

The J. H. ...
... Island
VOL. XVII.

[OCTOBER.]

No. 10.

PUBLISHED MONTHLY.

RUFFIN & AUGUST, PROPRIETORS.

FRANK: G. RUFFIN, EDITOR.

THE SOUTHERN PLANTER.



DEVOTED TO

AGRICULTURE, HORTICULTURE,

AND THE

HOUSEHOLD ARTS.

PRINTED AT RICHMOND, VA.,
BY MACFARLANE & FERGUSSON.

1857.

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
 —Xenophon. | the State.—Sully.

FRANK. G. RUFFIN, EDITOR.

F. G. RUFFIN & N. AUGUST, PROP'RS.

VOL. XVII.

RICHMOND, VA., OCTOBER, 1857.

No. 10.

From the Richmond Whig.

A Proposition for the Consideration of the Executive Committee of the State Agricultural Society and the Farmers of Virginia.

1. That portion of mankind engaged in the cultivation of the soil, in most countries, is subject to peculiar impositions, and is the victim of much injustice. Dispersed, being rarely brought together in large bodies, peaceful and quiet in their habits, they seldom combine and rarely act in concert for any purpose. On the contrary, manufacturers, men in the professions, the tradesmen of the towns, and most other classes, easily unite to promote their special objects, from their plans, and move in harmony to their accomplishment. The farmers of this State make no exception to the general rule. But I have no intention of discussing the general question; only one branch of it.

2. The milling business in the city of Richmond is carried on, for the most part, by three gigantic establishments, which do honor to the city by their extraordinary magnitude, the remarkable skill with which they are managed, and the perfection of their operations. It is generally

understood, that such is their established reputation, that their "brands" command better prices than all others in most markets, if not in all. The South American markets are among those where they find the largest sales, and where the character of their flour is so high as to give them great advantages, and be a source of large profits. These three mills buy, it is believed, a large portion of the wheat which is made on this side of the Blue Ridge, excepting that which is sent from the State or manufactured in Alexandria, Fredericksburg, and Petersburg. But I speak with no precision as to amounts, having no statistics before me. Their purchases are certainly very large, amounting to millions, and they fix the price of wheat in Richmond, and impose whatever conditions they deem calculated to promote their interests or convenience. Nor is their influence limited to the Richmond market. Houses trading on so colossal a scale affect prices throughout the State; nor would it be unreasonable to say, produce some effect in the New York markets. Establishments of such magnitude are of public interest, and it cannot, with any propriety, be regarded an intrusion into private affairs to discuss their influence and their mode of transacting bu-

business, when considering the interests of the agricultural class of this State.

3. These millers fix the price of wheat in Richmond; but there is a limit to their power in this respect. They cannot descend more than fifteen or twenty cents below New York prices; for, when this occurs, the wheat is sent to this latter place. It will be found on examination, that they generally sink in price as low as they possibly can, and yet prevent the grain from seeking another market. It is believed by many, and with good reason, that, instead of giving fifteen or twenty cents less than the New York price, the Richmond miller can afford to give more, because his flour brings a better price. But he profits by his monopoly of the market, as is to be expected. If he could not obtain wheat here lower than in New York, he would certainly give the price. The advantages he enjoys in water-power over the New York miller, the magnitude of his operations, and the high reputation of his brands, would enable him to compete most successfully, it is believed, in the markets of the world, if he were compelled by circumstances to give even more for grain than the New York miller.

4. But is it to be expected, under the circumstances in which they are placed, that the Richmond millers will give what they can afford? It is not; they will buy as low as they can, and sell their flour, doubtless, as high as they can. More cannot, perhaps, be asked from commercial men; but it is certainly much to be desired, that the farmer should be placed in such a position as to be able to demand and obtain what is a fair price for his grain. He can place himself in this position by combination.

5. The millers act in concert, and from the nature of things must do so. The great business is done by three houses, in fifteen minutes' walk of each other. It is immaterial whether they have any expressed agreement or not. One will not submit to prices more onerous, to any extent, or terms of purchase less profitable than the rest.

6. They all require, as a general rule, that the grain should be in Richmond before they will make an offer. When it is once there, they have greatly the advantage in the transaction of buying and selling;

for the farmer must submit to their terms, or incur the expense and hazard of storage or reshipment. He will usually make considerable sacrifice rather than defer a sale and run the risk, expense, and trouble of sending his grain to another market. This usage places him very much at the mercy of the buyer, and many will submit to a sacrifice of twenty or twenty-five cents per bushel.

7. Again; these gentlemen find it to their convenience, and doubtless to their interest, to receive grain at their mills, instead of taking it from the vessel, as is usual everywhere else. Accordingly this is the rule, and the consequence is, much difficulty in inducing captains of vessels to become responsible for the cargoes of wheat, at a reasonable freight, taken to this market, because they very justly urge that the grain is taken from their vessels and transferred in carts, over which they have no control, to the mills, to be weighed and delivered. The loss from this source is estimated by one of the oldest and most experienced commission merchants of this city as averaging three-fourths of one per cent. of the grain. There is also another well-founded complaint as to the delivery of grain here: When sold, the miller will not take it of the vessels, but frequently detain them eight and ten days, and sometimes longer using them as depots, and at the same time refusing to pay anything for the detention. This is, doubtless, a grievance which ought to be remedied.

8. Another grievance farmers have to complain of in this market, is at the hands of the commission merchants. The price they charge for selling is believed to be most unreasonable, and ought not to be submitted to. The price in Baltimore is one cent per bushel for selling grain; here it is two and a half per cent. on the sale. When wheat is two dollars, this is five cents per bushel. To avoid this unreasonable demand, a majority of farmers sell their own wheat, and have no agent to attend to the business for them.

9. All these losses may be avoided, the farmers' convenience promoted, our price materially improved, by imitating the millers and the commission merchants. Yet the former act in concert by an agent authorized to speak in their name and make sales for them. If all the wheat sold in Rich

mond, were committed to the hands of one man, he would then occupy the position in reference to the millers which they now occupy to the farmers. Or if one half, his power would be in proportion to the amount. He would dictate his terms, with only this limitation. If the price demanded by him were so high that the millers could better afford to purchase in other markets, and suffer all the expense of commissions, insurance, and transportation, then they would not buy of him. But if the sum were only less than the price in other markets, with these various charges added, they would find it then their interest. Thus the present state of things would be reversed. Now the millers say to us, practically, you must take the New York prices minus the cost of transportation, insurance, commissions, and all the expenses of sale in that city. This would be about fifteen or twenty cents loss. Our agent might then say to the millers, with equal propriety: you must give the N. York prices, or the Baltimore prices, plus the expense of transportation, and all the other charges incident to purchase and transfer, for if I do not sell to you, you will be compelled to resort to these markets. This negotiation would probably terminate fairly by the millers offering to give New York prices, to avoid the expenses referred to; and the agents receiving the offer, to escape the charges of transportation and sale in a distant market.

10. There are a few houses that wish to buy two or three millions of bushels of wheat. We have it to sell but we amount to many thousands. They take us in detail, weak from dispersion and a total want of concert. They are strong from practical combination, close contiguity and thorough information. They act with rapidity and together, we move slowly, scattered several hundred miles apart, and often with imperfect information of the state of the markets. We suffer all the disadvantages of a mob acting against a regular army, or more properly, of a population dispersed over a wide extent of country, without union, without leader, and for the most part, without arms, combining a well-disciplined soldiery.

11. If we had an agent in Richmond, authorized to speak and act for us, we would then enjoy all the advantages of

union. The representatives of millions of dollars, who want to buy, would be met by the representative of millions of dollars in value of grain who wants to sell. It would be potentate against potentate, and not as at present, the weak man dealing with the strong. We see now, in a limited way, the operation of this principle. The commission merchant, who sells during the season one hundred thousand bushels of wheat, can obtain better terms than the farmer who sells only a few hundred; and the farmer selling five thousand, will probably do better than the man who sends a wagon load. It is an object to obtain a large amount. But the purchaser of half a million of bushels of wheat a year cannot afford to give his time to small transactions without being well paid for it.

12. Let the Executive Committee of the State Agricultural Society appoint a commercial agent, (it is immaterial by what name he is called,) to reside in Richmond, and devote his time and energies to the sale of grain. He should be a man whose sympathies and interests are identified with the cultivators of the soil. At the same time he should be acquainted with commerce, competent to investigate the intricate and complicated question of price, to gather information as to production, in the great grain-growing counties, whose crops influence the markets of the world. A man reliable in integrity and in judgment. To such a man so appointed and endorsed, the farmers would willingly entrust the sale of their crops. He would be *their* agent, the appointee of their Society. He should report to the Committee at stated periods on the state of the crops throughout this country and in others, whose production effect the prices of our staples; and in general, submit such importation on this class of subjects as would interest the farmers generally. If he did his duty, his office would be laborious, but it would be mighty honorable. It would involve much responsibility, but my impression is, it would be largely remunerative. He would be limited to one cent per bushel on sales of grain generally, as is the usage in Baltimore. If sustained, as I believe he would be, this per cent would give him a liberal income, if not, the office would not be worth continuing. But there is no reason

to apprehend failure. The farmers of Virginia as a class, are men of great intelligence, quick to perceive their interests and not slow in sustaining whatever they believe would promote it. They would recognize at once the public policy of such an agency, as well as their individual profit. They would perceive, that by this means, concert of action on the part of the buyers, would be met by concert on the part of sellers, which would certainly enure greatly to their benefit. Some such means of defence are especially necessary, now that the grain market is often influenced by all the trickery of stock-jobbing; even Louis Napoleon being sometime found engaged in the interesting process of selling grain to depress prices, when he wants to buy. This is an ordinary strategem in the stock market, and I fear not an uncommon one in the grain market.

13. The millers and commission merchants would have no cause to complain of the adoption of such a measure. The object is not to injure them, but defend ourselves; in truth, to place ourselves in transactions with them, upon a platform of equality. If we who sell wheat in Richmond, were like the millers, three or four in number instead of many thousands, we should need no agent. We should meet them there on equal terms; and we would probably say to them, unless better reason could be assigned for a contrary course than any I have heard; you must buy our wheat by sample, and not subject us to the expense of sending our wheat to Richmond, with a chance of being compelled, if you will not give us a fair price, to send it to some other market; you must receive it on board the vessel, as is usual in other markets; you must consult our convenience as well as your own; you must give us as much for our grain as we can get in New York, or satisfy us you cannot afford to do it. Or, we would, at least, negotiate as equals on these subjects.

14. I deem it proper to say, and I do it with pleasure, that I believe the gentlemen engaged in the milling business in Richmond are as liberal, under the circumstances, as any other men would be. They profit by their power, to make purchases as low as possible,—which is usual in commercial transactions. And their

great resources and concentrated business enable them to wield a strength, which it is necessary the farmer should meet by union.

A FARMER.

King and Queen, July 27th, 1857.

Since writing the above, I have been informed at one of the best commission houses in the city of Richmond, that several of the Richmond "brands" command at Rio Janeiro, a large market for this flour, on an average, about three dollars more per barrel than other flour. The result is, they pay fifteen or twenty cents less for wheat than the N. Y. millers, and obtain three dollars more per barrel for the flour.

In publishing the above proposition, in courtesy to the gentleman who wrote it, and who is an intimate and highly prized personal friend, we feel bound to offer some accompanying comments. We shall do so by referring to the different points he makes in numbers, as being more convenient than to repeat them. If our readers shall mistake what we deem a candid statement of objections, for an advocacy of the millers and merchants, be it so. We hope we shall never seek popularity at the expense of our convictions; nor court the favour of the class we write for by chiming in with a policy we cannot endorse, and with complaints of which we cannot see the justice.

(3.) The price of wheat is not always fixed by the Richmond Miller according to the price in New York. When there is a glut here, then the price is lower than in other markets, whether of New York or other places; but when there is a scarcity, actual or comparative, the price rises accordingly, and even goes beyond that of New York. At times, as in the commencement of this grinding season, the price in Richmond leaves a margin for shippers, who avail themselves of it, or not, according to circumstances.

The price of wheat in New York affects this market so far and no farther than this: that as that City is the great centre of trade in the United States, it must, when local causes do not interfere, affect the price of flour. Now the miller, in his purchases of wheat, must have reference to his sales of flour; and so far as New York gauges them, it gauges also the price of wheat. Most of our flour is sold for

New York; somehow or other it pays tribute to it, as every thing here does, and to say that the miller gives New York prices *less* costs of sale is in effect to say that he gives the New York price, for thither must he send it if the farmer does not.

(5.) "The millers act in concert." We believe the experience of every merchant, and of many of us who are so circumstanced as not to need their intervention, proves this position incorrect. To cite our own experience in the late crop: We tried four millers; (there are four "gigantic establishments," and several smaller ones;) the wheat was all red—early purple-straw, and Mediterranean. One "gigantic" gentleman offered us \$1.40 and \$1.45; another \$1.52 and \$1.50; another, \$1.50 and \$1.45; the fourth \$1.50 for the lot round. These offers also varied as to requirement of delivery and terms of payment. In another case, we knew a merchant who had a lot of damp wheat for which he could get no offer, and he decided to ship it to New York, (which is, we are happy to say, a better market for rubbish than Richmond); but he had also a lot of superior red wheat. He found out accidentally that that quality was short that day in the city, and that one particular miller wanted all he could get. He made that miller take both parcels, and so effected a satisfactory sale for both his customers, though of course at different rates.

We could multiply such instances, and could shew that there is frequently such active competition among these millers that they make secret bargains for wheats that they want. But it is useless and would be tedious to do so. The price that each man gives for wheat is just what his shipments justify and what the market requires. If heavy shipments find a glutted market, wheat keeps up; if a scanty market, wheat *goes* up; and so, in ever varying phaze, according to the conditions of trade. Sometimes competition is sharp, sometimes it is dull; sometimes a miller knows what his neighbors offer, sometimes he does not. Occasionally their views vary. Wheat must advance, says one, and I shall lay in a stock now. Wheat must fall, says another, and I will hold back. And so one mill may have wheat out on storage, while another has only a current supply. Wheat falls, say. You go with your

sample to the full miller: "Not buying to-day, sir." You take it across the street to his neighbor, and sell in a minute.

(6.) They *should* require as a rule that wheat should be in market before they bid for it. Can you sell a load in New York by sample? Suppose you sell by sample here, and warrant, as you should do, conformity to it. Your wheat comes into market dirty, soft, damp, "hot enough to roast an egg." You at home: the miller rejects the lot. What a sweet humour you are in with that miller—hotter than your wheat—and how you vow you will never sell wheat to *him* again. Suppose that wheat has fallen meanwhile. May it not cross your mind that a falling market sometimes *makes* wheat hot? And how will the miller feel under that sort of imputation? No, he is right. As a general rule, he never should buy wheat, except when it is in market, or as accessible as if it were in market. "This usage places the farmer at the mercy of the buyer." But the other places the miller at the mercy of the farmer, who likes a good bargain just as much as the miller does. It is "hardest fend off:" and the wheat grower must do as all other people do who have anything to sell. We are sometimes caught with a lot of cattle on a glut; and the butchers bleed us accordingly. So of all other commodities. Even pigs are sometimes brought to a bad market, but the drover never complains that they do not buy his "pig in a poke."

(7.) But they receive wheat only at their mills. Suppose they do. The wheat must be weighed. Shall the millers have scales at all the depots, and wharves, and on the landing around the basin, to weigh wheat? Or shall they have one common place of delivery within their own precincts, and subject to their own inspection? Take the cost of porters, weighers, and other agents under the proposed system, who must be paid all the time and never half employed. Are you willing to deduct that cost from your wheat, or shall *they* bear it? As a question not of generosity, but of justice, is it not fairer to take the chances and average the loss? As a question of loss, is it not less under the present system than under the above, the inevitable alternative of the one practised? If the captains of schooners and canal boats—who always remind one of "the

day of small things"—object to the róguey which prevails, let them make their bargains with the draymen. Why compel the miller to employ a police force, especially when he is bound to charge you with the cost of it? By the showing of " $\frac{3}{4}$ of one per cent," this loss is not far short of \$20,000. Think you the millers will guarantee against such an amount without a discount on the price of wheat which would make you howl? For the loss, which to ten thousand farmers would be less than two dollars, would be to six millers upwards of three thousand each.

The detention on the vessels is complained of, and doubtless it is to be regretted. But the system is at fault, not the miller, unless in particular cases. If the miller declines to buy the wheat, the farmer grumbles; if he buys but cannot receive it at once, the captain swears. Roasted by one party or the other is our unhappy miller. If he has bought the wheat to arrive, he ought to take it off as soon as he can. Generally he does so, for our miller has learned that the hold of a vessel is not the safest storage for wheat; and as it is *his* wheat this time he consults his experience, and gets it off as soon as he is able. There is in part a remedy for this thing. The millers should have canal boats to take off the wheat and bring it up through the dock. But how can this apply to the Rail-road depots, when the streets are not navigable?

(8. 9.) But the Commission Merchants charge too much. So we have heard before. But let us look at it and see; and, in order to see the better, let us go back a little. The mode of doing business on commission in Richmond is peculiar.

In old time when tobacco was our main article of export, the merchant resided abroad and sent the Planter, in exchange for his produce, what supplies he needed, from the mother country—we had no *philanthropic* "sister" country then. When the merchants, like eagles to the carcase, flocked to this country, they became the bankers of the Planter, and, by special arrangement, granted credit to him to be redeemed out of his next crop. That next crop was almost always short of the demands upon it, if not of the expectation from it. But in consideration of the payment of a certain sum it was carried to "account;" and the Planter

drew again; until, in time, a mortgage was obtained; then a foreclosure of that, and then the merchant became a gentleman.

The remains of those usages still exist. The Farmer, or Planter, has his Commission Merchant; and it is the rule to draw on him in *advance* of consignments, and for such proportion thereof as prudence, good will, competition, or agreement, on the part of the merchant will allow, not unfrequently to the full estimate of the consignment, and sometimes over that. Whether it be to meet engagements or to purchase supplies—"I can give you a draft on my Commission Merchant." In the one case he pays the cash; in the other he forwards the goods; and he charges six per cent per annum, for the money, or credit, as it may happen, and nothing for his trouble in making the purchases. But money meanwhile may be worth one per cent per month on the street; most usually is; and the merchant must forego an investment at those rates or raise the money at them to accommodate his customer. Now if for running of errands—some of them have been to our office half a dozen times a day to buy one pig—buying every thing one wants in the country, accepting drafts, supplying guano, if for these things $2\frac{1}{2}$ per cent on the sale of produce is too much, how little ought they to ask? We have considered ourselves pretty strong pro-slavery men, but we do not expect white men to work for nothing.

In places where wheat is sold for one cent per bushel, we apprehend a different state of things prevail. If your Merchant there "advances," we presume he charges you for it. If you want money he gets it on a note, most probably your note, endorsed by himself, payable at, say, four months; for which favour you pay him $2\frac{1}{2}$ per cent, *and* the interest besides; for each renewal you go through the same mill and pay the same toll. When he buys for you he charges a commission on his trouble; and if he pays your bills for groceries or what not, it is an "advance." Now which is the most liberal system to the Farmer.

We do not doubt, though we never heard the question mooted among them—we cannot doubt that all merchants in Richmond would gladly agree to charge only one cent per bushel on sales of wheat, if he who makes it would only agree not to ask them for one cent until the proceeds were in hand.

Still if you can make our merchants work for less, do it. We live upon one another—"Cannibals all," as Mr. Fitzhugh would say. But can you do it by appointing a man to sell the wheat for us. Let him sell all. As that is about two millions of bushels per annum, he will have to disburse of course $2\frac{1}{2}$ millions of dollars. Now where will he get the money to make advances on *his* sales? for the farmer *will* have the advances. Suppose he has it; and that he keeps 33 per cent of the whole sum at command. What will be the effect of withdrawing about a million from active circulation in order to meet a contingent demand? Or if he keep it in circulation, why then he must have a bank based on that much capital, a Farmers' Bank in very truth. And who is to manage that Bank? Where is its accountability. How many farmers who want accommodations, and don't care a button for a protest, will throng that bank, and will come to "The Farmers' Assembly," and "vote against the agent, and put in another man," unless they can get money?

But along with his bank he will want a few clerks and agents to attend to his wheat transactions. Who will manage them? Can he? In other words, can any one man do all the business that now requires all the attention of the hundred Commission Merchants and their numerous clerks who daily hurry along to get through their daily work? What security have we "now that the grain market is often influenced by all the trickery of jobbing," that the bank may not break, or the banker abscond, or "be sometimes found engaged in the interesting process of selling grain to depress prices, when he wants to buy"—through an agent, of course? Such an officer of the society must give security. Who will go upon his bond?

But the agent cannot even with that capital, and with every assumption granted, control sales. The necessities of hundreds of farmers will force him to sell, and their wheat will be thrown on the market to take the chances. The laws of trade will assert their own paramount authority.

(12.) But he must be a man identified with the soil, and "reliable in integrity and in judgment"—half dirt, half deity—"competent to investigate the intricate and complicated question of price;" and of course to decide

whose theory of price is right. Now where does that gentleman live? Not in the country, if he lives at all. Yet he must be one of a class that "is subject to peculiar impositions, and the victims of much injustice," "dispersed," "seldom combining, peaceful and quiet in their habits, rarely acting in concert for any purpose," and as a natural consequence of all this, rather stupid on "the intricate and complicated question of price."

It is rather curious, and has not, we are sure, occurred to our friend, who would make a farmers' monopoly of the wheat trade, that he more decidedly than any other gentleman of our acquaintance, condemned the monopoly of Barreda, and urged the Guano Convention that met in Washington and very sensibly "passed Resolutions" to do nothing! Now what is his scheme but a monopoly? And how does he stand, crying down with monopoly, when he wants to make wheat; and up with monopoly when he wants to sell it?

But we have said enough, though we could not have said less in courtesy to our friend. We thank him at least for the opportunity he has given us to attempt to defend the Merchants and Millers from a good deal of complaint and dissatisfaction. We have consulted no merchant in what we have here said, and no miller knows, that we have written it. But we take pleasure in paying our tribute to the general fairness and liberality of both.

Farmers somehow imagine that they are "victims," and feel themselves abused by those they deal with. They think themselves the honestest people in the world—and no wonder; for poets and politicians have always told them so. Nevertheless it is not true, as a little common sense might have taught them. Of the business classes the lawyers are by all odds the most honest; next the merchant; and then, if you choose, the farmers. For this there is a reason. Apart from religious influences, honesty is a matter of demand and supply. The lawyer has more of it because he has more use for it. No other class of men is trusted without security, with enormous sums of money, which he rarely peculates; no man has as many secrets of value which he might sell, but he does not betray them; no man has anything like as much confidence reposed in him, not only in cases of property, but of life itself.

but he seldom abuses it. And it is all the more remarkable, in that foolish people absolve him from the obligations of common honesty, and think him the source of rascality, when he is only its instrument, and very often its dupe.

And so the merchant finds honesty as indispensable in his business as capital itself. Both can be instantly exposed; both he and the lawyer are in such daily and hourly contact with men that if they were dishonest it would "stick out," as the slang says; and yet both are exposed to temptations which the farmer does not dream of, and could scarcely resist. But his business does not require the same development of honesty, and consequently he does not manifest it. Farmers have virtues peculiar to their life and avocation, beautiful virtues; and they are honest, too, but not so far ahead of other people as to justify the claim they make.

Let us then, brothers, drop this talk about the superior honesty of farmers, and the bad treatment they meet with at the hands of other classes; let us leave it off, with that still more irrational notion, that cant about the "dignity of labour!" whereby we do but exhibit a sense of inferiority, and a jealousy of superiority. Dignity of labour! As if God himself had not cursed labour in "the first man Adam," and made it not the badge of dignity, but the mark of depravity.

Chinese Sugar Cane.

We have seen various accounts of the successful manufacture of molasses from the Chinese Sugar Cane. Whether or not sugar can be made from it, and if so, whether in sufficient proportion to make it valuable *anywhere* as a sugar plant is a question not yet settled. Some contend that the resulting sugar is grape sugar, others that it is the true cane sugar; and it is asserted that some cane sugar has actually been made from it.

But whether it has or not, and whether molasses can be made in large quantities, are questions which we can but think of really very little practical importance to the farmers of Virginia; for we are persuaded that neither they nor the farmers north of us will ever go extensively into the business.

Sugar is essentially a product of the tropics,

In Cuba, and other islands of the West Indies, it may be made profitably, but at what an outlay of money and labour, let all see in the article which will be found in another part of this paper, giving a detailed account of a sugar plantation in Cuba. The grinding season as far north of Cuba as Louisiana, lasts some three months, and is a period of great labour, men and teams working day and night by relays, and not ceasing even on Sunday. In Cuba the grinding season is still more protracted; and in British Guiana, as we have been recently informed, by a practical sugar maker from that country, they are grinding the cane for six months of every year.

Our farmers do not know that sugar is a manufacturing as well as an agricultural operation, and that it requires a large capital, as well as a large force, to carry it on profitably. It is not unusual, or *was* not, in the West Indies, to employ a negro for each acre of land cultivated; that proportion not being actually employed in tilling the land, but engaged in some occupation connected with the production of sugar. A mere incident of the business is the molasses, the sugar being the main profit.

Undoubtedly molasses may be made from the Chinese sugar cane; and so may silk worms be fed on the *morus multicaulis*. But it does not follow that it will pay to make molasses any more than it did to grow silk in Virginia, merely because it can be done.

We should not forget that the new cane will grow perfectly well from suckers, putting out at the joint below which it has been cut the first time. This gives the regular sugar maker, should he find it a good sugar plant, the advantage over us of a double crop, for with our comparatively short seasons, we cannot expect to get two crops from it. With this double quantity from the same land, the sugar maker can undersell us if we attempt to compete, and can most probably sell us molasses cheaper than we can make it.

The high prices of sugar and molasses cannot last; they are even now so much lower in market that a good many speculators are said to be ruined by the fall. But even were they to keep up for a while, until sugar making from the Chinese cane were established, the price must ultimately, and in a very short time, come down, and be no more remunerative than our other staples. It will be found that those

articles of consumption, which bring the highest prices, derive their value either from the small extent of territory which produces them, or the labour that their production requires. In this view it would seem that tobacco, which is peculiarly adapted to all of Virginia, east of the Blue Ridge, and to the southern part of our great valley, were a better article for us to make, than molasses, since this will require as much labour—more if sugar is attempted—and yet can be easily made nearly as far north as Massachusetts, of as good quality as we can produce; and a great deal better in the far South.

We conclude then that it is unwise to run after this new thing, and advise our friends not to invest more in it than enough to make a slight experiment, and to sow a patch to feed their hogs.

Differing widely from JOHN DUMPLING in all he says about tobacco, except in his remarks about its injuriousness to health, we should be glad to see it once more a staple of the whole of tide water. It would not only be productive of much revenue, but it would be an improvement to the land; and, what we regard as far more importance, it would keep our negroes at home. We say of "far more importance," because great as is the pecuniary advantage of slave labour, its social benefit is ten times greater.

P. S.—Since writing the above we have read the following, from the Richmond Daily Dispatch, and are glad to find that the results their stated confirm what we have said above as to molasses. We will warrant Mr. Eley more money from an acre of tobacco, if not from an acre of wheat, than *he* will get one year with another at his estimate; and we can assure him that his "one difficulty," "a simple and effective apparatus for its manufacture at such a cost as to place it within the reach of farmers of limited means," is the "desideratum" which can never be supplied.

Our friend Mr. Harris, of Louisa, will not get "fifty cents a gallon" for his molasses; and he will make more from an acre of *his* tobacco than from an acre of his cane:

THE CHINESE SUGAR CANE.

This newly introduced Sorghum is fast approaching to the dignity of a staple, and reports of its condition are looked for with as much interest as the state of the Southern sugar cane.

One planter in Louisiana will this season send to the New Orleans market 300 barrels of molasses made from it, and will next year put a large portion of his land in Sorghum seed. He thinks it will never supercede the old sugar cane, but will form a strong ally to it. Mr. Benj. Eley, of Carrsville, Isle of Wight county, Va., writes to us as follows about some experiments he has been making:

"Having just concluded an experiment with the Sorghum, or Chinese Sugar Cane, and knowing the interest which you, as journalists, feel in agricultural experiments, I have determined to transmit to you the result of this. The experiment was made with the rudest apparatus, and evidently at too early a stage in the maturity of the cane, merely to relieve my own curiosity as to its saccharine property, and, though the experience thus acquired suggests several essential defects in the process pursued, I succeeded in obtaining a syrup universally pronounced equal to the best Muscovado molasses. I will not attempt to state, with any pretensions to accuracy, the relative ratio between the quantity of syrup and the area of land, though I entertain but little doubt that an acre of moderately luxuriant growth would, by judicious management, yield from seventy-five to one hundred gallons of No. 1 molasses.

"Whether it is susceptible of granulation, I am not yet able to determine, my limited experience, however, inclines me to the opinion, that it is depending of course, upon the thorough maturity of the cane. The problem yet remaining to be solved is, whether its cultivation will prove remunerative. In its favor may be urged its hardy and vigorous nature, its adaptations to almost all latitudes and soils, the comparatively little labor required in its cultivation, and the superior forage furnished by the blade. In my estimation, one difficulty alone remains to be obviated—a simple and effective apparatus for its manufacture, at such a cost as to place it within the reach of persons of limited means. Let this desideratum be supplied, and I hazard nothing in predicting, that the time is not far distant, when every farmer will make (in the language of Hoosierdom) his own 'sweetening,' and when Sambo will no longer be under the necessity of taking a trip down South, to revel amid 'dodgers and lasses' to his heart's content."

J. Maxey Timmons, Esq., has presented to the Darlington District Agricultural Society, South Carolina, a report on Sorgho, which appears in the "Family Friend," of the 26th August. He describes the results obtained as follows:

"One acre of land that will yield fifteen bushels of corn, will, planted in Chinese Sugar Cane, in drills four feet apart, make 17,500 stalks; twenty canes to the gallon will make 875 gallons of juice; eight gallons of juice to one gallon of syrup will make 109½ gallons of syrup. This at only fifty cents a gallon, will make about fifty-five dollars per acre. Besides, you then have the blades and tops for feeding your horses and cows, or the seed for feeding your fowls, all of which eat it most greedily.

"Aside from making molasses or sugar, it is

highly worth the attention of our planters for feeding stock. One acre of land that will make fifteen bushels of corn, will yield in Chinese Sugar Cane 17,500 pounds of provender, averaging the cane, after it is cured, at only one pound each; then, at only fifty cents per hundred, it is worth eighty-seven dollars and fifty-cents per acre. If planted nearer than four feet the yield will be greater. Besides, the cane may be cut down once or twice for feeding in the early part of the year, and then mature for seed."

Mr. N. W. Harris, of Louisa county, Va., has also experimented with the cane. Ten canes, he says, without selection, make a gallon of juice, and six gallons of juice make a gallon of molasses; 26,000 canes per acre can be raised, planted 3 by 2 feet apart, 4 stalks to each hill. On good land from 400 to 450 gallons of molasses can be realized from an acre of canes. The Charlottesville Jeffersonian acknowledges the receipt of a bottle of Sorghum molasses, made by Rev. F. Boyden, of Albemarle.

Our Agricultural Fairs.

The Virginia State Agricultural Society holds its annual Fair on the four last days of October, commencing on Tuesday. It is not necessary, we hope, to say a word about it. With good weather, we expect it to be equal to any we have had. There is no reason it should not be.

The Fair of the Union Agricultural Society will be held, as usual, in Petersburg, and offers additional attractions. Its managers are labouring to make it worthy of the spirited town in which it is held, and we wish it abundant success. It is to be held the week before that of the Virginia State Agricultural Society.

The Seaboard Agricultural Society holds its Fair at Norfolk, on the 10th, 11th, 12th, and 13th, of November. This society is a favourite of ours, because we think highly of its members as far as we know them, and presume those we know are but a type of the balance. In true hospitality Norfolk cannot be surpassed in any city on our continent. Its citizens exhibit more of the polish of old times, more good breeding, and more kindness of manners, than any we know. Nor are they deficient in enterprize, as this society of theirs proves. To all who may visit them on the occasion of their Fair, whether as spectators or exhibitors, we feel authorized to promise more of that civility which results from the happiest mixture of good breeding and kind feeling than they will meet with anywhere else in Virginia.

We understand that their association means

to procure an act of incorporation, and to create an endowment which will afford an annual revenue of twenty-five hundred dollars. We wish them abundant success in this laudable undertaking, and take it for granted that it will not fall through for want of means. We will not be so unjust as to doubt it. Norfolk city itself might well guarantee that amount.

Other portions of Virginia have had, or will have, their fairs. Greenbrier, (which has as good cattle as any place except Kentucky,) and Monroe, held their fair last month, which was well attended, and addressed by Alexander Rives, Esqr., of Albemarle, who is reported to have made a good speech. Wythe, we think, has also held her first exhibition at Wytheville, though we have seen no account of it. Of course the show of stock was good. The best prize short horns of our fair at Richmond always come from Wythe, *when she is permitted by the railroad to send them.*

The Valley Agricultural Society, under the auspices and Presidency of Hugh M. Nelson, Esqr., of Clarke county, will also hold its fair this fall at Winchester. We unfortunately lost the paper containing the notice, and have applied in vain for another copy. That noble section of our State, which has but one fault—contiguity to a free State—will doubtless do its duty and hold an exhibition worthy of itself.

It is a feature of our agricultural exhibitions that they represent districts rather than counties; and we are glad of it. A county agricultural society must be rather a piddling concern. All the purposes of such associations can be fully met by clubs, such as the Albemarle and the Loudoun clubs would be on a little wider basis; and we hope to see them yet more numerous established through the State as auxiliaries; first, to District Societies, and through them to what is, or ought to be, the Grand Agricultural Society of the State.

Fattening Hogs.

We should have said something last month about fattening hogs to that class of our readers who defer this operation until they begin to shuck corn, which is generally the commencement of cold weather.

It is the greatest mistake, of its order, in the economy of a plantation, to defer fattening so long. The best mode of raising hogs is to give them a clover lot until oats are in the

milk state, the run of an oat lot in that condition until roasting-ears come in, or until they eat the oats up, which they will do *clean*. Then green corn cut up at the ground until the regular planting gets too hard; then a later planting, made expressly for the hogs; and when that is exhausted, or frost catches it, then, and not till then, shucked corn, or if meal, and pumpkins *without* the seed—mark that—fed raw all the better, or best of all, meal boiled to a mush.

If this system is followed hog feeding will be inexpensive, and a source of profit; hog raising will be attended with no trouble; for your well-fed hog is too lazy to get into mischief, and may be confined in moderate sized lots after he quits the clover pasture, to the great economy of fencing.

Treat sows, pigs and all in this way. The sows will get fat enough to winter well; the pigs, if you keep them through the winter, will grow all the time; and the killing hogs will not miss—neither will you—what the others eat.

If any part of this system has not been followed, do two things: 1st. Resolve to follow it next year. 2nd. Begin now with such part of it as may suit your circumstances. Go to work and have your hogs ready for the knife as soon as possible after the middle of November.

Hogs will not fatten in cold weather. They will hold on pretty well to what fat they have if you feed them moderately; but they will gain very little on heavier feeding. What they get then goes to support the respiration—goes to fuel as it were, and they still keep the store of fat which nature has provided against the winter's demand. It seems as if they do not part with that as long as they get a substitute. Moderate feeding is this substitute: more is comparative waste. It is for this reason that you may keep a hog in condition in winter, when yet you cannot fatten him.

Do not fear to give them green corn if you have it, and have not spoilt it by pulling fodder and cutting tops: green corn, stalk and all. We have practised that system for sixteen years, and do not think we ever lost corn by it, and know we have saved labour.

But if you will fatten your hogs in cold weather, then by all means give them a warm shelter and plenty of clean dry litter. The old

dirty litter ought to be moved every few days, especially if the weather is wet, and made into a compost with dirt in alternate layers, six inches of litter and manure, and three inches of dirt. The best plan is to have two pens, and let the hogs be driven into one while the other is being cleaned out. By enticing them with a little feed they will move backwards and forwards without excitement; and it is very important to keep them quiet. A very practical friend of ours once told us that he was certain a hog lost ten pounds of flesh every time a dog worried him.

The following article from our friend, Mr. Gilmer, will be read with interest as a record of actual experiments made by a practical farmer.

He asks, in conclusion, about our experiment with lime in minute quantity. It is useless to repeat the facts of that experiment. As to the result, we can only say that the land limed with 2½ bushels lime in the month of November last, was cured of a very bad attack of fly which beset it that fall; that the fly came back in diminished numbers in the spring, and was discovered too late to make the application of lime again; and that though it was land which seemed completely dead when we took it in hand, that this, the first crop of wheat, after a very indifferent crop of oats, made apparently more than the average of the field to which it was attached, and which field made 15 30-60 bushels per acre. True, the land was drained, sowed in peas, and ganoaced at the rate of one hundred pounds broadcast per acre. But the whole field was similarly treated, and no part of it but this lot had fly. We certainly feel sufficiently encouraged to try the lime again in such quantities.

We beg leave to call particular attention to that portion of Mr. Gilmer's article which testifies to the efficacy of lime in small doses.

ED. SOUTHERN PLANTER.

Account of Preparation of Wheat Land, Wheat Seeding, Application of Different Manures, and of Lime in Small Quantities. By GEORGE C. GILMER, of Albemarle.

INGLEWOOD, Sept. 9th, 1857.

Friend Ruffin:

It has been my intention to write you an article for the October number of the *Planter* upon

my mode of seeding my last crop of wheat—the amount and kind of manures used, as also of the application of lime, and the result. And I had hoped to be able by this time to give the precise amount of the crop, from which, however, I have been prevented by an unusual amount of wet weather and my own long indisposition, having been unwell for some months, and for the last three weeks closely confined to my house, yet I have threshed and delivered so much as to enable me to give a pretty near guess as to the amount of the crop. I commenced seeding on the 1st, and finished on the 23d of October, the kind of wheat, early purple straw, and seeded at about the rates of one and a half bushels per acre; one lot was seeded at the rates of two bushels per acre; the land on which this crop, of 121½ bushels, was seeded, was chiefly oat fallow, with about seventy-five thousand tobacco hills, one half of the crop upon high land, the balance on flat land, all of which was well ploughed by three and four-horse ploughs, and the roughest portion by a six-ox plough, which was equal to any ploughing I have ever seen any where. The land was ploughed close, and broke up fine. Upon this, without being harrowed, I seeded my wheat and guano, and put it all in together—some by one-horse cultivators—some by a two-horse cultivator—some by a three horse cultivator; the balance with two three-horse harrows, of the hinge kind, with 30 teeth; the other by six large oxen; the amount of guano I supposed from 250 to 300 pounds per acre. All guess work, except as to the amount of wheat and guano given out to my hands, (for I had no overseer, and did not live upon that farm, but went from and returned here every day,) and the laying off the lands to sow by, which were laid off 18 feet wide by stakes; the wheat seedsman sowing up one side and down the other, always casting the seed towards the middle, the guano sowers sowing likewise, with the addition of sowing the third time up or down the middle of the land, which gives the wheat seedsman nine feet to sow, and the guano sowers six feet. The guano is sown by men who throw a handful at every fall of the right foot—just as the wheat sower does, which will cover all the ground evenly with from 250 to 300 pounds, according to the hand and step of the sower, and the condition of the guano. I forgot to mention two lots were in wheat the year before, which were flushed up as soon after harvest as possible and seeded with buck-wheat and peas. Owing to the seasons neither did much; but grew enough to compel me to re-plough. When doing it, it looked much like rain, and wishing to complete it, I made my ploughs stretch their furrows so wide, it left it in ridges, upon which I at once sowed the wheat, (19 bushels), and guano, and harrowed it in, in lands as it was ploughed. This was the nicest piece of thoroughly drilled wheat I had ever seen, (and so pronounced by all who saw it.)

Its yield was greater than the previous crop, which yielded me 16½ bushels for one. The tobacco land which I seeded in wheat, was flat land laid off in beds of 36 feet wide, on which, in the spring, I used a ton of bone dust—a ton of De Burg's superphosphates of lime, and a ton of Peruvian Guano—all mixed (except a little of each tried separate,) and applied in the drill. I do not think the bone dust or De Burg was of one cent's advantage to the tobacco crop. I had to plough this land in beds, in order to drain it. Then to mix the drilled manures, I seeded the wheat and guano across these beds and harrowed likewise across them, which so completely mixed the drilled manures that no man has yet ever been able to tell me where one single tobacco row was. I then thoroughly opened the furrows by running a large plough twice, then three times with a two-horse coulter, and re-opened with the plough, and cleaned out with shovels. In like manner all my drains were opened, which is the most expeditious and thorough mode I have ever seen tried. Upon 14½ bushels of the 121½ bushels seeded, I used one ton of bone dust, and one ton of *stuff* sent to me as De Burg's superphosphate of lime, from neither of which do I believe I received compensation for the labour of sowing it, to say nothing about its cost.

From the 8th to the 14th of January, I sowed, by hand, 180 bushels of sifted lime upon the 121½ bushels of wheat crop. This is a very small application of lime, and yet to this very small dose, I am well convinced, much is due for my success in my last three crops of wheat, upon all of which I used lime; and they were three of the very best crops I ever made—and yet, strange to say, none of my neighbours will try it—they come and look at, and admire it, but say it can't be lime, for the dose is too small—it is too cheap, and too easily done; it must be something else. 'Tis true, I use guano—and so do they; and I used guano years before I thus used lime; but these three crops upon which I have thus used lime, are three of the best crops of my life. So I am well convinced lime has something to do with it. My wheat crops are not only greatly improved since I adopted the plan of this small application of lime; and I have far less chinch bug, fly or joint-worm, than any of my neighbours, but my grasses have also equally improved, and all agree that, in the last three years, my farm has improved equally as fast, if not faster, than any other in our rapidly improving country. Now I believe it is greatly owing to the lime, though applied in even these very small doses. I am equally well convinced, from a close observation, this is the best mode of applying lime, for I have used it in doses from 20 to 40 bushels, scattered from the wagon; and my neighbour, who has more means, and can't be beat as to untiring efforts in all good things, and is one of the very best farmers in all things for his age I have ever

seen, has applied his lime in large and heavy doses without the expected results, whereas I have beat him in the last three crops of wheat per bushel seeded. From these facts I am well convinced the small dose application is the best. In this way more surface can be gone over, and the cost in money and labour is really so small a matter that any farmer, however small his means, or great a distance he may be from the lime kiln, can safely try the experiment, and if it does little or no good it can't injure him much.

I believe there are lands upon which lime will do little or no good, and there is lime which is not so good for agricultural purposes as other. By a slight application of this kind it can be fairly tested at so slight a cost that a failure can't hurt much. My friend and neighbour, Mr. D. G. Smith, a close observing and practical farmer from the wheat-growing district of Loudon, Virginia, made an experiment upon his last crop of wheat with the lime from my quarry, and the beautiful lime from Western Virginia, and says the difference was greatly in favor of this, the Eastern vein of Virginia. I do not make this statement from any interested motives, for I do not burn lime for sale, nor do I ever expect to do it—having refused to furnish my neighbours, who wanted thousands of bushels; but merely burnt a kiln or two for my friends to test it for their satisfaction, and my own use.

Now I am well satisfied of two things so far as my own lands are concerned. First, that a bushel and a half of early purple straw wheat is better upon any of my lands than two bushels. Second, that the wheat and guano can be more rapidly put in by the harrow than by any other mode I have ever tried, and that it has yielded better; and I have fairly tested it side by side. I do not pretend to say that it will do the same upon all kinds of lands.

My overseer (for I now have one) and head man, report five hundred and seventy-four bushels of wheat delivered to Messrs. Mason & Lewis, and 126 bushels measured up, ready for delivery, which they think about one-third of the crop, which will be over 2000 bushels from 12½ bushels seeded, with 10 tons of Peruvian Guano, and one of bone dust, and one of De Burgs superphosphate of lime.

Of the last two, I would advise my brethren, upon lands like mine, not to buy one pound, for with me, it has not, so far as I can judge, been of any use. I think it always more safe, and generally more profitable to use three hundred pounds of Peruvian guano per acre for wheat and tobacco, for tobacco I use it in the drill. What was the result of your lime experiment? With best wishes,

Yours, most truly,
GEORGE C. GILMER.

Difference in Growth of Wheat upon Peas fallowed under, and Pea Land Cleaned off.

Having observed a statement in the American Farmer, made by our friend, Col. Rouzee, of Essex, in regard to the above subject, we wrote to him for fuller particulars of the case, which he has very obligingly furnished. The reader will recollect the article to which we refer, as it was copied into the last number of the Planter.

OAKLAND, Essex Co., Aug. 22d, 1857.

My Dear Sir.—I am this day in receipt of yours of the 19th inst., asking "a detailed statement of the kind of land, kind of peas, and mode of working them, and the comparative yield in wheat," of an experiment I communicated to the "American Farmer," which appeared in this month's No. A typographical mistake in my communication in that paper, renders it unintelligible. As I therein stated, a portion of land was planted in peas, and cultivated in the usual mode; that immediately adjoining, above and below, there was a luxuriant growth of peas from those sown; that at seeding wheat time, the cultivated peavines were drawn up and removed from the land, and the peas on the fallow turned under; that the three portions of land (I am made to say *thin* portions) had equal quantities of guano applied, and wheat sown thereon; that on the 23rd of May last, I was invited to inspect the wheat sown, and to my unbounded astonishment, found that on the cultivated pea-plot standing three feet in height, whilst that immediately adjoining on the pea fallow only eighteen inches; and that it was the opinion of the gentleman who had thus experimented, that the cultivated lot would yield twice the quantity of the fallow lots,—in which opinion I concurred.

I regret that he did not note the yield of the three lots; but I am informed by him today, that he is of opinion, that the cultivated lot from which the peas and vines were removed, yielded more than double of the fallow lots. He is a practical farmer, and I place confidence in his conjectural opinion. The lots were on a Southern slope, the soils a sandy loam—precisely alike in soil and fertility, and the peas of the shinney variety.

The only solution to which I can arrive in this experiment, (and that is not entirely satisfactory to me,) is, that the fallow lots were more porous than the cultivated one, and in consequence, there was a greater escape of ammonia from them. Thus much in answer to your inquiry.

RICHARD ROUZEE.

Truck or Vegetable Market of Norfolk.

The following very flattering exhibit of the vegetable trade of Norfolk is extracted from the Norfolk *City News*. When it is remembered that this trade is still in its infancy, in fact hardly begun, we have every reason to congratulate the farmers of that section of country on their success. Only a short time ago we took occasion to show in the most conclusive manner that they had beaten in four published and contemporaneous cases the crack farm of Rhode Island, opposite New Port, which is the finest climate north of New Jersey, and no doubt in a very few years they will beat themselves.

Almost every individual in this immediate vicinity is aware that large daily shipments during the months of June and July are made by the various steamers to Norfolk ports, of what is commonly called truck by our farmers and gardeners, either upon their own account, or through the agency of hucksters who follow the business of buying and selling these productions.

We believe that the total shipments of one season have never been heretofore collected together and published, and probably would not now be, but for the desire of the publishers of the Index, and the assistance of Mr. Wm. D. Seymour the efficient clerk of the Merchants' and Mechanics' Exchange Rooms, who has, with much labor and patience, extracted from the shipping lists of the various steamers, the number of barrels, boxes and baskets of Peas, Cucumbers, Beans, Potatoes, Tomatoes, Radishes, Rhubarb, Asparagus, Apples, Peaches, Pears, &c., &c.; and below we give the total exports to each market during the months of June and July:

	Packages.	Value.
To New York,	50,504	\$126,260 00
To Philadelphia,	4,329	10,822 50
To Baltimore,	40,216	100,540 00
To Richmond,	1,050	2,625 00
Total,	96,099	\$240,247 50

The above packages are estimated at \$2 50 each, which is a very low figure; the largest proportion of the packages were barrels of Cucumbers, Radishes, Potatoes, &c., which in the early part of the season commanded \$6 to \$10 each. This large amount of truck, it might be safe to say, was shipped in the space of 40 days, and very serious inconvenience was felt by shippers for the lack of facilities to get off all that came to market. Although we have a daily line to Baltimore, and a semi-weekly line to Philadelphia and New York, each provided with steamships of large capacity, more were

required, and nothing short of a daily line to New York, will ever be sufficient to meet the demands of the trade.

The above statement shows a very large amount shipped to Baltimore, and it may be proper to remark that much of it went through to Philadelphia via the former city.

From the 28th of July to 5th of August, 33,000 Watermelons were shipped hence, to a northern port.

Receipts of Wheat, Corn and Oats.

	Bushels.	Est'd Value.
Wheat, since 12th July to date,	122,418	\$183,627 00
Corn, since 1st June to date,	57,105	48,539 25
Oats, since 1st June to date,	6,950	2,432 50
	186,473	\$234,598 75
Receipts of Hay into this Port from 1st July, 1856, to 1st July, 1857, bales,		20,408

A Certain Cure for Kidney Worm in Swine.

To the Editor of the Planter.

I have seen an enquiry in the *Sou. Planter* relative to the kidney worm in swine, and have also seen some remedies prescribed, none of which, I must confess, I have confidence in.—And as I can recommend a remedy which has proven perfectly certain with myself and others, I feel it to be my duty to send it to you.

Give a teaspoonful of arsenic to a grown hog in a lump of corn dough; and should there not be a very great improvement, repeat the dose the following week. It is scarcely every necessary to repeat the dose. I have known hogs which have been dragging their hind-quarters for months to be entirely relieved with one dose. Not the least danger need be apprehended in giving arsenic to a hog.

JOHN B. COLES,
Nelson Co., Va.

N. B.—I am certain coperas as recommended by one of your subscribers is a valuable remedy for the destruction of the kidney worm, and other worms in swine, but it is extremely difficult to use it with sufficient caution to prevent the destruction of the teeth of the hogs.

J. B. C.

Will our correspondent tell us also if arsenic is a remedy for mange in hogs as it is said to be for the same disease in dogs. He will confer a favour by answering, and if arsenic be inefficient by suggesting some other remedy.

[ED. *SOU. PLANTER*.]

MANGE IN SWINE.—John Bonner, of Hancock County, Ga., communicates the following never-failing remedy for mange, to-wit: "Give the pig or hog affected (according to age) from ten to twenty grains of arsenic, twice a week for three weeks, feeding him plentifully during the time, and I warrant that he will soon shed off and become perfectly well, fat and sleek. It will also cure the worst case of mange on any dog. I speak from experience, and there is no danger of doses of that size killing either pigs or dogs."—Ex.

After our query had been put to our friend, Mr. Coles of Nelson, in reference to the efficacy of arsenic in mange, we found the above in the Alabama Cotton Planter. Can any one confirm its accuracy?—ED. SO. PLANTER.

The true View of the Alleged Sparse Population of Virginia.

The author of the following brief, but uncommonly strong and well written article, is a full blooded Yankee. We wish we had more like him:

For the Southern Planter.

Mr. Editor:

There is not a more common impression at the North than that slavery is a curse to any country, or any section of country where it exists. "The curse of slavery"—"the blight of slavery," &c., have become stereotype sayings of northern fanatics—and in proof of these, and similar sayings, they refer to the fact that population has increased faster in the free States than in the slave States. Being a native of the North, but now a resident of the South, I am, of course, somewhat acquainted in both sections, and can very readily see a reason for the evil (?) complained of, without seeing any "curse" or "blight." The lands through most of the South being held in large estates or plantations; the population is, of necessity, more sparse than in the North, where the farms average not more than one-sixth as large as here. Now, it is not an unheard of thing for a planter to make one hundred barrels of corn for each horse engaged in tending it;—though, probably, an average would be about half that. This production, compared with the North, is a very wide difference in favor of the South. The great difference consists, in part, of "making a business of it." Suppose a wheelwright should make one hub, and then one spoke, and as fast as he finished each spoke, set it in the hub, and so on through the whole of his work—every mechanic—every man of common sense, knows it would be a tedious process to get up wheels: and this is not unlike northern farming, compared with the plantation system of the South.

Suppose the whole State of Virginia were as

densely populated as the lower part of Manhattan Island, on which the city of New York is built, Virginia would have as many inhabitants as now exist on the face of the whole earth; but this is an extreme supposition. Suppose the population of Virginia as dense as Massachusetts; this is a fair supposition. Now the soil of Massachusetts cannot produce more than half enough to support her population; and suppose the soil of Virginia capable of producing twice as much by the acre as that of Massachusetts; who would supply the needy millions of mankind with our great staples? Or, suppose Southern Russia, (one of the greatest grain-growing regions of earth) as densely populated as Holland; who would supply the hungry millions of Southern, and Western Europe? I ask these questions to get at this great and important fact—*that every producing country should have just as much, and no more population than is necessary to cultivate the soil to the utmost advantage.* True, Virginia has not yet come up any thing like to perfection in this respect; but if Virginia were so densely populated that the soil could do no more than support them, the cotton planters, at the South of us, would have to go elsewhere for their flour—and so of all other articles which Virginia now produces for exportation. There are many sections of comparatively barren country, equally as good for "house lots" as the best bottoms on James River, and had better be used for that purpose, and keep the good bottoms for making wheat, corn, and tobacco. Deeply as I feel interested for the prosperity of Virginia, I have no wish to have all her best lands covered with buildings; it certainly would be a great misfortune to the human family. So long then as a state of peace and friendship can exist, the South may be the granary of the North, and the North may be the work-shop of the South; and through the medium of a profitable internal commerce, each section may be mutually benefitted by the other. But while Northern fanatics are stirring up strife, stealing our negroes, and by every possible means within their power, setting the North against the South; it requires no prophetic vision to see a dissolution of our glorious Union not far in the future. Should that happen, the North will soon find to their disadvantage—*that we can do without them, but they can't do without us.* THOMAS CHASE.

CHESTERFIELD, Va., Sept., 1857.

A Libel Refuted.

Mr. Editor:

In the August number of your widely circulated paper, you copied an article, which originally appeared in a little paper published somewhere in Connecticut, purporting to be from the pen of Dr. Johnson, of Yale College, on the money value of "De Burg" as a fertilizer, which is calculated to do much harm, not

only to us, but to the farmer and consumer. For your information, and that of your readers, that article was gotten up for an advertisement and a puff, by interested parties, and there is not one word of truth in the whole of it so far as De Burg is concerned. The genuine De Burg has been analyzed by every chemist of note North and South of Mason and Dixon's Line, by disinterested gentlemen, from samples drawn from cargoes of 1800 and 2000 barfels as it arrived here, and we have never seen or heard of any to correspond with the analysis published in your paper of last month.

Now we do not say that Dr. Johnson is incorrect in his analysis, but that he has been most grossly deceived in the sample sent to him. It was not "De Burg." We heard two years ago, that some of the cute Yankees of the North were selling three tons of De Burg out of every one of genuine they bought, and this looks very much like a proof of it. For the information of your readers, we sub-join the names of the gentlemen who have examined the unadulterated De Burg, and found it to contain nearly four times the quantity of ammonia that Dr. Johnson found in the sample sent to him; invariably 5 to 7 per cent of ammonia, and 38 to 45 per cent. of mixed phosphate of lime.

Prof. David Stewart, Annapolis, Md.,

" Thos. Ansell, Patent Office Washington.

" Wm. Gilham, Lexington, Va.

Dr. Chas. Bickell, Baltimore.

" James Chilton, New York.

Isaiah Deck, New York.

We also annex the analysis of a cargo recently received, of present Baltimore standard quality, the money value of which, at Dr. Johnson's figures, is even \$52 per 2000 pounds.

Proportion soluble in ten times its weight of cold rain water is 20 per cent.

Proportion Insoluble,	755
Moisture,	1540
Nitrogenous Volatile Elements containing over six 6 13ths of pure ammonia.	1740
Mixed Phosphates,	3650
Potash and Soda,	9
Sulphates and other Salts not estimated separately,	1415
(Signed,)	100

DAVID STEWART, M. D.

Chemist to Md. State Agricultural Society.

We now say to the Farmers and Planters of Virginia and North Carolina, that our motto is "to excel" guano and every other fertilizer, and whenever any one makes an article to equal "De Burg" in quality and uniformity for the same amount of money, or approximating thereto, we pledge ourselves to increase our present standard, and put it out of the reach of competition, and as it now is, Excelsior.

J. J. & F. TURNER,

Baltimore, Maryland.

The Guano Trade.

The important part which the guano trade is performing in the commerce of the world, and its influence upon shipping interests, is but imperfectly understood. Vessels carrying cargoes to our west Pacific coast, formerly were obliged to depend for return freights upon China and the East Indies alone. Now they are directed to the Chinchas, which furnish cargoes at high rates, for foreign and American vessels, to a very large extent.

Nearly 400,000 tons of guano are required for Great Britain and Ireland, and 250,000 tons for the United States. Every sea is explored to obtain this valuable fertilizer.

The aggregate value of the different varieties now in use in the markets of the world cannot be less than \$140,000,000 per annum. To the Peruvian government the revenue derived from her guano trade exceeds the amount from all her other sources of income—her mines of gold and silver, agriculture, etc.

This great trade is annually swelling into still greater magnitude, from the introduction of new varieties. The predominant ingredient, of the Peruvian is ammonia, found almost exclusively in the rainless latitudes in which the Chincha Islands are located; while those in which the phosphates prevail, are largely deposited on islands on the eastern side of our continent, particularly on the Caribbean Sea, most of which are believed to be included in the contract of the Philadelphia Guano Company. A very extensive market exists in Europe and in this country for this article. Farmers have discovered what had clearly been demonstrated by agricultural chemistry, that, without the application of the mineral salts found in these guanos, soils would soon become barren, and the presence of ammonia be of little avail. The impoverished lands on our southern seaboard are being resuscitated by its use. In England, where an article called phospho Peruvian, consisting of two-thirds of Columbian and one-third of Peruvian, is used with the most beneficial results, a market is opening which it is difficult to supply. We have been shown letters addressed to the Philadelphia Guano Company, containing orders for 20,000 tons of this article. With but a small part of the deposits which the islands included in the contract of that company are reported to contain, and the very large demand from all quarters for their article, that company have reason to congratulate themselves upon having in their possession an enterprise of vast extent and value.—*Hunt's Merchants' Magazine.*

Poultry Houses.—Have these cleaned, and preserve the manure. Recollect that the droppings of a single hen a year contain all the elements of 20 bushels of wheat.

From the Valley Farmer.

The Dairy.

BY HETTIE HAYFIELD.

There is an almost irresistible temptation when one writes with a printing press in the prospective, to give currency to novelties, by way of showing intelligence or originality. Hence the value of many substantially good articles in practical journals, is impaired by the grafting-on of untested theories, to systems of experienced utility. We premise this, because, being counsellor elect for the current year to young farmers' wives. We deprecate the censure that may fall on us if no originality marks any division of the subject for this month. We do not undertake to originate a method, but to endorse what we propose, as tested, and as a method that will answer to pursue, while the enterprising young housekeeper proceeds, from papers, books, notable neighbors and experience, to construct a more valuable system. Subjects for mental contemplation, as well as natural objects, loom up in size by nearness. Thus one by one, as the different departments of housekeeping come up before us in review, each seems of most importance, though reflection convinces us that they have a comparative value. The importance of the dairy on the farm, however, hardly loses by comparison with any other branch of domestic business. Without pausing to estimate the value of the cow, every particle of whose organized body can be made useful after death, her value as the support of the dairy alone, renders her worth incalculable, because indispensable.

Milk is the only food which infancy, deprived of its human resource, can assimilate to its system and thrive. It is the best animal food for all periods of life, and to take away from our tables cheese, butter and cream, which enter so intimately and freely into all our daily food, would be to reduce us to the much lauded, but carefully avoided simplicity of primitive times. It needs but a short sojourn in the sunny South, with all its wealth of vegetables and fruits, to satisfy us that the want of fresh butter and sweet cream must force them to yield a superiority in the arts of the table to the dairy regions of the West and North.

COW HOUSE.

A shelter is almost indispensable. A shed close against the north and prevailing winds will do. The floor of plank or tough clay, rolled firm and smooth, or of plank and sloping back very gently for drainage. The shed divided securely into stalls, and each stall furnished with a trough large enough to feed slop and chop without waste. Place a rack above the stalls for hay, and it is good to have a hay loft above the shed. The cow should be secured by a door behind, or by a halter or bow. The stable should be littered every evening with straw, chaff, sawdust or leaves, which must be removed in the morning to the compost heap. If a close stable is used have it ventilated without placing cows in the full draft.

COWS AND THE KEEPING OF THEM.

We make no comparisons between long and short horns, Alderneys, Ayreshires, &c., &c. We meekly say, make the best of whatever cow the "lord of the Manor" provides. But woe is you! if he is a breeder of blooded stock, and expects you to supply from the calves leavings a family as numerous as his patriarchal prototype, Abraham. We hope your mother christened you, Patience, and that you have absorbed the spirit of your cognomen. But if he, like many "guide men" of the West, leaves you a Selkirk of the dairy and its domain, take no heed to herd-books, or whether your cow has horns, hoofs or hide, so that she fills a capacious bucket and ample butter-tub. If your home herd does not afford the cow you want, learn, by advertisement or enquiry, where she is to be had, (being near home if possible.) Send your dairyman to see her about the witching hour of milking, or rent her for a month, and if she satisfies you give a liberal price without grudging, and keep, oh! keep her well. Remember, a poor cow consumes as much food and requires as much care as the best of the species. A cow is in her prime with her second calf, and will milk ten years after that. An average cow gives three gallons of milk a day—with good management she will often give four. I have known several to yield six and seven gallons when kept faultlessly and milked three times daily. Cows must be fed more discriminatingly than beef stock. Rye, cabbage, parsnips, or any

green food, or roots of peculiar taste will communicate their flavor to the milk. Blue grass is unexceptionable; the aftermath of meadows and the crop grass that springs up in the fields voluntarily, is fine. For winter every good farmer should reserve some grass or provide a field with special reference to his dairy, if he does not grow small grain, or objects to pasturing it. Green food cannot be dispensed with if rich looking, well flavored butter is expected.

Meal, crushed corn, apples, pumpkins, any roots without disagreeable flavor, may be fed to milch cows. Cooking food is economical. It should not be given hot enough to injure the creatures teeth. Cows should be fed regularly, not in excess; observation will soon govern the quantity. They should have free access to water, have salt daily, or frequently, and when stabled should be curried and allowed exercise. In summer stabling may be disused, in which case a grass paddock, convenient, will afford night browsing and increase the milk.

MILKING

Should be done kindly, regularly, and with perfect neatness. If possible, milk at same place and hour every day, giving your cow, if used to feeding, a mouthfull of something to keep her quiet. A considerable increase of milk may be had by milking three times a day, while cows and grass are both fresh. But this necessity is obviated by milking about twelve hours apart. The yield of morning and evening will then be equal, and it will prove quite convenient where the cook or housemaid takes part in milking, as their service in the cow pen will be over before their house duties for evening come on. When this plan is pursued the night paddock must be had to save waste of time in going back and forth to distant pastures.

Some persons take the calves from their mothers from the first, or soon as the milk becomes fit for daily use. We prefer having the calves to suck, parting them from the dam soon as her udder seems free from swelling. A little favor at first, with good grass and water makes the calves into respectable beeves, and they repay your humanity by luring the mother's home without trouble. Give them first access to the cow, as the last milk is the richest, and when winter comes on, if your pen is too

full to stable all your cows have the calves of the supernumeraries still suckled—it prevents your cow from the bad habit of drying up too soon, and gives you a chance, sometimes, to reclaim to use a good cow when your favorites fail. This hint is for management of dairy stock. Of course raisers of blooded stock would not permit such a drain on cows expected to keep up their herds.

THE DAIRY.

The rich, in this, as well as in other things, may raise on the useful, ornamental additions, and we commend the outlay, but all that is really necessary to success can be had in several cheap plans. A clean, cool, dark place, capable of being lighted, a dairy must be. When extensive operations are intended, there should be two rooms, one for the furniture and for the work to be done, the other for the milk, butter, &c., &c., and in no case should meat, vegetables, or any decaying substances be kept in the milk room. A dairy should have a stone or brick floor, and a double ceiling filled in with tan bark, or be covered with earth and sod. Around should be paved, and planted with good shade trees. The door should ordinarily face the north, and the ventilators or windows be covered with very fine wire net, to prevent the ingress of rats and insects. Dairies of all kinds are best plastered with hydraulic cement. Where you can have a running spring pass over the floor, your dairy work is secure in having a right temperature provided by nature for summer use. An excellent dairy can be made as a basement to an ice house, or preferable, beside it.—In the last case the drippings from the ice being conducted into a trough in which the milk can set, the dairy may be perfectly dry. Light, (except when necessary for work) should be carefully excluded; it is as active an agent as air, in promoting the decomposition of animal substances.

Chests made double, and filled in between with charcoal or tan bark, are good contrivances to keep milk in a small way. Of course, there should be ice on the top grating in summer, and in winter these boxes will be usefully secure against freezing. The temperature of a dairy should be about 50°, and should never exceed 60°.

DAIRY FURNITURE.

A table on which to set vessels while

working and a chair beside it, as weariness in the labor secures no especial merit to the product. Buckets, and large, wide cups for the milking; a sufficient number of vessels to let the milk stand in 24 hours, and as many more to take benefit of sun and air before their turn. As cream and buttermilk crocks need the same favor, there should be two of each to alternate in service. This is necessary, if tin, pewter, or common stone ware is used. Glass or china are ready for use so soon as cleansed. A butter ladle, bowl and paddle, of flavorless, hard, smooth wood, A fine wire strainer, a skimming ladle, and a perforated skimmer for taking off cream separate from milk when desired. Vessels for warm and cold water, and a small portable furnace is a convenience. Cheap china butter crocks and firkins of sweet wood; a salt box, soap cup, and a good supply of coarse towels are all necessities for a dairy, with the last, but not least, important item, a churn. A churn of any pattern will bring butter with sufficient agitation if the cream is at proper temperature. We discarded the old perpendicular staff churn, because unhandy, laborious, and apt to admit improper substances through the aperture in the top. Any churn that moves by a crank is an improvement, and equally good, so far as labor and results go, but we prefer the thermometer churn, as the vessel containing the cream lies in a trough in which cold or hot water may be used to regulate the temperature of the cream.

If cheese making is practiced, a cheese press, hoops, curd kettle, curd basket, curd tray and slicer, rennet bottle, box of cheese varnish, and abundance of stout cheese-cloths are necessary.

MILK

Should be strained before the cream begins to rise, into vessels that have been scalded, and in summer rinsed in cold water. If milk is kept at proper temperature, cream will rise to the surface of any vessel, but sooner in shallow pans. Skim milk is not a presentable article on a well-to-do farmer's table. For table use it should be strained into covered pitchers or bottles. Milk will yield up all its cream in from 24 to 30 hours. Cream should be gathered in a jar for churning, and stirred up night and morning. If you have occasion to save sweet cream, keep it in a

freezer as if preparing ice-cream. It will change very soon when taken out for use. Clabber for the table should be strained into a bowl, and after coagulating, set on the ice until required for use.

Directions for curds will be found under cheese. They should be drained, broken fine, kept on ice, and served with loaf sugar, nutmeg and cream.

BUTTER-MILK

Is best of cream soured and moderately thick. If water has been poured into the churning, it will rise to the top after a few hours and can be poured off. Indeed, an excellent milk managing neighbor, who cannot churn often, pours a pitcher of water into her butter-milk every morning, stirs it well and pours it off at dinner—she says it keeps it fresh all the time. Clabber, surplus butter-milk, or sour skim milk heated until it curds, makes good chicken feed.

BUTTER.

Numbers of reliable experiments have proved that butter made from sour cream is equal to any in flavor, and is the most economical use of the milk all in all.—Sweet cream produces fine butter, but inferior butter-milk. Milk will produce butter (without waiting to separate the cream) in small quantity and poor butter-milk. Scalding the milk, according to a current theory, with us made no perceptible increase of butter and impaired the flavor of the milk. The churn should be scalded, the milk poured in, and if as warm as when fresh from the cow it is right,—(55° by the thermometer.) Churn rapidly in cold weather and moderately in warm. A few minutes work will bring the butter.

When the butter is carefully gathered, draw off the milk, pour in a bucket of fresh water, churn briskly, pour off the water and repeat the operation until the butter is free from milk. (We repudiate the Holstein system of unwashed butter and hand manipulations.) Allow 1oz of fine salt to the pound of butter. Work it with a paddle thoroughly, and run a fork through it, lest a hair should have strayed through the seive. Set it away until it gets firm, then repeat the operation. When sure the water is out, set on a perforated dish to drain, after you have moulded it. The next day put it in your butter crock, in a cool, dark

place, or wrap in cloth and put in pickle, or beat it down into your firkins, if for winter use.

BUTTER PICKLE.

1 gallon of water, 1 lb. fine salt, 1 oz. saltpetre, 2 oz. loaf sugar, boiled and skimmed clear. Pour on cold, and keep two inches above the top of the butter.

CLARIFIED BUTTER.

Put any quantity of butter in a preserving kettle; boil it ten minutes; set it off, and when cold it will be a clear cake. Cut it out, scrape of the caseous sediment, return it to the kettle, and at boiling heat, seal it up in cans as you would fruit. Inferior, but useful in scarce times.

The receipts for restoring rancid butter by chlorine, charcoal, &c., &c., we have found a failure.

CHEESE.

The common, and to my notion, unpalatable and indigestible country cheese, which is, nevertheless, both popular and saleable, is as easily made as butter, and more remunerative. But good cheese is a tedious, particular and rather a laborious business, as taught me by the very pattern like, and pleasant friends of a Shaker village. Skimmed milk alone does not make eatable cheese. Half the milk skimmed is poor. Milk fresh from the cow is the right article. It should be strained into a kettle and brought to a heat of 85°. Three quarts milk is allowed to a pound of cheese. One tea cup full of strong rennet water will turn 12 gallons of milk. (Too much rennet or heat makes tough cheese.) Cover the kettle; in about half an hour the curd should be formed. When it begins to sink cut it in small squares with a slicer. Cover it with a tain linen cloth, and dip off the whey very gently. When you have dipped the last spoonful to be had by tender handling, spread a cloth in your curd basket (made with slits, wide apart,) put the curd in it; set it to drain, with a light weight pressing on it. When it seems dry, spread a cheese cloth in your hoop; break up the curd into it, fold the ends of your cloth over it, put in a follower that fits exactly, and press. (We prefer the lever to the screw press.) After an hours moderate, but continually and slowly increased pressure, take it out. Break it up in fine crumbs,

and stir in it enough fresh water to cover it well. Let it stand a quarter of an hour; drain it well, then salt it to your taste and return it to the hoop with a fresh cloth.— Press it all day in the above described way. At night take it out, pare off any uneven edges, return it to the press until another morning, or better, for another 24 hours. When made wet it over with cheese-varnish. Lay on a cool shelf and for two weeks varnish every morning, and the rubbing and turning over keep up for a month.

Sage cheese is made as above, by mixing sage and spinach juice in the milk.— Stilton cheese has equal parts of sweet cream and fresh milk, requires very tender handling, and to be kept in boxes (while drying) without bottom or top. Curds are made of fresh milk, as for cheese, or by pouring butter-milk into fresh milk and heating until it forms. Butter-milk, poured into the whey, saved from cheese while scalding hot, will produce a quantity of rich curds, which may be used for the table, or cheese cakes.

RENNET.

A piece the size of a dollar of strong rennet soaked 24 hours in a tea cup of water will turn ten gallons of milk.

CHEESE VARNISH.

1 part beeswax, 3 parts fresh butter, melted and seasoned strongly with cayenne pepper.

COLORING FOR CHEESE.

Annatto squeezed through a cloth until the color suits you.

A STEAM PLOW, called by its inventor the "Pick-Axer," (*la piocheuse*) has been successfully used in France. The invention is in the possession of a company with a capital of about \$200,000. The work is done, as the name imports, by a series of revolving or descending mattocks or pickaxes. The machine is a locomotive, which carries itself over the soil, and upturns it to the depth of from six to eight inches. It has no semblance to a plow, and French journals describing it say that it does its work better than any machine hitherto constructed for plowing purposes.—*Prairie Farmer*.

From the Michigan Farmer.

Wheat Culture—Results of Certain Foreign Experiments.

The wheat crop of this year is now being harvested. The season is later by at least three weeks than the usual time. The crop is heavy, however. So far, neither blight, nor rust, nor storm has reduced the crop. The weevil has occasioned loss only in a few places. The excellence of the crop may have the effect of causing many to take the necessary precautions to secure another like it: and as the time for putting in the seed for next season's crop is close at hand, it will be in place to call the attention of our readers to the necessity of preparing the soil in such a manner as will ensure that all the seed sown shall give a fair return.

Many think that a wheat crop requires no manure, that turning in a clover sod is all sufficient to make sure of a crop, and when they fail in raising over eighteen or twenty bushels to the acre, the blame is never laid at their own door, but to any casualty from a thunderstorm to a barber-rybush. Recent experiments, however, demonstrate more fully the importance of farmyard manure to the wheat crop; and we find a record of some very important ones in relation to the growth of wheat in a late number of the Journal of the Agricultural Society of England, which were conducted on the farm of the Earl of Leicester, to test the utility of manures and whether wheat could really be grown for a series of years most successfully and profitably without manure, with special manures, or with farmyard manure.—There were seven lots, of half an acre each, cultivated with wheat for four years, and on each except one, a different kind of manure was given to the crop.—The others had various artificial manures and salts applied to test their value, and the profits accruing from their use. We have only to note two of the lots, as the use of artificial manure for the purpose of growing wheat crops, has not yet come into practice with us, nor is it likely for sometime to receive any attention. The two lots we shall notice for the purpose of comparison, are the *unmanured*, and the *Farmyard dung lot*. The other 5 were tried with superphosphates, muriates, and sulphates, and with an application of ground rapeseed cake at the rate of one ton per acre.—

All of them yielded less than the lot, prepared with farmyard dung, and all produced more than the lot not manured at all.

The field on which the experiments were tried, had a soil of brown sandy loam, rather thin, and resting on calcareous marl. It was generally considered too light to produce a wheat crop, and therefore but little had been grown upon it for the twelve years preceding the commencement of these experiments; turnips and barley with grass being the rotation pursued.—The crop on the field, the year previous to the experiment was white turnips, manured with farmyard dung and guano.—The cultivation of the four years during which the experiments are reported, has been the same for all portions, except in the application of the manure.

The lot which was unmanured yielded the first year 39½ bushels of clean grain; the 2nd year 15½; 3d year 21½; and the 5th year 16¾ bushels. The weight of straw the first year was not recorded; the 2d year it was 964 lbs.; the 3d year 1690 lbs.; and the 4th year 1240 lbs.

On the lot to which farmyard manure was applied, there was put on in the fall of each year at the rate of fourteen tons of manure made by young cattle fed and fattened on turnips, with some oil cake.—The yield of this lot the 1st year was 43¾ bushels; 2d year 31 bushels; 3d year 30½ bushels; 4th year 30 bushels. The straw of the 2d year was 2430 lbs.; of the 3d year 2790 lbs.; of the 4th year 2599 lbs.

One of the trials was made with powdered rapeseed cake, which was applied at the rate of one ton per acre. This manure gave a return of 52 bushels the first year, 33 bushels the 2d year, and 31 bushels each of the two succeeding years; whilst the amount of straw for the three years was 2,498, 2,786, and 2,856 lbs., respectively.

Here wheat was taken off the land for a series of four successive crops, and where no manure was given to the land, the crop fell off the first year 24 bushels; while the very first year when farmyard manure alone was plowed in at the rate of 20 of our two horse loads to the acre, the crop on the manured land gave 4 bushels per acre more than the unmanured land, and the next year although there was a decrease in crop when compared with that of

the previous year of $12\frac{3}{4}$ bushels, the manured land gave a crop of $15\frac{1}{2}$ bushels more than that unmanured. During the whole four years there were 42 bushels more wheat, and nearly two tons more of straw produced upon the manured land than the unmanured.

When we consider the vast amount of manure that may be found lying waste upon farms that are "sweated" every year to produce a crop of wheat, these facts may be considered well worthy of attention.

There is another matter connected with the wheat crop, which is not of less importance than the preparation of the land, and that is the choice of seed. Every farmer acknowledges that wheat seed should be the very best and ripest grain that can be procured and also the very cleanest. And yet it is seldom that much care is taken to secure perfect seed. Wheat generally grows better where the seed is brought from a distance and is submitted to a change of soil, though not to any great change of climate. A change of this kind is necessary after a few years use of one kind of seed on a farm. Where it is inconvenient to send to a distance, and the seed has to be prepared from the crop which has been matured, the usual practice is to thrash out any part of the crop which it may be handiest to get at; no matter whether it has grown on sandy or on clay land; to clean it up in a hurry so as to get the sowing over as quickly as they can, and to pay as little attention as possible to the conditions under which it was grown. This kind of practice is not that which will secure the largest amount from an acre; nor does it give the land all the opportunity that it requires.

The light gravel soils around Tecumseh, and the southern part of Washtenaw, would be more apt to grow a crop of some three or four bushels more per acre, were the seed sown procured from the claylands of Oakland. The Oakland farmers, on the contrary, would feel the benefit of changing seed with eastern or Canadian farmers, who had soils somewhat different from their own.

The ripe wheat when taken from the field, has usually some of the seeds on each head which are riper, larger, better matured and more perfect than others.—It should be the endeavor of farmers to

separate these most perfect seeds from the other grain, for the purpose of sowing.—This can only be done either by picking by hand, a mode totally out of the question, except for small parcels, or by a moderate thrashing or shaking which cause the ripest seeds to fall readily. Some farmers secure seed by selecting the sheaves cut from the best portion of their wheat fields, and striking them on the edge of a plank or block on the barn floor. By this method it is found that a very large proportion of the heaviest grain may be secured, and also that the seeds of chaff and other weeds which may be bound up with the straw, are not mingled with the grain about to be used to produce the next year's crop. This alone would be a consideration of some importance. It may be said that the imperfect, or light grains, will be shaken off the head, as well as the heavy ones, the former being equally as ready to fall as those most matured; but then the fanning mill properly arranged and driven with sufficient speed will readily blow off all light grains. This is the readiest method of securing good seed. The half thrashed sheaves can be stored and thrashed out at any time when the rest of the crop is being got ready for market. Many are willing to pay an extra five dollars for good sound seed, when they may have as good a quality as their immediate neighbors by spending on their own crop work to half the amount.

That there are some points connected with the sowing of wheat not yet perfectly understood is well known to all; probably the following experience of a French cultivator may not be entirely uninteresting, and while new to a great many, may suggest something in their own practice which may prove beneficial. For instance, why should not a mixture of Soulis wheat, with the Blue Stem, the White Flint, the Hutchinson, and the Golden Drop prove as beneficial and as profitable as the mixture noted by M. Rousseau?

In the fall of 1855, M. Lucien Rousseau of Angerville, France, sowed 16 parcels of wheat of the following kinds:

1.—A mixture of the 15 sorts named as follows:

- 2.—Red Saumur.
- 3.—Blood Red.
- 4.—Barley Wheat.
- 5.—Spalding.

- 6.—Dantzic Red Chaff.
- 7.—Wheat of Haic.
- 8.—Winter Richelle.
- 9.—Noe Wheat.
- 10.—White Saumur.
- 11.—Victoria.
- 12.—Fenton.
- 13.—White Hungary.
- 14.—Hunters
- 15.—Flemish.
- 16.—Hickling.

The results of crop are given in the following table, in which we have reduced the French measures to our own, or an approximation as close as necessary for practical uses :

Variety.	CHARACTER OF CROP.	Straw per acre.	Wheat per acre.
1	The best.....	5000 lbs.	30½ bus.
2	Very high, early, heads not filled.....	1405 "	19¾ "
3	Good, ripens rather early.....	4400 "	27¾ "
4	Bad, heads light and thin.....	3235 "	17 "
5	Good, but late; heads fine but unequal.....	4555 "	21½ "
6	Tolerably good; heads small but full.....	4605 "	20 "
7	Very bad; heads empty.....	3738 "	13¼ "
8	Middling, straw short.....	3440 "	24 "
9	Head drooping, and.....	2840 "	17½ "
10	Very mediocre.....	3827 "	15¾ "
11	Good late, heads well filled.....	2856 "	15¾ "
12	Middling, straw short; heads not good.....	4375 "	19¼ "
13	Middling, bad grain.....	2830 "	19¾ "
14	do thin.....	3235 "	18¾ "
15	do straw short, heads tapering, well filled.....	3140 "	19¾ "
16	Good; heads well filled.....	4450 "	23 "

The above table shows that the crop from mixed seed not only excels all the varieties of which the mixture is composed both in weight of straw and grain; but the whole character of the crop is superior to that of any single variety named.

M. Rousseau states, that he had no idea of trying the mixture, until after he had sown the varieties, when having some of the seed of each variety left, he mixed them all, and sowed the mixture on the poorest piece of the land, much more shaded by trees than any other lots, and in fact so disadvantageous for a crop that he was unwilling to place any of the varieties in that soil with the chances so much against it.

He adduces several reasons for the excellence of the crop from the mixture, which are worthy of consideration, especially by those who make wheat the leading production of their farms.

1. The several varieties do not head out at the same time, and therefore, the period of flowering is lengthened, and the chances of fertilization are thus increased.

2. The several varieties are unequal in height, some being shorter than others at the time when the plants flower; the heads therefore are not so close, are more exposed to the air, and the floration is likely to be more perfect, and the fertilization more general. This theory seems to be confirmed by the fact that where wheat plants are most exposed, or are a little thin, other circumstances being equal the fertilization is more general over the whole head, than where the wheat is thick.

3. The crop seems to ripen better from the same cause, namely, the inequality in the height of the varieties, and in proof of this it has been remarked that in mixtures of wheat and rye, often sown in Europe, and of barley and spring wheat, the grain is finer than that of the same grains grown separately, and under the same conditions. This is considered to arise from the more complete aeration afforded by the two kinds of plants, one of which grows high and leaves room for the sun and atmosphere to ripen the whole more perfectly, than when the surface is composed of one unbroken mass of heads of grain which shut out the light from the leaves and stems, and thus ripens one part of the plant before the other is matured.

4. Another advantage claimed by this mixture of seed, is that the crop does not depend altogether upon one variety which of itself may be unsuitable for the soil where it is sown. The strong and healthy varieties will always fill up the spaces left by the decay of the more delicate or tender kinds, and thus in some degree be more likely to ensure a crop.

The above are the reasons adduced by M. Rousseau for the marked superiority of the mixed grain over some of the best and most noted varieties of wheat grown in Europe; and though theoretical, they are not altogether without some analogy here. Every one has noticed where rye has been sown with wheat, how luxuriantly it grows, and what long full well developed heads

there are upon each stool, and that in general they appear larger, fuller, and better developed than those which are grown where a whole field is sown.

We present the subject as one not altogether unworthy of attention, and as suggestive of a practice which may turn out profitable, and remunerative, where our own wheats are employed to test its availability in this climate, which much resembles that of middle France in summer.

Cuban Sugar Plantation.

A correspondent of the Syracuse Courier gives the following interesting account of one of the largest sugar plantations in Cuba :

"This estate is very properly called the 'Flor de Cubas,' (Flower of Cuba.) There are other estates as large and larger, but none that have such perfect machinery, and which have laid out so much money for that, and on buildings. There are about 1,000 acres of land, nearly three-quarters of which are under cultivation with sugar cane, the balance being devoted to grazing the plintain fields. The product of this estate, of course, varies with different years; thus, last year, owing to the rains, they could not cut all their cane and it fell short, but its present average crop is 10,000 boxes and 1,000 hogsheads of sugar, and its gross income at present prices will be from \$320,000 to \$350,000. Of this enormous sum about one-half is absorbed by interest on its debt and by its annual expenses. There are 650 haps—350 negroes and 250 Chinese. The rest are overseers, cartmen, coopers, engineers, &c. There are 80 ox carts for drawing the cane to the mill, and 600 oxen four being used to every cart, and they are relieved twice a day. There are many buildings in this village, for it is almost like one. Besides the sugar-house, there is the dwelling-houses for the owner and for the overseers, the drying-houses, the hospital, the barracoons for the slaves and even a nursery for the children of the slaves.

"The sugar-house here is the principal attraction, and it is an enormous affair. It is all one floor covered by a single roof, and its interior is somewhat similar to that of some of our large sugar refiners in New

York. There are two large rolling mills for crushing the cane, each, with three rollers six feet long, and placed on the top of two, the cane feeding itself and passing under one and over the other two rollers, it comes out squeezed almost dry, and as flat as a sheet of paper, the juice runs down into troughs. These rollers are set very close, within an eighth of an inch of each other, and the pressure is enormous. To drive these rollers there is an engine of fifty horse power. The juice is then carried by pumps to a set of fourteen kettles, where by steam it is condensed, and then it runs through a body of carbon or burnt bone in another set of cisterns; it is then carried to a vacuum pan, where it is evaporated, then over a set of copper pipes for condensation, again through the charcoal for decoloring, then into another vacuum pan, where it is boiled to a crystallizing point. It is then carried off to another part of the building, and by copper ladles is emptied into the sugar moulds, holding about sixty pounds each, where in another day it is ready for claying. This process is only followed where it is intended to make box sugar, which is always clayed, while that packed in hogsheads is called muscovado, and is packed into the casks in a green state, where it is then allowed to purge itself for fifteen or twenty days, and is then ready for shipment.

"On this estate they make mostly clayed or box sugar, and the process of claying is this:—The moulds containing the green sugar are placed on a long floor in a room holding from 800 to 1,000 moulds; the point of the mould is below the level of the floor, which is made with square holes for their support; after the sugar has set in the moulds the plug at the bottom is taken out, and on the base or upper flat surface of the sugar is placed a quantity of black pasty clay, which has the property of distributing the water very equally through it. This clay is wet and the water filters slowly through the body of the sugar, carrying with it all color and leaving the base of the cone perfectly white. This process is repeated several times and the sugar is kept in this house for about twenty days. It is then turned out of the moulds into large open, flat, wooden trays, and the different layers of strata of sugar are divided by a negro with a large cleaver into white, brown and yel-

low, that nearest the point is still colored with molasses and not very dry. These several classes are all kept by themselves, and the sugar is dried either by the sun or by ovens, and then packed into boxes holding about 400 pounds each. These are then nailed and strapped by pieces of green cow-hide in narrow strips, the boxes weighed, branded, and ready for transport to market."—*Mercury*.

Sugar and the Sorghum.

We have received from Dr. A. A. Hayes the following abstract of an interesting paper read by him on the above subject before the Scientific Association at Montreal:

So rapidly has chemical science progressed of late, that the term "sugar" has now become a generic name for a class of bodies with the most marked diversities of sensible characters and composition. We have sugars which are slightly sweet, and some destitute of sweetness; some are fermentable, others do not undergo this change; some are fluid, more are solid.

Adopting cane sugar as the most important kind from certain inherent qualities, we find its sources abundant, but not numerous. So far as observation has extended, its production by a plant is definite; a change of locality, even when accompanied by a marked change in the habit of the plant, does not alter essentially the nature of the sugar it produces. Thus the cane of Louisiana rarely matures and is an annual, while in the soil and climate of Cuba, it enjoys a life of thirty, or even sixty years. The juice of our southern plant always contains more soluble alkaline and earthy salts than is found in the cane of Cuba, but its sugar is secreted as cane sugar. The juice of the sugar beet, of watermelons, and a large number of tropical fruits, the sap of the maple and date palm, afford cane sugar. In these juices and saps, when concentrated by desiccation in the cells of the plants, it always appears in regular, brilliant crystals, of a prismatic form, clear and colorless; distinctly indicating a vital force in the plant, separating it from other proximate principles and leaving it in its assigned place pure.

The class of sugars next in importance includes, under the general term Glucose,

a number of sugars having varied characters, which should be separately grouped. Among them are the sugars of fruits, seeds and grasses; those produced in the animal system, and the artificial sugars made from starch, grains and sawdust. The varieties of glucose are both solid and semi-fluid. When solid the organic tendency to rounded surfaces is generally seen. The semi-fluid forms often manifest a disposition to become solid on exposure to the air, and they then experience a molecular change, which produces crystals having new relations to polarized light and different physical and chemical characters.

Individuals of the class are easily distinguished from each other, and most clearly and remarkably from cane sugar. The plants producing the natural glucose sugars mature their cells as perfectly as those producing cane sugar, and the secretion can be found as distinctly isolated from other principles as cane sugar is, even when the glucose is semi-fluid. Hence we are able to determine by microscopical observations, aided by chemical tests, the presence and kind of sugar in the tissues or sap, of a plant, often without incurring the risk of change of properties through the chemical means adopted for withdrawing the sugar. The *Sorghum vulgare*, or *sacharatum*, belongs to the tribe including grasses. The unsuccessful attempts made to crystalize sugar from the juice of the Sorghum, produced in different climates of our country last year, indicated that it contained no cane sugar, or that the presence of some detrimental matter in the expressed juice destroyed the crystallizable character of cane sugar. My observations commenced after I had obtained several specimens of the Sorghum, and have been continued on the semi-fluid sugar, likewise from different parts of the United States, with uniform results.

When a recent shaving of the partially dried pith of the matured stalks of the Sorghum is examined by the microscope, we observe the sugar cells filled with semi-fluid sugar. After exposure to air it is often possible to distinguish some crystalline forms in the fluid sugar. These grains, after being washed, cease to present a clear crystalline character, and have the hardness and general appearance of *dry fruit sugar*. The most careful trials I could make failed in detecting cane sugar in any

samples of the Sorghum stalks, or in the samples of stalks, or in the samples of sugar, including one made by Col. Peters in Georgia, prepared under the most careful management. I must therefore conclude, that the Sorghum cultivated in this country does not secrete cane sugar or true sugar; its saccharine matter being purely glucose in a semi-fluid form.

Scientific American.

Boussingault on the Alimentation of Plants.

BY PROF. S. W. JOHNSON.

The Presence of Nitric Acid in the Atmosphere.—What the author says under this head it is unnecessary to translate in detail. By causing a current of air to pass for three months through a series of tubes filled with pieces of brick and pumice-stone moistened with solution of carbonate of potash, he was enabled to collect from the air, enough nitric acid for ready detection. That the nitric acid was not formed from the nitrogen and oxygen of the air, by the presence of an alkali, was proved by the fact that while there was considerable nitric acid in the first tube, there was but a trace of it in the second, and none at all in the last four tubes. Had there been a formation of nitric acid, it must have gone on equally well in all the tubes. The origin of this nitric acid, the author leaves unsettled. He thinks that although it may have been formed from ammonia by the oxydation of the latter, it is more probable that it exists mechanically suspended in the dust of the atmosphere. That it exists there is not only shown by his experiments, but also by those of De Luca, who found it in air that had been deprived of all ammonia.

It may be added that these observations, though very interesting, are substantially the same as those made by Liebig so long ago as 1829, who found nitric acid combined with ammonia and lime in the water of 17 out of 77 rain-storms.

The Presence of Ammonia in the Atmosphere. This Boussingault demonstrated in the following manner:—He placed in a shallow glass vessel, having the same widths as the pots in which the helianthus was grown, 500 grms. of washed and ignited sand, mixed with 10 grms. of oxalic acid. The whole was protected from the rain and dew, and was maintained in a moist state. At the end of seven weeks, the oxalic acid had absorbed a sensible though small quantity of ammonia.

These evidences that the atmosphere can furnish a small amount both of nitric acid and ammonia to vegetation directly, and without the intervention of rain or dew, are new and of considerable scientific interest.

Influence of Assimilate Nitrogen on the Development of the Vegetable Organism.—"The preceding experiments have proved that phosphate of lime and the alkaline salts added to the soil do not sensibly contribute to the growth of vegetation, without the co-operation of some nitrogenous fertilizer. Under these circumstances, the quantity of vegetable matter elaborated, is scarcely more than is produced in a totally barren soil, in both cases the development being limited by the stores of aliment contained in the seed. When on the contrary, we associate with the phosphate and alkalies, a small quantity of nitre, we have the effects of the most active manure. From these facts I believe it may be concluded that the growth of a plant is subordinate to the previous absorption of an assimilable nitrogenous substance, of which it is possible to measure the effects. This is at least what I have attempted. With this object in view, I have made another series of experiments on the growth of the helianthus, in which I used the same washed and calcined sand, mixed with phosphate of lime and salts of potash, as was employed in my former trials, and to this I added different quantities of nitrate of soda. Four pots were filled with the prepared soil, and in each of them was sown two seeds of the helianthus, weighing 0.110 gm.

The vegetation continued fifty days. The water used on the plants was free from ammonia, and contained one quarter its bulk in carbonic acid.

The plants grew in the open air, sheltered from rain and dew.

The soil of pot No. 1 received no nitrate.

do	do	2	0.02 gm.
do	do	3	0.04 do
do	do	4	0.16 do

During the experiment the plants remained vigorous, and the foliage had a healthy green color.

The following is a statement of the yield and condition of the plants in each trial.

	H'ght cent.	Length larg. leaf. cent.	Width long. leaf. cent.	Weight dri. pla't. grms.
No. 1 without nitrate,	9.0	3.7	1.5	0.507
No. 2, 0.02 gms.	11.2	5.4	2.0	0.830
No. 3, 0.04 "	11.5	6.8	2.8	1.240
No. 4, 0.16 "	22.5	9.1	3.7	3.390

Subtracting the weight of the seeds from that of the dried plants, we find that the amount of organic matter elaborated during the period of vegetation, was as follows:

No. 1, which received no assimilable nitrogen,	-	-	-	0.390 gm.
No. 2, do do	0.0033			0.727 gm.
No. 3, do do	0.0066 gm			1.130 gm.
No. 4, do do	0.0264 gm			3.280 gm.

The influence of the assimilable nitrogen is manifest, and it is not without astonishment

that we perceive from the result of Exp. 2 that the introduction of only three milligrammes of nitrogen into the soil of the pots has sufficed for doubling the organic matter of the helianthus.

The helianthus grown in the soil of Exp. 1, to which no nitrate was added, was found by analysis to contain

Nitrogen,	-	-	0.0053 gm.
In the seed the nitrogen was	-	-	0.0033 gm.

Nitrogen acquired in 50 days, 0.0020 gm.

In case of the plants grown with the aid of nitrate of soda, the following results were obtained:

	Nitrogen in the nitrate and in the seed.		Nitrogen in the produce.
Nitrate added.			
Exp. 2, 0.02 gm.	0.0066 gm.		0.0062 gm.
Exp. 3, 0.04 gm.	0.0100 gm.		0.0097 gm.
Exp. 4, 0.16 gm.	0.0297 gm.		0.0251 gm.

In each of the last three trials, the nitrate of soda was found in the soil after the conclusion of the Exp. In Nos. 2 and 3, the quantity of very minute; in No. 4 the quantity remaining was 0.0049 gm. In each case where nitrate of soda was added, the produce contained no more nitrogen than might have been derived from that substance.

What is peculiarly striking in the result of the second series of experiments, is not merely that a nitrogenous body introduced into the soil greatly promotes vegetable growth, but that the minutest quantity of assimilable nitrogen produces a decided effect.

This becomes more obvious when we compare the amounts of carbon fixed during each of these trials.

	Nitrogen in the seed.	Nitrogen added in the nitrate.	Organic matter formed in 50 days.	Carbon contained in dry matter.	Mean amount of carbon acid decomposed in 24 hours
	gm.	gm.	gm.	gm.	carb. cent.
Exp. 1,	0.0033	0.0000	0.397	0.159	5.3
Exp. 2,	0.0033	0.0033	0.720	0.288	10.6
Exp. 3,	0.0033	0.0066	1.130	0.452	17.2
Exp. 4,	0.0033	0.0264	3.280	1.312	40.5

The author says in recapitulation, that from these experiments it results:

"1st. That the phosphates, earthy and alkaline salts which are indispensable to the constitution of plants, nevertheless exert no action on vegetation, except when they are united to matters capable of supplying assimilable nitrogen.

"2d. That the supplies of assimilable nitrogen which the atmosphere is able to furnish, are too small to determine an abundant and rapid vegetable production, in the absence of nitrogenous manures.

"3d. That nitrate of soda associated with phosphate of lime and silicate of potash, forms a perfect fertilizer, since the helianthus grows as well in a totally barren soil, with help of this mixture, as it does in a rich garden soil that is strongly manured in the ordinary manner."

He adds in conclusion; "It is certainly remarkable to see a plant run through all the stages of vegetable life, from germination to maturity,—in a word, attain its normal development, when its roots are fixed in a washed and buried sand, containing, instead of decomposing organic remains, salts of great purity and of definite composition, such as nitrate of potash, phosphate of lime, and silicate of potash. It is remarkable to see it under these circumstances, fed only by mineral matters, augment in size and weight, by fixing carbon from carbonic acids, and hydrogen and oxygen from water, and from these and the nitrogen of nitric acid, elaborating albumen, caseine, &c.—i. e., the nitrogenous principles of milk, of blood and of muscular fibre. In fact there is probably more analogy than we are apt to suppose, between the alimentation of a plant thus grown and that of vegetation aided by stable manure, for the latter in a suitable porous soil rapidly decomposes, and as the final products of its decay yield identically the substances which have been employed as fertilizers in the foregoing experiments."

Remarks by the Translator.—I have thought a perusal of these researches by BOUSSINGAULT, a man whose devotion of wealth, genius, and life to the study of agricultural chemistry and physiology has greatly enriched the science and the art of husbandry, would be of interest to the readers of the Co. Gent., for several reasons. In the first place they illustrate the *method* by which we are to arrive at a knowledge of the conditions of vegetable growth, and the influence of fertilizers, or of other circumstances on the development of plants. Again, they reveal some new truths, or rather enable us to view old truths in a broader and fuller light, and in this respect form a valuable contribution to agricultural science. Finally, they may serve to excite the reader to a more extended study of the subject of vegetable nutrition, a subject which lies at the foundation of agricultural production.

Twenty years ago, nobody, neither farmer nor philosopher, knew what was the function or value of ammonia, or of nitric acid, or of the phosphates, as aids to vegetable production. Since that period, it is no exaggeration to say, that a flood of light has been poured upon these topics. Now we do know that these bodies are all indispensable to the growth of plants, and we are able to comprehend, in some good degree, the reasons of their value. It is to investigations of the kind that have just been laid before the readers of the Co. Gent., that we owe this advancement. It is easy for any one who

has begun to master agricultural science in its present state of development, to see that what has been accomplished is but the entrance to a vast and fruitful field of research, wherein even now may be seen luxuriant harvests of truth nodding for the reapers. Alas, our country, which it would seem unites every requisite for making a successful husbandry of these golden stores of intellectual and material wealth, has hardly gleaned the first ripe ear. England, Germany, and France, monopolize these treasures. Have'n't we energy, genius and culture enough to equip a few laborers for the noble enterprise of laying open to the world these graneries of knowledge? Have'n't we wealth that is ready to be devoted to sustaining their slow and toilsome efforts? What is the matter, that with all our enterprise and reputed keenness in foreseeing every event that promises profit, we allow the slow old world to keep out of sight ahead of us on this track, that assuredly leads to the most honorable glory, and the substantial reward of increased national wealth? It is a fact that we don't appreciate the possibility and the advantages of improvement in the most vital parts of agriculture? What sums are we not willing to expend in inventing, testing and using machines for reaping our grain—but who would be rich for possessing all we have devoted to acquiring a certain knowledge of the means of raising the standard of agricultural production to its highest limit?

But our time is coming. The spirit of modern science is too congenial with the temper of our nation that we long continue to stand aloof from it. Let us be early aroused!—*Country Gentleman.*

Wheat turning to Chess.

The doctrine of transmutation of species has been entertained, more or less, for a long time. Within a century, a writer on natural history, of considerable distinction, made an elaborate argument to show that man sprung, originally, from an oyster—having progressed from the low life of that animal up through the intermediate races to the ape, and thence, by an easy metamorphosis, casting off the supernumerary member, and becoming forever the lord of creation. This idea is not wholly given up, even in this enlightened age, as its "vestiges" are still presented in a form which captivates the credulous.

But in general, the belief in transmutation seems to have undergone such a modification that its application is confined to *plants*. The most popular notion of this kind which prevails in this country, is the turning of wheat into chess. It is held that the purest and best wheat may be planted—that it may germinate, grow, and form a plant—but that the occurrence of certain casualties—as sudden freezing and thawing while the ground is wet—will, by some mysterious process, transmute the plant into a

widely-different species. A similar belief prevails, less extensively, in regard to the change of barley into oats.

The advocates of the transmutation of wheat into chess have been repeatedly called on to demonstrate the alleged change, and as an inducement for them to do this, *premiums* have actually been offered. The first of these, of which we have any recollection, was offered by David Thomas, now of Union Springs, Cayuga county, N. Y., through the *Genesee Farmer*, more than twenty years ago. Various claims were made under this offer—the cases presented being generally those of the apparent growth of wheat and chess in the same head, which, on critical examination, were found to amount to nothing, as to the point at issue—the chess being merely *entangled* with the wheat.

A late revival of the transmutation controversy, induced Benj. Hodge, Esq., of Buffalo, N. Y., to offer a premium of \$100 to any one who should prove that wheat had turned to chess—the premium to be awarded under the supervision of a Committee appointed by the New York State Agricultural Society. The premium has been claimed by Samuel Davidson, of Greece, Monroe county, N. York. The Society appointed as a Committee, Prof. Dewey and L. B. Langworthy, of Rochester, J. J. Thomas, of Union Springs and Col. B. P. Johnson, the Secretary of the Society. They have had a meeting, and the result of the examination is thus described by Mr. Thomas in the *Country Gentleman*. We would suggest that there was not sufficient precaution used in regard to the chess seeds not being in the soil. The soil should have been subjected to such degree of heat as would have destroyed all vegetable life, before the seed was sown.

"The experiment to prove transmutation was the following:—A quantity of earth was passed through a fine sieve, to separate all chess seeds. It was placed in a pan, and several heads of wheat planted in it. When the wheat came up, it was subjected to all the hard treatment that usually produces winter-killing, viz flooding with water, and alternately freezing and thawing for several times. Late in the spring, the whole contents of the pan were removed and set out in open ground. When the plants of wheat threw out their heads, there appeared chess heads also. This mass of wheat and chess plants was brought in and placed before the Committee. Stalks of chess were shown, the roots of which were found to proceed directly from the planted heads of wheat which yet remained entire, and in some instances they were found to issue from the half-decayed grains of wheat themselves. This was looked upon as conclusive.

"The roots were taken by the Committee and first soaked in water and afterwards gently washed, by moving them backwards and forwards slowly through it. They were then carefully examined by microscopes. The roots of

the chaff were now perceived to issue, not from near the end of the grain of wheat, as is usual in sprouting, but from the *side*, and in fact from almost any part. Further examination showed that they merely passed *through* crevices in the decayed wheat grains, and they were separated from the grains without tearing, being merely in contact, without any adhesion or connection. Some of the more minute chaff fibres were observed by an achromatic microscope, to extend over the inner surface of the bran, where they had gone in search of the nourishment (which is known to abound just within the bran), in the same way that grape roots have been observed to spread over the surface of a rich decaying bone. But they easily separated, and had no connection with the grain. It was satisfactorily proved that the chaff plant could not have come from these grains, by the fact that the same single stalk of chaff was thus connected with five or six different grains, which could no more have originated it, than five or six cows could have one calf. The examination, therefore, did not prove anything in favor of transmutation; and as there were many possible ways in which the chaff might have become scattered on the soil, the whole experiment was admitted by all parties to be inconclusive."—*Boston Cultivator*.

From the Genesee Farmer.

Drilling in Wheat.

MESSRS. EDITORS.—In your article on the cultivation of the wheat in the August number of the *Farmer*, you state that, in your opinion, there is not much advantage in sowing wheat with a drill unless for the purpose of hoeing, and wish the opinion of farmers upon the subject.

Having had some experience in sowing wheat with a drill, I will give you my opinion founded on that experience. I have used a drill in sowing wheat upon a hard, stony soil, also upon a light sandy and loamy soil, and could see no difference in the yield of that which was drilled in or that sown broadcast.

Four years ago this fall, I sowed one half of a seven acre field broadcast, and the other half was sown with a drill. A portion of that which was drilled in, I harrowed across the ridges, for the purpose of levelling them down, as the advocates of the drill system claim, as one of its advantages, that the washing down of the ridges around the roots of the plants answers the purpose of hoeing, and also prevents winter killing; but I could see no difference either in the looks of the crop while growing, or when harvested.

Some seasons, upon some soils, wheat sown with a drill would be better than that sown broadcast, and the next year, perhaps, that sown broadcast would be the best, it all appearing to depend on the condition of the soil and season. I have also used the drill in sowing

barley, with no benefit that I could discover. But drilling possesses one advantage, and that not a small one, the seed is all covered with uniformity and all grows, whereas in sowing broadcast it does not, especially in dry weather.

C. C. WILSON.

Newfane, Niagara Co., N. Y.

Location as it Effects Temperature and Vegetation.

The influence of location on temperature, and on the successful cultivation of fruit, is a subject well worthy the attention of all horticulturists, and especially of those about to set out orchards. Unfortunately, however, we have few well established principles to guide us, and such as we have are so affected by circumstances, as to lead to different results in different localities. We need more extended and definite observations, and our main object in writing this article, is to call out the experience of our readers.

In a comparatively level country, such as a portion of Western New York, the principal object is to guard against the injurious influence of the severe winds from the west and north-west. A situation where a belt of woods, or a hill, which breaks the force of these winds is desirable; and when such a situation cannot be obtained, artificial shelter may frequently be provided with great benefit, by planting a hedge of American arbor-vitæ, or a belt of rapid growing deciduous and evergreen trees, such as the European Larch, Lombardy and Balsam Poplar, Soft Maple, Abele, and Norway Spruce.

In a hilly district, and where the late spring frosts are to be feared, a southern and eastern exposure should be avoided, as it is desirable to keep the buds from starting till all danger from frosts is past. Low land, too, must be avoided, from the fact that it is subject to greater variation in temperature than the hill side—being warmer in day time, and colder at night. In such situations, too, the wood is but imperfectly matured before its growth is checked by early frosts in the fall. It is well known that a slight frost in the fall, frequently cuts down Indian corn growing in the valley, while that higher up the hill escapes. This may be owing to two causes: the increased succulence of vegetation, and the decreased temperature in the valley. That the air is colder in the valley during a still frosty night, than higher up the hill, is well known. Thomas, in his *American Fruit Culturist*, says: "In the winter of 1845-6, when the cold, on a clear night, sunk the thermometer several degrees below zero, after the peach buds had been swelled by a few warm days, trees which stood on a hill thirty feet higher than the neighboring creek valley, lost nine-tenths of their blossoms, while on another hill sixty feet high, nine-tenths escaped. The lake of cold air which

covered the top of the smaller hill, did not reach the summit of the larger." The same author mentions several cases going to prove the importance of elevated sites.

In the beginning of March, of the present year, some experiments were made in the garden of the Horticultural Society (Turham Green, London), for the purpose of determining the lowest temperature experienced during the night, at various elevations, between the surface and 36 feet above it. Upon a perpendicular pole, five accurate self-registering thermometers were fixed at six feet distances, and a sixth was placed on the ground. Every morning the state of these thermometers was carefully noted—and we extract the result from the *Gardener's Chronicle*—for a few days in April and May, when vegetation was becoming active, and when all tender crops was most sensible of low temperature.

Thermometers at	Feet. 0	Feet. 12	Feet. 24	Feet. 30	Above the surface.
April 12	30°	33½°	35°	35°	
" 15	24	27	28	28	
" 16	25	27½	29	30	
" 17	27	30	32	32	
" 21	31	35	38	37	
" 24	24	26	28	28	
" 29	23	26	37	27	
May 3	26	31	32	32	
" 4	31	33	34	....
" 5	23	27	28	....
" 6	27	32	33	....
" 7	25	29	30	30	
" 8	28	29½	31	31	
" 18	37	40	41½	42	

It will be seen that in the spring of the year, when frosts are so injurious, the temperature at the surface of the ground, during the night, is on the average 3¼° colder than at 12 feet above the ground, and nearly 5° colder than at 24 feet. Above 24 feet there is a little increase in temperature. On the 6th of May, the temperature at 12 feet from the ground, was just at the freezing point, while at the surface it was 5° below. "An immense difference," says Professor Lindley, "when we consider how sensitive plants are to even small variations of temperature, especially when they are growing fast in the spring.

These observations are confirmed, in a practical way, by a correspondent of the *Gardener's Chronicle*, who states that the blossoms of pear trees, in the lowest part of his orchard, were destroyed by foggy frost to the extent of 80 per cent., at ten feet from the surface; about 50 per cent. at 20 feet from the surface, and uninjured at 30 feet. This spring, the frosts were of the same description (foggy), and the result, as tested by examination of the ground, as it rose from the brook, showed that the

damage diminished gradually—the lowest being the most injured. The ground was divided, for this comparison, into belts, by contour or level lines, following the inequalities of the surface, each 5 feet above the other. Hessel and Beurre Diel pears had all their blossoms destroyed in the valley, but set a portion of their fruit 70 feet higher up the hill. The damage to the gooseberry and currant crops were also far the greatest on the low ground, and diminished gradually with the ascent.

In this country, and in England, it is well known that fruit escapes spring frosts on the topmost boughs of a tree, while it perishes on the lower, and hitherto the fact has been accounted for on the supposition that the buds on the lower branches were started earlier by the reflected heat from the ground, while those on the upper branches being in a cooler temperature, remained dormant, and, consequently, escaped injury from frost. We still think this idea, to a certain extent, correct. Quetelet's observations at Brussels, show that at 9 o'clock in the morning, during the spring, the temperature at the surface of the ground was 35°, and at 10 feet elevation it was between 2° and 3° lower. We should certainly expect that, during the sunny days, the temperature near the surface would be, from reflection of the sun's rays, much higher than at ten or twenty feet above, and had Quetelet's observation been made at noon, instead of 9 a. m., they would probably have shown even a still greater increase of temperature between the surface and 10 feet elevation.

We may conclude, therefore, that the buds on the lower branches of trees are not only more liable to be started by the heat reflected from the ground, during sunny days, but are also exposed to a lower temperature during frosty nights. The observations in the garden of the Horticultural Society, were made on a level surface. Had it been a side hill, the result may have been different, for it can hardly be doubted that the air, as it becomes cooled and heavier by contact with the earth, would roll down to a lower level, while warm air, rushing in to fill the place, would keep up the night temperature of an orchard so situated.—*Gene-see Farmer*.

The Chinese Sugar Cane.

Great quantities of this species of sugar cane have been planted, and under the influence of the recent growing weather, the cane is rapidly advancing towards maturity. The question whether the product is crystalizable still remains open—a fact which seems strongly to argue that it is not practically, as were it otherwise, some of the sugar would have been exhibited in a dry state long ere this. A sugar-refining house in Philadelphia lately examined a sample of the syrup, but in their report, which is published as favorable to the claims

of the *Sorgho*, they say that their investigation has been but qualitative, and merely to ascertain whether there was any crystallizable sugar contained therein. To this purpose they subjected it to the low power of a microscope, which revealed regularly formed rhombohædric crystals of cane sugar. This leaves us still nearly as much in the dark as ever.—*Scientific American*.

Railroads.

The condition of the railroad interest throughout the country is one which has begun to exercise much attention, from the magnitude of the sums involved, and the great influence which the works exercise over almost all other property and branches of industry. The vast extent of land, of maximum fertility, belonging to the United States, and the influx of labour seeking to operate, have made the means of communication a matter of first necessity, while the capital to construct those works has not been very abundant. It has therefore been the case that a little capital has been made to go as far as possible. The communication, or the "development of resources," was the primary object, and was to be attained even at the sacrifice of the subscribed capital as an investment. Cheap roads have been built therefore, and the work done by the roads has been rated at too low a figure, that is to say, cheap and prompt communication has continued to be the main object, while borrowing money to increase the means of the road has been mainly depended upon to support them. That the object sought has been attained—viz: the development of the resources of the country—is self-evident from the fact that the roads have been built. There has been expended in railroads in the United States nearly \$1,000,000,000 (one thousand million dollars), or a sum nearly equal to one-third the British National Debt, and this incredible sum has been furnished almost entirely at home—hardly 5 per cent. of the amount has come from abroad. In other words, in the last six years, \$600,000,000 of American capital has been sunk in railways, in competition with the demand for capital for all other purposes, and at this moment capital is in more abundant supply and at cheaper rates than before this great outlay commenced. At this moment, in the Atlantic States, capital is cheaper than either in England or Europe. This remarkable fact furnishes conclusive evidence that the railroads have fulfilled their mission—that they have "developed the resources of the country," and for the coming year their capacities will be taxed to the utmost to deliver the immense quantities of produce which result from a great breadth of culture and a most prolific yield. It is probable that on the lines of many railroads, particularly of the West, that the value of harvests made

available this year by the action of railroads, will equal the whole cost of the line over which it passes, without counting the improved value imparted to real estate. If the capital supplied by good harvests this year was compared with that of the last (good as it was), it would be found probably to give an excess equal to one-third the whole cost of railroads during the past six years. Amidst this great prosperity the value of the railroads that have been instrumental in producing it has been depressed, because the interests of the several companies have been made subservient to collateral interests. In other words, the work has been done too cheap in all cases, and stock-jobbing influences have crept into the management of many companies, while all prices of commodities have risen under the stimulus of newly-discovered gold. Railroad fare have, if not declined, at least not risen. Labor, fuel, oil, materials, have all advanced to swell the expenses, while charges have been stationary. The difficulty of maintaining dividends has been greater, and the cost of completing carried far above the estimates. The Illinois Central, as an instance, purchased all its iron for less than one-half what it could be furnished for now. Those roads which were not so fortunate, have had to pay better prices. These growing difficulties have been taken advantage of by many parties to depreciate the value of that description of property for their own benefit, and the cupidity of bondholders, or the creditor class, has in many cases been excited by the hope of foreclosing and crowding out the stockholders. This large class of proprietors, representing probably over \$400,000,000, have in some cases began to move in their own behalf, and there is no reason why works which have so powerfully contributed to the national prosperity, and which are so indispensable to its continuance, should not be in themselves prosperous. If the expenses have been too great and the fares too low, the time has come when—taking advantage of the abundance of general wealth—the latter should be placed at a remunerating rate, one sufficient to cover all expenses, and the former pruned away and reduced to a minimum which will again admit of a modification of fares. The New Jersey Railroad charges and obtains a rate which pays well. If other railroads abandon the spirit of rivalry and pursue a similar course, the local traffic of most of the roads will pay a profit.

The capital that many years since was invested in banks, under the pretence of "developing the resources of the country," was mostly lost, because it was loaned to speculators in the produce of the West, and swallowed up in transportation and land operations, soon ceasing to act. The capital put into railroads has not been lost or misapplied, but is now actively performing its task in transporting industrial products.—*United States Economist*.

Agricultural Machinery and its Results.

Six years since, in Ohio, there were very few agricultural machines—now there are an immense number. The effect of machines in doing the work of men it is hardly possible to estimate.

A mower with two horses, two men, and a boy, must accomplish the work of at least twelve men. If so, it must save the labor of five men at least. Now, we know of one county which has three hundred and fifty mowers and reapers, and they must save the labor of about 1600 men! In the State at large, there must be about eight thousand of these machines, thus saving the labor of 40,000 able-bodied men. Supposing that they are employed only two months in the year, for harvest only, they will save, in money paid for labor, about \$2,500,000 per annum. The interest on their cost will be about \$70,000 only; so that there will be a net absolute gain on them of more than two millions per annum. If we look to the prairie States, the saving will be much greater. In the United States at large, probably the labor of 3,000,000 able-bodied men is saved during two months in the year. This is equal in money to twenty millions of dollars per annum. This saving, too, is made in the last five years. But the saving of money is by no means the most part of the saving. The economy of labor is, in our modern civilization, of the highest value, without reference to the money of the market value. We have already referred, as our readers will remember, to the tendencies of our present civilization towards centralization in cities and towns. This is really, and without theory, drawing large portions of our rural or country population to the towns. This is diminishing the agricultural laborers while it increases the towns. The consequence is that, both in America and Europe, the relative proportion of cultivators is continually diminished. If we suppose this process to go on like a mathematical series, without arrest, the consequence would be ultimate starvation; but, of course, the preliminary symptoms of such a calamity would be sufficient to drive many from the cities to the country, and thus change the current. Still, we must regard the invention and success of this agricultural machinery as a providential interference to avert for a time the alternative of starving in cities or returning to the country.—*Railroad Record.*

How it May be Easier for a Machine to Work Than to Do Nothing.

It has been slightly puzzling to some to understand the results shown by the dynamometer in respect to the draft of several mowing machines, principally those of *can* construction. In these, the draft of some is proved to be as great when the machine is drawn over the

bare ground, as it is when cutting a swath of grass, if not absolutely greater! But the explanation of the paradox is by no means so difficult after all. The bar to which the knives are attached is driven at a speed that gives it a great momentum, which must be overcome as each vibration is changed from right to left and from left to right. The power required to effect this rapid jerk must be sufficient first to bring the knives to a high speed, and then to a full stop, before commencing an equally rapid motion in an opposite direction—in other words by the frequent change in the direction of this motion, the momentum which usually aids the working of a machine here becomes a double obstacle; no sooner is a high point reached, than it must all be overcome, and a new one created. Now if the force requisite for cutting grass is just enough to overcome the momentum of the knives, when the vibration changes from one way to the other, no further expenditure of power is requisite to stop them—and the draft of the machine is neither more nor less than when no grass was cut. If, on the other hand, the ease with which the cutting is performed is such that the operation does not deprive the knives of all their momentum, a portion of it only will be overcome, and the horses will then have actually less labor to be cutting than not!—*Country Gentleman.*

INTERESTING TO FARMERS—Thomas R. Joynes, jr., writing to the commission of patents from Accomac Court-House, Va., states that he sowed in the spring of 1854 some alfalfa seed in part of a square of his garden for seed. In the summer of 1855, after saving seed, he had it cut spaded up, and the ground raked clean. The few roots left in the ground soon sprang up, and now it is as thick as need be notwithstanding that he endeavored again to eradicate it last spring. He thinks it a valuable grass, of rapid growth, hardy and luxuriant. All sorts of stocks are fond of it. Last year he planted some French beans, but has not eaten any yet, except the green pods. These beans matured so early that, after gathering the first crop, he tried the experiment of replanting some of the beans, which did well, maturing before frost. Thus, the same seed produced two crops on the same ground. He also tried last year the Japan pea, which is a handsome, rich-looking pea, and an abundant producer, but he does not like it as an edible. He had also tried the Oregon pea, but pronounces the champion pea of England superior to all others.

From the Irish Farmers' Gazette.

The Meat Manufacture.

The conversion of vegetable substances into the structure of animals is one of the most interesting, and certainly not the least important, of those regular and gradual manufacturing operations in which the agriculturist is engaged. It is, to a certain extent, the finishing point of all his labours—the ultimate design of all the mental and manual agencies which are called into action by the daily requirements of his very intricate vocation. For this end he studies the nature of the soil upon which he operates, the means which are best calculated to increase its productiveness, the plants which he grows, and the cultivation suitable for each variety; the distinguishing properties of the different breeds and varieties of our domestic animals, and their adaptation to the particular circumstances in which it is intended to place them; the house accommodation requisite for their use, and the most economical modes in which their food may be prepared and consumed.

It must be owned, however, that, in common with nearly every department of practical agriculture, the rearing and fattening of our domestic animals are too often looked upon as being something of which every one naturally possesses a sufficient amount of intuitive knowledge to enable them at once, and under any circumstances, to become proficient, without the formality of previous study, or that acquaintance with the subject which in any other profession would be considered indispensable in order to ensure even a probability of success. To this cause we may trace most of the failures which we meet with, the imperfect state in which what ought to be the finished article is frequently offered for sale, and the consequent disappointment as to results we often hear expressed. So far from being easily understood, the *Nutrition of Animals* is, perhaps, the most complicated department which exists in agricultural science; one in which inquirers as to "the why and wherefore" are, as yet, only groping their way; requiring to be much further investigated before practice and science can be considered as fully united. A sufficient amount of research, however, has been made into this subject to enable us to understand the rationale of our business, and, in some degree, to prevent that waste which must arise from the indiscriminate use of those substances which we employ as the food of animals, without reference to their fitness for the purposes which we intend them to serve, and also the nature of those agencies which exert an influence, whether favourable or the reverse, on

the full development of the nutritive powers of those substances.

In building up the structure of an animal, it is necessary to bear in mind that the elements of which the food is composed are of two different classes; *first*, those containing nitrogen, which enters into the composition of bones, hair, horn, wool, skin, blood, muscle or flesh; and, *secondly*, those in which nitrogen does not exist, and which are destined to support respiration and animal heat, and also to produce fat.

All the elements which produce the flesh and fat of animals are found to be gathered together in their food, and ready to be converted to their several uses without undergoing any material change. In vegetable bodies we have vegetable albumen, gluten, and casein, which are identical with flesh, the curd of milk, and the blood. The phosphates, common salt, &c., which exist largely in the bones, muscles, blood, and milk of animals, exist also in plants; whilst the starch, gum, sugar, and oils which constitute fat, and are the elements of respiration, are likewise found, ready formed, in vegetables. The proportions, however, in which these exist vary in different classes of plants, and hence the different results which we experience from the use of different kinds of food. Growing animals require a different dietary from those which are fattening for the butcher, in order to effect the results which we are desirous of producing. Thus, in the former, we wish to build up the bony structure, and to insure a full muscular development; whilst in the case of the animal preparing for the butcher, we must draw largely not only on the flesh-producing elements of food, but also on the non-nitrogenous or fat-forming classes. There must, however, at all times be a proper mixture of the elements of nutrition and of respiration, otherwise there will be a failure. If an animal is fed exclusively on one description of food, one, for example, which contains merely the elements of nutrition—that is to say, if the food only produces flesh—the animal so fed would gradually sink and die, in consequence of the absence of those elements which are necessary for maintaining the temperature of the body and the production of fat. In like manner, an animal cannot exist on non-nitrogenized food, such as starch, gum or sugar, which consists merely of the elements of respiration, without any of the flesh-forming principles.

The following table exhibits the elements—first, of nutrition, as existing in plants, and in the flesh, blood, skin, wool, hair, and horn of animals; and, next, the elements of fat and respiration. The similarity which exists in the composition of the substances in each class shows the close affinity they bear to each other. In the composition of fat, indeed, there is a considerable difference in some respects from that of starch, gum, and sugar; the cause of

which is, that whilst the three last-named substances—starch, gum, and sugar—do promote the production of fat, it is only when in excess

that they do so, their primary operation being to support respiration and animal heat. They all agree, however, in not containing nitrogen:

100 parts of	Elements of Nutrition.								Elements of Fat and Respiration.				
	Vegetable Fibrine from Wheat.	Vegetable Albumen	Vegetable Casein.	Muscle.	Blood.	Skin.	Wool.	Hair.	Horn.	Mutton Fat.	Potato Starch.	Gum.	Sugar of Milk.
Carbon	54.2	59.99	54.138	51.83	51.96	50.99	50.65	51.53	51.99	78.996	44.250	12.682	40.01
Hydrogen	7.5	6.87	7.156	7.57	7.25	7.07	7.03	6.69	6.72	11.700	6.674	6.374	6.73
Nitrogen	13.9	15.66	15.672	15.01	15.07	18.72	17.71	17.94	17.28	—	—	—	—
Oxygen	24.4	22.48	23.034	21.37	21.30	23.22	24.61	23.84	24.01	9.304	49.076	50.944	53.27

The composition of bones is nearly identical with that of skin, &c.

One of the most common practical errors which we meet with, in the care of animals, is the total absence of, or insufficient shelter allowed to them. It is an error, because it involves a waste of food. This will be seen when we consider what *respiration* implies, and the effects which it produces.

In respiration, or the act of breathing, the animal inhales and exhales the atmospheric air. The air drawn in, or inhaled, if dry, consists nearly of

Nitrogen	79.16
Oxygen	20.80
Carbonic acid	0.04

100.

After the air has passed through the lungs, it then consists of

Nitrogen	79.16
Oxygen	16.84 to 12
Carbonic acid	4.00 to 8

100.

The amount of carbonic acid, therefore, is much greater after the air has passed through the lungs than what it was when first inhaled. "On an average, the natural proportion of carbonic acid in the air is found to be increased one hundred times after it is expelled by breathing from the lungs."—(Johnston.) Whence, then, is this excess of carbon derived? It must evidently be from some other source than the atmospheric air.

Carbonic acid is formed by the union of carbon and oxygen, in the proportion of one part of the former with two parts of the latter. Water is a compound of eight parts of oxygen and one part of hydrogen. Starch, gum, and sugar, therefore, consists almost wholly of carbon and water. The oxygen of the air inhaled, combining with the carbon contained in the starch and sugar existing in the food of the animal, produces carbonic acid, which is expelled from the lungs in breathing; and the

union of the oxygen with the hydrogen of the food, in like manner, produces water, the excess of which passes off in the urine, in a vapour exhaled in respiration, which is visible at a low temperature, and in the perspiration. The reason is evident, therefore, why the amount of carbonic acid in the air is so much greater after it has passed through the lungs than what it was previous to being inhaled.

But this consumption of carbon in the process of respiration is precisely similar to what takes place in combustion. A union takes place of the carbon and oxygen of the substance which is being burnt, and their dispersion is accompanied by the production of heat. From the consumption of carbon, therefore, which takes place in respiration, heat is evolved and diffused throughout the body, and thus the starch, gum, and sugar of the food produces that degree of temperature which is necessary for the life of the animal. When, therefore, the animal is exposed to a lower temperature than the natural heat of the body, a larger quantity of the elements of respiration are required to maintain the necessary degree of heat; and hence, animals which are exposed consume more food with less profitable results in the production of fat than those which are kept in a temperature at least not less than the natural heat of the body. In the former case, owing to the deficient supply of the elements of respiration, caused by an insufficiency of suitable food, or their more rapid consumption or dispersion in consequence of the coldness or low temperature of the surrounding atmosphere, there is no excess of these elements—nothing to spare towards the production of fat, and if the substance of the animal does not actually waste from the strong combustion which is going on in the system, it at least remains stationary. Warmth, therefore, is equivalent to an increase of food, inasmuch as it prevents unnecessary waste of the elements of respiration and fat.

To those who have always been accustomed to the sleek, fine coats of carefully-tended

cattle, the shaggy winter covering of the Kyloe appears grotesque, and more ornamental than useful; but they overlook the fact that this shaggy covering is an economiser of food, and that by means of additional warmth which it affords, the scanty food which the Kyloe procures during the winter in its natural state, and which would be insufficient of itself to sustain the animal—that is, to evolve a sufficient amount of heat to enable the animal to undergo the rigour of the winter—becomes equal to the purpose, in consequence of this covering. There is a less demand on the combustible materials stored up in the food, and thus the shaggy covering becomes essential to the existence of the animal.

Insufficient house accommodation is a serious loss to the owner of cattle, entailing as it does an extra expenditure of food without an equivalent return; but how much greater is the loss in the case of those whose cattle are exposed during the entire winter without any shelter beyond that which is afforded by a hedge? When we see cattle on a cold winter's day

“Mourn in corners where the fence

Screens them, and seem half petrified to sleep
In unrecumbent sadness;”

we see a waste of material going on, which is nearly as absurd as if the owner would wilfully undertake the office of the incendiary, and set fire to his hay-ricks. All cattle ought to be put, on the approach of winter, either into properly-constructed houses or covered yards, where their food will be expended in promoting their growth and development, and not wasted in meeting the extra demand for animal-heat-producing material which exposure creates.

But there is in the construction of cattle accommodation one important essential to be attended to, namely, perfect ventilation, combined with an entire absence of cold currents of air.

We have alluded to the change which takes place after the air has passed through the lungs, by which the amount of carbonic acid becomes greater than when first inhaled. If there is no means of escape provided, the carbonic acid will accumulate to such an extent as to be most prejudicial to the animals, breathing an atmosphere which is saturated with it. It is, in fact, a deadly poison; and when we bear this in mind, we can have little difficulty in tracing to their true source many of those inflammatory diseases to which cattle confined in ill-ventilated houses are subject, and the origin of which often appears so very mysterious. A man consumes about a gallon of air per minute. “A horse,” according to Bous-singault, “throws off daily forty-five pounds of carbon in the form of carbonic acid gas; and in the case of the cow, four-ninths of the carbon contained in the daily food is consumed during the process of respiration.” (Voelcker.) This shows us how very soon the air in a

closely shut-up stable or cow-house becomes vitiated, and rendered utterly unfit to support life in a healthy state. If, therefore, it is necessary to prevent unnecessary waste of food by providing proper shelter, it is no less requisite to the healthy condition of the animals that the air which they breathe shall always be kept in a state of purity. Ample space should be secured over the heads of the animals, and hay-lofts and other obstructions to a free circulation of air ought never to be permitted. Ventilators should be inserted in the apex of the roof to permit the heated exhaled air to escape, and means taken to secure a constant supply of fresh air from beneath, without creating a thorough draft, the effect of which would be to check the perspiration, and thus lay the foundation for catarrh and other diseases.

The exercise which an animal takes causes a corresponding amount of waste of food. By exercise the respirations are not only rendered more frequent, but are also increased in force; hence there is a greater consumption of carbon—that is, of starch and sugar, the elements of respiration and fat—and, consequently, the animal requires a larger amount of food to enable it to fatten; or if this is withheld, it becomes wasted or leaner. It is well known that fattening animals become more rapidly fat when kept perfectly quiet, and free from everything which excites their attention and renders them restless. The growing animal, indeed, requires a certain amount of exercise in order to promote muscular development and strength of constitution. If sufficient exercise is prevented in this case, the young animal will no doubt accumulate fat freely, but his constitution will be enfeebled; and if the same treatment is pursued through several successive generations, whilst the animals will gradually acquire a greater aptitude to fatten at an early age, they will also become less to be relied upon for breeding purposes. Growing and breeding animals should, therefore, be always permitted a sufficient amount of exercise to secure a healthy system, whilst those which are fattening for the butcher must be kept quiet and undisturbed.

We have observed that there must be a proper mixture of the flesh-forming elements along with those of respiration and fat, to form perfect food. We find this mixture to be particularly the case in milk, the first description of food upon which the young animal subsists. It contains, 1st, casein or curd, which is precisely the same as the *fibrin* or lean part of the flesh; 2nd, fat in the shape of butter; 3rd, sugar, which is required in the process of respiration; and 4th, certain substances which are converted into the earthy part of the bones and the saline matter of the blood. The saline or earthy portion of milk consists of the phosphates of lime, magnesia, and iron, chloride of potassium, and common salt. In its ordinary

state the milk of the cow consists of about 4½ per cent. of casein or flesh-forming matter; 3 per cent. of butter, oil, or fat; 5 per cent. of sugar; ½ per cent. of saline matter; and 87 per cent. of water. Everything, therefore, which is required to promote the development of the growing animal is contained in the milk, blended together in proportions suited for the purpose. We now proceed to give in detail the composition of the various articles employed as the food of animals, the practical bearings of which will be afterwards illustrated.

The average composition of beans, peas, tares, and lentils, so closely approximate to each other, that it is needless giving their constituents in separate detail. From the following analytical statement of the composition of field beans we learn the value of this class of feeding stuffs:—

Nitrogenised or flesh-forming constituents	23.3
Non-nitrogenous substances, being the elements of respiration and fat—	
1. Starch, sugar, fat, &c.	48.5
2. Woody fibre	10.0
Ash (bone materials)	3.4
Water	14.8
	100.0

The amount of oil, or ready-prepared fat, contained in beans, &c., is small compared with other feeding stuffs, being only about 2 per cent.

The amount of nutritious matter yielded by the produce of an acre (statute) of beans, taking the crop at thirty bushels, is as follows:—

	lbs. per acre.
Nitrogenous or flesh-forming matter	460
Elements of fat and respiration—	
Starch, sugar, fat, &c.	970
Woody fibre	198
Mineral matter (bone materials, &c.)	67
Water	285
	1980

The straw of beans and peas is also rich in flesh and fat-forming constituents. For example:—

	Bean Straw.	Pea Straw.
Flesh-forming matters	8.25	12.55
Non-nitrogenized substances	65.85	69.45
Mineral matters, bone materials, &c.	6.67	6.00
Water	19.23	12.00

We shall afterward see that bean and pea straw contains a much larger proportion of nitrogenous matter; the elements of nutrition or flesh-forming substance, than the straw of any of the cereals.

Although wheat flour is never used as the food of domestic animals, we shall refer to its composition, chiefly for the purpose of compari-

son with other articles. Wheat flour, therefore, consists of

Flesh-forming substances (<i>gluten and albumen</i>)	14.6
Elements of respiration and fat, &c.:—	
Starch	59.7
Gum and sugar	7.2
Oil	1.2
Woody fibre	1.7
	69.8
Ash	1.6
Water	14.0
	100.0

Bran is richer than flour in oil or fat, containing 5½ per cent., whilst flour only contains from 1 to 2 per cent. The flesh-forming constituents of bran are also nearly equal to those in flour.

Wheat straw contains—

Flesh-forming substances	1.79
Respiratory and fatty matters	31.06
Woody fibre	45.45
Ash	7.47
Water	14.23
	100.00

Barley, in its natural state is seldom used in feeding animals; but when ground into meal, or boiled and given in connection with other feeding stuffs, it is a valuable, and, in several parts of the country, a rather extensively used article of food. The amount of oil contained in barley is very small, being only about one-half per cent., whilst the entire amount of non-nitrogenous matters, fitted for the support of respiration and the production of fat, is about 69½ per cent., of which starch, gum, and sugar form 55 per cent. An average crop of barley—say 36 bushels, or 1,872 lbs. per statute acre—will yield 243½ lbs. of flesh-forming or nitrogenous matter in the grain, and 62 lbs. in the straw; 1,301 lbs. of the elements of respiration and fat in the grain, and 2,987 lbs. in the straw; 65½ lbs. of inorganic matter, or ash, in the grain, and 191 lbs. in the straw; and 262 lbs. of water in the grain, and 398 lbs. in the straw. At one time it was considered that by the conversion of barley into malt it became more valuable as an article of food for animals, but this opinion has been proved to be wrong, and it has been found that by simply steeping the barley from thirty to forty hours, it becomes a more valuable article of cattle diet than either malt or dry barley. Brewers' grains, and distillery refuse, or the liquid which remains after the spirit has been drawn off, are much used as cattle food, especially by dairymen. These are rich in phosphates, which produce milk. The proportion of water is of course large, being about 76 per cent. in the grains, whilst the organic part amounts to 23 per cent. The thin part of the liquid is about half the nutritive value of its weight of ordinary turnips; and the thicker, or sedimentary

portion, is fully equal to its weight of the average composition of turnips.

Oats are more extensively used than any of the other cereals as an article of cattle-food. The composition of this grain shows that it contains a large amount of the flesh or muscle-forming substances, and also 6 per cent. of oil. Consequently, its value for feeding purposes is easily understood. The nutritive value of oats, however, is by no means regular, some varieties being one-third more nutritious than other kinds. Taking the average composition, we find that oats in the natural state contain 13 per cent. of nitrogenised or flesh-forming principles; 69 per cent. of substances which support respiration and produce fat; 3 per cent. of inorganic matter, bone earth, &c.; and 12 per cent. of water. The analyses of ripe oat-straw do not show any material difference from the straw of the cereals, but when not fully ripe the per-centage of nitrogenised or flesh-forming constituents has been ascertained by Dr. Voelcker to be much greater than in the fully ripened straw, which explains the value of oat-straw as fodder when cut whilst partially green. A similar result was observed in analyzing ripe oats and oats cut green. Oats ought always to be bruised before being given to animals, as in this state the food is not only more thoroughly masticated, but is also much less liable to produce inflammation, which we often find to arise from the over liberal or inconsiderate use of the whole grain. In the form of meal it is but seldom used as cattle food; but when ground into meal, the more thoroughly it is sifted the more nutritious it becomes. This is the reverse of what occurs in the case of flour, because a large proportion of the flesh-forming and fat-producing substances contained in wheat is removed in the bran. Fine oatmeal contains nearly double the amount of nitrogenised matter found in fine flour; the proportion in the former being 15 to 17 per cent., whilst in the latter it amounts to from 9 to 10 per cent. The use of oatmeal is, therefore, more favourable to the production of muscle than flour.

Rye is generally used as cattle food in this country in a green state. It resembles wheat in its composition more than either of the other cereals, and is inferior to barley for feeding purposes. It only contains about one per cent. of oil or fatty matter; 60 per cent. of starch and sugar; 14 per cent. of flesh-forming substances; 10½ per cent. of husk or woody fibre; 1¼ per cent. of ash; and 13 per cent. of water.

Although Indian corn is not grown in the British islands, its use for feeding purposes has become much extended of late years. It contains a larger per-centage of oil than oats—being as much as 8 to 9 per cent., and is, therefore, a valuable auxiliary in the fattening of our domestic animals. The flesh-forming constituents of Indian corn amount to 11¼ per cent.; the heat and fat-producing substances

to 67½ per cent.; woody fibre, 5 per cent.; ash, 1¼ per cent.; and water, 15 per cent.

* * * * *

We have now arrived at an important and interesting branch of our subject, namely, the amount of nutrition contained in the different varieties of grasses. Until recently, our knowledge of the nutritive qualities of the grasses was imperfect, and based chiefly on speculative opinions rather than ascertained facts. But we have now to thank Professors Way, Anderson, and Voelcker, for having investigated the subject, at least to a certain extent; and although there still remains in this respect a wide field for the exercise of "the detective functions" of analytical chemistry, still we have clearer *data* to guide us, in the results of the analyses conducted by the eminent men we have named.

There are many causes which influence the nutritive value of hay, and even of the grasses in a fresh state. The period at which the grasses are cut, whether before flowering, when in flower, or when dead ripe, influences the nutritive qualities to a very considerable extent. Thus, of two samples of red clover, one of which was cut when beginning to flower, and the second in fourteen days after, when in full flower, the latter contained nearly 10 per cent. less of nutritive substances and 11 per cent. more indigestible woody fibre than the former. This proves to us that the longer that clover is allowed to remain uncut, after it is in flower, its nutritive properties become rapidly deteriorated, the starch and other elements of respiration and fat becoming changed into woody fibre. Again, exposure to continued rain lessens the nutritive value of hay, inasmuch as the juices are thereby washed out, and it is only the insoluble constituents which remain. Heating or fermentation also acts injuriously, because by means of it the nitrogenised part, or the flesh-forming constituents, are not only rendered less soluble, but, if the fermentation is allowed to proceed to a considerable extent, these become destroyed—are changed, in fact, into other compounds, amongst which are vinegar and ammonia. Grasses also, when grown on different descriptions of soils, will often present opposite results, when their nutritive qualities are tested by analysis. Thus the analyses of dry clovers, grown in Scotland, made by Dr. Anderson, showed an average amount of flesh-forming substances to be 14.40 per cent.; whilst Drs. Voelcker and Way, on clovers grown in England, showed an average by the former chemist of 19.44 per cent., and by the latter of 19.31 per cent., being five per cent. greater than the results of Dr. Anderson's analyses. There must, therefore, have been certain causes which influenced the manner in which the nutritive substance of the different clovers were accumulated in the plants—causes which were, perhaps, chief-

ly derivable from the peculiarities of the soil in which the different clovers were grown.

Taking Dr. Voelcker's analysis as our guide, we find that in the natural state red clover contains 80.640 per cent. of water, 3.606 per cent. of flesh-forming substances, 13.784 per cent. of heat and fat-producing substances, and 1.970 per cent. of inorganic matters or ash. Alsike clover contained in the natural state 76.670 per cent. of water, 4.825 per cent. of flesh-forming matters, 16.445 heat and fat producing substances, and 2.060 per cent. of ash. Lucern contained 73.41 per cent. of water, 4.40 per cent. of flesh forming matters, 19.11 per cent. of heat and fat-producing substances, and 3.08 per cent. of ash. Dr. Anderson states the composition of clover-hay to be as follows: Moisture, 16.84 per cent.; flesh-forming substances, 13.52 per cent.; non-nitrogenised matters—the elements of respiration and fat—64.43 per cent.; mineral matters or ash, 5.51 per cent. Dr. Voelcker gives the mean of 25 analyses of common meadow hay, which shows that, on an average, this description of food contains 14.61 per cent. of water, 8.44 per cent. of flesh-forming constituents, 43.63 per cent. of the elements of respiration and fat, 27.16 per cent. of woody fibre, and 6.16 per cent. of ash. Meadow hay of superior quality, analyzed by Dr. Wolff, contained 10.69 per cent. of flesh-forming matters; whilst inferior meadow-hay analyzed by Dr. Anderson, contained, when fresh, 6.16 per cent., and after being kept for a year, only four per cent. of the same substances.

If we take some of the ordinary grasses when made into hay, and assuming, which is the fact, that hay on an average contains 14.3 per cent. of water, we find that the composition of Italian rye-grass consists of 8.66 per cent. of flesh-forming substances, 52.36 of the elements of respiration and fat, 16.94 per cent. of woody fibre, 7.66 per cent. of inorganic matter or ash. Perennial rye-grass contains 10.16 per cent. of flesh-forming matters, 38.93 per cent. of heat and fat-producing substances, 30.17 per cent. of woody fibre, and 6.46 per cent. of ash. Italian rye-grass is, therefore, more valuable than perennial rye-grass. Timothy, or meadow cat's-tail grass, contains 9.74 per cent. of flesh-forming matters, 48.77 per cent. of heat and fat-producing substance, 22.68 per cent. of woody fibre, and 4.53 per cent. of ash. The composition of timothy also shows it to be a valuable grass. *Holcus lanatus*, soft meadow grass, contains 9.87 per cent. of flesh-forming substances, 36.69 per cent. of heat and fat-producing matters, 33.69 per cent. of woody fibre, and 5.46 per cent. of ash. This grass is of inferior value. The hay of grass grown on watered meadows is very nutritious, more so than that produced on land which has not been irrigated. It contains 22.21 per cent. of flesh-forming matters, 5.60 per cent. of ready-formed

grasses we have already named is 3.04 per cent.), 27.47 per cent. of respiratory principles, 21.55 per cent. of woody fibre, and 9.03 per cent. of ash. Dr. Voelcker accounts for this superiority of these grasses by supposing that it is partly due to the disappearance of inferior grasses from irrigated meadows, and "perhaps also to the circumstances that the grass on such meadows is always cut earlier than on ordinary meadows."

Whatever defects exists in our knowledge of the composition of the various grasses, there is one well ascertained fact, namely, that if we wish to possess the largest possible amount of nutritious matters in our hay, whether clover or meadow hay, we must cut the grasses early—that is, not later than when beginning to flower; because that with every day which passes after the grasses have reached that particular stage, there is a loss in the amount of their nutritive principles, until at last we find, on their becoming fully ripe, they are only one-half the value they were when beginning to flower. In order to see that this fact is either unknown to, or unheeded by farmers in general, we have only to look at any of our hay fields in the month of July, when it will be seen that the largest proportion of the grasses are allowed to remain uncut until their nutritive qualities have become wasted, or converted into indigestible matter. It is in such points as this that we learn to appreciate the value of scientific research when brought to bear upon the practice of agriculture; when the mere practical man, hesitating between two opinions, and uncertain which course he ought to adopt, finds a sudden and bright light thrown upon his course by the minute investigations of the scientific explorer. If we argue upon or support our arguments by mere generalities, we shall invariably find ourselves disappointed in our expectations of impressing our views, however correct they may be, on the minds of those whom we are desirous of influencing; but once show them proof of the correctness of the views expressed, and conviction is at once driven home with irresistible force. This is the manner, indeed, in which the union of "practice with science" takes place. Practice states the *fact*, and science demonstrates the reasons which constitute it a *fact*. Unite them and they are irresistible; separate them, and the course of each is wavering, uncertain, and liable to error.

The Agricultural Fair for Washington county, Virginia, commences at Abingdon on the 20th proximo.

The Chicago Journal mentions, among other luxuries now enjoyed by the people of that city, luscious strawberries from Minnesota.

Arabian Horses in Kentucky.

A new Importation—Their Pedigree and Training—Color—Size—Power of Endurance.

In our report of the proceedings of the celebration of the Fourth, at Lexington, we made a brief allusion to the Arabian horses imported by N. Keene Richards, Esq., of Georgetown, Ky. There are many of our readers whose interest in horses is such that they will read with pleasure some further statement about these Arabians.

Mr. Richards visited Morocco, past through the interior of Algeria to Tunis, thence to Egypt, thence through Arabia Petrea and the Desert, East of Damascus, as far as Palmyra. On this, his first visit to the East, he selected two stallions, Mokhladi and Massoud, and a gray mare, the first mentioned bred by the Tarabina tribe in Arabia Petrea, and the two latter by the Anayza tribe. He brought them home safely to Kentucky, and finding his expectations concerning them were realized, he commenced making preparation for another trip to the East, determined to spare no trouble nor expense in procuring the best blood, as well as the finest formed horses in the desert.

Mr. Layard has expressed the opinion that no Arab of the best blood has been brought to England. Mr. Richards knew this and, the great difficulty that has always been experienced in securing the best. After two years spent in investigation as to the best means of procuring the best blood in the Desert, he matured his plans and started again to the East, accompanied by Mr. Troye, an artist, who has furnished some admirable drawings of the horses bought—and by his cousin, Mr. Keene, with a Syrian, who attended him on his first journey, and knew much about the horses of the East. This Syrian suddenly died, and the party delayed seven months in Damascus, while Mr. Keene acquired the Arabic language, and informed himself as to the best way of getting to that tribe of Bedouins in Arabia possessing the type of horses they were seeking. They entered the Desert, and the result of their expedition was the purchase of a horse of superior form and blood from one of the Shiks of the tribe, but afterwards exchanged by giving heavy boot for a better, called Sacklowie. Besides this, Mr. Richards obtained a colt,

supposed to be the best young horse in the Anayza tribe; a gray colt, a mare and two dromedaries. All of these horses were brought safely home, so that Mr. Richards has now on his farm, near Georgetown, five Arab stallions and three mares. His object is not to breed pure Arabians, but cross this Arab stock with Kentucky thorough breeds. Three stallions to which Mr. Richards specially invites the attention of horse fanciers are Makhadi, Massoud and Sacklovil. The first is a gray, 14 hands 1 inch high, a horse from the Tarabine tribe of Bedouins; the second is a chesnut, 15 hands high, bred by the Anayza tribe of Bedouins; the third is a mahogany bay, 15 hands, and bred by the Anayza tribe. The colts of the first and second took the prize last fall at Lexington in the ring of thorough bred under one year.

The size of these horses may excite remark. Mr. Richards states that there are not fifty pure bred horses in the Desert over fifteen hands high. Layard only saw one mare over fifteen hands. Not one of the Arabs from whose loins sprung the English thorough bred, was over fifteen hands. Yet the progeny of these horses are of good size, and able to pack heavy weights through four mile heats.—

St. Louis Republican, July 20.

From the New England Farmer.

Prejudice against Agricultural Periodicals.

"The learned is happy nature to explore;
The fool is happy that he knows no more."

Strange as it may appear, there are yet a large number of farmers in the country, who rely for any further addition to their stock of professional information upon their own experience, or mere accidental hearsay. They are possessed with a spite against agricultural newspapers; or they cherish an incorrigible prejudice against printed matter! And this feeling is only equalled by their credulity towards the dicta of their neighbors. They seem to believe that the publishers of such works only wish to get their money and deceive them; and if some of them should happen to see some of their own real or fancied discoveries in print, they might be tempted to doubt their truth! Agricultural facts with them, it would appear, can be spoken,

but not written! Really, many of them would disbelieve the *printed* Bible, had not their parents instilled its truth into them with religious awe!

Reading an agricultural paper in the cars a few days since, one of the above class of farmers looked over my shoulder, and very deliberately said,

"Take a good deal of money to carry all them notions out."

"Yes," said I, "but we must use our judgment, and consult our means and circumstances."

"My wife could never make anything out of them receipts," he added.

"Ah, but suppose *your* wife's method of cooking should get into the papers, what then?"

"Now, do you really believe all you read about potato-rot, fancy manures, bug-killing, &c.?" inquired my friend, seemingly anticipating my reply.

"No, perhaps not half; but it may be worthy of consideration; can you believe half what you *hear*, and are you not sometimes deceived in your own experiments?"

Speaking also with a friend about the curculio, he expressed the belief that the mischief was done in the flower.

"Why," said I, "that can't be so, for we can see the puncture on the surface of the young fruit."

"But did you ever see a curculio?"

"Yes, I have, and suppose I might see more if I should attempt to trap them?"

"Well, I never did, as much as I have examined plum trees; it's newspaper story, I reckon."

"No, friend," said I, "it's the story of the tree itself, and by further experience, you'll find it to be so."

"Well, when I see a curculio on the fruit I'll believe it," said he, with an air of confidence.

Now here is an agricultural skeptic. He is disposed to doubt everything until it is made evident to his senses. Like a common animal, what he sees he'll believe, and is really guilty of a simple deduction of logic. "Seeing is believing."

If you go and lean over the pen of some veteran porker, and disturb his "balmy sleep" by a poke with a stick, he will get up and give you the grunt of recognition. If you inform him that the "bears are out," or some enemy in the field against him, he remains perfectly indifferent to the infor-

mation, and can only believe it when he sees them. How little removed are some men from "His most Imperfect Majesty," the porker!

That there is a vast deal of knowledge lost to mankind from a want of a ready communication, every reflecting mind must perceive. A fact in science presented to a neighbor, will very probably spread to a considerable extent; but uttered by the press, it will never be lost to millions.—And even the promulgation of mere opinions, not well supported by facts, cannot do much harm, and may do no little good; for many ideas are fruitful of a better progeny, as, by operating upon variously-constituted intelligent minds, something practical and useful is the result.

In regard to agricultural periodicals, like all other works of science, they do not always publish the truth; in fact, they do not pretend to, because it may not be known. But let the man without error "cast the first stone." Have we no traditional falsehoods among us—no old, hoary-headed dalysions which live upon ignorance and which scientific publications are endeavoring to exterminate. Agricultural periodicals aim to reflect or disseminate the most accurate and economical modes extant of producing food. And this they really do, although that information is not always correct. Those individuals then, who are disposed to decry such works, or the men who conduct them, should vouchsafe to let some of their own light from under a bushel shine upon them, for the sake of humanity and their own vocation; and if it is really light, they will gain the proper credit, and the journals will be more generally esteemed. D. W. L.

West Medford, July, 1857.

Early Planting.

No matter how early you plant or sow onions, beets, carrots, parsnips, cabbages, lettuces, radishes, cauliflowers, &c., in the open ground. Even committed to the earth late in autumn, it is well. Cold weather will not hurt the seeds, and spring frost will not destroy the plants. They may be sown as soon as the frost is out of the ground, or even before that, on the surface directly, on the disappearance of the snow. The seeds will be ready to vegetate with the first warmth of spring. Unless,

however, they are wanted for very early use, it is as well to wait till the ground is settled and the soil will crumble freely on being dug up. But do not plant beans, cucumbers, melons, squashes, corn, or anything of this sort before the season is suitably advanced, and the soil has become warm enough to give the seeds a genial reception. Many err in this respect, they think, by very early planting, to secure such vegetables and fruit correspondingly sooner; on the contrary, cold and chilly weather stunts and dwarfs them in their infancy, and they never fully recover such an unfriendly shock. Plants that, under the influence of the proper warmth, start vigorously, will retain their advantage through the seasons. Be patient, therefore, and wait till dame Nature tells you when it is safest to plant.

The first operations in the garden should be devoted to making the hot bed, to the clearing off the old haulm and foul stuff, uncovering protected roots, pruning currant and gooseberry bushes and other shrubbery before the buds swell, digging the grass out from amongst roots—for this should not be allowed to have its nests there for spreading into the adjacent grounds,—scattering salt under plum trees, quince bushes, gooseberries and asparagus, and repairing the fences, arbors, walks, &c. There is enough to do in this respect, which by too many is apt to be neglected.

Maine Farmer.

Statistics of English and French Agriculture.

Some interesting statistics have been given by M. R. de la Trehonnais. In England, out of 50,000,000 acres cultivated, 10,000,000 are sown to wheat or other cereal crops, while in France 50,000,000 were cultivated for that purpose. The average growth of wheat per acre in England is 4 quarters, and in France only 1 3-5 quarters; while the produce of English land is about £3 4s. per acre, and that of France £1 12 per acre. The number of sheep grown in each country is about 34,000,000, and the wool produced about 60,000 tons; but owing to the difference in the acreage, there is something less than 1 1-2 sheep per acre in England, and only about one-third of a sheep per acre in France. In France there are annually slaughtered 4,000,000 of cattle, the average

weight of each being 2 cwt.; while in England there is not half the number slaughtered, but the average weight is 5 cwt.—*Boston Cultivator.*

From the Richmond Enquirer.

Super-phosphates of Lime.

Messrs. Editors: In the May and July numbers of the Southern Planter I called the attention of the farmers of Virginia to the various super-phosphates of lime which are offered for their purchase in the Baltimore and Richmond markets. In the last of these articles a few words were said in relation to the composition of Rhodes' super-phosphate of lime manufactured in Baltimore. The manufacturer saw fit to reply to what was said in relation to his manure, through the columns of the Enquirer and Southern Planter, by charging me with ignorance of my profession.—Anticipating, when I undertook the analysis of these manures, that I should be favored with a few attacks of this kind, I was not surprised at the appearance of the article, and at first did not think it necessary to notice it at all; but since it has been copied into a number of papers, and has received a much more extensive circulation than the article which called it forth, I think it due to myself that I should say a few words in rejoinder.

On submitting Rhodes super-phosphate analysis, I found that it contained 19½ per cent of phosphoric acid, which calculated as bone phosphate of lime, would be equivalent to about 40¼ per cent of bone phosphate of lime; of this a little more than five per cent was soluble in water, which, calculated as super-phosphate, would give about seven and a quarter per cent of soluble or super-phosphate of lime in the manure. I also found that after all soluble matter had been removed, effervescence took place whenever any strong acid was poured upon it; and I affirm that, having tested it, the gas given off was carbonic acid. Now, since the evolution of carbonic acid, under such circumstances, necessarily implies the presence of an insoluble carbonate, I charged the manufacturer with adulteration. It is true that the original bone dust or bone black, out of which the manure is made, does contain more or less carbonate of lime; but if the super-phosphate is properly prepared,

whether by this or that receipt, *the presence of the carbonate of lime in the manufactured article is an impossibility*—the sulphuric acid would remove all traces of carbonic acid, and leave a manure which could not be made to effervesce by the action of any other acid.

Mr. Rhodes, forgetting, I suppose, that the carbonates *can* be detected, even if present in super-phosphates, denies the presence of carbonate of lime in his manure, in the following words: "Now, on this, we join issue with Prof. Gilham and say that the existence of soluble or superphosphate of lime and carbonate of lime, is a chemical impossibility; it never has existed, never can exist, and never will exist in the same preparation; *the presence of the one necessarily excludes the presence of the other.*"

"For this we have the authority of the leading chemists of the day," &c.

In answer to this, I can only say, that having found both these substances in Rhodes' super-phosphate, I must insist upon their being there, in spite of the "authority of the best chemists of the day," and leave the manufacturer to explain how they came there. That they can both be present in the same mixture is certain, and it requires no lengthy argument to show why they may be so. The super-phosphate of lime, when first prepared by the action of sulphuric acid upon bone dust, is generally a stiff pasty mass, of such a consistence, that if the carbonate of lime is added to it, complete re-action between the two would seldom take place, for the simple reason that it is impossible for the free acid in the manure to come into that intimate contact with the carbonate which is necessary to the entire removal of one or the other. But if the manure were allowed to dry up before the carbonate was added to it, no re-action whatever could take place between them.

The presence of the carbonate of lime in a super-phosphate is a proof that there is something wrong about the article.—One of two things must have taken place; an additional quantity of bone dust or bone black (both of which contains carbonate of lime) must have been used *after* the preparation of the manure, or the carbonate itself has been used. The addition of the latter could be nothing less than a gross fraud, while the use of the

former, although not so objectionable, is nevertheless an outrage upon the farmer; for he is made to pay for this added bone dust at the rate of from twelve to eighteen dollars a ton more than he would have to pay for it if he bought it elsewhere.

The manufacturer states that there can be no mistake in his manure, as it is prepared from a formula given him by Dr. Higgins, State chemist of Maryland. I have seen Dr. Higgins' analysis of the manure, which only proves that Mr. Rhodes *can* make a very pure article, and I have no hesitation in saying that had he stuck to his formula, he never would have heard from me, except in terms of commendation.

Yours, truly,

WILLIAM GILHAM.

Va. M. Institute, Sept. 7, 1857.

The Agriculture of Ohio.

The following article from the commercial editor of the Cincinnati *Gazette*, contains some interesting agricultural statistics, as well as clever illustrations of the results and prospects of Western agriculture, which we consider worthy of record in this department of the *Merchants' Magazine*:—

Talk as we may about the improvements of mankind, there is but one trade or business by which men *live*. Without that, men must die—if they had the intellect of an angel and the mines of California. In its prosperity the man who never owned an acre or raised a blade of grass is as much interested as if he owned thousands of acres. Agriculture was the first and will be the last trade of man, and all improvements in it are of vital importance to the whole community. If it were to fail to the extent of one-half its products—much more the whole—gold would be worthless, professions useless, and life would perish. Such, in the early ages of the world, was the condition of many nations, and in very recent years (as in 1847-8) several nations of Europe have approached the same catastrophe, and been saved by the vast increase in the powers of locomotion, which have enabled the famine districts to obtain supplies from distant quarters. This subject, therefore, demands to be brought more distinctly to the notice of commercial cities—they are most of all interested in it. Especially is this so since the *average* prices, in Cincinnati and New York, of the staple articles of food have risen full *fifty per cent* in the last ten years.

It will be noted, as a very important fact in this connection, that this rise has taken place while *facilities* of communication with the most distant producing regions have been greatly increased. It is evident, then, that the rise has

not taken place merely because the great markets are more accessible, for that would only enable the producers to accumulate greater supplies at the markets, and thus bring down the prices. Nor is it in consequence of an European demand, for though that is increased, the whole export is small in comparison with the production. Our largest export is of flour and wheat, except cotton, and yet these are *relatively* the cheapest articles in market. The true principle of the rise in prices we have stated in former discussions of this subject. It is simply that the increase of *productions* is *not* equal to the increase of consumers. This may have two causes—natural or artificial. The failure of the crops might occasion it, but, in fact, it is the least obvious cause at work. For though in 1854 we had a partial failure of the corn crop, yet we have had three good wheat crops, and the general harvests have been near an average.

If we look, however, into the statistics (which we have now tolerably accurate) of production and population in England, France, Germany, and the United States, we shall find a more uniform and persistent cause at work to produce precisely such results. This is the present *high and unnatural stimulus given to artificial life*. This is the result of great improvement in the arts; but it has its reactionary evils. It stimulates the increase of civic, or town population, in a ratio much greater than that of agricultural. It stimulates also *immigration*, both in Europe and America, to such an extent that the loss of one year's crop, on the vast moving population, is a very serious loss to production. Let us take, for example, the immigration *from Ohio*—a valley State, and a comparatively new State. We have at once some very curious and rather startling results. We know only the number of immigrants who had moved *from Ohio*, and were alive in 1850. Here is a table of that immigration to the Western States only:—

To	Number.	Pr. ct. of popul'n.
Indiana.....	120,193	12
Illinois.....	64,219	8
Iowa.....	30,713	16
Michigan.....	14,677	4
Wisconsin.....	11,402	3
Missouri.....	12,737	2
Aggregate.....	253,941	

This was the number of immigrants from Ohio to the West, who were *alive* in 1850, and we may fairly assume the whole number to have been double that. Since 1850 the immigration from Ohio has been larger than ever. Iowa has more than double the people from Ohio who are set down above. At present the tide is towards Iowa, Nebraska, Minnesota and Kansas. The whole number of persons immigrated West from Ohio cannot be less than five hundred thousand. In the last ten years the

immigrant movement of the United States has equaled six millions. While this fills up new States, makes towns and cities, and enlarges this sphere of enterprise, it each year takes a large number of laborers from the labors of the field. The railroads have taken off *four hundred thousand* able-bodied men from other employments, both in making and running the roads.

We have given enough of illustration to show how the powerful stimulus given to artificial life has relatively diminished agricultural results, and how impossible it is that there should be cheapness for articles in which the demand is constantly pressed against the limits of supply. In Ohio this has not been more the case than in all the States, but in a great agricultural State the results are more manifestly deducible from the true causes. Ohio is actually increasing in population, notwithstanding the great drain on her resources. The births and the immigration greatly overbalance her losses, especially in the towns; but while this is a fact, our agriculture has sensibly felt the influence of the causes we have mentioned. Our *consuming* population has increased faster than our producers. We have had some bad crops. To show our relative production, we give the following table of the wheat and corn crops during a succession of years, most of them derived from the assessor's tables:—

In	Wheat.	Corn.
1849.....bushels.	14,487,351	59,078,655
1850.....	29,952,225	60,308,608
1851.....	25,309,225	61,171,282
1852.....	22,962,774	58,165,517
1853.....	17,118,311	73,436,000

The above may be taken as presenting a fair average, for no one of them was an extraordinary year, except that in 1849 the wheat crop was greatly injured by the rust. This table gives us the following averages:—

Wheat.....bushels.	21,864,100
Corn.....	62,432,000

The corn crop of 1857 probably fell below fifty millions, while that of 1855 reached nearly eighty millions. This was the greatest contrast in any crop of corn we have ever known.

In regard to the agriculture of Ohio, it is certain that the crops of wheat, wool, and hogs have all fallen off in the last three or four years; but the crops of corn and hay continue to increase. The acres of arable land have increased, and the total money value of crops has increased, but it is not to be doubted, that the general production of crops have decreased relatively to the increase of population. We export immense quantities of wheat, beef, pork, and corn, but not so much as we should do if young farmers cultivated their own fields instead of immigrating either to cities or to new territories. The rage for *land speculation* has injured all but the very new States. It is easy to show, that the frontier States have grown very rapidly. This is true,

but they have grown by heavy drafts on the agricultural population of the other States. Luckily the government has proved such a spendthrift that good lands at a low price cannot be had much longer.

There is another check to immigration which is rapidly coming. This is that, as prices rise, the land of the Middle or Valley States will be much the cheapest, relatively. There is more speculation to be had in Ohio lands, at present prices, than in those of Iowa. In Ohio there is more facility of access to *all* markets, North, South, East, and West, than to be found in any other State. The result is that immigration from this State will soon cease, and its farming lands be sought for the profits of cultivation. At this time a *larger certain income*, on a given amount of capital, can be realized here on farming than any other occupation. Hence we anticipate that it will be more extensively pursued hereafter as a regular and scientific vocation.—*Hunt's Merchants' Magazine.*

The Crops of the West in 1857.

The Cincinnati *Gazette* has the following estimates of the crop of 1857, compared with the production of 1849, in the nine great grain-growing States of the West. The *Gazette* says the estimates are based on sound data in relation to increase of population and ratios of production, and on the assumption that the crop of this year will be a full average. Of course, Providential circumstances may mar this flattering prospect; but with continuance of weather favorable for ripening the wheat in the higher latitudes, and with a late fall, in which corn will have time to mature, those figures seem to be as nearly right as any that can now be made—

	Wheat. Crop of 1849.	Estimate. Crop of 1857.
Ohio,	14,500,000	20,000,000
Indiana,	6,200,000	10,000,000
Illinois,	9,500,000	16,000,000
Kentucky,	2,200,000	5,000,000
Tennessee,	1,650,000	3,000,000
Michigan,	5,000,000	6,000,000
Wisconsin,	4,200,000	5,000,000
Missouri,	3,000,000	5,000,000
Iowa,	1,500,000	3,000,000
Aggregate.	47,550,000	73,000,000

This shows an advance of 55 per cent; on the production of 1849. The increase of population is about 35 per cent; so we have allowed a large margin for more favorable crops. Looking to the consumption of Indian corn bread, the consumption of wheat for flour and seed in these States will not exceed 45,000,000 bushels, so that there will be, assuming an average crop, 28,000,000 of bushels for exportation. This is probably double the amount which went out of the northwest to the Atlantic coast.

	Corn. Crop of 1849.	Corn. Crop of 1857.
Ohio, bush's.	59,100,000	85,000,000
Indiana,	53,000,000	65,000,000
Illinois,	57,650,000	75,000,000
Kentucky,	58,700,000	65,000,000
Tennessee,	52,200,000	60,000,000
Michigan,	5,600,000	10,000,000
Wisconsin,	2,000,000	8,000,000
Missouri,	36,200,000	55,000,000
Iowa,	8,700,000	20,000,000
Total.	332,450,000	443,000,000

This is an increase of 33 per cent., or about the same with the population. Of this great cereal crop fully one-half goes into surplus, partly in bulk, partly as pork, lard, whisky, cattle. There will be a greater surplus in 1857 than in 1850, by full 60,000,000 bushels, which is equivalent to an increase of thirty millions of dollars. There will be half the same increase on wheat, and one-fourth as much on oats. The advance in hay, which is already much of it gathered, will be full fifteen millions more, which chiefly appears in the weight of cattle, horses, &c. In addition to all these considerations, we must remember that the crop of 1856 fell below that of 1849 very much. If our hypothesis of a full average crop should turn out true, we think the surpluses of the West will be from eighty to a hundred millions of dollars better than in 1856. There is a full demand for these, and our railroads furnish a cheap and ready outlet to all markets.—*Hunt's Merchant's Magazine.*

For the Southern Planter.

Criticism on the Action of Commission Merchants in regard to the Inspectors.

MR. EDITOR:—The July number of the Southern Planter came to the Post Office for me on the last day of the month. And as you should reasonably suppose, from my receiving it at so late a date, when the next number was so nearly due, I hurried to read it; in which I found many things of interest and of practical importance. But you must bear with me in saying, I was not a little surprised to find the Editor of the Southern Planter favouring a scheme, which in my humble opinion has for its object, the indirect forcing of the Tobacco sales out of the hands of the Tobacco planters, and placing them in the hands of the Commission Merchants.

With many of the Commission Merchants of Richmond, I am personally acquainted. In my opinion they are gentlemen, and my personal friends; and I am unwilling to believe that they mean what their language purports in their report. And I hope they will bear with me in what I shall say about their report, charge, and resolutions, published upon the

440th and 41st pages of the July number of the Southern Planter. For I am free to confess that I have not mind enough to understand them otherwise. In their report they say: "And here your Committee would take special pains to correct the impression on the minds of some, that this meeting, by its action, proposes to throw any obstacle whatever in the way of planters, who may choose to sell their produce through the agency of the Inspector: They indignantly deny such a charge." Here is a positive declaration, saying, they propose to throw no obstacle between the planter and the Inspector in the sale of his Tobacco. I should be delighted if I could make this declaration harmonize with what is farther said: Or, what is farther said, and which we shall notice in its place, to harmonize with this; "but they do affirm, that when Inspectors, by their acts, become Commission Merchants," (notice how it is to be done; and the charge is,) "by soliciting consignments and making advances on same." One would suppose, sir, that this charge was made to establish their being Commission Merchants. But it appears from their own words, that they become both Commission Merchants and Violators of the "Inspection laws." "That the Inspector was appointed to stand between the buyer and seller, and to determine the character of the article inspected. How, then, can he be an impartial arbiter, when allowed to become the vender of the same article he inspects?" This language expresses as clearly to my mind as the light of the noon-day's sun, that the "Committee" think the Inspector *should not* sell the planter's Tobacco for him.

And the natural consequence then will be, the business must go into other hands. Very probably, and most probably, into the hands of the Commission Merchants. But stronger, still: "Your Committee are clearly of opinion, that if the law were fairly construed, it would confer no such privilege, and the practice, in our opinion, should be discontinued." From this quotation, you see, sir, that the "Committee" of "Commission Merchants," by *their* opinion, deprives the Inspector of the *privilege* of selling the planter's Tobacco for him, even at the planter's request. Why? Because they *think* the "law," if "fairly construed," *forbids* it, and in their "opinion" it "should be discontinued." Abandon the practice of selling Tobacco by public sale at the Warehouses, and what will be the consequence? In my "opinion," the whole sales must, as an inevitable consequence, sooner or later, go into the hands of the Commission Merchants. And then every planter will be *ground* with the charge of "2½ per centum," whether he is willing or not, for this will be the best he can get, and under those circumstances, do, planters! will you submit to this? If you have the physical ability to make and manage tobacco for market; have you not *intelligence*

and *independence* enough to say, how it *shall* be sold, and who *shall* do it. I take the responsibility of saying you have. Then let us see to it. Whilst we hold the right to do our selling ourselves, if we choose, let us hold on to that right. "And further, the Commission Merchant is taxed a per centum upon every hogshead of tobacco he sells, and the State derives no inconsiderable revenue from this source; but the Inspector, who is a Commission Merchant in fact, by virtue of his office, is freed from such taxation, and may be termed the PRIVILEGED COMMISSION MERCHANT." Here, sir, is language, at least as unmistakable as the moon's light, with all the stars of the celestial world shining around her, upon a *bright, clear* night.

They say the "Commission Merchant is taxed upon *every* hogshead he sells," and the "State derives no inconsiderable revenue from this source," and the "Inspector" being "the PRIVILEGED COMMISSION MERCHANT," is not taxed. Consequently, the *State* gets no revenue from their sales. It seems to me, sir, that the object of the "Committee," in the use of this language, *must be*, to call the attention of the Legislature of Virginia, *particularly* to the subject; and enlist their favour in its behalf, by using the tempting idea of raising revenue to the "State," by preventing the "PRIVILEGED COMMISSION MERCHANT" from selling the planter's tobacco for him; and thereby force the planter by, and through necessity, to employ the tax-paying "Commission Merchant" to sell it for him, that the "State" may receive revenue from such sale.

Just here, I would most respectfully say, if the planter is taxed to raise "revenue" for the wants of the "State," tax his property, and not deprive him of the privilege of selling or having his tobacco sold, in any honourable way he may choose. Now, sir, if the legislature of Virginia think it unlawful and improper for the "PRIVILEGED COMMISSION MERCHANT" to cry and sell the planters' tobacco for them, *which* I cannot "believe," I suggest that the legislature of Virginia establish in each Ware-House in the State, a regular auction desk, at which the planters *may* have their tobacco sold; and appoint an Auctioneer, whose duty it shall be to cry and sell every planter's tobacco, who wishes it sold in that way; and cause him to be paid for said services out of the proceeds of such sales, say 50 cents per hogshead; thereby leaving the planter under no other necessity to employ a Commission Merchant to sell his crop, than his own free choice. Proceeding, they say: "Hence they believe the evils of which they complain and set forth in this report, arise chiefly from the clashing of interests of Inspectors with those of Commission Merchants." Now, sir, one of the "evils" of which they complain is, if the planter gets the Inspector to sell his tobacco for him, the "State" suffers loss, by receiving no "revenue"

nue" from such sale. And another great "evil" is, "the clashing of interests" between them and the Inspectors. My dear sir, the planters, where and when their interests and rights are involved, claim the right to "believe" and have "opinions" too. And some planters "believe" this "clashing of interests" to be, mainly, this: If the planter gets the Inspector to cry and sell his hogshead of tobacco for him, he has only to pay for crying it. When, if he gets the Commission Merchant to sell it for him, he has to pay from \$2½ to \$8½, as the gross amount of money may be, which the hogshead brings, at "2½ per centum." The planter seeing proper to employ the Inspector to cry and sell for him, the Commission Merchant sustains a loss to the amount of the above sums, and the "State" receives no "revenue." I know a man who says he has an experience of 40 years standing in selling tobacco in Richmond, and he has never had but one crop sold by a Commission Merchant during the time; and in that sale he was only benefited to the loss of "2½ per centum" upon every hogshead"—the Commission Merchant employing the Inspector to cry and sell it for him. I am decidedly of the "opinion" that, if the planter should of necessity drop either, as his salesman, the Inspector or the Commission Merchant, he should drop the latter. But I advocate *no such* thing, I am in favour of both.

But let both *know*, they are the servants of the planters, and not their masters, as either would be, the other being "discontinued." They close their report, by saying: "And they believe a different state of things would soon be experienced if those officers were confined alone to inspecting, and not selling tobacco." I ask in all candour, if *any* language could be used, which could be more expressive than this is, that the "Committee" would, if they had the control of the matter, confine the Inspector "to inspecting and not selling tobacco." And why? Because, without a substitute, as I, and very many others, "believe," the whole sales would soon fall into their hands, and their treasury would be increased to the tune of "2½ per centum. I do not charge the "Committee" with designing or purposing this thing; but it is clear to my mind, that this is a rational inference, and that this will be the inevitable result. Planters! keep your eyes open. It is much easier to prevent this "evil," than it will be to correct it, after it is allowed to be inflicted. Let what is said above of the "Committee's Report," suffice for the *present*. They make three charges. All I have to say of them is, they are "evils," and should be, by the proper authorities, corrected.

Next in turn, comes their resolutions. There are three of them. The first and third I fully endorse; but the second I am opposed to. Not because I "believe" they have not the right to

(do so; but because I am jealous of the injurious consequences which I *fear* will arise from it, to the planters' interest. The resolution reads thus: "*Resolved*, That a Committee of five be appointed to select a room, and have it fitted up, to be used as a 'Sale Room,' or exchange, for the public and private sale of tobacco, and other produce." This being done and practiced, what will be the probable consequence? In my humble "opinion," sir, it will be to indirectly drive, or force, or entice all the tobacco sales into their hands. And I "believe" it may be done in this way. We all know, sir, who have any knowledge of the tobacco sales, that large consignments of good crops of tobacco are made to the Commission Merchants; and they have the exclusive control of the samples. They may select a lot of good crops for *every* day's sale, at their "Sale Room;" and the Merchants, knowing what crops and what tobacco will be offered for sale at their "Sale Room," and not knowing what sort or kind will be opened at the Ware-Houses, will, as a matter of course, attend their sales; (for I "believe" they get *very* nice bargains out of many of them *very* often; and the planters who sell at the Ware-Houses will be left with but few buyers to attend their sales. And the consequence will be, the planter must employ the "Commission Merchant" to sell for him, in order to give his crop a fair *chance* in the market, as he will naturally conclude. This being accomplished, the deed is done; the dye is cast. A tax of "2½ per centum" is no longer voluntary, but is made obligatory. And perhaps, who knows—men are but men—they may after a while, hold another "Meeting," and appoint another "Committee," who may think their work is too laborious they don't make money quite fast enough; the business being over supplied by numbers, and they ought to have "5 per centum," as charged in various Southern markets for selling produce, and they pass that resolution. What would be the consequence? I will not now undertake to answer. The planters and farmers alone can hold these things in check. They yet have the power. Planters and farmers will you keep it?

Lastly, is their resolution, offered by Mr Eggleston: "*Resolved*, That we, Commission Merchants of the City of Richmond, will write to our patrons throughout the State, and urge upon them the importance of holding county meetings to instruct their delegates in the next General Assembly, to make such alterations in our "Inspection Laws," as are best calculated to remedy the evils complained of." To this I would only say, if the "Inspection Laws" are defective, I advocate their correction, and hold in those "County Meetings" for that purpose. But I would most earnestly recommend to those "County Meetings" the importance of extending their deliberations a little further and taking into consideration their own loss of

gain, by their employing Commission Merchants to sell their crops of tobacco for them, instead of their doing it themselves. Gentlemen, whilst you are holding those meetings, examine into the matter *thoroughly*, and deliberate *well*, to see if you are not paying, or giving those agents more money than would pay the salaries of every minister of the Gospel, and build every needed Church in the State of Virginia, for work, which you might, could, should and ought to do yourselves: And then have left a heavy surplus to use in supporting the Missionary cause, &c., &c. I forbear saying anything more upon the subject; unless, the events of the future make it necessary.

I remain,

Yr. humble ser't,

A PLANTER.

Aug. 10th, 1857.

Richmond Enquirer and Whig please copy.

Horticultural Department.

E. G. EGGEING, Contributor.

ASPARAGUS--HOW TO MAKE BEDS-- PLANTING--CULTIVATION--CUT- TING, &c.. &c.

At the solicitation of several correspondents, who have requested information on this subject, we purpose to give directions for making asparagus beds, for planting the roots and the general process of cultivation. And we take occasion to repeat here, that we shall be glad to receive letters of inquiry from any of the patrons of the *Planter*, on any subject connected with the culture of flowers, fruits or vegetables, and will, through this medium give such replies to their queries as shall seem to us judicious. If we received such letters more frequently, we should be better enabled to cater for the readers of our contributions.

The best time for planting asparagus is the spring—about the last of February, or the 1st of March, and it may be planted any time up to the 1st of April. It is some times planted in the fall, in the month of November; but our preference is as before stated, and for this reason: The roots are tender and spongy, and in taking them up, however carefully it may be done, they are likely to be broken, and bruised, and as they lie dormant through the winter, those broken and bruised parts are almost sure to rot, and thus the root is materially injured. Whereas, when the roots are taken up in the spring, only a few days elapse after the planting before

they begin to grow, and the broken and bruised parts are speedily healed.

For the asparagus bed, select a piece of ground which is not troubled with surface water, or springs, but which is dry and of a sandy loam. The first thing to be done, is to go, carefully, over the whole space and remove from it all weeds and grasses which are propagated from the roots. We instance wild onions, wire grass, nut grass and the like. All these are to be taken out with the spade and hand, and so taken that none of the roots should be left; and when cleansed of all such roots, carry these away and burn them, as if they be left lying near, they will take root once more and soon infest the ground as before. The two grasses named especially, will ruin any asparagus bed in the world, as a friend, living near us, who failed to free the ground entirely of wire grass, has learned to his sorrow.

This having been done, the ground is now ready for the next step, which is trenching. In effecting this, follow these directions. Lay out the whole of the surface which is to compose the bed, into sections four feet wide. Supposing then that your bed lies east and west, begin with the first section on the east, and dig out the soil to the depth of twenty-five inches, removing the soil as it is dug just beyond the last section on the west of the bed, and depositing it there in a pile for after use. This will leave the first section a mere hole four feet wide, two feet deep, and as long as you choose to make it. Into this hole or trench, now put manure, (good stable manure is the best,) to the depth of eight or ten inches, and then proceed to dig the second section to the depth of ten or twelve inches, and throw the soil so removed into the trench made by digging out the first section. Mix the soil then thoroughly with the manures previously thrown into the trench, and when this has been done, dig out the soil from the second section twelve inches wide, making the depth twenty-five inches, and throw the soil thus removed, upon the top of the first section. This will leave the second section a mere hole or trench, of the same dimensions that the first was awhile ago. Now put manure in this, as before directed for the first, and then dig the soil from the third to fill up the second, and so continue until you come to the last section, in the

extreme west of the bed. To fill up this, use the earth which was taken out of the first section, incorporating it with manure as before directed. When the whole bed has been thus thoroughly trenched, cover over the whole surface of the bed with manure to the depth of four to six inches, and work this manure well into the soil to a depth of twelve inches. Throughout the whole of this process, as well when priming the lower part of the bed as the upper, be careful to break every clod, however small, and to pulverize the soil, so that it may be made as light and pliable as possible.

There is another method of preparing asparagus beds in Virginia, consisting in merely digging manure trenches and filling them with manure, but while it is less laborious and costly in the beginning, is not really true economy either of labour or money. Such beds last but a short time, and produce an inferior quality of asparagus. A bed made according to the directions which we have given, will be good for four, twelve and twenty years, and will grow asparagus of a superior quality; and it must be remembered that all this care in the preparation of the bed is rendered necessary by the fact that a large part of the ground can never be reached again after the roots are planted to furnish it with manure, and the quality of the asparagus depends almost entirely upon the richness or poverty of the land. A piece of ground eight feet wide and one hundred and fifty long, which will plant two rows or roots, one hundred roots to the row, will furnish an ample supply of asparagus for a family of eight or ten persons, in the dryest seasons, and in wet seasons, will furnish more than they consume. Indeed, a bed thus prepared will never be dry, whatever the season.

Having thus trenched our ground, it is now ready for the planting, and we assume the dimensions above stated, *i. e.*, eight feet wide and one hundred and fifty feet long. Run a line down the centre of the trenched ground, which will give us two beds, each four feet wide, in each of which beds we shall plant one hundred asparagus roots in the following manner. With a garden line, divide each of these beds through the middle, which will leave a space of two feet between the two rows of asparagus. With a spade now go along the line which is stretched down the centre of each

bed and dig perpendicularly down, opening a trench twelve inches deep, and making the trench something like the furrows of a millstone. The roots are to be planted eighteen inches apart in the rows, which will give us, in the bed we are making, one hundred roots to each bed. Put the roots up against the perpendicular side of the trench and spread out the fibrous roots in fan shape. The crown or top of the asparagus root should be buried six inches below the surface of the bed; and care should be had to place them all equally deep. As you put in the roots, and spread them out as directed, press a little earth up to them with your hand, and afterwards cover them with the soil.

Asparagus roots are bought very cheaply now, costing only from fifty cents to one dollar per hundred, and we would therefore advise all persons to purchase a few more than they need, so that they may use only such as are first-rate. Reject all such as are small, and such as were bruised or mashed either in taking them up or their subsequent transplantation. We advise the planting of roots one year old, though persons often plant two years old roots. The former are preferable, because they recover more readily from any hurt received in their removal. Persons can readily supply themselves with asparagus roots from any of our gardens and nurseries; but we would advise all persons who wish to cultivate this delicious vegetable, to sow the seed themselves. It is attended with but little trouble or expense. Either in the spring or fall, as may be most convenient, sow the seeds in drills about two inches deep, and in one year after the seeds germinate, the roots are ready to be transplanted to the asparagus beds.

The plants which we left awhile ago, six inches below the surface, will appear above sometime in the month of May, but are weakly, and delicate, and require to be kept constantly clear of weeds throughout their growing season. This will bring us on to the fall after the roots were planted, when we have to make up the beds. This we will do by using soil and manure in equal proportions, and where the soil was not sandy, originally, a little sand may be worked into the beds with advantage. The beds are now to be raised from four to six inches, which will make them from ten to twelve inches above the crown of the root as it

stood when it was planted. To effect this, rake the soil out of the space which was left between the two rows of roots. We left a space of five feet it will be remembered; now lay off midway of this space, an alley or walk eighteen inches wide, from which the soil may be removed to the depth of four or five inches. This will leave between each border of this alley, and each asparagus row, a space of fifteen inches. The soil removed from the alleys is to be thrown upon the top of the two beds, and added to it manure to the depth of two or three inches, and when the soil and manure has been well mixed together, rake over neatly the entire bed.

At each end of the rows, at the time of planting, put down a stout stake, in a line with the rows of asparagus to serve as a guide in future operations, when the precise locality of the roots cannot otherwise be known. The beds are not to be made up until the tops of the asparagus have been killed by the frost, nor until these tops have been cut off with a knife, hoe, or cutting blade.

After the beds have been made up as directed, the asparagus will be very much improved by giving them a top-dressing of salt. Common alum or fish salt is the kind to be used. It will dissolve through the winter and find its way to the roots and feed them, prevents the growth of weeds and promotes the moisture of the beds.

The next spring, say about the last of February, or the first of March, the surface of the ground should be slightly stirred with an asparagus fork. This is all the work needed at this time. At this season, the first after the roots were planted, only a few of the stalks should be cut, and these, only the stronger, leaving the weaker to grow up. Be careful, in cutting the stalks not to go too deep, so as to injure the plant. Supposing the root to be twelve inches below the surface, the stalk should be taken not more than six or eight inches long.

The grasses heretofore described, include all the cultivation which asparagus requires. Every fall and spring the beds are to be stirred, and in the fall manure is to be given them freely, and any earth which may have washed from the top of the beds is to be thrown back upon them. Keep the beds clear of weeds through the summer and that will suffice.

A PLAIN TALK ABOUT SEED.

The preservation of seed, is a subject of much more importance to the agricultural and horticultural community, than is generally supposed by the mass of our people. The amount of money which is paid annually for garden and grass seeds, by the farmers and gardeners of this State, is astounding to one who has not given it much consideration. Large sums are drawn from the State every year by houses in Baltimore, Philadelphia, and New York, which could easily be kept at home if those who are engaged in the cultivation of the soil would only be careful to save seeds to supply home consumption. Instead of doing this, (as they easily could,) every season our gardeners are compelled to resort to the seed-stores in our cities to supply themselves with seeds; and those which they purchase have been procured of dealers in one of the cities before mentioned, and raised on Maryland, Pennsylvania, or New York farms.

The season before the last a friend wrote to us to buy for him a half gallon of water-melon seeds; and though we made diligent inquiry, we could not obtain that quantity in Richmond, raised within the borders of the State, and had to take seeds obtained from other quarters. And this too where there are hundreds of acres of ground in water-mellons every year, in a circle of twenty miles, about the city of Richmond. This incident will serve to illustrate the neglect of our cultivators to save seeds for their own planting, and to supply the home market.

But even where the neglect does not extend so far, in communities where each cultivator endeavours to save enough seed to plant his own crop, there are errors in practice which need to be corrected. Chief among these, and the only one which we notice, is the habit of saving seed from any plant-house, inferior in quality it may be. Either from a mistaken idea of economy, or from a culpable negligence, many persons select for family consumption the choice vegetables, or send to market the better wheat, corn, oats, and tobacco, and keep for seeding purposes those which are inferior, and which would, therefore, bring a less sum if exposed for sale. The pernicious consequences of this course has been aptly illustrated in the fate which befel the

turnip crop some years ago, in some quarters. It dwindled away; the roots, year by year, "grew small by degrees and beautifully less," until they were scarce worth cultivation. Men wondered at the result, but it was soon ascertained that it was owing solely to the inferiority of the seed. Farmers would sow turnip seed, eat all the choice roots, or feed them to cattle, cut the tops in the Spring for salad, and then save seed for Autumn planting from the poor dwarfed roots which they could neither eat nor feed to cattle. The deterioration of the crop was natural, and all that was needed to restore it to its pristine excellence, was the procurement of suitable seed.

With all the lights of experience before them, there are too many cultivators of the soil who take but little account of the character of the seed which they plant or sow, and still less of the quality of the plants from which they gather their seeds. How many there are, who send the best wheat to market and save an inferior article for seed. How many there are, who plant inferior corn instead of choosing that which grew most thrifty and produced the finest ears. And yet it is singular that these same men are well convinced that to have fine hogs, sheep, cows, and horses, they must secure breed animals of the best blood. As certainly must farmers have choice seeds, if they expect to raise choice crops.

A true regard for the quality of his crops, should induce the farmer to select with much care and circumspection, at the time of their ripening, the seeds which he designs to plant the ensuing season. At the harvesting, if there be one piece of wheat superior in all respects to all that he has grown, let him cut and stack that with care, to be threshed and cleaned and put away for the next sowing. So with the corn, when that is gathered in, let him choose that which has grown best and have the finest shoots, and matured earliest, and put it away for the next year's planting. And thus let him deal with all the grains which he cultivates. To secure choice tobacco seeds, he should select the finest, largest and most thrifty plants, and tend them carefully, that nothing may hinder their complete development.

Descending from these great staples, we urge a like attention to the character of the seed in all garden vegetables, and esculent roots and

edible beans and berries. To have superior lettuce and cabbage seeds, pick out the fine specimens of such and gather your seeds from them; and so of all others. In the pea tribe the vines from which you would gather your seed, select those which mature first, let them ripen and gather them for seeds, instead of gathering the first fruits for the table or market, and the later product of the vines for your seed room. And in selecting potatoes, choose such as are on healthy, vigorous vines, take them up with care and store them away until the next planting season.

By such close, continued and persevering attention to the character of the seeds which you scatter in the soil, you will gain something more than the lost seed. It must infallibly improve the character of the product itself. Some years ago we purchased at various times from a gentleman living then in North Carolina, his crop of corn, and it surpassed in the size and weight of the grain anything we had ever seen. So fine was it, indeed, that we gave it a new name, and distributed small parcels of it to some of our agricultural friends who professed to be hugely pleased, not only with the samples we gave them, but also with the product on their own farms. It was superior, they assured us, to any variety of Indian corn they had ever seen. Yet, as we learned from our friend, it was a variety of corn which these farmers had cultivated all their lives, and its superiority to their ordinary crops was owing solely to the fact that the gentleman for whom we purchased it, was careful to select for planting, every year, only the fine and large ears grown upon vigorous and healthy stalks.

The result thus attained in the culture of Indian corn, is much more certain to follow where similar care is bestowed upon the selection of seed, in the cultivation of other products of our farms and gardens. We know that many of our most valued, esculent roots in their natural state, are scarcely fit to eat and will hardly tempt the palates of half-starved cattle. They owe their excellence to the care and skill of enlightened cultivation and most of them depreciate rapidly and become comparatively worthless in a few years if allowed to seed themselves. Must not a like depreciation ensue whenever the farmer or gardener neglects the selection of the best seeds for planting purposes. Indeed, will not

the deterioration be much more rapid where the best seeds are taken away and only the more worthless used for planting, than if the whole product of the plant were allowed to fall upon the soil, as would be the case if the plant was growing wild in the fields.

But we are even more concerned with another view of this question. We are truly solicitous that everything which is needed upon a well managed, well conducted farm, should be supplied by our own producers; and we can think of no just reason why our Virginia seed stores should be compelled to seek their supplies of seeds in markets outside of our borders. There could be none, we know, if our counsels could influence the conduct of the gardeners and farmers in the State. There would be no need to look beyond our borders for seed, if our people would once get the habit of saving good seed—the best seed. At present our seed dealers seek their supplies from large seed stores North, because these men have a character to sustain which would be destroyed by selling indifferent seeds, and our farmers, on the contrary, are notoriously indifferent to the quality of the seed which they save either for their own planting, or for sale in the market. Why may not all this be reversed, and the seeds needed to supply our home markets be sown here on our own soil, and the profits of the culture retained in the pockets of our own producers? Can any man furnish us with a valid and sufficient reason for the continuance of the present absurd and ridiculous state of affairs? We want a reason, and will be obliged to any gentleman who will supply our need. Until it is furnished, we must continue at our trials, as we have opportunity, to urge this subject upon the farmers and gardeners of Virginia. We have chosen to do so now because it is just the season when a hint can be rendered useful to such as are willing to reform where they have been in the wrong. May we not hope that these suggestions will not fall upon the dull as the cold ear of death, but that they will excite reflections which may lead to wise resolutions, to be carried out in practice. The first part, at least, is done; our duty fully performed; and whether those to whom we address ourselves shall hear, or fail to heed our warnings, we shall alike hold ourselves absolved from all censure.

THE NEXT FAIR.

The Executive Committee of the State Agricultural Society has already announced the lists of premiums and the period for the holding of the next annual exhibition, under the auspices of the Society. The next exhibition will be held at the fair grounds in this city, on the 27th of October, and present indications promise that the exhibition will surpass in interest, either of those which have been previously held. Communications already received at the Society's rooms in this city, speak of an unusually interesting and varied exhibition of stock, imported and native, and from the notes of preparation, which meet us from various quarters, we doubt not there will be a great gathering, not only of the fat things of the land, but of the honest yeomanry of the country, and of their stout lads and bonny lassies.

So may it be. We look forward with increasing interest, year after year, to these annual convocations of the farmers of Virginia, and have been particularly pleased with the disappointment experienced by those croakers who predicted at the outset, that after a year or so, the interest in these exhibitions would abate, and that the grounds would present a beggarly account of empty stalls and unoccupied acres. Year after year these birds of ill-omen have reaped only disappointment, and still they croak as bravely as if their predictions had never been falsified by the event.

At the previous exhibitions, our Virginia cultivators have done well, have acted nobly, but they can do better this year, if they will. Creditable to all parties as our annual fairs have been, that which is to follow can be made more honorable to Virginia Agriculture, and Agriculturists. And that, too, by the adoption of a very simple rule of conduct—one which we venture to recommend to the adoption of all to whom these presents shall come. That is, learn to think of these annual fairs, and especially of that which is now so nearly at our doors, as something in which you have a direct personal interest—such an interest as you have in the neat appearance of your dwelling, or in the behaviour of your boys and girls when they are away from your elbow, out in society.

Such is in truth, the interest which each

producer in the State has in these annual exhibitions, whether he has been accustomed to regard himself as sustaining this relation to them or not. He cannot but be identified with them. These fairs have attracted, and will continue to attract, crowds of spectators, not only citizens of Virginia, but of other States, North and South. Such strangers looking upon the products of the soil placed on exhibition, will form from such an inspection an opinion of the spirit of the agricultural community, and a judgment of the value of the lands on which those products were raised. Thus through the two avenues of pride and cupidity, these exhibitions appeal for the warm and zealous support of every man engaged in tilling the soil in Virginia.

Thus far our people have not been insensible to these appeals, or slow to meet the obligations devolved upon them, by reason of their relations to agriculture, nor have we any fear that they will be lacking upon this occasion. It is not from a doubt of the success of the next fair that we write these lines, but merely with the hope of aiding to render it more successful than either of its predecessors. That is the mark at which we aim, a higher excellence, a more brilliant success. It can be attained, it ought to be achieved. Do you ask how this can be? We will tell you. Let every farmer, and every farmer's wife, and every farmer's daughter, and every farmer's son, resolve now to do something to make the next fair more successful than either of the former ones have been. This is the first step, the determination to succeed, and then we will consider what it is in your power to do. You can do a great deal in this behalf, much more than you have deemed possible, much more than you are perhaps willing to do. You can attend the fair in person, to see for yourself, what Virginia farmers raise, and to learn how they raise all these things. This you must, by no means, omit. Your presence is indispensable to the success of the fair, and we cannot, by any means, excuse your failure to attend. We want you, and we must have you, so don't shake your head dubiously, but just make up your mind at once, that you will be on hand at the exhibition of 1857. Then this other thing you can do, you can bring with you "the gude wife," and daughter Betsey, and that brave boy, Tom,

of whom you are so justly proud. What that you say, it will cost too much, and you a poor man, and cannot afford the expense. Pshaw, man, consider that this demand on your purse is made only once a year, and that really it will be money well expended, so as Tom and Betsey are concerned, as it will be a part of education which no school-marm, master can give them, and will go far to attach them to the State which gave them birth, and to the air which first they breathed. Bring Betsey, do good soul; we want her sparkling eyes and rosy, healthy cheeks, brighter than the roses of June, and sweeter than violets at dawn. Bring Betsey, who we doubt not will compound the cost of the trip with you, by taking one gown less the ensuing season, or by re-trimming last winter's bonnet to save the expense of buying her a new one.

But there is something yet which you can do: That is, you can put aside something to bring down with you, or to be sent in advance of your coming, to be exhibited upon the grounds of the Society. Perhaps you have an unusually fine colt, a well grown, finely formed heifer, a sow that is hard to beat, a pig which exhibits extraordinary growth, a rooster of gigantic size, or a pullet of peculiarly beautiful plumage. It may be something else; a pair of splendid potatoes, a bushel of monster turnips, a cabbage of brodignagian proportions, an ear of corn unusually large and long, a stalk of corn of enormous height, and bearing a dozen ears or less, an apple, or peach, or plum, of peculiar richness of flavour—word, you have something on your farm, or in your garden, which interests your own mind, bring it along, for rest assured it will interest other minds as well, and that somebody will see it at the fair, who will esteem it the greatest curiosity on exhibition.

And sure the farmer's wife and Betsey will help us here! Where is the store of pickles and preserves, the home-made cloth, the knitted socks and stockings, the laboriously achieved bed-quilt and counterpane, the wheat bread, the more dainty cake, the rich cheese, the golden plate of butter, the stores of the house and bee-hive, and a thousand other things, we cannot so much as mention. All such and all of these, a place is arranged and reserved, and the humblest contribution to

ock, will be as gladly received as the fattest
 , or the fastest horse.

Now then, all hands to the rescue, and let
 ere be no sluggards, or indifferent ones,
 along the Virginia cultivators. Especially do
 e call upon the gardeners, florists, nursery-
 en, and fruit growers, to have their stocks
 nd products well represented at the next fair.
 t the last there was some falling off in this
 partment. This must not occur again. Bring
 o the golden fruitage of your orchards, the
 petite-provoking products of your gardens,
 od friends, and let all who attend the ensu-
 ing fair see what great things you have done
 ring the year. Let us have next time, not
 uly a creditable exhibition, but a grand
 air, such an one as will please us to remem-
 r to the latest period of our lives. We can
 ve it, we must. From now until the day ap-
 inted for the opening of the exhibition, let
 ch and all, do what they can to make the
 ir a brilliant success.

GRAPES, AND HOW TO CULTIVATE THEM.

As the culture of the grape in this country
 s begun to attract considerable attention of
 te years, we have thought that a few plain
 ections for the proper cultivation of the vine
 ould not be amiss. In Virginia but litte has
 en done, comparatively, in this direction;
 e grape culture, in this State, having been
 nfinied almost exclusively to the raising of a
 w vines to supply grapes for the table. A
 ttle wine is made every year near this city,
 t the quantity is barely worth mention. In
 her States, as in Pennsylvania and Ohio,
 uch more has been done in the way of mak-
 g wine, and the efforts of Longworth and
 elfuss have done much to excite an interest
 e culture of the vine, with a view to wine
 king.

The variety of the grape chiefly used in this
 ntry is the Catawba. It is a native of the
 joining State of North Carolina, and suits
 r climate better than any other, except Nor-
 r's Seedling, which was originated by the
 e Dr. Norton, on his farm in Henrico county,
 ar the city of Richmond.

As it is somewhat difficult to procure at all
 nes a supply of young vines, we propose to
 ve such directions as will enable any person

to raise their own supplies. We have before
 intimated it as our opinion that Fall pruning
 is better for all our native grapes than Spring
 pruning, although the books on the subject say
 otherwise. We once agreed with the books,
 but experience and observation have induced
 us to change that opinion. But whether the
 vines are pruned at the one season or the other,
 they can be propagated by making cuttings of
 the wood pruned off, but with better success
 where the wood was taken off in the Fall of
 the year.

Where the vines are pruned in the Fall, the
 wood should be cut into pieces with four or
 five eyes, or buds, to each. These pieces are
 then to be put in a dry place, and entirely
 covered up with earth, three or four inches
 deep. They should not be laid flat, however,
 but in a slanting manner. About the first of
 March, of the next Spring, make a trench fif-
 teen or eighteen inches deep, and put in the
 trench old, well-rotted manure and sand. Take
 the cuttings and set them in this trench from
 six to eight inches apart, and buried so as to
 leave just one eye, or bud, above the ground.
 Bury them now perpendicularly, and make the
 earth firm around them, and take care or you
 will be likely to put the cuttings upside down,
 as they are as thick at one end as they are at
 the other generally.

The best place to make such a grape nursery,
 is where you can secure a sandy soil, which is
 at the same time moist. The cuttings will not
 thrive well in a dry soil, and prosper better al-
 ways in a sandy soil.

The cuttings can remain thus for one or two
 years, when they can be removed to the vine-
 yard, or other place, where they are intended
 to be permanently located.

When only a dozen or so vines are to be
 planted, to supply the table with grapes, per-
 sons may dig holes, three feet deep and four
 feet wide, in every direction, fill up the hole
 with manure, lime and bone dust, and mix
 them thoroughly with the soil. When bone
 dust cannot be obtained, any old bones lying
 about, if thrown into the bottom of the hole,
 will prove decidedly beneficial. The cuttings
 should now be taken up carefully with all their
 roots attached, and planted in these holes, tak-
 ing care to spread the roots out horizontally.

The chief expense attending the culture of

the vine, is the providing a proper trellis, or frame, for them to run on. Where a few are grown, a fence, or wall of brick or stone, will furnish a sufficient support, and arbours and summer-houses can be beautifully covered with grape vines. One of the prettiest sights we have ever seen, is a summer-house on the farm of a friend living in Henrico, which he uses as a dining-room in pleasant weather. As you sit at the table hundreds of clusters of grapes hang above you, while the foliage affords a complete protection from the burning rays of the sun.

For a vineyard, we advise that cedar, or locust posts, be put down, in a straight row, about eight feet apart, and upon these garden rails be securely fastened, about three feet apart, just as in making a garden fence, and having the fence, or trellis, about six feet above ground. Then on the rails fasten, perpendicularly, strips two inches wide, and say from five to eight inches apart, which will give a strong, substantial frame. This is far superior to the old framework, because it enables the cultivator to tie each branch of the vine by itself, and to spread it out fan fashion, so that air and sunshine can readily find access to every part of the plant.

The vine is also propagated by layers, and some varieties can be propagated in no other way. The Norton Seedling is such a variety.

The method of propagating roses by layers, was very fully described by us in an article in the September Planter, and to that description we refer our readers. The process there described for roses is equally applicable to vines.

This is all which we prepared to say of the grape culture at this time. We are not un-mindful of our promise, made last Spring, to describe the process of pruning and training grape vines, and we shall yet fulfil that promise. At present we are deterred from making such an attempt by the consciousness that without illustrative cuts, we cannot make ourselves clearly understood. We shall try to procure such aids at some future day, and will then present our views *in extenso*, to the readers of the Planter.

An impertinent fellow wants to know if you ever sat down to tea, where skimmed milk was on the table, without being asked, "do you take cream?"

Mignonette.

The volant sweets of the trailing Mignonette,
The odors vague that haunt the year's decay.

Charles Tennyson.

This well-known flower, of all dispensers of perfume, is most cultivated, and most welcome to such a cognomen as the Parisians hand over to the English with the seeds: Mignonette, ("little darling,") though its real name Reseda odorata, is more acceptable to the naturalist, (from the Latin, *resedo*, to appear given from its supposed virtue in allaying inflammation,) as it suggests to him its rank in LINNÆUS' artificial classification in the great medical family, *Polyandria*,—where it is the companion, not only of many things beautiful but of hellebore, and tea, and mighty opium (Poppy,) whose narcotic properties penetrate stealthily to that awful line which divides and unites the body and the soul—lulling the faculties to those oblivions whose nature baffles human physiology.

Mignonette, cultivated the earth over almost as an annual, (it is said one London seedsman sells a ton and a half seeds yearly,) is really in its native barbarity on the sandy shore, hardy *shrub*,—and called Tree Mignonette, mentioned to us as an *African curiosity*, where nothing in its nature or habits prevents it here from growing shrubby and tall, but neglect to furnish it common warmth and protection during its first two winters. To obtain trees, the hardiest plants are chosen from those whose seed are sown in April, and set separate in pots, and the blossom buds cut off as fast as they appear. In autumn fresh soil is required of course loam and sand, and placed in a warm room, and trimmed to a miniature tree—although the top branches removed. With daily watering it will continue growing, and by spring the stem grows woody. The side branches and blossoms are removed till the third year, when the bark is formed, and it may be suffered to flower, and will continue to blossom with uncommon fragrance during many summers.

Repeated sowings will keep it blooming all an annual throughout the year, for it knows no season. If self-sown seeds are dug under the ground in September, they are most healthy, and bloom early and through June. Sown in February, they will produce very early flowers also. Sown in April in open ground, they flower from July to November, and for winter flowering they must be sown in July, in open borders, or in pots the last of August. From three to eight may be left in a pot. When they are to be kept back, the pots are placed for warmth in sawdust or ashes, and placed, with clothes spread over them, in *dark cellars*. They would struggle after light if a little were admitted, and take weakly, ill shapes. The darkness will etiolate them, but

A few days of exposure to the sunlight will retint them, and a blanched plant produces a pleasing effect in contrast with those of natural colour. The seeds are always good, and plentiful, and cheap.

Flowering Bulbs.

The beginning of October is a good time for planting hardy bulbs. Perhaps it would be as well to remind your readers of it; and at the same time it will not be out of place to describe some of the tender sorts, which require lifting in the autumn and housing through the winter. Persons wishing to have fine beds of tulips, hyacinths, crocuses, &c., for blooming next year, should plant the bulbs this month. They will, I think, find ample directions for their culture in the previous numbers of the *Farmer*. During the last two months there has been a good display of *Gladioli*, *Tigridias*, *Lily*, *Lilies*, &c., and the two last mentioned species are in flower now.

The *Gladioli*, or *Sword Lilies*, as they are commonly called, are magnificent flowering bulbs, and are but very little known. They should be planted in early spring, and will bloom in August,—a time when flowers are scarce, and for this quality alone, not taking into account the lasting quality and gaudy colours of the flower, they should be in every garden. They should be planted in rows two feet apart, and about eight or nine inches from bulb to bulb, in well pulverized soil, in which has been incorporated a good quantity of well rotted stable dung. The following varieties will be found to be particularly fine: *Psittacius*, greenish yellow and red; *Cardinalis*, scarlet and white; *Floribunda*, rose-shaded; *Formosissimus*, bright scarlet; *Gandavensis*, orange scarlet, and yellow; *Ramosus*, bright pink. The bulb should be taken up when the foliage has decayed, and put in some open place till quite dry, and then stored in the house where they will be free from frost or damp, or you will be sure to lose them.

The *Tigridia*, or tiger flower, too, is but very little known, although it should be in every garden. They are constantly in flower from the beginning of July till the last of September, and a bed of them in flower produces a brilliant effect. They should be planted in rows, in rows one foot apart, and about six inches apart in the rows. There are two varieties: *T. pavonia*, scarlet, spotted with yellow,—and *T. conchiflora*, buff or yellow, spotted with crimson; and they both deserve a place in every well regulated garden. The bulbs should be treated in the same manner as directed for the *Gladiolus*.

There is also the *Amaryllis*, a charming thing. *A. Formosissima* is a beautiful dark velvet crimson colour, and *A. Johnsonii* is rather lighter in colour, with a dull white or

greenish stripe down the centre of each petal. The bulb should be planted in the same manner as the tiger flower, and should be covered about two inches.

All these bulbs should be planted in May, and taken up as soon as the foliage has decayed, and stored away in a warm dry place for the winter. All of them can be procured at the leading nurseries, and I would advise every one who has a garden, and has not got them, to procure them in time for early planting next spring.

Yours, &c.,

Sept. 11, 1856.

W. T. G.
Exchange.

To Measure Hay in Mows.

The editor of the *New Jersey Farmer* says that he has proved the following rule for finding the number of tons of hay in a given bulk:

“Take a mow of 12 or 15 feet in depth, and which has been filled with hay, as it was drawn from the field, and has been lying till Spring, and measure the length, breadth and height in feet: multiply them to get the cubical contents. For instance, the length 20 feet, breadth 40 feet, and height 16 feet, 20 times 40 makes 800, multiplied by 16, equal to 12,800 cubic feet, which, being divided by 700, the number of feet that make a ton of 2,000 pounds, will give 18 tons, two hundred lbs. The top of a mow, say about one third, we rate at 800 feet to the ton, the middle 700 feet, and the bottom of the mow at 600, so the whole bulk would average 700 feet, if the mow is 13 or 15 feet deep, but if only five or six feet deep count 800 feet for a ton, and so according with other bulks.”

Great Yield of Tobacco and Wheat.

Dr. J. A. Flippo, of Caroline county, Va., made last year, on six acres, sixteen hundred and seventy pounds of tobacco per acre; sold it for \$266 per acre, and has made this year, on the same six acres, twenty-eight bushels of wheat, measured, to the acre. If the wheat be sold at \$1.50 it will furnish the astonishing result of \$308 per acre in twelve months, or the snug little income of \$1,848 from 6 acres of land! Mr. Richard Collawn, residing some six miles from Port Royal, Caroline county, Va., raised the last season seventy bushels of wheat on a lot of ground containing an acre and a half. Mr. C. applied 75 pounds of guano to the lot.

From the U. S. Economist.
Grain Trade—Large Corn Demand.

The idea has been entertained that because the crops of Europe and England are very large this year, that, therefore, the large crops of the United States will find but a 'meagre market. This view, we think, is erroneous, for the reason that since the English famine of 1847, the United States grain trade has been an estab-

lished one. In years of good harvest European wants take all our surplus, and in years of bad harvest we have not hitherto been able to supply them with enough to affect prices there, while our over-exports have carried prices so high as to compel our own consumers to pay famine prices. The following, showing the imports and exports of each country for a series of years, is from the official tables of each country:

Import and Export of Wheat into and from France and the United States, and Import of Wheat and Wheat Flour into Great Britain.

Year.	Great Britain.		France.			United States.	
	Imports.		Imports.	Exports.		Exports.	
	Flour.	Wheat.	Wheat.	Wheat.	Flour.	Wheat.	Flour.
	cwt.	bush.	bush.	bush.	cwt.	bush.	bbls.
1841.....	1,263,126	19,278,032	3,754,982	5,077,233	.....	.....	.....
1842.....	1,130,754	21,777,440	4,514,543	6,462,949	.....	.....	.....
1843.....	436,878	7,520,990	9,093,692	3,488,212	.....	311,685	841,474
1844.....	980,645	8,792,616	5,172,060	5,768,207	.....	558,917	1,438,072
1845.....	945,864	6,973,680	6,900,238	3,654,585	404,438	380,716	1,195,230
1846.....	3,198,876	11,460,725	16,624,422	3,467,833	577,326	1,613,795	2,289,476
1847.....	6,329,058	21,251,232	28,754,658	4,154,427	803,710	4,399,951	4,382,490
1848.....	1,765,475	20,752,104	3,494,199	3,576,546	1,207,684	2,034,704	2,110,081
1849.....	3,349,830	32,763,024	1,364,217	5,002,152	1,876,126	1,527,534	2,108,011
1850.....	3,855,059	30,036,744	2,772,081	6,919,398	3,128,794	608,661	1,385,441
1851.....	5,314,414	30,496,072	2,003,943	6,327,735	3,525,388	1,026,725	2,202,331
1852.....	3,889,583	25,551,136	4,126,640	4,014,105	2,149,408	2,694,540	2,799,339
1853.....	4,646,400	35,595,512	10,103,107	2,101,206	.....	3,890,141	2,920,911
1854.....	3,646,505	26,448,816	18,972,988	1,053,132	.....	8,036,665	4,022,389
1855.....	1,904,224	21,342,608	12,165,022	822,256	.....	798,844	1,204,541
1856.....	3,970,100	32,582,664	28,769,732	572,168	.....	8,154,877	3,510,621
1857.....	1,065,648	10,193,592	12,473,644	212,080	.....	11,000,000	2,100,000

It is here to be observed that the wants of England and France are annually increasing—the that the imports of both for 1856 were greater than for the famine years of 1847–8. The exports of the United States have also continued to increase. We may now take a table of the average annual prices of wheat in England and France:

Official Annual Averages of Wheat in Sterling per Quarter.

Year.	Great Britain.		Prussia.	U. States	
	s. d.	s. d.		Flo'r, bl.	\$ c.
1845	50 10	45 10	34 8	4 51	
1846	54 8	55 9	46 3	5 18	
1847	69 6	67 4	59 0	5 95	
1848	50 6	38 7	33 6	6 22	
1849	44 3	35 7	32 7	5 35	
1850	39 5	33 2	31 6	5 00	
1851	38 6	34 8	33 5	4 77	
1852	39 10	41 4	38 7	6 04	
1853	45 7	53 9	45 9	5 66	
1854	72 5	73 4	—	7 88	
1855	71 10	72 8	—	10 10	
1856	73 0	71 2	—	8 65	
1857	55 0	56 8	—	7 50	

This table of prices gives, in connection with the above table of the quantities of wheat moved, the fact that the largest quantities of wheat which the United States can spare in bad

harvests is not sufficient to keep down price there, although the export raises them here.—The largest export of wheat from the U. State was in the fiscal year 1854, and it reached about 28,000,000 bushels. In that year France and England imported 56,000,000 bushels, and paid \$150,000,000 for it. England paid for her share at the rate of 72s. per quarter, or \$2 2 per bushel. The whole surplus of the United States could export none, because although prices were equally as high almost as in the previous year, they were higher here, through the exhaustion of stocks and smaller harvest. In 1856 the crops were better here, and the export was resumed. In the year now commenting the crops are very large and can be afforded at lower rates—transportation and freight are very cheap. The comparative prices and freights in New York, Sept. 1857, and Sept 1846 and 1847, are as follows:

Year.	Price Flour Per.bbl.	Freight.		Wheat Liverpool s. d.
		Flour.	Grain.	
1846..	\$5 00	3 0	0 10	51 2
1847..	5 62	2 6	0 11	71 0
1857..	5 10	1 3	0 6	59 10

It will be observed at this moment the market is better for shipping flour from New York than in 1846. In that year the wheat crop was good, but it was the potato failure that caused

a greater demand for grain, and induced the large shipments of Indian corn. The export of corn from New York alone, for the year ending August 1847, was 10,000,000 bushels, and from New Orleans 5,186,330 bushels. The total export of corn in that year was 15,326,000 bushels. The state of affairs now threatens to be the same. A Liverpool report, August 29, states as follows:

Liverpool, Friday.

With continuance of brilliant weather the Northern harvest progresses rapidly, and the reports received daily unite in expressions of favorable results as to the grain crops; but they are at the same time unanimous in speaking very unfavorable of potatoes; this important esculent is going extensively into disease, and it may not be unsafe to say, that at present a fair comparison to the disastrous year of 1846 will bear contemplation. What the effect may be upon the value of breadstuffs remains to be seen.

At the date of the failure of the potato crop of Ireland in 1846, that root was the chief dependence of thousands who had no other resource. They had no means of buying corn to supplant it. The charity of the United States and England came to their relief. England contracted a debt of £8,000,000 (\$40,000,000) to relieve Ireland, and Indian corn was with great exertion introduced, and the people taught to grind, cook and eat it, but the next census, showing an actual decline of 1,600,000 in the population, proved how inadequate were the means and quantities used. Since then the general condition of the people has improved, and corn has become a regular article of food. In 1856 the United States sent thither 7,000,000 bushels. If now the potato crop again fails, the people have more means to buy, while the supply of corn here is known to be immense. Some Western farmers sell it standing at 15c. the bushel. Another fact is to be borne in mind that the exports hence in 1846 were limited by the means of transportation. It cost in that year \$1.25 to carry a barrel of flour from Buffalo to New York, and \$2 to carry it from New York to Liverpool. 8s. 6d. sterling was paid for a barrel of flour from New York to Liverpool in February 1847, and 25d. or 50c. for a bushel of grain. One of the great complaints now is the dearth of freights and the decay of shipping. Anything like the grain demand of 1846-7 will double their values. It will be remembered that in that year the tariff of 1846 came into operation amidst the greatest depression in the shipping interest. The owner of the fine ship Henry Clay, then on the stocks, went round offering her for sale at a sacrifice, under the influence of depression.—The fact turned out that she *cleared her whole cost in her two first voyages!*

The interior transportation that is now under depression did not then exist, but is now ready to pour any quantity of grain from every

section to the seaboard. While the quantity of the coarse grains of Europe may be deficient, the supplies are here abundantly cheap, and the means of transportation adequate.

British Corn Trade.

Another week's fine weather has secured a good deal of Corn in Ireland, and a fair portion for Scotland and the Northern counties, where harvest operations have been rapidly proceeding, as well as in Northern Europe. In the South, also, some rain having fallen, there is much less fear for the crop of Maize; but the disease in late Potatoes is more complained of both in Great Britain and Ireland; where it is said to have rapidly spread since the heavy thunder-storms. This will require a large importation of Indian Corn; and should Europe be deficient, there is little fear that America will be ready to meet the demand. All reports now agree that there is generally, throughout the world, a very fine crop of Wheat. The condition and quality of this will make it very suitable for speculative purposes, should rates still further decline. Still a good many parcels of home-growth, are not thoroughly dry. Foreign advices are without any important change. The general superiority of the new samples, in many places, has occasioned a good demand, and checked the tendency to decline. But as supplies increase, the fall experienced here is likely to produce a change in the principal shipping ports. Since last harvest there has not been so serious a decline as during the past week. The best samples of new have fallen 5s. to 8s. per qr., though country markets considerably vary, according to supplies; and growers in some places have resisted the downward movement. The stock of old is considered very low, both in England and foreign qualities, and as an early and large draught is made on the new crop, and we must for some time be dependent on English supplies, a few short markets would produce reaction, though the prospect of high rates has again become remote.

FOREIGN CORN TRADE.

The Paris Flour market has slightly declined, viz., to the extent of about 1 franc per 157 kilos. or about 8d. per sack English. The mean price at La Caisse was 66f. 74c. per 157 kilos. (43s. per 280 lbs. English), and at La Halle 65f. 88c. (42s. 6d. per sack). Little was passing in Wheat, Lorraine was quoted 35f. 50c. to 36f. (54s. 2d. a 55s. per qr); Sarthe and Saumur 37f. per 120 kilos. (56s. 6d. per qr.) Rye was scarce, and in demand at 20f. per 115 kilos. New Barley, 20f. per 100 kilos; Britany Oats 31f. per 150 kilos. The country Wheat markets have presented more the appearance of settlement, the variations generally being unimportant; but Sable was 1f. 50c. (3s. 4d. per qr.) higher. Gallardon and Villedieu being 1f. cheaper (about 2s. 3d. per qr.) At Havre there was a great calm, and expectation

of lower prices, the environs quoting 2s. 3d. to 4s. 6d. less money, with abundant supplies. At Bordeaux sellers were numerous, and some decline (about 1s. per qr.) took place. Marseilles was very dull. Large supplies of Odessa and Danubian Rye and Maize were noted; the former being quoted 18f. 25c. per 117 kilos., and the latter 21c. per 160 litres.

The Belgian markets were generally calm, with some decline, new red Wheat being offered at Antwerp, at 25f. per 80 kilos. (57s. 3d. per qr.), without attracting attention. Rye also was dull, and only little doing in Barley.

In Holland the heat has been great, with occasional showers; the tendency of prices was downwards, and business limited. Red Silesian Wheat was offering at 56s. in vain. Rye was 1s. per qr. cheaper. New winter Barley had sold at 31s. 3d. per qr. At Rotterdam and Maestrecht prices were unaltered.

Hambro's quotations for new Saale 62 lbs. per bush. Wheat were 58s. 6d.; heavy marks 60s. 6d. New Saale Barley 40s. to 41s. 6d.; Chevalier, 43s. 6d. to 45s.; for Danish 40 lbs. Oats 24s. per qr.

The harvest was proceeding very favorably in the neighborhood of Rostock; prices for the new crop of Wheat were unsettled, but it was expected that 63 lbs new Wheat would commence at 50s. per qr.

The Danzig harvest was concluded with a fine crop of Wheat with Rye, of good weight; the former, 62 to 63 lbs. per bush., was quoted 60s. to 62s. 6d. Some new weighed 64 to 65 lbs. per bush.

Stettin had also finished its gatherings most satisfactorily. Quotations for September delivery were 51s. per qr. for 61½ lbs. Wheat, and 50s. for October: new 62 lbs. white had 58s. refused, 60s. being demanded. The quotations at Memel for 60s. to 62 lbs. Wheat were 54s. to 57s. per qr.

The Wheat markets in Switzerland and Bavaria have fallen from 1s. to 5s. per qr.

Frequent rains have fallen at Berlin, where the high temperature remained. Offers in Wheat and Rye were more plentiful, and prices declining for all grain, Peas excepted.

At Stockholm, Wheat was quoted 40s. 6d. to 62s. per qr.: only heavy Rye was in request, at 30s. 9d. to 32s. 6d.; Barley, 30s. to 32s. 3d.

Business at Petersburg was very dull in grain, Cubanka Wheat being quoted 55s. 6d., and Saxonska 54s. 6d. per qr.

A good deal of rain had lately fallen at Riga, but it was still very warm. Business was very quiet, and prices of Wheat quite uncertain.—In Russian Oats, however, about 33,000 qrs. were placed for next May delivery at 16s. to 16s. 2d. per qr. with buyers.

Advices from Odessa say that the favorable progress of the harvest, together with discouragement by foreign accounts, had brought business to a perfect calm, though 41s. 6d. to

43s. 6d. per qr. was demanded for new Ghirka Wheat. First quality soft old was quoted 34s. 9d. to 37s. per qr., and the lowest 25s. 6d.; fine hard 32s. 6d. to 34s. 9d. About 1,400 qrs. Rye had been placed at 21s. 3d. per qr.; since which, prices had reached 22s. to 23s., 12,000 qrs. having changed hands. Maize was quoted 15s. to 15s. 10d. Oats were firm, 2,100 qrs. being placed at 13s. 6d. to 13s. 10d. per qr.—Linseed maintained its value. The scarcity of vessels had improved rates, 9s. 6d. being paid for Marseilles.—*Mark Lane Express.*

New York Markets.

FLOUR AND MEAL.—State and Western Flour, since Friday last, has been in brisk request for export, the East and home trade, and with a small supply in store, very light receipts, an easier feeling in money matters, and favorable advices from Europe via the Persia, prices have reacted, and 30@40c. of the decline of last week has been recovered. This improvement is mainly on the Common and Medium qualities, though on all grades prices have advanced, though not proportionately. The stock of all kinds is very much reduced, particularly the ordinary and fair qualities. Of the better kinds the stock is not large, though rather in excess of the present requirements. Exporters have taken advantage of the present low figures, and the shipments to Great Britain during the week have reached 22,500 bbls., but at the close the firmness of holders rather checked the shipping inquiry, and importers were not buying as freely. Our market closes steadily with a buoyant feeling, and a fair business doing for the East and the local trade. The sales of Western Canal for the week sum up 47,300 bbls., closing with an upward tendency, at \$5.55@5.60 for Superfine State; \$5.70@5.85 for extra do.; \$5.40@5.55 for Superfine Indiana, Michigan, &c.; \$5.75@6.25 for common to good extra Ohio; \$6.25@7.75 for good to choice do.; \$6.20@8 for St. Louis brands; and \$7@8 for extra Genesee.

Canadian Flour has been much more active the past week, and with limited receipts, and a small supply in store, holders have been able to realize an advance of 15@20c. on the low grades, and 5@10 on the better qualities. The sales include 3200 bbls., closing buoyant at \$5.45@5.65 for superfine, and \$6.60@7.15 for extra brands.

Southern Flour has also been in improved request, at rather better prices. The arrivals, though fair, are not excessive, but about equal to the requirements. The demand for good family brands has been very fair, and have commanded very full and satisfactory prices. All grades nearly have met with a good sale, in part for the provinces. Sales 9,000 bbls., closing firmly at \$5.60@6.00 for mixed to good brands Baltimore, Alexandria, Georgetown, and Fredericksburg, and 6.20@7.50 for favorite fancy and extra brands.

Exports of Flour from New York to foreign ports for the week ending Sept. 17th, 1857, compared with the corresponding week of last year:

To—	1856.		1857.	
	Bbls.	Value.	Bbls.	Value.
Liverpool,	4,243	\$31,870	1,300	\$7,259
Africa,	25	210	—	—
British N. A. Colonies,	7,978	52,049	5,024	28,458
British West Indies,	1,825	13,000	3,269	20,060
French West Indies,	900	6,750	361	2,300
New Grenada,	150	1,200	505	2,578
Brazil,	3,172	28,040	1,900	17,100
British Guiana,	434	2,604	—	—
Venezuela,	290	2,267	—	—
Dutch West Indies,	714	5,548	—	—
Barcelona,	2,000	15,025	5,998	39,175
Malaga,	500	3,750	—	—
Bristol,	1,707	10,450	—	—
Glasgow,	181	889	—	—
Gottenburg,	—	—	50	326
Cuba,	—	—	300	2,175
Porto Rico,	—	—	150	1,076
Hayti,	—	—	730	5,840
Total,	24,121	175,652	19,587	126,347
Previously,	1327,492	10,910,137	685,197	4,776,765
Since January 1st.,	1351,613	11,085,789	704,784	4,903,112

Export of Breadstuffs from New York to foreign ports for the week ending September 17th, 1857, compared with the corresponding week last year:

CORN MEAL.	1856.		1857.	
	Bbls.	Value.	Bbls.	Value.
British N. A. Colonies,	300	\$1,131	95	456
British West Indies,	800	2,200	84	208
Dutch West Indies,	377	1,456	—	—
French West Indies,	143	588	—	—
Total,	1,613	5,375	179	664
Previously,	52,282	203,596	34,934	150,458
Since January 1st.,	53,895	208,971	35,113	151,122
RYE FLOUR.	—	—	—	—
British West Indies.	—	—	31	158
Total,	—	—	31	158
Previously,	—	—	1,825	10,775
Since January 1st.,	—	—	1,856	10,933

GRAIN.—For export the demand for Wheat since Friday last, has been large at advanced prices, but for milling the inquiry has been only moderate, as millers are rather cautious about buying just now, preferring to wait until the market is better supplied, when they expect to buy more advantageously. The quantity of wheat arriving is fair for the season, but the shipping business of the week has drawn most of it from market, so that there is no accumulation. Prices, as compared with those current last week, show a rise of full 4@6c.

per bushel, and the tendency is still upwards. At the close to-day, the export inquiry was brisk, and millers were more in the market than at any other time during the week. The sales for the week in the aggregate amount to 248,050 bushels, including 36,000 bushels White Southern at \$1.27@1.50, inferior, at the inside price, most of the sales commencing at \$1.40; 26,300 Red Southern, \$1.22@1.35; 2,000 Mixed do., \$1.38; 21,900 damaged Red and White Southern, 95c@1.30; 3,000 White Missouri, \$1.55, (handsome;) 8,000 White In-

diana, \$1.32½@1.38; 25,000 Red do., \$1.20@1.30, 1,350 Amber color, St. Louis \$1.42; 15,800 White Kentucky, \$1.35@1.50; 12,200 White Michigan, \$1.22@1.38; 27,500 Red Winter Illinois, \$1.25@1.30; 11,000 Mixed Michigan, \$1.15@1.20; 6,500 White Ohio, \$1.35@1.40; 27,500 Red Ohio, \$1.23@1.27½, including some White Michigan, at \$1.31; and 36,000 bushels to-day, closing at \$1.40@1.54 for good to prime White Southern; \$1.30@1.40 for Red do.; \$1.30 for Red Indiana and Illinois; \$1.26@1.28 for Red Ohio; \$1.30 for White do.; and \$1 for inferior Chicago Spring. For Rye the market has been dull, and with a better supply prices are lower. 10,500 bushels Northern sold, closing at 80@82c. Barley, with a larger supply and a limited inquiry, is lower, and still tends downward. Sales, 20,000 bushels, part, California and Canadian, at 89c@\$.1, closing at 91c. for good. Barley Malt is still in small supply, and in the absence of sales, nominal. Oats are considerably lower and dull at the reduction. Sales of State closing at 50@52c.; and Western 51@53c.; Jersey, 40@48c; and Southern 36@40c. The market for corn has improved materially since our last, under a good export and Eastern demand, light arrivals, favorable advices from Europe, and a diminishing stock. Prices are full 10c. higher. The sales reach 147,000 bushels, closing at 80½ 81c. for Western Mixed, and 83@85c. for Southern Yellow. Other kinds are nominal. Canadian Peas are dull and nominal at 95c@\$.1. Black Eyed peas are in light request, but steady, at \$3.50 P bag. White Beans have declined, with Sales at \$1.75@1.87½.

Exports of Wheat from New York to foreign ports for the week ending September 17th, 1857, compared with the corresponding week of last year :

To—	1856.		1857.	
	Bush.	Value.	Bush.	Value.
Liverpool,	87,987	\$142,295	79,828	\$120,199
London,	2,059	3,100	—	—
Glasgow,	16,490	25,046	1,384	2,006
British West Indies,	1,500	2,400	—	—
Antwerp,	16,863	26,256	—	—
Cadiz,	129	200	—	—
Malaga,	13,196	22,433	—	—
Havre,	—	—	1,500	2,207
Barcelona,	—	—	4,117	6,214
Total.	138,144	221,730	86,829	130,626
Previously,	4,460,936	7,342,809	1,453,822	2,291,505
Since January 1st.,	4,599,080	7,564,539	1,540,651	2,422,131

Exports of Corn from New York to foreign ports for the week ending September 17th, 1857, compared with the corresponding week of last year :

To—	1856.		1857.	
	Bush.	Value.	Bush.	Value.
Liverpool,	111,277	\$74,342	28,915	\$25,431
British N. A. Colonies,	400	318	949	764
British West Indies,	1,750	1,234	—	—
Mexico,	2,101	1,623	—	—
Dutch West Indies,	500	350	—	—
French West Indies,	800	720	—	—
Glasgow,	2,134	1,900	—	—
Bremen,	3,248	2,766	—	—
Lisbon,	8,439	5,600	—	—
Total.	130,649	88,855	29,864	26,195
Previously,	2,960,360	2,158,002	1,784,319	1,330,963
Since January 1st.,	3,091,009	2,246,853	1,814,183	1,357,158



THE SOUTHERN PLANTER.

RICHMOND, VIRGINIA.

TERMS AND CONDITIONS.

Two Dollars and Fifty Cents per annum, or Two Dollars *only*, if paid in *ADVANCE*.

Subscriptions may begin with any Number, but it is *desirable* that they should be made to the end of a volume.

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All money remitted to us will be considered at our risk *only* when the letter containing the same shall have been registered. This rule is adopted not for our protection, but for that of our correspondents; and we wish it distinctly understood that we take the risk only when this condition is complied with.

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RUFFIN & AUGUST, *Proprietors*.

OFFICE: No. 153, Corner Main and Twelfth Streets.

HARD TIMES.

We would beg leave respectfully to inform the subscribers to this paper that for the last two months we have not received money enough from subscribers to pay the printer. We hope our friends will bear at least a part of the expense and forward their dues at once.

The late Wm. Maghee of Petersburg.

We have been unable to obtain any lists of the collections which this gentleman made for us. Will gentlemen who paid him be kind enough to send us in copies of their receipts that we may enter them on our books.

Mr. J. B. WATKINS not an AGENT for THE PLANTER.

We are very sorry to be compelled to discredit any one, but sometimes it is unavoidable. Mr. J. B. Watkins applied to us in July 1856 to be appointed agent for collecting and receiving subscriptions to the Southern Planter. We declined the request. Since then several gentlemen to whom we have sent accounts have assured us that they have paid our agent, Mr. Watkins, and have his receipt. We have only to say that we never had, and never thought of having, such an agent, and that we regret extremely having to publish such a notice.

We do not feel that we are bound to relinquish our claim on those who have thus paid, because it was done in the face of a notice, in the July No. of the Planter for 1856, p. 224, that we had no agents.

ERRATA.—In the September number of the Planter, p. 533, in the article on Wheat Drills, read “manufactured in *Winchester, Va.*,” instead of “manufactured in *Richmond, Va.*”

A Draining Plough.

We are glad to see from the following that Mr. A. P. Routt of Somerset, Orange county, has invented a draining plough, which is, we presume, the kind of implement we have for sometime been urging on the attention of inventors and implement makers. We hope it will be examined at the Fair by those in want of such an implement, as are many more than will think themselves so at first.

[*Ed. Sou. Planter.*]

Many are trying to make a fortune by inventions alone, but a majority fails. True economy always has industry combined with ingenuity. Mr. A. P. Routt of Somerset, Orange county, is quite deserving for his ingenuity and perseverance. He has invented and obtained a patent for a drain plough, which deserves notice, the most perfect and simple implement of the kind ever invented. Opening, striking off and rolling the furrow complete as it goes. He

intends having one at the Fair. I hope those having rest land to seed this fall will take notice of it.

ROLL ON.

New kind of Wheat.

Accompanying the following letter, which we publish as giving a satisfactory account of the samples sent, we received a package of several kinds of wheat from our friend, Mr. Robertson. We are much obliged to him for the samples. The Spring wheats are at our office for the inspection of the farming public. The other sample which he calls the *thick stem*, we shall sow. We submitted it to one of our millers, who thinks it is what is known about Lynchburg as the WALKER wheat. It is there very highly esteemed, and is said by some to be as good for flour as white wheat, though it will not be so classed in this market; and no red wheat will be. It is a wheat, if our informant is not mistaken, which is grown above Lynchburg—beyond the Ridge.

AMHERST COUNTY, Sept. 15, 1857.

F. G. Ruffin, Esq., Richmond.

Dear Sir—I send you a sample of wheat hitherto unknown in this region. If a new variety, it is in many respects a valuable one; but of nearly thirty varieties experimented with by me during the last thirty years, I have found none to equal this in hardness. I might almost say, that it is frost and fly proof. It branches to such a degree that one bushel per acre is equal to $1\frac{1}{2}$ bushels Blue Stem, and the yield much greater. Its most striking peculiarity is, that it does not tumble as other wheats. This I attribute to the extreme thickness of the straw. The sample sent was taken from a spot on which I had failed to raise good wheat of any other kind, owing to its tumbling and rusting. The quality of the grain was much injured by chinch bugs.

I send you samples of three varieties of Spring wheat. This, also, has been much injured by chinch bug.

I consider its culture more profitable in every respect than oats. I have been cultivating it three years, and am satisfied I can raise wheat of better quality than that produced in the North-west. Though the sample I send you has been injured by chinch bug, yet it is better than the seed I received from the North. It seems to me that this wheat would be most admirably adapted to the high mountain regions of our State, where winter wheat is liable to be killed.

Very respectfully,

Your obedient servant,

A. F. ROBERTSON.

On Threshers and Cleaners.

The following article is from the pen of one of the most practical men we know. We are so satisfied on this point as to endorse fully all he says.

Mr. Editor:—The threshing season is just over with us—some using the old-fashioned thresher alone—some the thresher and separator, and some the thresher and cleaner. Every one who has used the latter in our region spurns the idea of relapsing into the use of the simple thresher. The great saving of labour, saving of wheat, and reducing the former painful and disagreeable process, to one of ease and pleasure, are the points of preference in the use of the cleaner. All you have to do to convince yourself of it is to try one—say one of W. Fishback's, of Stanardsville, Va.—such as he has been making for the last two years.—We were quite charmed and thoroughly satisfied at first with Pitts' thresher, of wide spread reputation, but when we came to see Fishback's machine do the same work with ease, with six horses, that Pitts' does with eight, doing about their best, we were totally surprised and pleased—surprised that Pitts' could be excelled at all, and pleased, as Virginians should be, that it could be done by a Virginia machinist. It is due Mr. Fishback and to our brother farmers to say that, in our estimation, his thresher and cleaner stands in the front rank—*alone*.

I would like to enumerate some of the points of improvement in our modern machines as especially exemplified in Fishback's—let one or two suffice. In the old machines the concave being close, conducted the wheat, straw and chaff in a body, entirely through, to be discharged together on the floor, or separator. It mattered not if the grain were hulled out by the first or last blow of the spikes. In the rush and crowd of wheat among the spikes of concave and cylinder the motion of the latter was materially interfered with, and many grains cracked and shivered. The concave in Fishback's machines is made with as many openings of a half or three-quarters of an inch diameter as the strength of the material will allow, and in threshing, the wheat grains escape through their opening almost the instant they are hulled out and perhaps rarely get a second blow from a spike—thus not only saving in cracked wheat, but unloading the cylinder to a great extent, and lessening the power necessary to drive the machine.

In all the old machines the power to drive separators, shakers and fans is taken from the highest point of motion of the cylinder and ground down to a proper point for these uses. Fishback effects a great saving of power by taking his power from a low point of motion, and thence by the simplest possible means, effecting these ends. I would detail farther, but these random remarks are already sufficiently

long. Mr. F., I learn, will have one of his machines on exhibition at our State Fair this fall, when the farmers may see and judge what I say. N.

Orange County, Va.

For the Southern Planter.

Varieties of Seeds of Curious and Rare Plants, and of Common Plants for Distribution at the State Fair.

Many of those who will attend our next Agricultural Fair, may, by the performance of a small service, add much to the interest and utility of the exhibition. The service proposed is, that every person who has seeds of curious and rare plants, or varieties of peculiar qualities or value of common crop plants—shall bring or send such small quantity of each as it may be convenient to spare and to transmit, for gratuitous distribution. Such seeds labeled, should be placed together, and with the vegetable productions, be exhibited through the earlier days of the Fair—and on the last day only, be permitted to be taken away, in very small shares, by any persons desirous to cultivate the plants. It will add much to the benefit of the course suggested, if to every such variety of ordinary crop seeds, (as of corn, wheat, peas, &c.) or of garden vegetables, a concise description shall be appended, stating the peculiar quality for which the kind is valued or is remarkable. This procedure is more especially desirable, as to every good variety of peas, suitable for field culture in Virginia. Of this family of plants, there are numerous varieties, each one perhaps possessing some particular quality which, if known, would render it especially useful in some localities—and which peculiar qualities are not known, except in other and very limited localities.

We understand that Edmund Ruffin, Esq., the President of the Society, is preparing to contribute to this object a good many varieties of peas which he now possesses, some of them very valuable, and also some nine or ten heads of as many of the best varieties of the African ampee or Sugar Millet, a plant analogous to the Chinese Sugar Cane, and which has been lately introduced into South Carolina by Mr. Leonard Wray of England.

A Remedy wanted for Cholera in Ducks and Chickens.

August 24th, 1857.

Mr. Editor—I again appeal to the Planter for a remedy for fowls that die with a disease like those that are fed on salt dough, or accidentally get salt water. I lost 40 ducks in three days. I lost about as many hens and

chickens that I have seen, and miss some that I have not seen.

If it is any kind of weed or grass they eat, I should think the Thomsonians can tell, so as to enable us to be on the defensive.

A Singular Fact.

A stock raiser of Fayette county, Ky., lost eight colts one season, four of them thorough-breds, and four of them common scrub stock. He amputated the legs of all of them, and boiled off the flesh, cleaning the bones thoroughly, to learn by examination, what difference, in respect of bone, there was between pure blooded and common ones. On taking the bones of the thorough-breds, and holding them up to the light, he noticed that they were almost transparent, as much so as white corn.—He tried the same experiment with the bones of the inferior stock. They were opaque, and transmitted light no more than buffalo horn. He then tested the bones by weight, and found the thorough-bred by far the heavier, showing their superior substance and solidity. They were hard and dense as ivory.

Sales of Land in Highland County, Va.

Three hundred and five and a quarter acres of land, without improvements, in Highland county, Va., belonging to Andrew K. Sitlington, were sold on the 9th inst., to William Hevener, at \$45 50 per acre. Three hundred and six and a half acres of the land belonging to John Sitlington were sold to Geo. W. Hull at \$46 per acre; there were some improvements on this tract. Three hundred and thirty-six acres belonging to the same, without improvements, sold to Robert Sitlington at \$40 10 per acre. One negro man, 38 years of age, sold for \$1,132. These sales were equivalent to cash, the purchase money bearing interest from date of sale, at six, eighteen and thirty months.

Prairie Wind Flour Mills.

A new improved wind flour mill has been invented in Illinois by Snow & Co., of Dixon, of that State. Several have been erected and in operation. Each mill has two run of four feet stones, and each run grinds ten or twelve bushels of corn or wheat an hour. It is estimated that the wind is of sufficient power to operate them nine months in the year.

HYACINTHS, TULIPS, DOUBLE DAHLIAS, &c.

The subscribers offer this season a more extensive assortment than usual of DUTCH BULBOUS ROOTS, imported from the best Flower Nurseries of Europe, in the finest condition, and all first class bulbs, embracing every desirable variety of DOUBLE AND SINGLE HYACINTHS, adapted for house or out door flowering. EARLY AND LATE DOUBLE AND SINGLE TULIPS, of every shade and hue. POLYANTHUS NARCISSUS. ROMAN NARCISSUS for early winter blooming. SINGLE NARCISSUS. DOUBLE AND SINGLE IONQUILLES. CROCUS of all sorts, including some very fine new named seedling varieties. CROWN IMPERIALS. FRITILLARIAS. GLADIOLUS. IRIS. IXIAS. LILIES. ARUMS. COLCHICUMS.

With numerous other sorts of approved tested value. Catalogues of the above, with descriptions and directions for planting and managing, will be mailed to applicants enclosing a stamp.

Hyacinth Glasses, Fancy Crocus Pots, &c.

J. M. THORBURN & CO.,
Seedsmen, &c., 15 John Street,

Oct 1st

New York.

SAUL'S NURSERY,

WASHINGTON CITY, D. C.

Fruit Trees, Evergreens, Dutch Bulbous Roots, &c.

The proprietor respectfully calls the attention of Nurserymen, Planters, &c., to the following nursery stock, which are remarkably fine this season, and low in price:

20,000 DWARF PEAR S, choicest varieties, native and European, those best suited to the Quince stock—very fine trees.

15,000 PEACH TREES,—standard kinds,—splendid trees, Apples, Apricots, Cherries, Plums, Quinces, Grape Vines, Strawberries, Raspberries, Blackberries, &c.

20,000 CURRANTS, Red and White Dutch, Red and White Grape, Victoria, Black Naples, &c., strong plant.

20,000 GOOSEBERRIES—the large English varieties—strong.

500,000 NORWAY SPRUCE, 4 to 6 and 6 to 8 inches, transplanted, stocky and well-rooted.

20,000 CHINESE ARBOR-VITÆ, two year seedlings.

15,000 SILVER MAPLE SEEDLINGS.

DUTCH BULBOUS ROOTS.

An extensive collection—received direct from Holland about the middle of September, and from houses with which I am acquainted.

GARDEN AND FLOWER SEEDS

in great variety, with all articles pertaining to the nursery and seed trade, of best quality and cheap.

Catalogues can be had on application.

JOHN SAUL,
Washington City, D. C.

Oct 5th.

HEALTH OR SICKNESS?

CHOOSE BETWEEN THEM.



HOLLOWAY'S PILLS.

The blood furnishes the material of every bone, muscle, gland and fibre in the human frame.—When pure, it secures health to every organ; when corrupt, it necessarily produces disease. HOLLOWAY'S PILLS operate directly upon the elements of the stream of life, neutralizing the principle of disease, and thus radically curing the malady, whether located in the nerves, the stomach, the liver, the bowels, the muscles, the skin, the brain, or any other part of the system.

Used Throughout the World!

HOLLOWAY'S PILLS are equally efficacious in complaints common to the whole human race, and in disorders peculiar to certain climates and localities.

General Weakness—Nervous Complaints.

When all stimulants fail, the renovating and bracing properties of these Pills give firmness to the shaking nerves and enfeebled muscles of the victim of general debility.

Delicate Females.

All irregularities and ailments incident to the delicate and sensitive organs of the sex are removed or prevented by a few doses of these mild but infallible alteratives. No mother who regards her own or her children's health should fail to have them within her reach.

CAUTION!

None are genuine unless the words "*Holloway, New York and London*," are discernible as a *Water-mark* in every leaf the book of directions around each pot, box; the same may be plainly seen by *holding the leaf to the light*. A handsome reward will be given to any one rendering such information as may lead to the detection of any party or parties counterfeiting the medicines or vending the same, knowing them to be spurious.

Sold at the Manufactory of Prof. HOLLOWAY 80 Maiden Lane, New York, and by all respectable Druggists and Dealers in Medicine throughout the U States and the civilized world, in boxes at 25 cents 62½ cents, and \$1 each.

There is a considerable saving by taking the larger size.

N. B.—Directions for the guidance of patients in every disorder are affixed to each box. Oct 5th

N. A. STURDIVANT,

Attorney at Law and Notary Public.

Practices in all the Courts held in and for the City of Richmond, and Chesterfield and Hanover Counties.

OFFICE—Corner Bank and 11th Streets, opposite Goddin's Hall, RICHMOND, VA.

October 1857.

SOUTHERN FEMALE INSTITUTE, RICHMOND, VA.

The Principals of the Southern Female Institute, with this announcement of its 8th Session, tender their thanks to the public for the liberal and increasing patronage they have received at its hands. As this Institution had its origin in individual enterprise, and has been fostered neither by aid from the State by denominational influence, it is with pride that they point to the appended list of patrons, believing as they do that it evinces the estimation in which their labours in the cause of female education are held by men of eminence and high character.

The Principals are Virginians, and were educated in Virginia. They selected teaching as a Profession, and devoted themselves earnestly to it for a number of years in their native State. Relying upon the support of the Southern people, they established, six years ago, this Institution, Southern in every feature, and in all its teachings. No expense has been spared to make it worthy of patronage, and they hope to be supported in the effort to make the South independent of Northern schools and teachers.

The Boarding Department will hereafter be under the immediate and sole control of D. Lee Powell who has taken a large new house on the south east corner of 1st and Franklin Streets, for the purpose of accommodating a number of young ladies as Boarders.

The Principals are determined that the opportunities offered for acquiring a thorough knowledge of the English and other Modern Languages in their School, shall be equal to those of any institution in the country.

One or more Parisian ladies will reside in the family of Mr. Powell, who will be required to converse familiarly in French with the Boarders.

The most experienced and accomplished teachers of music, vocal and instrumental, in the city will be employed, and every effort will be made to secure improvement in this valuable accomplishment. It will be the duty of one of the teachers to see that the music scholars practice regularly and *properly*.

T E R M S .

for 9 mos., washing and lights extra, \$200 Instruction on Piano, Harp or Guitar at Professors' charges, Tuition in English, 50 of Piano per month.	Preparatory Department, - Modern Languages in classes, each, 20 Drawing and Painting, each, from \$20 to 50	- \$10 - 20 - 50
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The Principals beg leave to refer to the following list of patrons who have now or have had daughters in the Institution.

His Excellency, Henry A. Wise, Governor of Virginia. Lieut. M. F. Manry, Nat. Observatory, N. C.
 Dr. J. T. Tucker, Thomas Green, Rev. D. S. Doggett, *Washington, D. C.* Dr. Beverley R. Welford, N. C.
 L. Morson, Esq., Conway Robinson, James Lyons, Joseph R. Anderson, P. R. Grattan, Rev. Charles H. L. Rev. Geo. Woodbridge, Hon. A. R. Holladay, Col. Geo. W. Mumford, Charles Ellett, Jr., Charles Gen. Lewis D. Crenshaw, Wm. R. Hill, Capt. Charles Dimmock, S. J. Rutherford, *Richmond, Va.* Col. D. Lee Powell, *Loudoun co. Va.* Rev. P. Slaughter, *Warrenton.* R. E. Scott, Esq., P. St. George Cocke, *Halifax co. Va.* Richard Baylor, *Essex.* Wm. H. Clark, J. R. Edmunds, *Halifax.* Mrs. I. R. Harrison, *Brandon, Va.* Hon. Geo. H. Lee, *Clarksburg, Va.* Thomas B. Barton, Esq., Thomas F. Knox, Wm. White, *Fredericksburg, Va.* Dr. A. Mason, *Falmouth.* Dr. Wm. Cochrane, *Middleburg, Loudoun, Va.*
 H. A. Buttolph, *Trenton, New Jersey.*

For further information, apply to the Principals:

D. LEE POWELL.
R. J. MORRISON.

Richmond, Aug. 1857.—tf

AGRICULTURAL REGISTRY AND EXCHANGE OFFICE,

for the sale and purchase of Lands, Negroes, Horses, Stock of every description, Agricultural Implements, Patent Rights, Produce, Fertilizers, &c.

The undersigned, in consequence of repeated applications, the advice and suggestion of friends, and his own conviction of seeing the great necessity for, and the great advantage to be derived by the Farmers and Planters of Virginia and North Carolina in having a well organized medium of communication for the above purposes, has determined to open at the Office of the Southern Planter, in this city, books for the registration of the above subjects, both for those wishing to sell as well as those having to purchase.

Through the medium of such an agency persons who wish to buy or sell anything, Overseers looking for laborers and those wishing to employ them, can have access to the Register, be at once thrown into communication with the opposite party, and thus be enabled to effect a speedy sale, purchase, or negotiation at the least possible cost.

A small uniform registration fee will be charged in all cases, to be paid in advance. If advertisements are ordered, the money for the cost thereof must accompany the order. A moderate commission charged on consignments or purchases.

N. AUGUST,
153 Main Street.

Richmond, March 1857.

THIRD ANNUAL EXHIBITION

OF THE

SEABOARD AGRICULTURAL SOCIETY,

will be held at the Fair Grounds, near the City of Norfolk, on the 10th, 11th, 12th & 13th of November next.

Extensive preparations are being made to render this exhibition one of the most attractive and interesting ever held south of the Potomac.

The various Railroad and Steamboat lines leading to this City will convey stock and articles for exhibition free of charge, and ample accommodations will be provided for the comfortable entertainment of visitors to the Fair.

By order of the Executive Committee.

G. F. ANDERSON, Sec'y.

Mr. Lefebvre's School

Corner of Grace and Foushee Streets, RICHMOND, VA.

The next Session of this INSTITUTION will open on the FIRST DAY OF OCTOBER, 1 and close on the First Day of July, 1858.

TERMS FOR THE SCHOLASTIC YEAR,

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

REFERENCES:

The Patrons of the School.—Right Rev. Bishop Meade, Right Rev. Bishop Johns, Right Rev. Bishop Elliott of Georgia, Right Rev. Bishop Cobbs of Alabama, Rev. Moses D. Hoge, D., Rev. Charles H. Read, D. D., Rev. T. V. Moore, D. D., Rev. B. Gildersleve. The Clergy of the Episcopal Church in Virginia.

FACTORY.

HUBERT P. LEFEBVRE, A. M., Principal.

REV. H. S. KEPPLER,
WILLIAM G. WILLIAMS, A. M.
JOHN P. LITTLE, M. D.
R. A. LEWIS, M. D.
ELIODORO CAMPS,

JOHN A. CALYO,
C. W. THLOW,
W. F. GRABAU,
MRS. A. E. J. GIBSON,
MISS MARY GORDON,

MISS E. BARTLETT,
MRS. M. TAYLOR,
MAD'ME M. ESTVAN,
MAD'ELLE LACY,
CHARLES H. ROSEEN,

MAD'ELLE L. VILLEMET, FRENCH GOVERNESS.

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

[July '57—]

Pure Blood Short Horns for Sale.

I have for sale 3 or 4 pure blood Short Horn Bulls, one year old, by "Norfolk," the winner of the first premiums as the best Bull of any kind at the Fairs of the Union Agricultural Society at Petersburg and of the Virginia State Agricultural Society at Richmond, Fall of 1855. For pedigree of "Norfolk," see American Herd Book, No. 755, and Southern Planter, for February, 1856. D. B. SANDERS,
May 57* Jackson's Ferry, Wythe Co. Va.

R. H. MEADE,

(T. R. BAKER)

Graduate Philadelphia College of Pharmacy

MEADE & BAKER.

Apothecaries, Chemists & Pharmaceuti

186, N. W. Corner of Main and 10th St


Diagonally opposite the Farmers and Virginia B and just above the new Custom House.

RICHMOND, VIRGINIA.

Offer to Farmers, Physicians and Families, a and perfectly fresh stock of Pure Drugs, Chemicals and Medicines; Surgical Instruments; Spices, Imported Cigars; Chewing and Smoking Tobacco; Fancy Articles, Perfumery, Soaps, Brushes, &c., as good goods as any other House in the Country. Sept. 1857—ly

Saddles, Harness, &c.

I manufacture a superior
COLLAR

 which I warrant not to chafe or gall. I have always on hand a good assortment of all articles in my line, which I will sell, wholesale or retail, as cheap as they can be procured anywhere, North or South.

CHARLES I. BALDWIN,

Franklin St., 2d square above Old Market.


Sept—ly

SAMUEL S. COTTRELL,

Saddle and Harness Manufacturer,

Wholesale and Retail,

No. 118 Main St., RICHMOND, VA.

 Having received the first premium at the Fair of the Virginia Mechanics' Institute, in 1854, and a Silver Medal at the Fair of the same Institute in 1855, feels confident he can please all persons in want of any article in his line. March 1857—ly

Plans and Detailed Drawing

Prepared, and the construction of all kinds of buildings superintended by

ALBERT L. WEST,

ARCHITECT & MEASURER,

11th St., between Main and Bank, RICHMOND, VA.
September 1856.

R. O. HASKINS,

Ship Chandler, Grocer and Commission Merchant,

In his large new building, in front of the Steam Wharf, ROCKETTS, RICHMOND, VA.

Sept 1856—ly