

# Farmers' Gazette,

## AND CHERAW ADVERTISER.

VOLUME VI.

CHERAW, SOUTH-CAROLINA, WEDNESDAY, MARCH 30, 1842

NUMBER 20

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**TERMS:**—Published weekly at three dollars a year; with an addition, when not paid within three months, of twenty per cent per annum. Two new subscribers may take the paper at five dollars in advance; and ten at twenty. Four subscribers, not receiving their papers in town, may pay a year's subscription with ten dollars, in advance.

A year's subscription always due in advance. Papers not discontinued to solvent subscribers in arrears.

Advertisements not exceeding 16 lines inserted at one dollar the first time, and fifty cents each subsequent time. For insertions at intervals of two weeks 75 cents after the first, and a dollar if the intervals are longer. Payment due in advance for advertisements. When the number of insertions is not marked on the copy, the advertisement will be inserted, and charged till ordered out.

The postage must be paid on letters to the editor on the business of the office.

### AGRICULTURAL.

The following remarks read by the Editor of this paper to the Pee Dee Agricultural Society, at its late anniversary, were hastily thrown together, just before the meeting of the Society, under constant interruptions. The Society having requested their publication, the writer consents, not because he considers them, as an address, fit to be published; but because he has always urged the publication of whatever is written for the Society, and he cannot exempt himself from a rule which he applies to others.]

ANNIVERSARY ADDRESS  
READ BEFORE THE PEE DEE AGRICULTURAL SOCIETY, FEBRUARY 22d, 1842.

Land of common quality yields common profit. Or to state the principle more distinctly: Land of average fertility, compared with the entire body of lands whose products enter into equal competition with its own, will, in the long run, with average management, yield an average, or barely remunerating return for all expenses incident to its cultivation.—This proposition is as true as it is, that according to a natural and well understood law of trade, prices will ultimately find their proper level. It is, in fact, only a different statement of the same truth. It follows, of course, that lands of less than average fertility cannot, commonly be cultivated without loss; and also, that lands of more than average fertility, properly managed, yield an income over and above an adequate or usual, that is, an average return for the labor of cultivation. There is no principle at the foundation of agricultural finance, which it is more important for Carolina planters to understand and bear constantly in mind than this. It is the influence of it that has, for the last quarter of a century, been draining our wealth and population into the valley of the Mississippi. And, as surely as water seeks its level, it must continue to do so—in currents, it may be, sometimes more sluggish, sometimes more rapid,—but the flow must continue, till the supply shall be exhausted, except perhaps the feculent drags;—or till we shall change our system of management, if system it can be called that is no system at all. As well might we expect a balance beam to maintain its level with a preponderance of weight on one end, as the cultivators of poor soil to maintain their ground in competition with an equal or greater number who cultivate a rich soil producing the same staple. It is impossible in the very nature of things that the cultivation of poor soils with labor the price of which is regulated by the productiveness of rich soils, can be long continued without ruinous loss. Whilst the consumption of cotton continued to extend in something like the same proportion with the production, the cultivation of common lands in that staple yielded a large profit, and the cultivation of rich lands an inordinate profit. But this time is passing away. The supply gains rapidly on the demand, and must ere long equal, and, perhaps for a time, exceed it. When the great extension in the cultivation of cotton which is yet to take place in the present forests of the South West, and of Texas, and perhaps of Asia too, shall have reduced the price to a bare remuneration for cultivating lands of average quality, what will then be the reward for cultivating our lands? It will be just as much below a fair remuneration as the fertility of our lands is below the average fertility of the entire body of cotton lands.

Whether or not the cost of doubling the productiveness of good land in the Pee Dee country, sufficient in quantity to give permanent employment, without deterioration, to 10 hands, would equal \$10,000, or 1000 for the quantity to be cultivated by each hand, is a question for the practical agriculturist to determine by experiment. If the improvement of the land costs less than the purchase of both land and laborers, as I have no doubt every planter will admit, then, as plainly as 2 and 3 make 5, is it a better investment for a Carolina planter to lay out his money in the improvement of his land than in the purchase of more, with slaves to cultivate it. If this is true when it is necessary to procure both land and laborers, how much more is it true when a planter already owns more land than he can cultivate, and it is necessary, under the common mode of proceeding, to purchase only laborers.

These estimates, it may be said, are based on mere abstractions. They are not, however, abstractions in metaphysics or politics, but in arithmetic which never lies; and the infallible test of experimental demonstration is easily applied by any planter. But let us come to the actual state of things as they exist in the Pee Dee country, and make that the basis of some estimates.

The average yield of cotton, our staple, and almost, our only marketable product, does not exceed four bales to the hand, with a provision crop. But to give the advantage in our estimates to the land, let us suppose it to be four and a half bales. The gross product of these four and a half bales, at present prices, will not exceed \$115. Deduct the common wages of average field hands, say \$60, and we have left \$55. When from this sum we deduct the cost of clothing, salt, iron, blacksmith's work, woodwork, overseeing, medical attendance, rent of land, use of horses, with allowance, for bad seasons and other contingencies, how much is left for profit? Some amount, and that not inconsiderable, of the quality to which the algebraist prefixes his sign minus—, the English of which is, So much less than nothing. The profits come up worse than did the farmer's hogs, which only came up missing. It is true a planter may make less than four and a half bales, or less than four bales to the hand, he may make less than common wages for his laborers, and yet be adding somewhat to his capital. So he may, without reducing his capital, work his whole life time, with all his hands, upon his neighbor's plantation, for no other compensation than his and their current expenses. But the proper question is, Does he add to his capital as much as the capitalist and his labor of superintendance ought to bring in to him? What kind of economy is it to buy land and spend your life in making hands cultivate it for mere food and clothing, or for these with an addition of 15, 20 or 25 dollars each, per annum, when you may hire them out for more than double this sum, with food and clothing in the bargain? It is worse

than taking upon yourself all the labor and hazards of trading with your money, at a profit of only 3 per cent. when you might, by putting it out at interest, realize 7 per cent. without labor or risk.

When a planter's land is of such quality, that he cannot clear, by cultivating it, as much as the amount for which he can hire out his laborers, added to the value of his own time and labor of superintending them, he is a bad economist if he cultivates it in that state. It is as clear as that 2 and 1 make less than 5, that it would be better to give away the land, and hire out the laborers.

If planters, especially those who cultivate poor soils, would take pains to calculate the expenses and profits of their different operations, they would be saved from many blunders which they often, not to say constantly, commit, and from much loss which they sustain, year after year, throughout their lives. To illustrate the effects of this want of calculation I shall state an instance.

A merchant in one of the upper counties of North Carolina applied to two of his neighbors accustomed to wagoning, to haul cotton for him to Cheraw. One engaged to do so, and the other declined, because he had corn of his own raising to haul, for which he needed and must have the money. The two neighbors came down together, the one who hauled the load of cotton bringing with him an order for payment from the owner to his factor. It so happened that the factor bought the corn and paid both wagoners at the same time. The hauling amounted to \$26 and the corn to \$24. The raiser and seller of the corn proceeded as he and very many others do in most operations connected with their farms and plantations, without any calculation of the loss or gain. He did not seem to discover his error till he saw the difference in the amounts paid to himself and his neighbor, when glancing alternately at the two little parcels of bills, he remarked, with no little mortification: "I have lost two dollars if I had stole the corn." Many planters, who little suspect it, would, upon calculation, find this anecdote, in its financial aspect, an apt illustration of some of their own operations, if not of their entire course of management.

But to return to our estimates: Although cotton is the staple product of the Pee Dee country, Indian corn is a necessary adjunct; and its cultivation forms an important part of the labor on every plantation. Let us inquire what profit the planter derives from this part of his crop. Ten bushels to the acre is quite as much as the average production of corn in the districts lying on the Pee Dee. It requires four hands and three horses to cultivate 100 acres of corn.—From 1000 bushels, the estimated yield of this 100 acres, one fourth, or 250 bushels should be deducted for the use or rent of the land. The horses will consume, at a very moderate allowance, 40 bushels each, or the three, 120 bushels. The hands will consume 10 bushels each, allowing them pens and potatoes, or 40 bushels in all. They will also consume 150 lb. of bacon each, being 600 lb. for the four, or other meat equivalent; which at the moderate price of 7 cents, will amount to \$42. If we put down the expenses of ploughs, clothing, medical attendance, &c. at the very low sum of \$10 per hand—not more probably than half what they would cost—we have 40 dollars for the four hands; which added to 42 dollars, the cost of meat, makes 82 dollars. To procure this sum will require 164 bushels of corn, supposing the market price to be 50 cents, though it is not now so much. We have, then, to deduct from the whole product of the 100 acres, 150 bushels for rent, 120 bushels for horse feed, 40 for bread, 164 for meat and other expenses, making in all 574 bushels. This deducted from 1000, leaves 426 bushels as the product remaining at the end of the year from the labor of four hands and three horses; being 106 1/2 bushels to the hand. This quantity, at 50 cents per bushel, is worth 53 dollars and 25 cts., from laborers which might have been hired out at 60 dollars. So, according to our estimates, a man who plants corn in land which yields only 10 bushels to the acre, the full average product of the Pee Dee country, loses 6 dollars and 75 cents per hand, besides the labor of superintendance, even if he had stole his horses; for in our estimates no allowance was made for raising or buying any. It will be remembered too, that, in our estimates, we gave the advantage greatly to the land; a thing which no wise planter of poor soil will do, when he intends to make his estimates the basis of future operations. A planter in settling accounts with his poor neighbors, ought to let the advantage, when there is any, be on their side. But in accounts current with his poor land, he needs it himself, and may take it without compunction.

It has often been remarked that a retired merchant makes the most successful farmer or planter. The chief reason, doubtless is, that he has acquired the habit of calculating the profits and losses upon his investments. No man with the calculating habits of a merchant would refuse to haul a load for another at \$26, only to haul to market, over the same road, a load of his own produce, to be sold

for \$24. Nor would he continue to plant corn, for 50 cents per bushel, in land which yields only 10 bushels per acre; nor to plant cotton at an income of 20 or 30 dollars for laborers whom he could hire out at 60 dollars or more. None but a fool will continue an operation, as a mere business, at which he sees he is losing, and must continue to lose money.

But what, asks the planter, can we do? Do! Why act like rational men and not like men demented. Quit planting; or go in search of better land; or improve the land you have. But, it is replied, We cannot quit. There are too many of us to find an opening in better business; and as to breaking up an land going into the region of rich lands, even if we were sure of bettering our condition, it would involve the sacrifice of too many advantages and too many enjoyments more prized than money, or any luxuries which money could purchase. Here we can make food and clothing, if we cannot accumulate wealth; and here we are determined to remain. Well, it is pleasant to the lovers of their native land among us to hear such determination expressed. Many have come to a different determination, and had cause to repent it. The door is now closed against every alternative but penury or the improvement of your land. But, it is again replied, We have no time for improving our land. No time! That's like the loafer who spent an hour in gathering and hulling chinquepins for dinner, because he had no time to walk 15 minutes for a better dinner. Have those who object to the expense of time and money in the improvement of their land, calculated?—Have they put down in figures, so far as it can be done, what would be their condition, one, two, five or ten years hence, with and without a system of efficient manuring? Not one of them ever attempted it. They seldom take pains to supply themselves with the data from which to make such calculations. If they do a little manuring, they calculate neither the expense nor the profit. They may plead want of time as an excuse; but the truth is, it is not want of time, but want of spirit that prevents. It is only want of energy and enterprise—absolute laziness—that prevents enlightened tillers of poor soils from making them rich and productive. From an ignorant man nothing better ought to be expected.—Nothing produces nothing. But that the great body of educated planters of Carolina have done so little towards increasing the productiveness of their lands is a burning reproach to them. It is a reproach however, which there now begins to be some glimmering of a prospect they may in time, wipe away. More labor is now expended than formerly in improving our lands; and experience is constantly deepening and extending the conviction that the labor thus bestowed is profitably laid out. One result is, that there is now less emigration than formerly, and the price of land is rising amongst us, whilst at the South West it is declining. In instances, not a few, too, the purchasers of lands from those who, ten or fifteen years ago, were emigrating to the western Eldorado, are more prosperous than the former owners of these lands in their new homes. Only a beginning, however, has yet been made. But this beginning ensures a continuance.—He must be a very drone, who, having once experienced the benefits of the fertilizing process, will not persevere in the use of it. The very aim of our planters is, however, yet short of the true mark. Their accomplishment must, of course, come short of it. If they can bring an upland plantation to produce six or eight hundred pounds of seed cotton to the acre they think they are doing wonderfully. So they are, according to their standard. But the standard is wrong. If at this point of improvement the expense begins to yield a remunerating return, then it is a point beyond which all improvement yields inordinate profits; though the planter's conscience need not restrain him from pushing such profits to the utmost extent. By inordinate profits in this connection, I mean profits exceeding an adequate remuneration for the labor bestowed. All that a planter can make his land yield beyond a remunerating return is clear gain to him; as much so as the merchant's per cent, over a fair profit, or his savings by false measures and false balances, are clear gain to him. But the planter's gain is fairly and honestly obtained. In the direct ratio of the excess of product over the expense incident to cultivation, is the planter's clear gain.—This explains why it is that men who cultivate rich lands get rich so rapidly, even with bad management. The principle points to men of efficiency and some capital, who have a taste for agriculture, understand something of the process of fertilizing, are of a calculating turn of mind, and who are willing to wait a few years for the fruits of their labor, a more sure way than any other, of adding rapidly to their capital, with ease of mind and

ease of conscience. The speculator or as he is sometimes called, from the character and hazards of his business, the gambler in cotton, may sometimes, with less solid capital, and less labor, owing to some fortunate change in prices, make more money in shorter time. But the next throw of the dice may sweep it all away. The regular dealer in merchandise may make profits proportionate to the amount of his purchases and sales; that is, proportionate to his capital and labor. The manufacturer may do the same, but the planter who improves his soil (till the product is worth double, triple or quadruple the labor bestowed upon it, thenceforth makes a profit in double, triple or quadruple proportion to his invested capital and labor. And the lower the state of agricultural improvement in a country, the less labor does it require to raise land beyond an average, or to an inordinate productiveness. Less expense is required in the United States than in England and other highly improved countries, to raise land of given quality to a state of improvement at which it will yield the cultivator an income exceeding an adequate return for his labor; because here the average productiveness is less, or, in other words, there is less competition in this species of productive labor. But here more inventive enterprise is necessary; because it is more difficult to lead than to follow in a course of improvement.

It is certainly a good and sufficient reason for persisting in the improvement of soils after they are brought to a state of average or remunerating fertility, that the profits of cultivation are so much enhanced by improvement carried beyond this point. But there is also another reason for it. The same quantity of fertilizing ingredients adds more to a crop grown on rich than to a crop grown on poor soils; for this plain reason, that most fertilizers operate not only by furnishing food to the plants, but also, as tonics, so to speak, or as stimulants which cause the plants to take up nutriment already in the soil and digest or assimilate it. The richer the soil, therefore, before the fertilizer is applied the greater will be the actual increase of product from its application. Or, at least, this is the case till the soil approaches the greatest degree of fertility which the crop to be grown on it requires, or will bear.

A few words now as to the mode of fertilizing. This is the most important, if not the only important part of our subject, and would itself afford ample scope for many successive addresses. But time now will allow me only to throw out one or two hints. The common mode of manuring practiced among us is to haul into our stables and lots leaves and pine straw from the woods, and mud from the swamps. These are, in time, mixed and piled up; and then, after, sometimes more, and sometimes less decomposition, they are hauled out into fields and spread, either broadcast, or in the hills and drills. This mode is copied, with a little modification, from the practice of older countries, where land is scarce in proportion to labor, and cannot, on that account, be suffered to lie idle, or without a yearly crop for immediate use. In such countries it is necessary and it is also economical; because the price of labor is low and the price of land high. Laborious and expensive as it is, it is also found to be profitable here. But it does not seem to me to be the one best adapted to our circumstances. It is not the one pointed out by nature who works on a large scale; nor the most economical, where the quantity of land bears so great a proportion as it does here to the number of laborers; and where, of course, it can be allowed frequent respite from provision and market crops for the purpose of producing, on its own surface, materials for its improvement. I could state a number of instances, some coming under my own observation, of manifestly great improvement in land at little cost, by turning in green crops; but as such statements are unsatisfactory unless accompanied by accurate statistics exhibiting with some definiteness the expense, and in some tangible form, also, the degree of improvement, I shall confine myself to a single instance. It is an experiment made a few years since, by a member of this society, and published in the Southern Agriculturist. Cowpeas were sown broadcast in a field exhausted by previous injudicious cropping, before it passed into the hands of the experimenter, and of a soil adapted to that plant. For the purpose of testing the value of the operation, part of the field was left entirely fallow, and not plowed. In the fall, wheat was sown in the land, and turned in with the crop of green peas, and where the peas had not been sown, with the natural growth. The wheat which grew on the different portions of the field was accurately measured when harvested, and it was found that the land manured by turning in the pea crop, yielded 15 bushels to the acre; whilst that on which nothing but the natural growth of weeds and grass had been turned in with the seed, yielded only one bushel. Here was a gain of 14 bushels of wheat to the acre, worth probably 18 or 20 dollars, from an outlay of a bushel or a bushel and a half of peas, in all not worth, on a plantation, more than from a dollar to a dollar and a half. What merchant, or speculator in stocks, or in cotton, makes a proportionate gain

on his outlay? Here was a judicious experiment, conducted by a man who understood what he was about. Account was kept of the outlay and income, and data were procured to be a guide in future operations. If the experiment had been repeated the next year on the same land, the profit would doubtless have been still greater; because the growth of the pea crop, which was the fertilizing substance, would have been much more luxuriant upon the richer soil.

Let the planter who uses as fertilizer only compost heaps, accumulated from the woods, his lots and his stables, calculate at what expense he can, by his process, raise the production of wheat on exhausted land, from 1 to 15 bushels per acre, and then choose between the two modes. An important advantage of vegetable over animal manure, in addition to their greater economy, is that the fertility which they impart is more durable. It is chiefly by decayed vegetable matter that the otherwise barren sand and clay which constitute so large a proportion of the earth's surface have been converted into productive soil. Whence else is chiefly derived the exhaustless fertility of the Red River and Mississippi bottoms, and the fertility of all our river and creek bottoms?

I would not be understood as advising the planter to discard his compost heap, far, very far from it. As long as it is found profitable let it be resorted to. But what I would suggest is, that a well considered system of green crop manuring be combined with the use of it. In this way the planter would soon be taught by experience, under what circumstances and to what extent, either should be preferred to the other.

In green crop manuring nature is made to do the greater part of the work. She collects from the atmosphere, and duly prepares the fertilizing materials, leaving them evenly spread to the planter's hand; and requiring him only to turn them in. The quantity of vegetable matter which may thus be accumulated, by a proper adaptation of the plant to the soil, almost exceeds credibility; especially after the land has been much improved; in which state manuring pays best. More than 200,000 lb. of green corn has been cut from a single acre in one season.

There is another source of fertilization accessible to the planters on and near the Pee Dee, which I can now only name. I mean the limestone and marl which are found in quantities inexhaustible on the very banks of the river. The subject is almost new to many of us, and one in which we are deeply interested. If time allowed I would dwell at some length upon it. Those who wish information in regard to it are referred to the Farmers' Register, and the valuable treatise on Calciferous Manures by the able editor of that excellent periodical; a work which ought to be in the hands of every member of this Society, and every planter on the river.

Before closing I shall state an experiment made last season with the Pee Dee marl, by a Mr. Cunningham of Marion, on whose land a bed of it is found. It was spread at the rate of 200 bushels to the acre, on part of an old field of sandy soil, which had once been exhausted, and then suffered to lie out till it became covered with a growth of young pines. The marl was applied the second year after the land had been re-cleared, and the crop planted was Indian corn. Upon measuring the crop after it was gathered, the yield was found to be exactly double that of adjoining land of the same quality, planted at the same time and cultivated in the same way. This information I received from a gentleman of intelligence and respectability who saw the crop growing and saw the corn measured when it was gathered. Not knowing that I should use the information in this way, it did not occur to me to inquire what was the yield to the acre; but my informant stated that the growth was very luxuriant, that the number of stalks in the hill was two; that the corn succored freely, and that on some hills he counted as many as seven good ears, some of them on succors.

Lime can be delivered on the banks of the river, not far from Marr's Bluff, at one dollar per barrel; and at a less price if the purchasers furnish boxes in which to receive it. Marl can be shoveled from the bank into flats or boats lying in the river; and according to the best information which I have been able to collect, it may be delivered on the river bank at this place, at a price not exceeding 5 cents per bushel. Now supposing 200 bushels of marl, per acre, to double the planter's crop, without increasing his labor of cultivation, whether, in that case, it would be a profitable operation for him to purchase it at that price, haul it to his plantation and spread it out, is a matter of calculation which every one may make for himself, in his own circumstances. The fertility imparted to soil by lime is more durable than that imparted by perhaps any other manure. The effects of its application to lands in Virginia 50 and 60 years ago are yet manifest, by the superiority of the crops produced by these lands, compared with those produced by adjoining lands. Lime seems to afford a permanent amelioration in the texture and qualities of the soil.