchard grass—to make better enclosures, permanent, &c., when stone was convenient—to give more attention to ditching and draining and clearing our farms of the various pests, briars, sassafras, garlick, &c.—to provide more comfortable fixtures, shelters, lots, &c., for our stock. The manure from which, protected from the rain, would be doubly as valuable, and half the feed consumed would keep them in better condition.

Our sheep and hogs, also, if protected from the snow, storms, &c., would be much healthier, consume less, and their lots properly littered would furnish valuable manure, which at present is lost.

To pay some attention to the culture of roots, which have been the basis of the wonderful revolution in English and Scotch agriculture, with more time and larger resources, to improve the quantity and quality of our manure banks, the only bank the farmer should have much to do with, and applying it to our hungry hills and ridges, thus covering them with verdure, we might profitably introduce improved breeds of stock, which under our present system would rapidly deteriorate and prove anything but profitable; and last but not least, more attention could be given to the orchard, to the planting and cultivation of the choicest variety of fruits, so conducive to health and comfort, and in addition might be made a source of considerable profit.

There are other considerations of a higher and nobler nature which I might urge, more leisure could be given to the beautifying and adorning our homes; all of our improvements have hitherto been mainly directed to providing for our physical wants; we have done but little to refine our taste or feelings; our home should be made attractive and interesting, that our children may look back to it wherever they may go, as the dearest spot on earth. The early impressions received there, mould, in a great degree, their future character and destiny.

The above views, though hurriedly and imperfectly expressed, are the result of long thought and deep reflection. If they but serve to awaken an interest in the importance of the subject I shall be amply compensated.

For the Planter.

Mr. Franklin Minor's Mode of Raising Hogs.

RIDGWAY, June 3rd, 1858.

Dear Ruffin:—I intended to answer Mr. Jones' call about my hogs in time for your June number, but was suddenly called from home two weeks ago, and am just returned. It matters little, however, as there is really no secret about the hogs.

In December, 1857, I killed 100 hogs, which averaged 243½ lbs. neat; five of them were 21, and the others 19 months old. There was nothing new or fashionable in the breed.

From birth to October they were fed with the sows, on 1½ bushels of meal, half corn and half oats, made into swill, and one bushel of shelled corn, in a large field poorly set in clover.

From October to May they ran in the woods, and made their own beds, without shelter; during which time they were fed twice a day on shelled corn, 1½ bush. at a feed. In May they were put into a thinly set clover field, and fed with corn, as in the winter, until the wheat was threshed, when they were put in the stubble fields, and fed with one half as much corn. Early in September we began to feed them with green corn, stalk and ear, as much as they would eat. When the stalk was dry, the ears alone were fed.

They were healthy and thrifty all the time. Once in two weeks we gave them ashes and salt; and occasionally, on rainy days, unleached ashes were strown over their backs while they were eating to prevent mange.

The pork was too large to be saleable; but I hope you will find the bacon eatable when you visit me in July.

Truly Yours,

FRANKLIN MINOR.

For the Planter.

Stone Fencing.

The best sized stone for a fence, is the largest which can conveniently be moved; and the best shape is slab or flat; but in the general all sizes and shapes must be used, as to be had.

In building a house, the stone must be tied in every direction; in building a fence they should be tied crosswise only, for it cannot fall lengthwise.

Many fences which I see are made for beauty instead of strength; the consequence is, presently down falls the fence,—and then for patch-work, and away goes beauty. A stone-mason is not the man to put up a stone fence, for he will be too tedious and neat, consequently too costly.

To make a stone fence strongly and expeditiously, will require several months experience.

Having determined on the proper site for your fence, deposit as many stone on either side as you think will be sufficient. If the site is level or nearly so, no further preparation is necessary, but stretch your line and go to work. It is well to use two lines, one on each side, so that there be no shifting about of the line. Raise your line or lines some eight inches or more from the ground, so that the foundation stones may be placed underneath, thus making a shoulder or jog on the exterior of the fence,

of some inches, depending on the size of the stone. Lay the largest rock first, and the largest continually until the fence is complete.

Three feet at the base, four feet six inches high, and ten or twelve inches at top, is an excellent fence; but with good stone a body of less dimensions will suffice.

As the fence rises, lift the line, and be mindful to begin to batter or slope the wall at the foundation, and continue to batter uniformly to the top.

My fences lately made look rough, because I pay no attention to a face stone, but head all to the line, both sharp pointed and rough. The stones should be laid flat, and kept level, to do which it is sometimes necessary to fill in with small stones. Be slow and particular in laying the foundation, a little faster in the body, and near the top small stones require a quick motion, or but little is done,—always being mindful not to leave a stone to jostle in the wall.

To build a stone fence horizontally on a hillside, the lower half of the track should be dug down to a level. On this level build as above recommended, putting all the best stone in the lower side of the wall, for there is little danger of a fence falling up hill. And remember to batter the lower side in proportion to the steepness of the ground; so that if very steep, all the battering shall be below, and the upper side perpendicular.

When the stones are at hand, a man who understands the business, can put up from one and a half to four rods of fence in a day; the amount depending on the size and quality of the stone.

I have a man now making stone fence for me, boarding himself and gathering his own stone, at four shillings the rod, who is averaging two and a half rods the day. I am satisfied that if the stone were at hand he would make from four to five rods the day. But the stone are good, and none more than thirty feet distant.

After a fence is two feet high, I can head on the stone as fast as two men can hand them to me. The great art is in dropping the stone in proper place, so that no further handling shall be required. About one hundred and eighty common sized stone will build a rod of fence. Work nine hours in the day, and handle one stone the minute, and you will have made three rods of fence; and surely a man can do this.

At this work at least two men should work together, particularly where the stones are large. The tools required are a grubbing hoe, crow bars, and large hammer,—and drills where blasting is necessary. A piece of iron an inch square and four feet long is all sufficient for a crow bar. Hammer it round about two-thirds its length, and round the point a little, and it is ready for ripping up stone.

He who has the stone should put them into

a fence, particularly if he is scarce of timber. And if he has the timber, better sell it with the land, and expend the proceeds in stone work.

Where large stones are scarce and small ones plentiful, the foundation of a fence may be made of the small ones, provided broad stones are placed on these,—being mindful to make the foundation about four feet wide; and it would be well to run a large plough furrow on each side, casting the earth inward, so as to make a trench for holding the foundation stone.

Where stones of all sizes are scarce, a good fence can be made of stone and wood. A fence two feet four inches at the base, three feet high, and six inches at top, will require only about half the stone of a fence three feet base, four and a half feet high, and twelve inches top. By laying a rail on the top of a three foot stone fence, driving stakes on either side, and capping with poles, you will have a good fence about four and a half feet high. The stakes should be locust, and the poles should be chestnut,—and the longer the poles the stronger the fence, and fewer the stakes required. If you have the chestnut but not of suitable size, you can with maul and wedge soon make them suit.

A stone fence will last as long as one could desire; a rail fence must be renewed every twenty or thirty years, although of chestnut. A wood fence requires continual repairs, a stone fence needs but little attention.

In the general, to make a stone fence, the cost will not exceed more than three times that of a rail fence; and where the stones are taken from a valuable field, a credit on cost should be given for their ridance.

The Virginians pay taxes on too much land; they should own much less, and fence up and take better care of that they have. Land not worth fencing is not worth having.

For every stone which you pick up and move you shall have a credit; for every valuable tree which you cut you shall have a debit.

What did the Creator make all these stones for?

June, 1858.

ZA. DRUMMOND.

For the Planter.

"Rhode's Superphosphate of Lime."

MR. EDITOR.—The June No. of the Southern Planter contains another lengthy and pretty excited article in reply to a few innocent, and certainly well meant remarks which I happened to say in favour of "Rhode's Superphosphate of Lime." Mr. "B." sticks with iron muscles to "guano stimulating the plant," and tries hard to ridicule my expression that "guano stimulates the soil."

I still contend that guano does stimulate the soil; because, we know that the phosphate of lime contained in soils is very insoluble in water, and therefore not fit for assimilation by

Plants; and we know, also, as an established fact, that the ammoniacal salts contained in Peruvian guano act in such a manner on the above Phosphate of Lime as to form phosphate of ammonia, which is soluble in water, and a most welcome nutriment to plants. Does guano, then, stimulate the soil? or, what is the same thing, stimulate the ingredients of the soil so as to make them available for food?

I now wish to hear a similar reasoning by which Mr. "B." was induced to stick, so obstinately, to his "guano stimulating the plant." This expression of his I consider nothing but an empty phrase; and all the "pitching into me" by Mr. "B." made from the beginning the impression on my mind of "a great cry and no wool."

If Mr. "B." can prove his assertion to the satisfaction of the numerous readers of the Southern Planter, they will necessarily infer that I am right, and always will be right, and that Mr. "B." had no substantial ground for an attack on me. But if he cannot prove his assertion, then our readers must infer that I am right, and Mr. "B." is wrong again.

That *guano stimulates the soil*, I could have said to the farming community of the whole globe. Why, then, should I not thus address the leading journal of the "Great West?" Will Mr. "B." face the music and answer?

X OF THE REPUBLICAN.

For the Planter.

How shall we get Rid of Cabbage Lice?

BEUNA VISTA, June 1st, 1858.

Mr. Ruffin.—Ever since I had a garden it has been more or less infested with Cabbage lice, but never, until now have they done any serious damage. In early spring I had a great number of very fine Cabbage, and set out more than my usual number for seed,—and from them the lice have spread in every direction through the garden, and although the plants which I transplanted look remarkably flourishing, and are ahead of most of my neighbours' in size, yet scarcely a plant is free from this miserable little vermin. Not having before been seriously injured by them, I have been disposed to jeer those who complained of them, and attributed their suffering to negligence in the enriching of their soil; but now that I am affected to a degree bordering on destruction to my Cabbage crop, I am disposed to cry for help, and write to ask of yourself or some of your correspondents, if they can suggest any remedy. I am now trying to destroy them by rubbing them off with the hand, but this must be attended with great injury to the plant, as the bud, where the vermin chiefly congregate, has to be subjected to a severe ordeal in the way of manipulation; and sensitive and tender as it is, the consequences must be very deleterious.

In the next issue of your valuable journal, will you favour us with some light upon the subject?

Very respectfully,

W. B., JR.

Disease in the White Oak Trees of the Upper Valley, and of Apple Trees near Alexandria.

We submit the following correspondence to the public, because it involves two matters of public interest. We are indebted for Dr. Fitch's letter to the kindness of B. P. Johnson, Esq., the Secretary of the N. Y. State Agricultural Society. We are none the less thankful to Dr. Fitch, however, who would no doubt have answered our letter quite as readily if directed to him in the first instance, which we certainly should have done, if we had known his whereabouts.

For the Southern Planter.

Big Lick, Roanoke, May 27th, 1858.

GENTLEMEN:

For the last two or three years the neighbourhood of Christiansburg has been infested with a winged bug somewhat resembling a beetle, heretofore unknown, and which threatens to destroy all the groves of white and black oak. These bugs are about a half inch in length, with long wings resembling the transparent wings of the locust, doubled under, longitudinally, and encased as the wings of the beetle-class usually are. They have four anterior and two posterior legs, serrated and covered with needles. The body is short, thick and round. They emerge from holes in the ground after sun-down, and with considerable noise light upon the trees in countless swarms, where they continue their depredations until morning, when they retire to their cells in the ground.

On the farm of Mr. Eskridge, near Christiansburg, they have appeared in succession during the last two or three years, and have already destroyed, to a considerable extent, two noble groves of native forest oak, reserved on his estate. Many of the trees destroyed are white oaks, measuring from three to five feet in circumference, and unless a mode can be devised to rid his estate of these pests, another year will probably leave him without a tree in either grove. Thus far, they have confined their ravages to the white and red oak, and only these when standing in groves. The unbroken forest, as yet, is untouched.

It is useless for me to occupy your time in dilating on the seriousness of an evil which attacks the noblest tree of our forests, and threatens to sweep away in a season the proudest ornament of our lawns and the most valuable tree in our woods. You will, at a glance, appreciate the importance of this matter, and

will, I trust, provide us with such light as you possess, or can derive from your extensive correspondence.

I think there is a gentleman in Massachusetts, (a Dr. Harris,) who has devoted many years to the subject of entomology, and especially to that branch which relates to those insects interesting to the agriculturist, who, if applied to, could inform us what this animal is, its habits and the mode of guarding against its depredations.

Your prompt and energetic attention to this matter will be very gratifying to many of your subscribers.

Respectfully,

W. M. PEYTON.

Near Alexandria, 27th May, 1858.

MR. F. RUFFIN:

Dear Sir—I enclose two or three leaves taken from a tree in my apple orchard, as specimens of the different stages of a disorder, under the influence of which the orchard has been suffering, declining and dying for some years past. I do not understand it myself, nor can I find anybody who does, though I have called the attention of many to it. The orchard had been planted some years before the attack was made—the trees were, many of them, well grown and vigorous in appearance; and as the soil was various in quality, some of the trees were poorly progressed, and others occupied the gradations between the two extremes. It first appeared upon the trees of a cider-apple, sold to me as the "Robertson Red," affecting at first but few—but gradually extended from year to year, until not only the whole of that kind became affected, but last year it extended to other trees. It has not only widened in extent, but has increased in virulence, so that a great many trees have died under its influence, and I am apprehensive I shall lose my whole orchard, unless I may be helped to a remedy; and my object is to ask your aid in the premises, if you know what it is, and the remedy. I take it for granted that it is the work of some insect, as I believe every blemish upon the leaves of trees is, of whatever kind they may be. It is not unlike small-pox in its appearance—on some of the leaves there are but few marks, whilst on others it appears in the confluent form, as you will observe. It may be proper to say that the orchard has been cultivated in its early being with more regularity than recently, though it has been cultivated up to the present at least once in three years; and now I have hogs running in it, as has been the case all the Winter and Spring; and I was gratified to observe that they have been rooting, with especial industry, under every tree, and yet the malady is more extended now than ever before. If you can help me out of my difficulty, I shall be very much obliged to you.

Very truly and respectfully yours, &c.,

R. C. MASON.

East Greenwich, New York.

HON. B. F. JOHNSON:

Dear Sir—The clusters of little yellow grains, producing discolored spots on the apple-leaves of Mr. Mason's orchard, are not the eggs of an insect, though they resemble them; but are a minute vegetable, a species of *fungus*, probably belonging to the genus *Sphaeria* of botanists. The leaves of a barberry bush in my yard are at present affected by a fungus having considerable analogy to this, as will be seen from some of them which I enclose herewith, on examining them with a magnifying glass—those on the apple-leaves being at a younger stage of their growth than those upon the barberry. Almost every species of plant and tree has, in addition to insect depredators, one or more parastic plants of this kind living upon it. And how very pernicious these *fungi* are liable to become, is shown by the *Ovidium*, the species which attacks the grape vine, and which has caused such an extensive failure of this fruit, in vine growing countries, of late years.

I would recommend Mr. Mason to dust some of the affected trees with flour of sulphur. As this fungus has its seat upon the upper surface of the leaves, sulphur can readily be sifted over them, thus applying it directly upon the diseased spots. I would apply it to some of the trees when dry and to others when wet with the morning's dew, and watch the result. Against some of these fungi sulphur is a most efficacious remedy; but it may not be so to others.

As to the insect which is infesting the oak trees in Mr. Peyton's neighborhood, without knowing whether it is the leaves, bark or wood of the tree which it attacks, the manner of its attack, the color of the insect, and a few other particulars, all my *Yankee blood* will not enable me to give a *guess* as to its name, which will be of a farthing's value. But if Mr. P. will send us a specimen of this insect, we can give him the information he desires, free from all doubt and uncertainty. It can readily be enclosed in a small tin box, with a little cotton to hold it in its place, and sent by mail.

ASA FITCH.

Soapsuds.

In days that once were, the soapsuds went to the gutter as regularly as the washing-day was ended; and there are too many who allow the plan to be followed in the present day. All do not yet seem to have learned that a tubful of strong soapsuds is worth as much, as a fertilizer, as a wheelbarrow of good manure. Now every bucket of soapsuds should be thrown where it will not be lost. The garden is a good and convenient place in which to dispose of it; but the roots of grape-vines, young trees, or anything of the sort, will do as well.—*British Farmer's Magazine.*

[From the Valley Farmer.]

The Hog.

Good feeding will, in a great measure, make up any natural deficiency in almost any kind of stock, but to have a good breed as a foundation to build upon is an important consideration.

Experience has proved that the hog which attains the greatest weight in from twelve to eighteen months, makes the best return and largest profit. It will not be necessary in the present instance to discuss the origin and qualities of different breeds. These have generally taken their names from the person (after some years of judicious breeding) introducing them, or they have been called by the name of the county where they took their origin. But after their dissemination in various parts of the country, and especially after *crossing* for some generations, the original type becomes almost extinct, the progeny perhaps still bearing the name. From this fact I deem it unimportant whether a hog be called Berkshire, Byfield, Suffolk, &c., provided he possesses the form, size and general appearance requisite to make such an animal as has been spoken of above. In making a selection for profitable feeding take a hog with a long and round carcass, small head, short legs, broad shoulders, full hams and moderate sized bone. My observation has led me to conclude that spotted and dark colored hogs are generally hardier and more thrifty than white ones. Avoid in-and-in breeding. By this course the form may be perfected but the constitution is lost. Sows carry their young nearly four months. They should only be allowed to have two litters a year. One early in the spring another sometime in the fall. By this means we avoid the necessity of extra feeding and attention with sows having pigs in bad weather. In extreme cold weather they eat their pigs. If confined in a pen they will sometimes become dissatisfied with their quarters and eat their young. To prevent this feed them well just before farrowing with greasy slop and refuse meat, this destroys their unnatural appetite. Let them range freely and choose the place for their bed. Leaves or prairie hay makes the most wholesome litter that hogs can be in. Any kind of straw is bad to produce mange, and lying in stable manure is especially so. This is

a most ruinous disease, but if taken in time may be cured in the following way. First wash thoroughly with strong (warm) soap suds. Then rub dry and annoint behind the ears, on the breast and on the inside of the legs with sulphur and grease, (well mixed.) Put a little sulphur occasionally in their slop and keep them out of the rain.

Sows should be well fed when suckling, and as soon as the pigs are old enough to drink slop, let them have it freely. In this way they get a good start, which is a considerable item in making a good hog. Castrate pigs when four or five weeks old, and spay the sows as soon as they are large enough to handle. The farmer who has plenty of apples will find them quite profitable in giving his fattening hogs a start. The process of fattening should be commenced in the fall as early as convenient, thus taking advantage of time when the business of feeding is not so disagreeable as in cold weather, and when hogs take on flesh most readily. They will be found to gain most rapidly if confined in close quarters, protected from the weather, and on a plank floor in order to prevent rooting. Of course, large numbers must be treated differently according to circumstances. In feeding large numbers, the common practice is to turn a drove into a field of corn, and with smaller ones to gather and throw the corn to them in large quantities, but in my opinion the day is not very far distant when agricultural furnaces for cooking food will be in general use. Experiments have proved beyond any reasonable doubt that there is an immense saving, (especially in fattening hogs,) by preparing food for stock in this way. Grinding corn, cooking and feeding in about the same consistence of mush is probably the best mode of preparing food for hogs. Having them well fattened there remains but one other transaction for the farmer, viz: to get a good price for them and hand them over to the executioner. ***

English Farming.

Butler Abbey is the residence of Thos. Crisp, Esq., one of the most noted breeders of short-horn cattle, of swine, and of Suffolk cart horses, in that part of England. I spent several days under his hospitable roof, and gave his stock of animals

a pretty thorough examination. He farms about 3,000 acres, and has hundreds of cattle and horses, and thousands of sheep. Perhaps a ride round the farm, for it is quite too large to walk over, may give an idea of a large farmer's affairs in that part of England. Mr. Crisp is, like most farmers, a tenant, and not the owner of the land he occupies. These tenancies, usually, I find, are not by a written lease, but by a sort of understanding, not quite definite enough for my taste, regulated much by the customs of the particular estate. A large proprietor, Lord somebody, or the Duke of something, owns some 20,000 or 30,000 acres, which has been in the family a thousand years, or at least, from the time of William the Conqueror. This proprietor usually gives no personal attention to his estates, so far as the rents are concerned, but intrusts all such affairs to a steward who makes his bargains with the tenants, and the lord of the domain sometimes does not even visit a farm in a generation, the tenant occupies at a fixed rate, which he pays half-yearly in cash; and although neither party is bound for more than the year, the tenant often occupies for his lifetime, and his son takes the farm at his decease. Landlords are willing to give long leases, but tenants seem to prefer the yearly system, so far as I have observed.

The tenant farmer seems to go on and make the permanent improvements, often at great expense, and lays out his work as if he owned the fee simple; and on the whole, homes are more permanent in this land of mere tenants, than in our land of fee-simple owners with migratory habits. The farmer pays a rent of, say five dollars per acre, annually, for his land, and conducts operations in his own way, provided he does not cut down trees, or plow up any pasture land, or disturb the game, such as hares, and partridges, and pheasants, which go where they please, and do as much damage as they like, unmolested.

A "keeper"—that is, a game-keeper—lives on the estate, whose business it is to protect the game, and catch the poachers who presume to touch these animals, who are held as sacred as the geese in Rome's capital. The game laws are, and ever have been, a fruitless source of crime and suffering, and always will be, till human nature is thoroughly changed. On every

estate where I have been, I have noticed with indignation the ravages of these useless animals called game in the fields of the finest wheat, while neither farmer nor labourer, dares even drive them away, on penalty of his lord's displeasure, and the loss of his lease next year. I will say, however, that properly viewed, this waste of human food is not the loss of the farmer, but of the landlord, because land not subject to the preservation of game is, for that reason, leased at a higher rent.

There are no large barns for grain and hay in the South of England, as with us, but those products which we so carefully protect are never housed. I have discussed the topic a good deal with farmers here, and they have reasons for their course; some I cannot venture to answer. They say they cannot afford the expense of barns, and that, if they could, hay would heat and burn up by spontaneous combustion if put into them. The climate there is much more moist than ours, and I think the storms are not so violent. Hay does not dry so readily nor injure so much in the stack as with us, and, on the whole, if English farmers like their mode best, we will find no fault with their judgment; but I am sure it is poor economy for New Englanders to follow their example in this particular. The low price of labour, and the high price of building material in England, make in favor of stacks and against barns.

In Mr. Crisp's farm-yard, I saw an original of the farm-yards in which Landseer, and Herring, and other painters of animals, so much delight. Around in some order, though with no great regularity, are huge stacks of wheat, and barley, and hay, and straw, as large as goodly sized barns all neatly thatched and trimmed.

There is a donkey quietly meditating upon the better condition of half a dozen cart-horses that are standing to their knees in straw, eating rye-grass and clover from the rack; and there a dozen of black pigs of two months, with their maternal relative rooting about the very feet of the horses. Flocks of ducks are waddling about in the same yard, and hens and chickens mix into the scene in crowds. A big dog is chained to the gate, and a smaller one is barking to any stranger who approaches. Under the long tiled-roofed shed, a dozen carts

keep company with as many long-handled, long-nosed, long-beamed plows.

A steam-engine is puffing away, quietly and busily, with a thrashing machine. Two or three men are passing up the sheaves from the rick, and two women on the top of the thrasher receive it and unite the bands, while two or more men are pitching the straw on to a new stack; about as large and high up as a forty-foot barn; while on the top of the same stack a boy is mounted on a horse of near a ton's weight, riding constantly about to tread down the straw. The horse and rider remind you of an equestrian statue on a very large pedestal; and as the horse is gradually rising higher and higher, you wonder how he is ever to get down again, seeing that the stack is perpendicular on every side, and fifteen feet high already. Everywhere is straw a foot thick—about the yards, in the stables, in the cow stalls—the greater object seeming to be to tread it down for manure.

We went down to the tide-water which bounds one side of the farm, and examined the embankment against the sea. The embankment extends about twenty-two miles, and the "marshes" (as the drained lands are called) are some of the most valuable wheat fields I have ever seen. I have since examined the "Lincolnshire fens," and the mode of drainage by immense steam-engines, as well as large tracts reclaimed from the sea elsewhere, and I feel safe in saying that the heaviest crops of wheat I have seen in England are upon these fens and marshes. They require a peculiar treatment, and a different rotation from the uplands; but the whole subject is well understood, and may be studied with advantage by all of us who live on the banks of rivers, or on the coast of the Atlantic.

Upon one part of the estate we found brick and tile works, where all the operations of making, setting, and burning drain tiles were going on. This is a subject which has especially occupied my attention, and I have seen various machines in operation in several places, and have narrowly watched the methods of laying out the drains and laying the tiles. I am more impressed with the importance of the subject to us at home. Much perhaps of our New England soil requires no draining, but much of our most valuable

land, I am satisfied, would double in value, at small expense, by draining with tiles, when we have them at a fair price, and know how to use them.

I have not space now to speak particularly of the crops of wheat and other grain, nor of the culture of the root crops, nor of the magnificent stock of cattle, swine, and sheep, nor of the plowing with those queer, old plows, straight furrows for half a mile, such as I never saw in America. We have had many talks about plows, but they have one argument in favor of their ungainly implement. Their work is far better than ours, and it is either because they have better plows or hold them better, and our farmers and plow-makers may settle that question as they can. I have seen a man in England, with a yoke of oxen fastened in collars, like horses, with blinders on, and bits in their mouths, guiding them with reins, and holding the plow himself, striking out lands eight rods long, with no stakes except at the ends, absolutely straight, so that I could not see an inch variation in the distance. It is a common operation here to plow land into ridges for mangolds, drill four rows at a time with a horse-drill, and when the crop is up, to horse-horse four rows at once. I think bad plowing is one of our national sins.—*New England Farmer.*

Order and Economy on the Farm.

Without order on the farm, peace of mind, success and profit are impossible.—Watchfulness and care are implied in this forcible word, *order*. Who is the farmer that does not know of serious accidents happening to animals and crops for want of proper care? Some farmers are negligent of their animals when at grass, as if no accident could happen. We once knew a most excellent horse to get on his back in the furrow of a pasture field that was "seeded down" with a grain crop grown on "lands" or ridges. Sheep of good quality (and what farmer should grow any other) are liable to meet with similar accidents—so, too, to be injured by dogs, etc., and for which *care* seems, after all the experiments have been made, to be the best remedy.

The farmer should not allow his cattle that are used in his farm work, to be scat-

tered indiscriminately over his fields. In the most busy season it often happens that a great deal of time is lost in catching working animals that are let out on pastures while the men eat dinner. In the heat of a hot day, as at noon, horses and oxen would do much better in the stables if supplied with green food. For such purpose no farmer should be without the necessary quantity of clover to be used as soiling. We do not refer to that grown on meadow land with grasses, but to clover produced on meadow land *heavily manured*. Such clover will be succulent, and while it furnishes a highly nutritive feed for working animals, it prevents them from having a desire to consume large quantities of water. Clover grown in the manner referred to, would produce the second season three crops. After each cutting it should be heavily top-dressed. If the pastures are bare from being over-stocked, or parched by the heat of summer, the cattle should be fed on clover or other soiling. The value of it for increasing the quantity and quality of milk and butter, will soon be understood by any person who pursues such a course. This system of practice has its influence in *saving time*. If the fences are bad, or that cattle roam in the woods, by the feeding of special green food in a particular place thus causing cattle to come in search of it, much time may be saved. We know of a shiftless, disorderly farmer—and perhaps there are others as well as he—who drives his cattle three or four miles to be milked, often when above their knees in mud. He has several horses to spare, and milk cans growing rusty for want of use. He does not estimate the loss arising from such a practice. His cattle travel in coming home twice a day to be milked, and returning to the pasture, make four journeys equal to twelve miles—when the roads are muddy the labor is much increased—the feet of the cattle become subject to disease—while travelling they are not feeding, and consequently not supplying the raw material from which to make flesh, milk or butter—they dung on the road and its manurial effects are lost to the pasture—and in addition to these losses, arising from carelessness or a want of “order upon the farm,” the time of a man or boy is also lost in making the journeys referred to.—*Working Farmer.*

Boot and Shoe Trade.

In the month of May, 1818, the good sloop called the Delight came into the port of New York, freighted at Boston with a full cargo of boots and shoes, consigned to Spofford & Tileston, the first boot and shoe-jobbers of importance in New York, who then commenced supplying the shipping demand from this port instead of Boston.

These gentlemen were therefore the first to introduce, extensively, the wholesale boot and shoe trade into this city. The manufacture was confined at that time to New England, whence they received supplies on commission. The trade rapidly extended, but in 1829 there were only four jobbing houses in this branch of industry.

The large sales of boots and shoes for shipping induced Messrs. Spofford & Tileston to invest capital in a line of ships to ports in the South, for which they became agents as well as principal owners, and which being successful, led them to become large ship owners, and at length to abandon the boot and shoe trade to others. The boot and shoe manufacture of this city and its environs is therefore of modern date. It now forms one-third of the whole manufacturing power of the country.—New England and Pennsylvania still retaining two thirds. This proportion is rapidly changing in favor of New York. In this city there are about fifty-five boot and shoe jobbing houses, doing business to the extent of fifteen to sixteen millions of dollars yearly.

Common goods, such as men's pegged boots and brogans, women's pegged and common sewed shoes and gaiters are manufactured in the villages of New England, namely: Lynn, Haverhill, Worcester, Millford, Natick, Randolph, Abington, Reading, Danvers, Georgetown, Stoughton, and several other places in the State of Massachusetts.

The better kinds of goods, such as men's and women's fine sewed boots and shoes are manufactured in this city, in Newark, N. J., and other small places adjacent.

There is but one other branch of manufacturing industry that has increased so rapidly as the boot and shoe business, and that is the clothing trade.

There are some boot and shoe jobbers

whose business amounts to from \$800,000 to \$1,000,000 annually.

It is a fact not generally known that the manufacture of boots and shoes is the largest domestic trade in the States. Each New England village, town or city in which this industry is carried on, is generally devoted to one kind or style of boot or shoe; and many are built up exclusively by this special industry. There is no country that can compete with us either as it regards prices or quality. We export largely to South and Central America, the West India Islands, and Australia. The sales also to California are very heavy.

The Eastern manufacturers have suffered considerably in the late financial troubles, and are much crippled in means. A great many of them not being able to meet their engagements at maturity, but requiring renewals, all of which are not yet paid, are suffering in their credit, and the consequence is a falling off in the supplies, so that some kinds of goods are getting scarce. The leather-dealers have had to come forward to the relief of their customers.

The leather-dealers are a powerful body, and are well able to sustain a temporary suspension of payments from their customers. Their paper is considered the best in the market, and commands the readiest sale at all times. The wealthiest houses among them have bought large quantities of hides to store for future time. This speculation is expected to repay them by sustaining the prices of leather, but the boot and shoe dealers only buy from hand to mouth, being of opinion that the leather dealers will not be able to carry out their plans successfully.

The tanners, as a body, are poor, and have to borrow their capital from the leather dealers on unfavorable terms, perhaps paying a high rent for their tanneries as well, and selling under contract to their creditors; so that their profits are thus reduced to a minimum. They seldom have an opportunity of taking advantage of a favorable state of the market. The tanneries are numerous along the sides of the Pennsylvania and Erie canals and railroads of this State and that of Pennsylvania, at the nearest points to the forests of hemlock in the interior, on which they are mainly dependent for their tan.—*New York Independent.*

The Rain—the Glorious Rain.

Who, but those who till the soil, can realize the importance of one good, soaking rain! Throughout all the month of June, and part of July, not a drop of rain fell in this vicinity to gladden the earth. For many days and many nights, did we look for signs. The signs came. "But all signs fail in dry weather," and for days and days, and weeks and weeks, no rain came to gladden the earth or us. At length our trusty negro, Jerry, came with countenance beaming with dusky joy, and announced the important news: "*Master, wese get rain fore night, Ise seen de red go over beatiful this mornin.*" And true to the negroe's prophecy, the rain did come, and such a rain! a glorious rain! from drooping death, every thing in the vegetable kingdom has sprung into mystic life. The Red went over. Reader, do you comprehend the deep philosophy of our black Newton? If not, we will explain. If in the morning, the Eastern and Western horizon are skirted with high clouds, and just before the sun makes his appearance the clouds in the East begin to be tinged with red, gradually diffusing the hue over the arch, until all the West is golden, "the Red has gone over," and it will rain in 24 hours. It is the peculiar density of the clouds that takes its tinge from the rising sun, which denotes the rain; and although the sun may rise in unclouded glory, we have found our philosopher, Jerry's, prediction almost always verified. We fear there are many of our readers that do not rise early enough to see the "*red go over.*" It will begin about half an hour before sun rise, and be dissipated as soon as the sun makes his appearance. The "*Red*" has gone over, and we have had a rain, a rain! a glorious rain!—*Cotton Planter and Soil.*

What is Silica?

Silica is a mineral substance, commonly known as *flint*; and it is one of the wonders of the vegetable tribes, that, although flint is so indestructible that the strongest chemical aid is required for its solution, plants possess the power of *dissolving and secreting* it. Even so delicate a structure as the wheat straw dissolves silica, and every stalk of wheat is covered with a perfect, but inconceivably thin coating of this substance.

Amid all the wonders of nature which we have had occasion to explain, there is none more startling than that which reveals to our knowledge the fact that a flint stone consists of the mineralised bodies of animals, just as coal consists of masses of mineralised vegetable matter. The animals are believed to have been infusorial animalculæ, coated with silicia shells, as the wheat straw of to-day is clothed with a glassy covering of silica. The skeletons of animalculæ which compose flint may be brought under microscopic examination.—Geologists have some difficulty in determining their opinions respecting the relation which these animalculæ bear to the flint stones in which they are found.—Whether the animalculæ, in dense masses, form the flint; or whether the flint merely supplies a sepulchre to the countless millions of creatures that, ages ago, enjoyed each a separate and conscious existence, is a problem that may never be solved.—And what a problem! The buried plant being disinterred, after having lain for ages in the bowels of the earth, gives us light and warmth; and the animalculæ, after a sleep of ages, dissolves into the sap of a plant, and wraps the coat it wore probably “in the beginning, when God created the heavens and the earth, and when the earth first brought forth living creatures,” around the slender stalk of waving corn!—*The Reason Why.*

Moths in Carpets.

An “Experienced Housekeeper” writes the New York *Tribune*, concerning these pests, as follows: Camphor will not stop the ravages of moths after they have commenced eating. Then they pay no regard to the presence of camphor, cedar or tobacco—in fact, I rather think they enjoy the latter, if anything else than humanity can. Nor will the dreaded and inconvenient taking up and beating always insure success, for I tried it faithfully, and while nailing it down, found several of the worms “alive and kicking” that had remained under the pile unharmed. I conquered them wholly in this way: I took a coarse crash towel and wrung it out of clean water and spread it smoothly on the carpet, then ironed it dry with a good hot iron, repeating the operation on all suspected places, and those least used. It does not injure the pile or color of the carpet, in

the least, as it is not necessary to press hard, heat and steam being the agents; and they do the work effectually on worms and eggs. Then the camphor will doubtless prevent future depredations of the miller.—*Maine Farmer.*

Draught of Plowing at Different Depths.

It has been laid down in the books that the draught of a plow increases rapidly when the furrow is deepened, or, in mathematical terms, according to the *squares of the depth*; that is to say, that if the draught at four inches deep be 252 lbs., at seven inches it will be as 49 to 16, or 756 lbs.—But the experiments of Pusey have proved that this is erroneous. He found that in plowing a furrow nine inches wide and five inches deep, the draught was 322 pounds; at the same width and in the same soil, six inches deep, it was 308 lbs.; at seven inches, 350 lbs.; at eight, 420 lbs.; at nine, 434 lbs. It will be seen that the rate of increase is much less than has been generally supposed; and the facts above indicated furnish an additional argument in favor of deep plowing, and one seldom alluded to by agricultural writers.—*Maine Farmer.*

From the Country Gentleman.

Economy of Feeding Roots.

Although we are almost continually hearing the praises of root crops from numerous writers of the agricultural press, such encomiums being echoed through the country on account of their great yield, as compared with other farm crops; and although this great aggregate yield per acre, their succulency, and other accredited qualities, are not to be denied; still writers on this subject have not, in many instances, proved themselves true theorists—theory being always a consistent ideal of the best practice—but rather copyists of a popular idea not really well understood, except by practical men who have had perception and judgment sufficient to enable them to deduce correct principles from experience of their own, or that coming under their own observation. This class of the best friends of agriculture, together with correct judges from observation, know well that there are many things to be considered, as affecting

the value of any crop for agricultural purposes, besides large relative yield; especially when the profits of such produce are indirectly derivable from its consumption and reproduction in another form, by means of stock, on the premises where it is raised. For instance, there is the amount of meat-food in beeves, or the increase of weight in store stock, as well as the quantity of manure that can be made from it, together with the *exhaustion of the soil*, and the relative cost of production and feeding out as compared with other crops, more especially with such as are of well established value in the climate, and suitable to the season of feeding and the locality where raised. All these questions must come into the estimate, in deciding the real worth of any kind of produce to the ordinary farmer or farmer of moderate means. Nor is this all; for, in practice, we have to consider furthermore, of any crop we propose to feed, whether it be really adapted to the physiological habits of our animals, and suitable to the ever influential conditions of climate and season.

Through much of the discussion on this subject, these conditions of the root-crop question have been frequently merely hinted upon, or altogether evaded or passed over; the omission, as I conceive, being fatal to the value, and the real ground of impracticability in the views generally enunciated on this topic.

Feeding root crops, as bagas and turnips, to stock in the fall, is attended generally with inconveniences and results that do not pertain to or result from the use of dry food, as corn-stalks, hay, &c., at this season. Late in autumn the grass crop, or its residue, becomes comparatively dry, and more dry, till it approaches pretty nearly the texture, as to dryness, of hay itself; and therefore, when at length grass feed has come to an end, and stock is put upon dry food, it feels no ill consequences from such change of diet—the animal system having been gradually and consistently prepared, by the diminution of succulency incidental to grass feed of the season.

As diseases, sometimes of a serious character, result as frequently from sudden and great changes of diet as from other causes, if not more so, changes in the character of food, as from dry to green

and succulent, must inevitably be accompanied by corresponding consequences, modified however by quantity and shelter. Hay and other dry food has peculiar value, arising from its natural fitness, and freedom from this objection. As the succulency of food is gradually diminished from its highest state in summer to its driest in autumn, the systems of animals are in like gradual manner contracted in dimensions by reason of the reduced proportion of fluids in their food; the contents of the system become more condensed, the whole muscular fibres more constricted, and the animal, from being less relaxed, more able to bear the cold snaps peculiar to autumn, as well as better adapted to the approaching severity of winter.

These snaps—as they are designated—came on generally without foreseen indications, or such premonitions as would be necessary to enable us to regulate feed according to temperature. This being impracticable, feed in the autumn should be adapted to the necessities of the system in cold weather, rather than its requisites when the temperature is warm; because the tendency of temperature is towards increased cold. Dry food is obviously more suitable than such as is succulent, because it is more constricting or rather less relaxing in effect. Bearing on this view is the well-known susceptibility of the system of any animal, to the influences of cold in proportion to its condition of laxity, at all seasons—more especially when exposed to the sudden and extreme changes of our fall temperature; and till the cold of winter becomes more equable, steady, and continuous. Food of a cold and watery nature, when taken into the system at such times, must necessarily absorb and neutralize and thereby divert from its natural purpose of keeping the body warm much of the internal heat; but dry food is free from this not unimportant objection, also.

When the mean temperature has become gradually colder, more heat is, with equal exposure—whatever may be true in exceptional instances—necessarily abstracted through the animal's hide; hence, if more nutritious food, or food with less heat-neutralizing properties, be not given, the animal must lose flesh. More nutriment is therefore necessary to keep up a given degree of animal heat, as cold increases or

winter approaches. It is true more nutrition can be obtained by the consumption of more food; but it should be remembered, first—that the digestive organs have but limited power; and, second—that as the whole muscular system—muscles being the agents of digestion—has contracted—abdomen and stomach of course included—in proportion as the food of summer has gradually diminished succulency, and consequently in bulk, till it has become substantially dry fall feed. Therefore more nutrition could be obtained only by increasing the number of meals, thus breaking upon the well established requisites of rest and regularity of feeding; time for the work and recuperation of the digestive organs.

Insensible perspiration, as the escape of watery parts of the food—after digestion—through the skin is called, is also much reduced by increased cold; the pores or vents shutting up, as it were, to prevent heat being abstracted or the equalization even going on, when bodies of different degrees of warmth come in contact with one another; this rule holding as well with warm hides and the cold air, as with your warm feet and a cold stove. Hence, when food containing too large a proportion of moisture is given, the excess of moisture is carried from the system through the bowels and kidneys; because the skin refuses their egress in the form of vapor, and relaxation and greater liability to take cold surely follow such excess of water in the evacuations.

A given amount of nutriment can also be served out to animals in much less time, and consequently at less cost in dry than an equal amount in succulent food. Though this objection is of less importance than the unfitness of roots to the general concomitants of the season, still it is of weight enough to turn the scale in favor of dry, nutritious food in the fall, supposing the balance of advantages, as between such and succulent roots, was in other particulars generally equal; the more especially is this true, when the relative value of labor here is compared with its cost in the more equable climate of the British Islands.

Accordingly turnips, bagas, wurzel, &c., whatever may be their aggregate yield per acre—which is frequently very great—contain, notwithstanding, too much water,

even if they were much more nutritious than they are, to be suitable as food for store stock when subject to ordinary exposure in this climate late in the fall.

For, instead of having a reduced amount of water in proportion to the nutriment, they contain in fact more water, and are more succulent and relieving than grass at midsummer—being therefore inconsistent with the general condition of food, of the state of the animal's system, temperature of the atmosphere, &c., which usually prevail in later autumn. Containing far too little nutriment, substantial food, in proportion to bulk—aside from their watery and heat neutralizing character—roots do not supply nourishment and heat enough to support the animal's strength and comfort, without unreasonable and hurtful engorgement of stomach and bowels; for the animal may be filled without being fed—the appetite still craving, whatever the bulk of food he may have swallowed—till real nutriment enough has been given him to supply the demands of his ever wasting and renewing bodily structure.

Considering such facts and their certain influences, we cannot otherwise conclude than that it is injudicious for ordinary farmers, those with only the usual conveniences and capital, to feed roots to store or fattening stock in the fall. In England, where to-day sheep are scooping our turnips in the field, and where women can be found in sufficient numbers to pull up the bowl shaped lower halves with turnip hooks, for 12 cents per day—that all the manure of the crop may be left on the ground—and where the temperature is so equable that sheep have only the blue sky for an overcoat, and need no other shelter, except from heavy rains—sheep are profitably fed on turnips in the fall. Cattle are also fed large quantities of roots, the extra labor there required being cheap, and therefore no real offset to the profit of the practice, climatic conditions being generally favorable. But here we have another and widely different climate, and, in my opinion at any rate, ordinary farmers—as the mass of the profession will ever be, relatively—may occupy their time and energies far more profitably and consistently by draining, manuring, and by every practicable means, improving the quality, and increasing the product of their grasses, which in some form, are the nat-

ural and most economical fall feed for stock—rather than raising roots for that purpose—the latter being merely the copying of a practice, without the possibility of securing the conditions of climate and cost which make it consistent and economical.

In the spring season the tendency of temperature, bodily conditions, &c., are in the opposite direction, and we may then act according to the circumstances of the season, and with some degree of reason and consistency, provided we can provide roots or their equivalent for feeding at that season of the year. J. W. CLARK.

Deep Ploughing.

We are all too apt to follow blindly in the beaten track. The first plow was a tough, forked stick, whereof one prong served as a beam, while the other dug the earth as a coultter. Of course, the plowing was only scratching—necessarily so.—It would have been preposterous to expect the plowman of Hesiod's or of Virgil's time to turn up and mellow the soil to a depth of fifteen or sixteen inches. Down to the present age, plowing was inevitably a shallow affair. But iron plows, steel plows, subsoil plows, have changed all this. It is as easy to-day to mellow the earth to the depth of two feet, as it was a century ago to turn over a sward to the depth of six inches. And our fierce, trying climate, so different from the moist, milder one of Great Britain, Ireland, or even of Holland and the Atlantic coast of Germany, whence our ancestors migrated, absolutely requires of us deep plowing.—Drouth is our perpetual danger. Most crops are twenty to sixty per cent. short of what they would have been with adequate and seasonable moisture. That moisture exists not only in the skies above, but in the earth beneath our plants.—Though the skies may capriciously withhold it, the earth never will, if we provide a rich, mellow subsoil, through which the roots can descend to the moisture. The hotter and dryer the weather, the better our plants will grow, if they have rich, warm earth beneath them, reaching down to and including moisture. We can not and we need not plow so very deep *each year* to assure this, if the subsoil is so under-drained that the superabundant moisture of the wet season does not pack it.

Under-draining as the foundation, and deep plowing as the superstructure, with ample fertilizing and generous tillage, will secure us average crops, such as this section has rarely ever seen. Our corn should average from fifty to seventy bushels per acre; our oats still higher. Every field should be ready to grow wheat if required. Every grass-lot should be good for two or three tons of hay per acre. Abundant fruits, including the grape and the pear, should gladden our hill-sides, and enrich our farmers' tables. So should our children seek no more, in flight to the crowded cities, or to the wide West, an escape from the ill-paid drudgery and intellectual barrenness of their fathers' lives, but find abundance and happiness in and around their childhood's happy homes.—*Horace Greeley.*

Live and Dressed Weight of Animals.

The following rules for computation, which we believe to be accurate, and which may be of use to many of our readers, we cut from the *Ohio Cultivator*:

1st. For finding the net weight of stock, etc., where one-fourth is taken out, or allowed for tare.

Rule—Multiply the gross weight by the decimal 8 tenths, and the product will be the net weight.

Example—Suppose a farmer has a hog that weighs 345 gross, how much will he weigh net? $345 \times .8 = 276.0$. Ans.

2d. To find the gross weight, having the net weight.

Rule—Divide the net weight by the decimal 8 tenths, and the quotient will be the original gross weight.

Example—What is the gross weight of a hog that weighs 345 pounds net?— $345 \div .8 = 431\frac{1}{4}$. Ans.

3d. To find the price per hundred net, where the price per hundred gross is given.

Rule—Divide the price per hundred gross by the decimal 7 tenths, and the quotient will be the price per hundred net, and *vice versa*.

Example—How much per hundred net will a farmer get for his hogs, who sell them for three dollars and forty cents per hundred gross? $\$3.40 \div .7 = \4.25 . Ans.

Thus it will be seen that \$3.40 gross, is the same as \$4.25 net. The reasons for these are obvious; comment is therefore unnecessary.—*Amer. Farmers' Magazine.*

Credits and Failures.

The statistics that have been published of the failures resulting from the late panic revive an interest in those which resulted from the operation of the U. States general Bankrupt Law of 1841. We have compiled the following table, which shows

the number of applicants for relief under that law, the amount of debts and assets or property surrendered, as compared with the number of firms now in business, the number failed last fall, and the amount of their debts, with the population at each period. The general results are as follows:

	Population.	No. failed.	Debts.	Assets.	State tax valuat'n.
1840,	17,500,000	33,739	\$440,934,615	\$43,697,307	\$2,926,565,110
1855,	28,192,100	5,123	299,801,000	156,021,000	8,780,696,469

The number of creditors in 1841 was 1,049,603, and the ultimate payments were very small. It is to be borne in mind that the bankrupt proceeding embraced all the bankrupts caused by the revulsions of 1837 and the three succeeding years; that is to say, the majority of the persons who were then in a state of insol-

veny, whereas the present return is only of those who actually failed last year. If we now take a table of the population and valuation of the leading States in 1840 and 1855 with the debts at each period, we shall observe the progress of wealth, as compared with debts. The following are all official figures:

	1840			1857		
	Population.	Valuation. \$	Debts. \$	Population.	Valuation. \$	Debts. \$
Maine	501,793	28,807,687	16,539,300	653,197	127,110,190	1,069,000
Massachusetts	737,699	208,360,407	24,752,932	1,133,123	573,342,286	43,621,000
Connecticut	309,978	97,122,497	10,469,273	384,110	203,739,833	1,129,000
Rhode Island	108,530	32,640,000	2,191,102	166,500	111,175,174	4,639,000
New York	2,428,921	627,554,784	172,136,820	3,470,059	1,402,859,564	150,612,000
Pennsylvania	1,724,033	294,509,187	31,965,723	2,542,960	581,731,304	36,420,000
Ohio	1,519,467	110,196,239	17,198,102	2,311,000	869,877,351	6,868,000
Kentucky	779,828	217,453,041	16,241,171	1,113,110	411,009,198	1,764,000
Indiana	685,866	95,019,110	11,192,102	1,198,100	290,418,148	1,636,000
Illinois	476,183	63,198,107	14,498,396	1,242,917	324,121,000	9,332,000
Total	9,275,298	1,774,361,259	317,184,921	14,215,076	4,895,384,048	257,051,000
Increase	-	-	-	4,939,778	3,120,522,789	-
Decrease	-	-	-	-	-	60,133,921

This is a singular result. With an increase of 4,939,778 in the population, and over three thousand millions in taxable property, and after an expenditure of \$700,000,000 in railroads, the liabilities of bankrupts are \$60,133,921 less. In other words, the debts in 1840 were \$35 per head, against a valuation of \$200 pr. head. In 1857 the debts are \$18 per head, against a valuation of \$355 per head, or thus:

	Debts per head.	Valuation per head.
1840	\$35	\$200
1857	18	355

The people owed in 1840 seventeen per cent. of the assessed property, and in 1857 five per cent., and will pay one-half.—These figures are well calculated to inspire confidence in the resources of the whole country. If a very large amount of float-

ing capital has been absorbed in the construction of railroads, so has a considerable quantity been invested in gold, at least to the extent of \$150,000,000, forming a very available resource to meet foreign debts, but internally, in a national point of view, it is only an expensive machine of trade, like railroads. It promotes the exchange of industrial products, but absorbs a considerable capital in its production, and beyond its use as a medium for the transfer of other commodities from hand to hand, is not of itself useful. There is no doubt but that a nation would prosper and grow rich without the use of any gold and silver whatever, to a certain extent proportioned to the productions of other results of industry. Commerce progresses all the better for its use, but too much of it is injurious since it will create expansion in prices, breeding revulsion, by which its surplus

will be purged off. The above figures show that the amount of credits outstanding at the time of the panic was in no degree sufficient to produce such a result.—*U. S. Economist.*

British Agriculture.

The addresses to the members of the Surrey Agricultural Association at the annual meetings contain a great deal of useful information indicative of the progress and present stage of British Agriculture. The following passages may be taken as a sample of its quality:

"There are, I believe, about twenty-nine millions of inhabitants in the United Kingdom, and the population is increasing, it is estimated, at the rate of one thousand a day. There are, it is calculated, seventy-seven millions of acres, at a rental of one hundred and twenty-seven millions of pounds sterling per annum, in the area of these kingdoms. fourteen millions of which are unimprovable waste, but twelve and a half millions are uncultivated, but improvable land; and we are said to grow, on an average, fifty-one million quarters of corn, and this corn crop is reckoned to be an average worth one hundred and twenty millions pounds sterling per annum. In England we have a population of eighteen or nineteen millions, and we grow about thirteen or fourteen million quarters of wheat; and taking the estimate of consumption at one quarter per annum per individual, made in Mr. Pitt's time, at the instance of that eminent statesman, when wheat was 1*l.* per bushel, we shall find that we have to import five million quarters of wheat annually for home consumption. Now the importation for the last six years was about 4 $\frac{3}{4}$ millions of quarters annual average, and for the previous six years four millions. In 1856 we imported more than eight millions of corn and grain, of which above four millions were wheat, three-fourths million quarters Barley, more than 1-7 million quarters Oats, 3-8 million quarters of Beans, and nearly four million cwt. of meal and flour. Nor was that all the food which we brought from abroad. Our total annual consumption of butcher's meat amounts to 750,000 tons. The sheep of the British Isles are believed to amount to thirty-five millions or more, of which England possesses twenty-seven millions; and of cattle in the United King-

dom there are eight millions. One quarter of these sheep and cattle are said to be consumed every year, and the value of each sort thus consumed is estimated at twenty million pounds sterling. Now, we import on an average of the last few years about 300,000 live animals, though during last year a smaller quantity, viz: 52,019 oxen and bulls, 9,843 cows, 21,444 calves, 135,588 sheep, 9,471 lambs, and 9,916 swine and hogs—total 238,251 animals, mostly from Holland, Denmark, and the Hanseatic towns; we import also about 600,000 cwt. of meat, 400,000 cwt. of cheese, a like quantity, 400,000 cwt. of butter, besides a variety of other articles of food, to the aggregate value of forty-five millions of pounds sterling. From this view of the largeness of our importations, we might be led to look forward with fear, to the occurrence of circumstances which might militate against our supply of food from abroad—such, for instance, as the increase and improved condition, and therefore increased consuming power, of the inhabitants of those countries from whence this supply is drawn; but no such apprehension need, I think, be entertained, when we reflect upon the largely increasing amount of corn cultivation in countries where agriculture has not previously flourished, or think of the fertile lands of the American Far West, the improving agriculture of more than one portion of Africa, the opening out the rich valley of Armenia by the proposed Euphrates Railway, or the many other places in which agriculture is improving—the certain effect of a constantly opening British market. At the same time, I think that we should endeavor to do our utmost to grow food for the consumption of our own people. It was the opinion of the late Duke of Wellington, that we ought not to depend upon a foreign country for food; and much, no doubt, may be advanced in support of that proposition; but I prefer to take lower ground, and to say if we can produce food at a profit let us do so. But the question will arise, How shall we best set about the work of increasing our home supply of food? Shall we produce the requisite amount by putting into cultivation the 12 $\frac{1}{2}$ million acres of land lying waste, but improvable; or shall we apply ourselves to increase the production of the land under cultivation? My answer is, Let us do

both—let us cultivate all the land of the country which will pay for such cultivation, but first let us improve the tillage of that which is now under culture, and look to advancing knowledge to aid us to develop to the utmost the latent powers of those fields which we have now in hand.”

Gardeners' Chronicle.

An Amateur's View on the Propagation of New Varieties of Fruit.

In a late number of the *Horticulturist*, W. Creed, of Rochester, N. Y., advances a new idea which may prove of great benefit to those who are engaged in the most praiseworthy effort to produce new and improved varieties of fruit, either from natural or artificial fertilization. An experienced nurseryman can distinguish many varieties of the apple, pear, and other fruit trees, by some peculiar characteristics of leaf, branch, color of bark or habit of growth, as well as he can distinguish one man from another by his peculiar features, and in many of the varieties of apples, and pears particularly, we can determine their identity (and they may mostly all be learned) by any one of these features, and with them all combined the mere novice may soon learn to distinguish them.

In regard to these peculiar characteristics the writer assumes that “the most important contrast in these distinguishing points, so far as the propagation of new varieties is concerned, is in the seeds themselves; take up your knife and half *quarter* a pear from each of the above varieties named. Compare the seeds and the contrast will be as equally convincing as in the fruit, foliage, &c. In reference to the seeds, however, we may expect that ninety-nine in a hundred in any particular variety closely resemble each other in shape, form, &c., peculiar to that variety, and producing *seedlings* exhibiting a *close affinity to each other*, and, therefore, not likely to result satisfactory to the experimenter; but as soon as we find a marked difference in the *formation of a single seed* in any select variety, *that seed* should be chosen by the amateur, for in *that seed* (which apparently is one of nature's freaks) is the symbol (in embryo of a new variety, whether “good,” “very good,” or “best,” will be left for providence to work out, man also doing his share in the matter. Another part of the success, it is evident, will depend upon the choice of the best varieties, from which to select one of these ‘freaks,’ or ‘sports,’ which are more or less traceable throughout the whole classification of vegetable physiology, and intended by an all-wise Being to excite the wonder and admiration of man, prompting him to energetic action, and to study out the workings of nature in all its beauty and complicity.”

Reasoning from analogy, there seems to be

some plausibility in the theory suggested. It is one of the established laws of nature that like nearly begets like. If we examine the seeds of any specimen of a particular variety of pear or apple, we discover a striking similarity of form and color in them, which renders the conclusion a safe one that the little filaments in the blossom, connected with the embryo of each seed, and which constitute the pistils or female organs of the blossom, have been fertilized with pollen of the same variety, but in an orchard containing many kinds of the same fruit, many of these different varieties blossom at the same time, and the pollen is cast by the wind, or carried by insects from one tree to another; this coming in contact with a single filament or female organ of a fruit of a different variety, and some peculiarity of the male parent is at once stamped upon the seed in its embryotic state, and this peculiarity is extended to the future tree and fruit, producing a new variety, partaking in part of the combined characteristics of both parents more or less modified. This is an interesting question to the amateur and experimenter, in producing new varieties of fruit, and one, the truth of which, may be easily tested by an experiment in artificial impregnation. If the seeds produced in this manner differ materially from those impregnated on the same tree, in the natural way, it is safe to conclude that the difference was stamped upon them by the male parent from another variety.

It is well known to intelligent fruit growers that there are certain varieties of the apple, and of the peach particularly, that more surely produce their own kinds from seed than other varieties do. This is either owing to the period of blossoming, earlier or later than the trees of the same class in general, which renders the blossoms less liable to be fertilized from pollen from other trees, or to some peculiarity of the blossoms of the variety that is likely to prevent the contact of the fertilizing powder from other kinds.

We give these various hints upon an interesting subject that experimenters may have them in mind, with the hope that some light may be cast upon the subject.

We have arrived but at the threshold of investigation and scientific progress, and every new idea that is likely to aid investigation and promote improvement is worthy of attention.

Valley Farmer.

Simple test for Guano.—A bushel of guano, if pure, weighs almost exactly seventy pounds; if adulterated with light substances (which is rarely the case), it will, of course, weigh less. If clay, marl, sand, &c., have been used, they will be materially increased, and so far as this test applies, gross adulterations will be easily detected.

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July 1, 1858.

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1858.

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TERMS FOR THE SCHOLASTIC YEAR,

For Board, - - - - -	\$200	For two lessons (of an hour) a week, - - - - -	- - - - -
For Washing, - - - - -	20	For three lessons (of an hour) a week, - - - - -	- - - - -
For Lights, - - - - -	6	For four lessons (of an hour) a week, - - - - -	- - - - -
For English Tuition, - - - - -	40	For the use of Piano, - - - - -	- - - - -
For Modern Languages, (each,) - - - - -	20	For Drawing, from Models, - - - - -	- - - - -
For French, when studied exclusively of the English branches, - - - - -	40	For Drawing, from Nature, - - - - -	- - - - -
For Latin, - - - - -	20	For Painting in Water Colors, - - - - -	- - - - -
For Music on Piano, Harp, Guitar, Organ or Singing: - - - - -	- - - - -	For Oil Painting, - - - - -	- - - - -
For one lesson (of an hour) a week, - - - - -	40	Primary Department—for Children under 11 years of age, - - - - -	- - - - -

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All letters to be directed to HUBERT P. LEFEBVRE, *Richmond, Va.*

[July '57—

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