

THE SOUTHERN PLANTER.

Devoted to Agriculture, Horticulture, and the Household Arts.

Agriculture is the nursing mother of the Arts.—
Xenophon.

Tillage and Pasturage are the two breasts of the
State.—*Sully.*

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THE HORSE.

A LECTURE BY HON. ZADOCK PRATT, BEFORE
THE MECHANICS' INSTITUTE, NEW YORK.
MARCH 8, 1855.

William Miles, Esq., President of the Institute, in the Chair.

FRIENDS AND FELLOW CITIZENS:

Mr. PRESIDENT,—In accepting your invitation to address you this evening, I have selected, as the subject of my remarks, that noble animal, the Horse.

It is often said, that as woman holds the first place in the affections of man, the horse holds the second; and so justly is his estimation bestowed, that beautiful woman, so far from resenting this rivalry, joins with man in allowing the horse a high rank in her own esteem.

We cannot wonder at this, when we remember the immense amount of benefit which has been derived from this valuable animal. A glance at history assures us that improvement in the breed of horses has kept even pace with the march of civilization; and until the various qualities of the horse were made available for the wants of man, but little progress was made in the elevation of barbarous tribes to the importance of civilized nations.

If the horse has then exercised such an influence upon mankind in general, he is certainly worthy of your attention this evening; and I have the additional assurance of interest in the fact that he has never before been made the subject of a lecture, to my knowledge.

In the course of a long and active life, which has now extended over the space of threescore years allotted to man, I have worn out more than a thousand horses in my service, and a strong love for the subject has induced me to give it more than ordinary attention. My remarks, therefore, will principally be the result of my own experience and observation, with the exception of a few general

facts relating to the origin and characteristics of the horse, to which I will first invite your attention.

The horse family is distinguished from all other animals by having an undivided hoof, a simple stomach, and from the position of the teats of the female.

It is divided into two classes: the common horse, with its varieties of work horse, carriage, hunter, and race horse; all of which have important peculiarities, which I shall mention; and that class, the type of which is the common jaekass, and which includes the quagga and zebra, not found in this country, and, I may say, not wanted either.

Many conflicting opinions have been held as to the country in which this valuable animal originated, and two now have many adherents, all others having been given up. These two are Arabia and Egypt. For my own part, I am inclined to think that Egypt is undoubtedly entitled to the palm, and all investigation only confirms me in the belief. Without taking up your time with the arguments on either side, I will only say that the Sacred Scriptures, in describing the early stages of the world, mention the horse as being used in Egypt; while, in much more modern times, when Mahomet fought his battles in Arabia, there was not a single horse in the camp, proving their extreme scarcity, if not their total absence, in the country.

The horse is undoubtedly the most useful and manageable of all animals known to man. In gracefulness of carriage, dignity of motion, and in obedience to the will of his master, he is superior to every other quadruped. Lively and full of high spirits, he is yet gentle and tractable. Keen and ardent, he is more firm and persevering than any other animal, and all these qualities especially fit him for the purposes to which man has applied him. He works patiently and steadily at the plough, or in drawing the loaded carriage; he departs

himself with pride while whirling along the light pleasure vehicle, or jingling the merry bells of the quick moving sleigh. He sometimes dances with delight as he prances along with his martial rider on his back, and he enters upon the race with as keen a zest as his owner, seeming to exult in success, or, with downcast head, to experience shame in defeat. Whilst ministering to so many multiplied wants of man during life, his remains are applied to many important branches of manufacture; and though civilized nations make no use of his flesh, it is an important item in the food of many barbarian tribes, where it is considered a delicacy, and a spirituous liquor is made from the milk of the mare, which is as eagerly sought after as is the intoxicating wine by us.

And now let me give you my idea of a good horse.

He should be about fifteen and a half hands high; the head light and clean made; wide between the nostrils, and the nostrils themselves large, transparent and open; broad in the forehead; eyes prominent, clear and sparkling; ears, small, and neatly set on; neck, rather short, and well set up; large arm or shoulder, well thrown back and high; withers, arched and high; legs, fine, flat, thin and small boned; body, round and rather light, though sufficiently large to afford substance when it is needed; full chest, affording ample play for the lungs; back, short, with the hind quarters set on rather obliquely. Any one possessing a horse of this make and appearance, and weighing eleven or twelve hundred pounds, may rest assured that they have a horse of all work, and a bargain which is well worth getting hold of.

I will now call your attention to different varieties of horses in foreign countries, and in our own.

The Egyptian horse is generally known by the name of the African barb. He exceeds the Arabian in stature, and is principally remarkable for the fullness and height of his shoulders and the drooping of his haunches. The most remarkable specimens of this tribe are the celebrated "drinkers of the wind." They are wiry and fleshless, and shaped something like the greyhound. It is related of one of these horses, that he once performed a journey of sixty miles, in the hottest period of a burning African day, without the rider's drawing bridle, or allowing him to relax his speed a single instant, until the journey was completed. The little African kingdom of Donkala is celebrated for a breed of horses of large size, which some have considered as the

handsomest in the world. Every attempt to introduce them into any other country has failed, however. The celebrated Egyptian horses were also ridden by the prophet Mahomet and his four companions, on the night of their memorable flight from Mecca, in the year 622, and now known as the Hegira.

The Arabian horses are small, only averaging between thirteen and fourteen hands high, rather inclined to be lean, and in traveling they rise higher from the ground than other blood horses, and gather more quickly. They are generally of a dappled grey, or dark brown color, with a short black tail and mane. They usually run wild, and even in that condition they possess the greatest mildness and generosity of disposition. After they are domesticated they are played with by the children, have the most favored corner of the tent, and occupy a deservedly high place in the affections of the family. This affection seems to be returned with more than ordinary sagacity; for it is authenticated that, the master being in danger, the horse has put forth every power to the utmost, and so strained his endurance that on reaching a place of safety he has instantly yielded his life. They are usually captured by snares hidden in the sand, by which the feet become entangled, and the terrified animal, falling to the ground, is made an easy prey. Their amazing speed renders this the only method by which they can be taken.

The Persian horses resemble those of Arabia in general appearance, though somewhat larger. They are esteemed less highly than the Arabian, though I think they have some points of superiority.

The horses of Tartary are exceedingly swift, even outstripping the antelope; though here their resemblance to favorite breeds ceases entirely. They are large and heavy headed, very low in the shoulder, awkwardly made, and very ill-looking. When feeding, one of their number is placed on an eminence as a sentinel, and on the approach of danger he starts off, the rest following like the wind. The fabled flight of Mazeppa, lashed to the back of a wild horse, is supposed to be among the wild herds of Tartary.

In Turkey, horses are held in the highest esteem, which they well deserve, being of the most docile and affectionate disposition. They are the result of a cross between the African and Arabian, and are full of fire and life, with a light make, splendid head, and great powers of endurance. The tail of the horse is considered an emblem of dignity in Turkey, from the fact that a Turkish army once lost its

standard in battle, when the leader, to inspire the drooping courage of his men, cut off the tail of a horse, hoisted it on the end of a spear, and rallied his forces to victory. As a reward, he received military promotion, the emblem of which was a horse's tail. The rank of the owner is known by the number of tails he is allowed, the highest being three; and the officers are called "pachas of three tails."

The genuine East Indian horse is of small value, owing to the unsuitable climate, which seems to be highly unfavorable to his improvement; and the pure native breed is small, ugly and ill made, being equally deficient in form, spirit and endurance. By judicious and repeated crossings, and the utmost care in obtaining healthy stock, a species of horse has been introduced into the country, which will compare favorably with any other. The greatest and most continued pains are necessary, however, or they will soon degenerate.

The European horses will next engage our attention. One of the most beautiful is the Spanish or Andalusian, which originated from the Barbary horse, the only fault being that the head is large in proportion to the body; the mane is thick, long and graceful; the ears long, and the eyes very animated. The Italian horses are very large and finely shaped; they were once highly esteemed, but are now principally used for carriage horses and for heavy cavalry. Danish and Swedish horses are stout and well built, but slow and inelegant. The Dutch and German horse is preferred throughout Europe as a draught horse. The Russian horse is large limbed and powerful, with long stiff hair standing out from the body, and is not very highly esteemed. The French horses differ much according to the portion of the country from whence they come; and the same may be said of the English and American, to which I shall now invite your attention.

I can find no mention made of horses in England, prior to the Roman invasion by Julius Cæsar; and they are spoken of in his Commentaries in terms of high praise. In fact he esteemed them so highly, that he carried several specimens back to Rome, where they and their progeny were in great repute for many years. I think that the first horses known in England were of a kind similar to the rough shelties of Scotland and the mountain ponies of Wales and Cornwall, though they were of a larger size, probably owing to the more suitable climate of England, and the better quality of the grazing fields. It is known that the little hardy, shaggy Scotch pony, with poor fare and rigor-

ous weather, will now increase much in size and appearance under more favorable circumstances. This original stock did not, however, produce the present race of horses in England, they having sprung from foreign horses, first introduced from Europe and Asia about the time of the crusade of King Richard the Lion-hearted, and then by several succeeding generations of English sovereigns.

It is a matter of historical fact, that the old Norman chivalry, after the conquest of England, always rode the horse and never the mare; and churchmen, even of the highest dignity, always rode the mare, as a mark of their humility.

The native English horses, even in the seventeenth century, were very small, though serviceable, and only commanding low prices. The best were only valued at about sixty shillings, or some fifteen dollars of our money.

In an ancient document, issued some time in the eleventh century, I have seen the legal remuneration in cases of loss of life by negligence, not only of horses, but of other animals and of men. It is worth repeating. The owner of a native horse, under such circumstances, could claim thirty shillings; for a mare or colt, twenty shillings; for a mule or jackass, twelve shillings; for an ox, thirty pence, or about sixty cents of our money; for a cow, twenty pence; a pig, eight pence; and if a man lost his life through negligence, his heirs could recover twenty shillings. It is a strange thing in the relative value of life, that though a horse was then esteemed at the low rate of only fifteen dollars, a man was held at a third lower, or only about ten dollars. Though horses and men have both advanced in intrinsic value since that day, I am gratified, as an evidence of the intelligence of the present century, that the value of human life has increased rather faster and farther than that of the horse.

After that time, in the seventeenth century, the breed of horses most in demand was the Spanish Jennet, and they were imported for all purposes of pageantry or war. The aristocracy had their coaches drawn by the grey Flemish mares, which were thought to trot with peculiar grace, and which endured, better than any others, the labor of drawing the lumbering and heavy vehicles of that period over the then rugged and unpaved streets of London. The very common proverb of "the grey mare is the better horse," applied to those families where the wife is supposed to rule the house, is said to have arisen from the great preference given to this grey Flemish mare over the best horses of England. It

may interest some of my agricultural friends to know that a law was enacted in the twelfth century prohibiting the use of horses in the plough; and though it has been a dead letter for a long time, I think it has never been repealed. The celebrated English hunter is supposed to derive its origin from a cross between the race horse and some heavy Spanish chargers, brought into England in the reign of Edward the Third, and they have ever since formed a distinct class. It was during the reign of this king that horses were first classified, giving us reliable data to trace them down. Up to the period of his rule, one circumstance had operated to keep up the large size and strength of the horse, without reference to his improvement in other respects; this was, the immense weight of armour worn by the riders in time of battle; and the objection could not be removed until the discovery of gunpowder. After this time the breed of English horses steadily improved; though, long since then, the progenitors of the gigantic horses of the present day were brought from the marshes of Walcheren, and the ancestors of Eclipse and Flying Childers were imported from the sands of Arabia.

Even then, the Duke of Newcastle, considered the best authority in the kingdom, said that the meanest hack of foreign extraction could produce a better progeny than the finest sire of a native breed; and no one was able to foretell that the time would come when the princes and nobles of other lands would be as eager to obtain English horses, at an exorbitant price, as the English ever were to procure those of foreign extraction.

Before leaving this branch of my subject for the American horses, it may interest you to hear some of the stringent laws made to secure the improvement of the breed in England.

That stern and despotic old king, Henry the Eighth, paid particular attention to the matter, and he did not hesitate to enforce the most arbitrary provisions to attain his end. One was, that no brood mare should be allowed unless she was at least fourteen hands high; and to this circumstance we may attribute, in a great measure, the almost total extinction of the small breed of Scotch and Welsh horses. Also, every archbishop and duke was obliged to keep seven stud horses, each above three years old, and not less than fourteen hands high. Every clergyman whose income equalled five hundred dollars per annum, and every layman whose wife wore a French or imported hood or bonnet, must keep one such horse. Any failure to do this was

punished by heavy fines and penalties. Though the rule was so strict upon the nobility and persons of wealth, (for five hundred dollars per annum was then an income of more actual value than ten times the amount at the present day), the common people might keep any mares or horses that they thought proper; the greater expense of the breeding horses inducing the king to render their keeping obligatory only upon the better classes. While upon this subject, I am reminded of the origin of the term "hobby," applied to any particular idea a man may take up. We frequently hear the expression "he has got on to his hobby horse." The term was first used in this way: the Irish horses are small, and of a peculiar appearance, and at one time were much sought after by the whole English nation. They were termed "hobbies," and the name of the horse finally became fastened upon those who sought after them so eagerly, and the remark, "he has got his hobby at last," came to be used with reference to any other thing which occupied a large share of the thoughts of any one.

Queen Elizabeth repealed most of these enactments of her father, to give greater facilities for the possession of horses suitable for carriages, those articles of luxury being first introduced in her reign. Up to that time, a queen herself possessed no better mode of conveyance than to ride on horseback, on a pillion, behind a gentleman, and in the imposing coronation ceremony, as at other times, the queens did ride in that manner. The necessity of obtaining good horses for so many carriages gave rise to a largely increased demand, which did much to improve the breed, though the number employed excited considerable alarm at one time, so much so, that a bill was brought before the House of Lords "to restrain the excessive and superfluous use of coaches." Fortunately it was not passed, though it is an evidence of the simplicity of our forefathers in that age.

I will only mention one other English horse, before proceeding to another topic. It is Flying Childers—the first native born English race horse, and the progenitor of the now unequalled English horse for the race course. He was the immediate descendant of an Arabian horse, obtained from Aleppo; and as he was the first so he was the fastest race-horse ever in England. He ran over a race course three miles, six furlongs, and ninety-three yards, in six minutes and forty seconds. At another time he ran four miles in seven minutes, and in one single minute he ran within a small fraction of a single mile. This speed

has never been quite equalled in this country, the fastest horse being Fashion, and the quickest time being seven minutes and thirty-two seconds, over a course four miles in length. The great double race, between Eclipse and Sir Henry, has often been spoken of as one of the best contested and most remarkable. I think that Sir Henry was the better horse; and, in the first race, he beat Eclipse by twenty-two feet. In the second trial, however, he was beat by Eclipse by eleven feet, and the victory was undoubtedly gained by the superior management of his rider. I refer to the fact as evidence of the necessity of having good riders, and those who thoroughly understand the animal, as well as to have a good horse itself.

Though I am not an advocate of horse racing, I consider it an innocent and beneficial amusement when compared with many others; and I believe the day is not far distant when America may invite every other nation to a trial of horses, and beat them with ease.

With regard to the horses of America, we learn that large numbers were brought over by the early Spanish and English discoverers. The first were imported by Columbus, on his second voyage, in 1493. The first brought to any territory now belonging to the United States, were landed in Florida, in 1527, by Cabaca De Vaca. They were allowed to run loose during the dissensions that followed, and multiplied to an almost incredible extent, especially in South America. Although the climate in South America would seem to be suitable for the proper development of the horse, as it is for cattle, yet he has never attained to more than secondary importance. In large wild herds, they roam about, acting in admirable concert to oppose the attacks of wild beasts, which share the vast wilderness with them. Men have often fallen victims to their temerity in approaching them, and travellers have frequently found their own horses shake off their burdens, break away from restraint, and dash off to meet a body of their free companions, if they happen to meet them. The natives take them with the lasso, and only ride the horses, leaving the mares to run wild. They make no attempts to breed, but catch a horse when they need him, and break him to their use by the most violent measures. They never bring them to market; and it is said that a foreigner, who was once riding a mare, was so hooted at and pelted by the natives, that he narrowly escaped with his life.

The wild horses found in North America when the West was first explored were more

hardy; they were of Spanish extraction, and had been brought into use by the natives to a great extent, though many wild herds of immense numbers still roam freely over the prairies of our western territories.

The race of horses which originated those now used in this country and in Canada were imported from various nations.

In 1609, one horse and six mares were brought to Virginia from England. In 1625 a few Dutch horses from Holland were imported into New Netherlands, now the State of New York. In 1604, M. L. Escabot brought the first horse into Canada and Nova Scotia, then known by the Indian name of Acadia. The first horse brought into Massachusetts was from England, and was imported by Francis Higginson, in 1629. In 1678 they existed in considerable numbers in Louisiana. The Indians on Red River, in Texas, used them in 1690. The early French settlers in Illinois had them in considerable numbers in 1750.

The same vessels brought over the first importations of cattle, sheep and swine, and they have increased so as to form a most astonishing portion of the wealth of the country.

In the present year, 1855, the number of horses may be set down at five millions, worth on the average sixty dollars a piece, and valued in all at three hundred millions of dollars. The whole number of horned cattle is estimated at twenty millions, averaging twenty dollars, and valued at four hundred millions of dollars.

The number of sheep is twenty-three million, at two dollars, equalling forty-six millions of dollars.

The present estimated value of swine is one hundred and sixty millions of dollars, being thirty-two millions head, worth on the average five dollars apiece.

From the small beginnings I have mentioned, the whole value to this country is now the immense sum of nine hundred millions of dollars, and the value of the land used for agricultural purposes is three billion and five hundred million of dollars, the whole covering an area of about three hundred and five millions of acres.

The West India horses may properly be classed with those of America, and they generally exhibit the characterizing marks of the nation to which the island may belong.

The Canadian horses are of French origin, and to this stock we are indebted for most of the trotting horses in the United States. It is a marked peculiarity of the Canadian horse

that he always trots, as the Arabian horse always canters. Other breeds exhibit all the peculiarities of movement, including the trot, canter, and amble; but the Arabian horse never trots, and the Canadian rarely canters. Besides the trotting horse, we are indebted to Canada for many of the most serviceable specimens of the cart and dray horse, of their size, and in the northern part of this state, in Vermont, and other sections on the Canada line, they are met with in great abundance.

The United States do not, as I have mentioned, possess any thing which may be called a native stock; but many of the horses found here are superior to any others, owing to judgment in crossing breeds, care in raising, and by a close observance of all circumstances which will improve good qualities and correct defects; so that I may say without hesitation, and after long observation, that they combine all the excellencies of other nations. It was supposed that the horse sent from Morocco to Gen. Jackson, and the Muscat horses sent to President Tyler, would materially improve the American race; but they were small, though justly made, and I think the country has derived no benefit from their possession.

Much of this excellence is obtained by changing a horse from one section to another, provided the change of climate is not one which will have a deleterious effect. Thus a horse brought from the Western prairies to the seaside, soon gains in weight, power of endurance and value; and the same is observed when an Eastern horse is carried West. A horse with the heaves, taken from New York to Illinois, will be cured of the disease, and I have noticed many other favorable changes. Still there is always more or less necessity for acclimation; but a judicious course of management will result in much good to the horse. The change, however, will be injurious, if the new climate is not healthy. Thus, a horse taken from here to South Carolina soon depreciates and becomes of less value. A horse taken to Mexico feels the change of climate at first very sensibly, but the purity of the air and the excellence of the feed soon add largely to his usefulness and value, and he is much more highly estimated than the native Mexican mustang, which partakes of the uncertain and flighty character of the people who raise him. A horse brought from Kentucky or the Western States, or from Canada, requires about a year to become acclimated to our section. Our own horses, when taken west, are deemed far superior to any others. On a trip to Kentucky I was riding on a stage, and asked

the driver where he obtained his horses. He replied that they came from northern New York; that they were brought out there by some parties who had a mail contract, and were liked so well that they always kept them. Their own, he said, arrived at maturity earlier, but did not last half as long; that the New York horses far exceeded them in endurance, and that there was no such thing as driving them off the track. The Kentucky and Tennessee horses are good for the saddle but not for the collar. In fact, custom is every thing, and though it will sometimes do much towards training a horse for uses to which he is naturally unfit, yet any horse accustomed to the harness can rarely be made serviceable for the saddle, and a good saddle horse is soon spoiled if the collar is put upon him. As the God of nature has not endowed any one man with all knowledge, so he seems to have distributed the qualifications of animals, in such a manner that judicious management will make each superior in a different and distinct sphere. I was once in Boston, looking at the immense truck horses, and enquired where they came from. I was told that they were obtained from the highlands of New Hampshire and Vermont. They were better for that purpose than any others, while for the lighter spring carts of this section the heavy eastern horse is not so suitable.

The slow Canastoga horse of Pennsylvania was formerly used in teaming over the Alleghenies; they weighed from fourteen to sixteen hundred pounds, and I have found from experience that they had not the endurance to labor as the horses of our section.

Once the custom was to esteem the Narragansett pacer as the best horse in the country; but that was prior to the Revolution and before my time, though I well recollect several fine specimens of the breed.

The horses of Carolina, Georgia and other southern states, cannot work as well as those of a more temperate climate. In fact, I have frequently observed that the horse attained a higher degree of excellence in a temperate section, while mules and the darkey were fitted for the south.

No horse can endure labor all the time. A few months in the pasture, after being high fed and worked for several years, will renew his energies, as stated periods of rest and recreation will preserve the vital energies of man unimpaired through a long life. And by a wise law of Providence, which is as beneficial to the beast as to the man, a horse

will do more labor in the six days than if he were worked the whole seven.

In reference to the peculiar excellence of the horses of this state, I might say that I have driven a pair two hundred and forty miles in three days, or eighty miles per day, without injury. Amongst the many hundreds and perhaps thousands of drivers and teamsters in my employ, I had a slow moulded man by the man of Dana Brown, who drove for me some ten years, and always drew the largest loads in the same time, and with less fatigue to his horses, than any other driver I ever knew. His horses would look better on the same feed than those of any other, and they always appeared in good condition, while those in charge of others gave unmistakable evidence of improper usage. Forty, fifty, and even sixty hundred weight has he drawn over the Catskill mountains with one pair of horses, and I am only doing him an act of justice to say that he never wore out a lash, and hardly a snapper, in the whole time. Whilst other teamsters had sick horses, his were always in good condition. The whole number of teams I had in one year averaged in every three working days 2,600 pounds to Prattville and 3000 pounds to Catskill, a distance of 36 miles, making about two and a half millions of pounds in all. I mention these facts as illustrating the great benefit of good management of horses, and of good roads.

In feeding a horse it should be remembered that corn has a tendency to make him slow, as may be witnessed in the slow moving corn fed horse of Ohio. Oats are more suitable to develop all his qualities, and from twelve to sixteen quarts per day should be given.

With regard to the natural longevity of the horse, nothing can be said with certainty. They have been known to live thirty or forty, and in some rare instances even sixty years; but ill usage frequently destroys them before they are nine or ten. I think that under ordinary circumstances fourteen years would be a fair average.

Too much importance cannot be placed upon the judicious breaking and management of this noble animal. It should be like that of a child: by no other means can he be reduced to a cheerful and ready obedience. A sullen and dogged submission will result, it is true, from cruel and brutal treatment, but a prompt and eager response to the wish of the rider, can only be obtained by patient kindness. I think there are few horses baulky by nature, and I believe most are made so by drivers who are blessed with far less brains than the horse himself has.

On the subject of the diseases of the horse, and other points concerning him, as nearly every one is his own doctor, I will get over that point very quickly.

There is one thing to be remembered, however, in obtaining good horses, which must receive attention, or the stock will inevitably depreciate. It is, that the same stud horse should never remain in the same locality more than three or five years at the farthest. The constant mingling together of the same blood in the human family leads to both physical and mental depreciation, as is peculiarly illustrated in some of the old crowned heads and aristocracy of Europe. Owing to their prejudices against other classes of society, they have intermarried with each other, until they have become so closely related that they are far inferior to the common people. It is a fact well known, that the lower branches of European legislatures possess far more intellectual ability than is found in the aristocratic branches, and it is from this cause. The superiority of the American race is mainly owing to its freedom from prejudices of rank, so that marriages are made without reference to absolute high social position. The same rule holds good with all inferior animals. There is hardly any farmer who is not familiar with the fact as applied to his poultry yard; and as I said before, it is of immense importance in keeping up the good qualities of the horse; so much so, that great disappointment will surely result, if it is forgotten.

In conclusion, I desire to say that the history of the horse can hardly be entered into without obtaining a general knowledge of the various epochs in the history of the world, and in that point of view alone it may be considered a matter of no secondary importance. Though apparently only a research into one branch of natural history, it opens a field of examination into the manners and customs of different ages, and exhibits the gradual but sure march of intellect and intelligence from one generation to another.

WIRE GRASS.—Mr. J. C. Johnson, of King William has deposited in our office several roots of wire grass nearly as large as asparagus, and perhaps quite as large when they were fresh. They are now a little shrivelled, but a medium root measured a full inch and a half in circumference.

It must have been good land where they grew, but we suspect Mr. Johnson would prefer almost any other proof of the fact to that he has furnished us.

For the Farmer and Visitor.

SPAVIN.

BY W. M. ORMOND, V. P.

The nature and seat of spavin have been much mistaken by many men that have owned horses afflicted by this disease. They have been put to much expense and anxiety, which could have been prevented, had the disease been properly understood.

I have in my travels through cities and towns, met with men, who have told me they could cure a spavin of any kind in one month; but when I questioned them as to the nature of the disease, they knew nothing about it. They did not know how many bones composed the hock joint, or how it was constructed, but they could cure.

They might cause, by some counter irritation, the horse to rest the limb, until nature could strengthen the injured parts; but in nine cases out of ten they work the wrong way, and in the place of doing good do harm by causing a greater inflammation in the joint than otherwise would have existed. As a consequence, there is more stiffness of the joint than there would have been had the poor brute not had such quackery practised on him.

Spavin is a compound of two diseases, known as exostosis and ankylosis. The former signifies hypertrophy, stiff joint, absorption of inter-articular cartilage, and substitution of bone. Ankylosis, however, does not take place in what is called the true joint, the tibia and astragalus, but it generally appears beneath the true joint, within its collateral or inferior articulations, known as the tarsal bones.

I have at my office some very fine specimens of spavin, and other ankylosis of joints which have caused lameness for some years; and I should be happy to find a man that has the ability to cure such spavins and ring-bones.

Spavin has been a disease that has had many severe experiments tried on it; but all have failed to restore the hock to its former state of soundness. Nor need we wonder at this; for when the cartilage is ossified, there is no means that we know of to restore those parts, therefore the horse must naturally have a stiffness of the joint. There have been a great many horsemen who have suffered their horses to be treated for spavin in a most brutal manner, by men that have had no more feeling for a horse than if it had been made of iron. A gentleman has a horse, the subject of spavin, and hearing of one of those "magic men" being in the place, who can

cure the spavin, the poor brute is given into the hands of his tormentor to be cured. However well qualified by observation and experience the latter class of men might be to prescribe for simple forms of disease, they cannot be trusted to perform an operation, one of the most difficult and dangerous, and one that requires a knowledge of anatomy and physiology to diagnose it with any degree of accuracy. Surely, when men unacquainted with the mechanism of a joint, undertake to restore it to a healthy state by means of agents whose actions are to them unknown, then their weapons are like a sword in the hands of a madman.

The treatment of spavin is simple enough, but far from being always effectual. The owner of the horse will neither consult his own interest nor the dictates of humanity, if he suffers the chisel, or the gimlet, or the pointed iron, or arsenic, to be used. There are means that can be taken, which will accomplish our object, and be much more to the credit of humanity. When we find that there is an inflammation in the joint, we should give the horse rest, and apply some cooling evaporating lotion to the part, but should this fail to accomplish the object, we had better apply a stimulant, such as the tincture of cantharides, applied in a mild form.

In the first place it is not best to breed from spavined mares or broken down horses. There are two causes for spavin, namely: predisposing and exciting; the latter being more rare than the former. It is true, there can in general be found an exciting cause for spavin; but if we take the pains to trace back the breed of such subjects, we shall find that it was a hereditary predisposition, and on the first opportunity it has made its appearance. A horse that has a well constructed hock seldom has spavin. We are most apt to find this malady in short, round hocks.

Spavin is so common in these parts that if a man purchase a horse with a sound hock, he thinks himself safe, but I wish the reader to understand that spavin is not always visible; that is, there is not always a bony tumor to be seen on the hock; there might be ankylosis of the cuneiform bones, and after the horse has been driven a short distance the lameness might disappear so that it could not be detected.

Many horses have been treated for hip and stifle lameness when it has been no other than spavin. The hock joint being the most important joint of locomotion, we should, on purchasing a horse, examine the part thoroughly, and have a good idea of its form. The joint is composed of six bones, exclusive

of the tibia and tarsal bones. They are in two layers, the lower is three in number, called the cuneiform bones, which rest on the tarsal bones. Each of those bones is covered with elastic cartilage, and each admitting of a certain degree of motion. The diminished concussion is diffused among them all, and thereby neutralized and rendered comparatively harmless. Each of those bones is covered not only by cartilage, but by a membrane secreting synovia, so that in fact these bones are formed into so many distinct joints, separate from each other, and thereby guarded from injury, yet united by various ligaments, possessing altogether sufficient motion, yet bound together so strongly as to defy dislocation.

But there is often an injury done to those bones that is not always accountable for. The smith often does much towards this by his injudicious management of the feet, by not making the shoes or feet level, and thereby causing the weight and concussion to be thrown on the inside splent bone, which produces inflammation of the cartilaginous ends of those bones.

And should the inflammation not be speedily subdued it will soon convert this cartilaginous substance that unites the splent bones to the shank into bone, and thereby have an enlargement and a stiffness at the joint.

I would suggest that the best way to free our country from this malady is to select such stock for breed as is perfectly free from such diseases, and leave the young colts at home when we require the services of the dam, and not do as is so commonly done in this vicinity now-a-days—tie the colt to the side of its dam, and drive it all day. It is much better to leave the colt at home fasting, than to overdrive the little animal so as to ruin him for life.

For the Southern Planter.

By request, I am induced to enquire why the farmers in lower Virginia do not give the preference to the left hand plough; not because there is any difference in the work done by these ploughs, if the mechanical construction is the same; but because there is a great advantage to be gained in the attaching animals to the left hand, and the team can be better managed, and therefore the plough on the whole works better and easier to the ploughman.

It is thus explained: The leader or line horse works in the furrow, and to the short end of the thribble tree. From his haim ring a 4 foot crowding stick passes to the bit of the middle horse, a similar stick from the haim of the middle horse, to the bit of the off horse. Now see that your horses stand up abreast, let a coupling strap pass from the bit of the middle horse to the trace of the

leader, and tied just behind the back band, also a similar strap from the outside horse's bit to the middle horse. A line from the leader, to the left hand of the ploughman, having a loop at the end to hang on the wrist. You are now ready for work, and he who tries the left hand plough with his horses or mules thus attached, will never use another right hand plough. The advantages are so apparent when tried, that I deem it wholly unnecessary to enumerate them. If your teams are not well broken, the left hand plough will accomplish one third more work each day than the right hand. If they are well broken the left still will have an advantage, and if your land is bedded (of consequence giving many finishing furrows) the advantage becomes more perceptible. With the left hand, every animal is under the control of the ploughman. A fast or free horse can be worked by the side of a slow one without danger of hurting him by his taking too much of the draft. If your leader is thoroughly broken you need care very little whether the other two are colts; all will go well if they do not gobackwards. Before I let you off, one word as to ploughs. Any common workman can make a plough that will be a good one, if care is had to these all important points.—Let the beam be long, as a short one is hard upon the backs of your animals. Let the handles be long and sloping back that your ploughman can by a greater beverage more easily control the plough. For a 3 horse plough let the height under the beam at the nose or clevis be $17\frac{1}{2}$ inches, measuring from the bottom or underside of the beam to the floor or plough bench (for every plough ought to be built upon a bench) and let the land side of the beam be in line with the iron land side from heel to point. The point of a 2 horse plough should set to land $1\frac{1}{2}$ or 2 inches. By thus constructing your plough you can get rid of using that most outlandish looking affair called a Buck, which they say will make a plough almost go in the opposite direction from the power attached, it is so *very adjustable*. We will suppose your plough made right. If it comes from your shop repaired, and takes too much land, work your middle horse closer to the leader; if too little land, put him further off as the plough will follow him. If too deep, tie back bands back a few links; if too shallow, put them forward a few links. I have my ploughs so made that we wear them out without ever making any alteration at the clevis. I should have said that you may increase or lessen the depth of your plough by lengthening or shortening your traces.

A FARMER.

P. 8.—The farmers of lower Virginia are woefully behind the age in the use of agricultural implements. Many of them have good tools and are totally at a loss to use them to advantage. The misfortune is the proprietor does not know how to give instruction as to their use. This is the secret; farmer's sons are not practically taught: overseers for generations have remained unimproved. You have labor here, if you wish more, to bring this to be thought of. The ploughs of lower Virginia, and indeed most of their implements, are miserable contrivances, put up by Yankees, and by negroes who know nothing of the mechanical principle.

The Violet grows low, and covers itself with its own tears, and of all flowers yields the most delicious and fragrant smell. Such is humility.

ANALYSES OF SOILS.

LABORATORY OF THE STATE CHEMIST,
No. 29 Exchange Buildings,
Baltimore, Mar. 15, 1855.

To the Editor of the Southern Planter :

DEAR SIR :—In the first number of the fifteenth volume of your paper, is an article on the Analyses of Soils, in which their claims are first misrepresented and then of course condemned, in a style as flippant as the statements are incorrect. This article is copied by you from The Michigan Farmer, who thus writes :

“During the past ten years there has arisen a class of men, who at all times were willing to make all the processes of agriculture depend on the announcements which were to come from the laboratory of the chemist.”—“According to the notions they promulgated it was just as easy to grow a crop of wheat on a field of dry sand, as it was on the best limestone soil that ever lay ‘out of doors;’ and so with all other crops: these mediums would prescribe as quickly for a soil as a spirit rapper for a diseased person.”

The first paragraph quoted above is untrue. So far as my knowledge extends, there is not a respectable analytical or agricultural chemist who has maintained that *all* the processes of agriculture depended “on the announcements which were to come from the laboratory of the chemist.”

As to the second, there may have been, and doubtless are, quacks in chemistry, as there are in medicine, law, divinity, and in the editorial profession. But should an honest press condemn the science of medicine because quacks have professed to cure *all diseases* with some infallible pill or potion? Or shall law, “whose font is justice, and whose seat is the bosom of God,” be abolished, because men, under its mantle, have practised knavery? Ought the holy calling of the ministry, its purposes and uses, to be dispensed with, because men, under its guise, have violated its holy precepts? or should the agricultural press be suppressed, because some who conduct it, and who hold themselves up for guides, know neither the operations of agriculture from practice or experience, nor its theory from study or science? It is an easy matter to make an allegation, but the proof is sometimes difficult. If any one, under the knowledge of “The Michigan Farmer, or the editor of any other paper, has made professions such as those quoted above, let the Michigan Farmer publish his name, and condemn his pretensions, and not brand a class of men (agricultural and analytical

chemists,) as fools or knaves, without proof and without reason.

I shall not follow this article in all of its italics, as it is as full of assertion as it is bare of proofs. I shall only examine some of the special allegations as they are made.

1st. “Liebig, the most celebrated of them,” &c., “his compound proved utterly worthless in its application to the growth of crops.” This is untrue. Liebig’s Compound acted well on crops, but could not be prepared at a price which would make its application profitable. He only made the mistake which thousands unacquainted with manufactures had made before him: the cost of the raw material and its manufacture left no margin for profits, and hence the manufactory did not pay; but at this day, manures are made, sold and used with profit, dictated by the same principles which actuated Liebig in his factory. If Liebig is to be sweepingly condemned, then with him must be condemned all mineral manures: lime, magnesia, plaster, bone dust and salt, must be declared useless, because he declared their essential necessity to all crops grown for food, and inasmuch as there was no natural source from which silicate of potash and soda could be procured as manures, and he endeavoured to provide for this by forming them artificially, and the manufactory was too expensive to be followed with profit, we have an *ex cathedra* announcement that his compound was utterly worthless, and therefore chemical science of no use to agriculture!

We next have a letter of a Mr. S. W. Johnson, “a young gentleman pursuing a course of chemical instruction at Munich.” This gentleman first adduces Boussingault’s testimony against soil analyses, “that they are more curious than useful.” Why did not Mr. S. W. J. also state, that Mr. B. believed that manures owed their value almost exclusively to the nitrogen (one of the constituents of ammonia) which they contained, and that therefore it was useless to ascertain the amount or determine the nature of the mineral matter in a soil, because mineral manures, as such, could produce but little benefit? If persons admit the force of this reasoning, that mineral manures, as lime, plaster, bone-dust, salt, &c. &c., are useless, let them also coincide with the opinion of Boussingault, which is contradicted by the practical experience of every country where farming has been practised, from the banks of the Rhine to the Potomac, and by farmers of every age, from the days of the Pharaohs to the year 1855.

As to the assertion, "that analyses were made by Liebig, Rose and others, in which a material difference existed," I think it very doubtful that any such trial was *ever made*, and more so, if made, that some of them failed to detect important elements found by others, if they carefully examined the samples. Indeed, if we are to judge of the correctness of the other statements of this witness (Mr. S. W. J.) by this one—that the addition of one ton of guano to an acre of soil would make no perceptible difference in the results of an analysis, we must utterly discredit every thing he says. The addition of the phosphate of lime in one tenth of that quantity of guano, can be ascertained, and in less than that quantity to the acre has been again and again detected in my laboratory. I shall not further discuss this subject, but refer you to my Fourth Report to the House of Delegates of Maryland, page 42, as marked and herewith sent.

The article from the Michigan Farmer then goes on to speak of the "physical condition" of the soil, as if the determination of that was not equally a part of an analysis as well as the mere determination of the constituents.

Stockhardt is next appealed to. He may say, but I have not seen or heard it, that a mere chemical analysis of a soil will not show its productiveness—and no agricultural chemist of any standing has ever said that it would. Stockhardt, however, most emphatically declares the necessity of a knowledge of the constituents of a soil as an indispensable guide for properly manuring it. Neither Stockhardt nor any one else, who has ever given much attention to the subject, would pretend to estimate the productive quality of a soil by a chemical analysis *alone*: but he nowhere in his lectures speaks against the utility of soil analyses, but holds them, when properly performed, as indispensable adjuncts to the application of manures, and the interpreters of the principles on which depend successful results. His meaning then is perverted, if his language be correctly quoted; for on page 24 "Stockhardt's Chemical Field Lectures to Agriculturists, Cambridge, 1853," speaking of the nourishment of plants, he says, "for this reason then, an exact knowledge of the chemical elements of plants, *of the soil*, of water, and of the air, must be deemed indispensable." Again, on p. 49, "On increasing the growth of plants by manuring," he speaks of the absolute necessity of a knowledge of the constituents of the soil, in order to apply the proper manures.

The work quoted above is a most admirable one on the principles of agriculture, and cannot be recommended too highly to the farming community, and I am sure that no intelligent planter or farmer of Virginia, after having once read it, would be without it for double its cost. The Michigan Farmer goes on to speak of the benefit of "soils lying fallow," "of fertility depending on a change in the condition of the soil," "of insoluble ingredients becoming soluble," and then comes the following: "In fact, if it be admitted that the chemist can estimate *quantities* with the utmost accuracy and nicety desirable, yet he cannot get *qualities* or conditions in their true light." If the writer knew any thing of chemistry he need not be told that the qualities or conditions of substances, as to their solubility, &c., so far as vegetation is influenced by them, are as easily determined as their weight. He evidently knows nothing of analytical chemistry, and his opinion is worth nothing.

You state, Mr. Editor, that you have been induced to quote the above remarks because letters have been written to you on the subject of soil analysis, in which great stress was laid on the knowledge to be derived from them, as better than good cultivation and the manure bed; and you likewise admit that something may prove advantageous for a short time, as a temporary stimulant, and that stimulants exhaust in proportion to their power of forming an unnatural yield. Now, in reply: agricultural chemistry nowhere teaches proper cultivation nor the manure bed to be dispensed with; nor does it recognize any such thing as a stimulant to a soil; nor does it any where tolerate slovenly cultivation. It insists on thorough cultivation as the *sine qua non* of success. It teaches the necessity of certain substances in the soil as indispensable to fertility, and by analysis not only discovers the quantity of these substances, but also the form in which they exist, and directs how to change them into a proper form, if they do not already so exist; and also determines the quantity of the necessary constituents which a good crop of wheat, or any other crop, takes from the soil. The quantity of mineral matter, viz: lime, magnesia, phosphate of lime, gypsum, salt, and potash, &c., in an acre of soil, can be determined by it with more correctness than practical men ever apply them as manures.

As to trusting to a mere chemical analysis of the soil to measure its productive capacity, no chemist at all acquainted with the practical operations of agriculture would take the con-

stituents of a soil *per se* as a measure of its capacity. In my 2d Report to the House of Delegates of Maryland, p. 23, I have stated the conditions of soils under which vegetable life best flourished. "From the known and ascertained conditions of soils of known fertility, from the composition of crops that are grown for food, from the effect of the application of manures, it is to be concluded, that the productiveness of a soil, to the extent of the production of the plant, is due, 1st, to the presence in exact ratio, of the mineral constituents named above, viz: lime, magnesia, potash, soda, phosphoric acid, sulphuric acid, chlorine, &c.

2d. The condition in which these substances are found, as to their solubility.

3d. The capacity of the soil, as to its physical texture, to supply the growing plant with organic food from the atmosphere.

The proportion of the several mineral constituents adapted to produce fertility, and the requisite physical structure, can be found, or at least approximated, by a large number of careful analyses, made in different seasons, of soils which are already productive.

The kind and quantity of manures best adapted to renovate worn out lands can be shown only by their analysis, and the noted results of manures upon these lands."

These are the doctrines which were laid down more than four years ago; and daily observation of the results of manures, predicated on soil analyses, and experience in making these, and the testimony of intelligent practical men, have confirmed my faith in their necessity as the cheapest and most certain aid to the fertilization and renovation of worn out lands.

If there be any gentlemen in your state desirous of having these analyses made, let them send samples of their soil to this office, and I will guarantee them, to the full extent of my means, from any loss which they may sustain in consequence of my recommendations. They will find, that the analysis of soils leads to the cheapest, speediest and most certain method of improvement.

JAMES HIGGINS,
State Ag. Chemist of Md.

HOW TO RAISE ONIONS.—This vegetable requires salt, to bring it to perfection. Put it in at the rate of six bushels to the acre. Manure from the hen-house, and a coating of ashes, will produce onions that will make a person's mouth water, as well as his eyes.

For the Southern Planter.

HARROWING WHEAT.

Mr. Editor:—I would say that on or about the first of March last I wanted to sow clover and timothy seed among my wheat, which, in some parts, was nearly covering the ground. I thought the top of the ground too hard to sow and leave the grass seed to chance whether it got into the earth or not, so I ordered two horses to be hitched to a heavy twenty tooth drag (teeth straight) and pulled it all over the wheat grounds. The crop of wheat is some fifty bushels, golden flint seed. This operation caused great surprise by all who witnessed or heard of it. Some took me for a madman, that was determined to destroy as fine a lot of wheat as any in these parts; others, passing the road stopped and looked on with astonishment; some, not believing their eyes at a distance, must come into the field to see and know if I was really ruining my wheat. But, sir, so far from ruin it has been a means of improving the wheat, as may be seen by strips left through the field not harrowed, and the operation is so fine for putting in the grass seed, I think, sir, none should hesitate to drag their wheat in early spring. I would say, however, if the land is of unusual lightness, then it would be injudicious to drag. The wheat then requires the roller, not the drag.

If you, sir, choose to make any use of what is here communicated, you are at liberty to do so. Yours, truly,

W. M. HUNTINGTON.

Drake's Branch, Charlotte.

TO MAKE HONEY.—Take five pounds of coffee sugar, and two pounds of water; heat over a slow fire; when nearly scalding hot take from the fire, and add one-half pound of honey in the comb; when blood-warm add one-fourth of a pound; when cold strain and add five drops of the essence of peppermint. It will add to the flavor if there is a little bee bread in the comb. This is excellent on buckwheat cakes. Try it. I. P.

Royalton, N. Y., March, 1855.
Rural N. Yorker.]

MEASUREMENT OF HAY IN THE STACK.—Ten cubic yards of hay, well settled, will make a ton, except in the case of clover hay. Twelve cubic yards of that will also make a ton, or near enough in all cases to buy and sell by.

INDIAN CORN.

Some valuable information in relation to Indian Corn, and the extent to which it is produced in the United States, is given in the last number of the Cincinnati Railroad Record. We condense the most important facts and figures. The writer contends that Indian Corn is the most important crop in the United States, and that if the Cotton were obliterated, it would not work so much injury as the loss of two-thirds of the crop of Indian Corn. And yet the culture of maize is confined to a belt of about thirteen degrees. In fact, three-fourths of the corn raised in the United States is produced between the 33d and 42d degrees of latitude—either south of the former or north of the latter, corn is not a profitable crop. But little is raised in Europe, as the climate is not adapted to its culture. The product per acre in this country, on good land, is about forty bushels, and generally speaking it is the most certain crop raised. In some portions of Ohio, one hundred and fifty-five bushels have been produced on an acre. The corn crop of the United States, at intervals of ten years, was as follows:

	Bushels.
Crop of 1839, census of 1840.	377,531,875
Crop of 1849, census of 1850.	592,071,104
Actual increase,	214,539,229
Increase, 58 per cent.	

Now, let us compare this increase with that of the other leading crops, and we have these figures:

Increase of Indian Corn,	58 per cent.
Wheat,	16 "
Oats,	20 "
Wool,	50 "
Cotton,	24 "
Potatoes,	0 "
Tobacco,	9 "

This is certainly a very remarkable result. It shows that both nature and agricultural economy are agreed that Indian Corn is the great staple, the most profitable article cultivated in this country. The Cotton Crop has increased very rapidly; but we see not half so fast as that of Indian Corn.

The census shows another fact: that either in the extreme South or North, the averages fall off so fast as to confine the practical growth of maize to the central belt. Thus:

	Bush.
Average of corn per acre in the States of Louisiana, Alabama, Mississippi, South Carolina, North Carolina and Georgia,	16
Average of corn per acre in the States of Ohio, Indiana, and Kentucky,	30
Average of corn per acre in New England, New York and New Jersey,	28

In New England and New York corn raises a pretty good crop, where it can be grown; but there is but a small quantity which is worth cultivating in this article.

A stronger illustration of the sectional growth of corn will be found by taking the corn crop of certain localities, thus:

	Bushels.
Product of Indian Corn in New England, New Jersey, and New York,	36,794,000

Product of Indian Corn in Ohio, Kentucky, Tennessee, Indiana, and Illinois,	280,579,800
Product of Indian Corn in Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina and South Carolina,	120,424,000

We thus see that the five States in the Valley of the Ohio raise about double the Indian corn raised in fifteen States of the North and South. If we add to this the products of Western Pennsylvania and Western Virginia, also in the Valley of the Ohio, the product of this valley will be more than half the crop of the United States.

The foreign export of corn has never been large, in comparison with the domestic consumption. It is however considerable, and is rapidly increasing.

The following figures exhibit the export of Corn meal for each successive three years since 1855:

	Bushels.
In 1855-58,	449,179
In 1838-41,	1,272,312
In 1841-44,	2,093,192
In 1844-47,	18,992,122
In 1847-50,	25,669,035
In 1850-53,	8,328,795

Notwithstanding the falling off in 1856-59, the export of Indian Corn is really increasing. In 1854, the export was much larger than in the previous year, and this must continue to be the case. The ports of Europe, such as Great Britain, to which the export has been chiefly, are learning the use of corn, and acquiring a taste for it; so that, being the cheapest grain, it will ultimately become the one most in demand.

There is another important aspect in which to view this immense product, viz: the commerce in corn, and its tonnage and movement. According to the record, the ports of Cleveland, Sandusky, Toledo, and Chicago, on the Lake, probably receive and export full twenty millions of bushels of corn. If we look to the whole country, not less than fifty millions bushels of corn are moved in bulk. But in addition to this, all the whiskey and fatted hogs, with a large part of the cattle of commerce, are corn in another form. They would not exist for market, if it were not for corn. Now, we have in the United States three millions of fatted hogs, of which at least two millions are fatted on corn. We have six hundred thousand barrels of whiskey, which enters into commerce, and we have at least half a million of cattle fatted on corn. In tonnage then, we have this aggregate:

50,000,000 bush. of corn,	1,500,000 tons.
2,000,000 hogs (at 200 lbs.)	200,000 "
600,000 bbls. of whiskey,	100,000 "
500,000 cattle,	170,000 "
Aggregate,	1,970,000

Two millions of tons, then, is the least of freight furnished the various lines of transportation in 1849-50. But at the current rate of increase the corn crop of 1860 will reach nine hundred millions of bushels, and the amount of freights furnished by it will be not less than three millions of tons. Now this is enough, in addition to the passengers that would necessarily be furnished along the lines, to furnish a profit for three thousand miles of railway!

But this falls short of the reality. For as the crop increases, the surplus increases much faster.

For example, the above tonnage requires but 100,000 bushels surplus on a crop of 600,000 bushels; but if the crop becomes 900,000 bushels the surplus will be more than 200,000. There is reason to believe, therefore, that the corn crop of 1866 will actually furnish employment for 4,000 miles of railway.—*Bolt, American.*

[Published by order of the Executive Committee.]

BLUE CLAY.

I design in this communication to present to the consideration of the State Agricultural Society of Virginia my experience in the use of blue clay and the effects resulting from its use.

My farm is located in the county of Prince George, three miles south of James river; the land is generally light, with a clay subsoil, but portions of it have no clay substratum. On portions of this farm marl is found varying in strength from 25 to 75 per cent. All the arable land has been marled in the proportion of 300, or more, bushels to the acre. And the most of this marling was executed at least fifteen years ago.

This marl is about six feet thick, mostly dry, of a buff color, containing clam shells, oyster and other shells, some perfect, others decomposed partially; next to this marl is found a blue marl, inferior in quality, of a blue color abounding in sand. This marl contains very large bones, some of the vertebral bones, measuring eight or ten inches in diameter. This blue marl is about four feet thick. Immediately subjacent is found this blue clay of unascertained depth, but which has been excavated to the depth of twelve to fourteen feet. This clay in physical appearance presents a homogenous mass, but by careful examination it is found to contain innumerable shining particles. This clay is blue in its appearance, feels and cuts like soap, tenacious but somewhat friable. By atmospheric exposure either at the pit or after having been applied to land it soon breaks up into small masses, sufficiently fine to be spread with a spade or hoe, or even to be scattered with hand, as I have sometimes used it as a top dressing to clover. Rain and freezing also sufficiently disintegrates it for agricultural purposes. I consider it one of our best fertilizers, not inferior to lime or marl, abounding in carbonate of lime. Its use was commenced by me more than twelve years ago. It was analyzed by Professor Hare, of the University of Pennsylvania, but I have misplaced the report. He was of opinion that it possessed no fertilizing property whatever. Professor Rogers, of the University of Virginia, also subjected it to analysis—"Composed, (he says) almost entirely of a silicious clay, having a few shining particles of mica."

Silica,	} almost entirely.
Alumina,	
Oxide of Iron,	about 7 per cent
Carbonate of Lime,	a trace.
Sulphuret of Lime,	a trace.
Carbonaceous Matter,	a trace.

It abounds in Alumina, Bisulphuret of Iron, Sulphuret of Lime, Acid, Ammonia, and some other ingredients according to another analysis; but many grains of allowance should be made for the present infancy of agricultural chemistry.

The first experiment I made with this clay was upon a remarkably light piece of land that I was endeavoring to improve by the application of our common red clay; at the same time I hauled out about twenty bushels of this earth. It was here spread, sown in oats and clover seed; the clover vegetated upon all but died out during the summer upon the land upon which the red clay had been applied, but continued to grow finely and luxuriantly where the blue clay had been applied; and during this year some of the stalks of clover grew to be knee high, and was the best on the farm. After this, I have continued to use it from year to year, until I have nearly applied it to every part of the farm, and some portions twice, with very satisfactory results. Upon some portions of the light land I have known the blades of corn to turn yellow, but whether it was owing to a superabundant application of this earth or to other causes, I have not yet satisfied myself; but uniformly it makes the land produce more corn and the blades are of a deeper green. On wheat, the increased product particularly on my light fields, has been very apparent both in the growth of the straw and the number of bushels. This earth is particularly adapted to the growth of peas. I think I may safely say the growth of the vine have been nearly doubled since the commencement of its use. Now all my corn land is sowed down in peas, unless I am deficient in seed. This gives me an additional product of wheat that I estimate at four to five bushels to the acre. This mode of getting a green fallow with peas I consider to be the more economical with me, and I get a more luxuriant growth. I avoid the trouble and expense of fallowing land exclusively for peas, and the trouble of getting in the peas is much less with the corn, for it is not necessary to give any additional ploughing, and I am not yet satisfied that the pea crop produces any detriment to the corn crop. But I have now an experiment in progress to ascertain the fact.

I have taken some pains to sow my land in eastern shore bean, and here again the value of this manure is very apparent, the beneficial effects being equal, if not greater, than when applied to peas; but this latter plant belongs to the pea tribe.

My usual mode of using it is by applying about a hundred and fifty bushels to the acre. But this year I applied about two hundred bushels more to land that had had an application of an hundred and fifty bushels of this earth. My corn is decidedly better than I ever was on this field before, and the peas as luxuriant as if they had been heavily manured; but where this earth was applied this year the peas were much better than the peas on the land which had had an application of this earth three years ago.

It is true, for several years I have been remarking my lands, also with marked benefit, but it is only with the marl I remove to get access to the blue clay, as I consider I get more benefit from the latter than the former. This opinion is not peculiar to myself. Dr. A. Bryant, a farmer of Prince George, informs me that he has discovered greater benefit from the use of his marl, than is manifested by that of his neighbors, and he attributes the superior benefit to the fact that he is in the habit of mixing about four feet of this clay, which he finds at the bottom of his marl pits, with his marl. So far as my experience goes, I have never used this blue clay to lands that had not been limed; a close, stiff, tenacious soil, and applied it to clover with marked benefit.

This earth acts promptly. On one occasion, the clouds indicated rain; I ordered a boy to haul several loads and scatter it on clover, and in a very few days the benefit from its use was very apparent in the increased vigor and greenness of the clover. This earth is soluble in water. Soon after a rain, if one rides or walks in a field on which this earth has been spread, a strong sulphureous odour is manifest and rather unpleasant; the same may be discovered at the pits. This is much more evident after a rain than at any other time.

Again: another fact connected with the solvent powers of rain is, that vegetation is considerably increased in the direction of the descent of water where this earth has been applied on the sides of hills.

It is beneficial to lands that have not been limed or marled, to our knowledge.

Mr. McGee, of Prince George, who lives twenty miles south of James river, has used this earth, and also what is called olive earth, with decided improvement upon lands that had had no lime or marl; but this land may be naturally calcareous. This blue clay is found at the bottom of his marl pits; he applies about three hundred bushels to the acre. A portion of his land was remarkably poor and light; he observed it has been in succession of crops under the regular rotation, for a great number of years, and was unproductive, producing about one and a half bushels of corn to the acre. After the application of this earth, without any additional manure, the same land produced about four barrels; wheat and clover also grew successfully.

Another fact connected with this earth is of a very important character. The sheep sorrel, a plant common with us and remarkable for the acidity of its leaves, generally disappears after land has been marled or limed; but it reappears after the use of this blue clay and grows more abundantly and luxuriantly, and this is the most serious objection to the use of this clay. Now this fact presents a stubborn reality against some of the fashionable theories of the day. Hen peas are increased in quantity and are more productive; the eastern shore

bean becomes more abundant, and the clover increased in growth and improved in color; corn and wheat increased by the application of an earth that causes the sheep sorrel to re-appear on land from which it had disappeared by the use of marl and lime. From this and other considerations, I should infer that acidity is not opposed to fertility.

This earth also possesses the power of counteracting the injurious consequences resulting from an over application of the carbonate of lime, or what is popularly called marled burnt land. The bisulphuret of iron being placed in juxtaposition with carbonate of lime, chemical affinities may produce new combinations. Sulphuret of lime may result, and productiveness the ultimate consequence, or the caustic properties of the lime may be neutralized. On my farm an example may be seen of a piece of land in which all vegetation was destroyed, mould, &c., gone, and the land presented the appearance of worthless sand, which has been restored to comparative productiveness by no other manure than this blue clay. This clay is usually hauled upon the land after it is broken up, suffered to remain until it breaks up into flakes or becomes somewhat pulverized, when it is scattered. Here we occasionally find round balls about the size of large marbles and round, presenting a dirty appearance on the exterior, but internally these balls are crystalline. To what principle, to which ingredient in its constitution are we indebted for its fertilizing property? Is it because its metallic oxide forms a base with which humic acid unites, and this combination is subsequently easily dissolved by rain water, and is thus assimilated by the growing crops? Or may not this oxide form other combinations with lime or other inorganic substances? or may it not more properly be a positive manure, independent of chemical affinities or atmospheric combinations?

We are thrown upon the ocean of conjecture; theory may be piled upon theory, and one hypothesis upon another without affording satisfaction to the man of science, or without materially benefitting the agriculturists.

Professors Hare and Rogers inform us that alumina abounds in this earth. Who knows the effects of whale oil, fish oil, &c., uniting with this earth? It is impervious to water in its present condition in the pits. It may in this form retain other organic animal matter. But it is not my object to discuss a theory or advocate a system, but to invite the attention of farmers to the use this invaluable fertilizer.

The effects of this earth on the appearance of my land, on my growing crops, upon peas, vegetation, clover and eastern shore bean are positive realities that it is impossible to eradicate, and I shall continue to use this earth so long as beneficial results follow its use. All of which is respectfully submitted to the consideration of the Agricultural Society of the State.

ROBT. HARRISON.

Mt. Pleasant, 1851.

PARSON SURELY'S EXPERIMENT.

BY A. C. BERWICK.

The small parish of Fallowdale had been for some time without a pastor. The members were all farmers, and they had not much money to bestow upon the support of a clergyman; yet they were all willing to pay for anything that could promise them any due return of good. In course of time it happened that Rev. Abraham Surely visited Fallowdale, and as a sabbath passed during his sojourn, he held a meeting in the small church. The people were pleased with his preaching, and some of them proposed inviting him to remain with them and take charge of their spiritual welfare.

Upon the merits of this proposition there was a long discussion. Parson Surely had signified his willingness to take a permanent residence at Fallowdale, but the members of the parish could not so readily agree to hire him.

"I don't see any use of hiring a parson," said Mr. Sharp, an old farmer of the place. "He can do us no good. If we've got any money to spare, we'd better lay it up for something else. A parson can't learn me anything."

To this was answered that stated religious meetings would be of great benefit to the younger people and a source of real, social good to all.

"I don't know about that," said Sharp, after he had heard the argument against him. Sharp was one of the wealthiest men in the parish and consequently one of the most influential. "I've heard tell," he continued, "of a parson that could pray for rain, and have it come at any time. Now if we could hit upon such a parson as that, I would go for hiring him."

This opened a new idea to the unsophisticated minds of Fallowdale. The farmers often suffered from long droughts, and after arguing, awhile longer they agreed to hire Parson Surely upon condition that he should give them rain whenever they wished for it, and, on the other hand, that he would also give them fair weather when required. Deacons Smith and Townsend were deputed to make this arrangement known to the parson, and the people remained in the church while their messengers went upon their errand.

When the deacons returned M. Surely accompanied them. He smiled as he entered the church and with a graceful bow he saluted the people, there assembled.

"Well, my friends," he said, as he ascended the platform, in front of the desk, "I have heard your request to me, and strange as it may appear I have come to accept our proposal; but can do it only on one condition; that is that your request for change of weather must be unanimous.

This appeared very reasonable, since every member of the parish had a deep interest in the farming business, and ere long it was arranged that Mr. Surely should become pastor of Fallowdale, and that he should give the people rain whenever they asked for it.

When Mr. Surely returned to his lodgings

his wife was utterly astonished upon learning the nature of the contract her husband had entered into; but the pastor only smiled and bade her wait for the result.

Time flew on; at length the hot midsummer days were at hand. For three weeks it had not rained and the young corn was beginning to curl up beneath the effects of the drought. In this extremity the people bethought themselves of the promise of their pastor, and some of them hastened to his dwelling.

"Come," said Sharp, whose hilly farm was suffering severely, we want some rain. You remember your promise."

"Certainly," rejoined Mr. Surely. "If you will call a meeting of the members of the parish, I will be with you this evening."

With this the applicants were perfectly satisfied, and forthwith they hastened to call the flock together.

The hour for the meeting came round, and Parson Surely met his people at the church; they were all there, most of them anxious and the remainder curious.

"Now, my friends," said the pastor, arising upon the platform, "I have come to hear your request. What is it?"

"We want rain," bluntly spoke farmer Sharp: "and you know you promised to give it to us."

"Aye—rain, rain," repeated half a dozen voices.

"Very well. Now when will you have it?"

"This very night. Let it rain all night long," said Mr. Sharp, to which several others immediately assented.

"No, no, not to-night," cried Deacon Smith. "I have six or seven tons of well made hay in the field, and I would not have it wet for any thing."

"So have I hay out," added Mr. Peck. "We won't have it rain to-night."

"Then let it rain to-morrow."

"It will take me all day to-morrow to get my lay in," said Smith.

Thus objections came up for two succeeding days, and at length, by way of compromise, Mr. Sharp proposed that they should have rain in just four days. "For," said he, "by that time all the hay that is now out can be got in and we need not cut any." "Stop, stop," uttered Mrs. Sharp, pulling her worthy husband smartly by the sleeve. "That is the day we have set to go to Snowhill. It mustn't rain then!" This was law for Mr. Sharp, so he proposed that the rain should come in one week, then resuming his seat. But this would not do. Many of the people would not put off so long. "If we cannot have rain before then, we'd better not have it at all," said they.

In short, the meeting resulted in just no conclusion at all, for the people found it utterly impossible to agree upon a time when it should rain.

"Until you can make up your minds upon this point," said the pastor, as he was about leaving the church, "we must all trust in the Lord." And after that the people followed him from the place.

Both Deacon Smith and Mr. Peck go their way safely in, but on the very day that Mr. Sharp and his wife were to have started for Snowhill, it began to rain in right good earnest. Sharp lost his visit, but he met the disappointment with good grace, for his crop smiled in the rain.

Here another month rolled by, another meeting was called for a petition of rain, but this time the result was as before. Many of the people had much to dig, and rain would prevent them. Some wanted the rain immediately, some in two and some in three days, while others wanted to put it off longer. So Mr. Surely had no occasion to call for rain.

One year rolled by, and down to that time the people of Fallowdale had never once been able to agree upon the exact kind of weather they would have, and the result was that they began to open their eyes to the fact that this world would be a strange place if the inhabitants could govern it. While they had been longing for a power they did not possess, they had not seen its absurdity, but now they had, in good faith, attempted to apply that power under the belief that it was theirs, they were getting beyond their sphere. They saw that Nature's laws were safer in the hands of Nature's God than in the hands of Nature's children.

On the last Sabbath of the first year of Mr. Surely's settlement at Fallowdale, he offered to break his connection with the parish, but the people would not listen to it. They had become attached to him and to the meetings, and they wished him to stay.

"But I can no longer rest under our former contract in regard to the weather," said the pastor.

"Nor do we wish you to," returned Sharp. "Only preach to us, and teach us and our children how to live and help us to be social and happy."

"And," added the pastor, while a tear of pride stood in his eyes, as he looked for an instant in the face of his own happy wife, "All things above our proper sphere we will leave with God, for *he doeth all things well.*"

SALT AND ASHES FOR WIRE WORMS.—Last spring I had a piece of meadow land in a high state of cultivation, which I ploughed on the 16th of May about six inches deep, and turned the grass all under; I then harrowed it thoroughly on the 19th, and planted with potatoes. After dropping the potatoes I took good ashes two parts, Nova Scotia plaster one part, and salt one part, and put in a good handful previous to covering. I had only 80 bushels to the acre, and the largest crop of grubs and wire worms I ever raised. So much for salt and ashes to destroy worms. My potatoes were very badly eaten by the worms.

R. B. HACKSTAFF,
Lawrenceville, N. Y.

Rural N. Yorker.]

CURE FOR GRAPE MILDEW.—Mr. J. Hayes gives through the English Gardener's Chronicle the following cure for the grape mildew:

Take half a pound of black soft soap, from three to four ounces of black sulphur, the same quantity of soot and quick lime, and add water sufficient to enable them to be worked with a paint brush. As soon as the vines are pruned, paint the wood well over with this mixture, rubbing it well into the rough parts with the brush. I have not seen the least symptoms of mildew since I have used it, either in the house or out of doors, although we had plenty of it before the application was tried. This, therefore, may be worth the notice of vine growers in foreign countries, the ingredients employed being cheap.

OLIVE VERSUS LARD OIL.—At a late meeting of the Farmer's Club, connected with the American Institute, Prof. MAPES asserted that what "we received as pure olive oil in the market, is nothing more nor less than the surplus lard sent by our pork merchants to France, where it is transformed into the genuine article of sweet oil, and returned to be used at the tables of those very persons who exported it in the solid state." This is certainly refreshing information for the lovers of pure sweet table oil among us, and is no doubt perfectly true. We venture to say, that not one tenth of the oil sold for that of the olive, in our country, is any thing else than lard oil.

Any person can convert the common lard oil sold for burning in lamps, into a good sweet oil as that which is generally sold for olive oil, by the following process: Take say about a quart of the common oil, and place it in a clean tin pan, and set it on a stove; bring it up to about the heat of scalding water, and then add about one quarter of an oz. of sal soda, dissolved in half a teacupful of hot water. Stir this into the oil for about five minutes, then take off the vessel, and allow it to cool. When the sediment settles on the bottom of the vessel, the clear should be poured off into a clean bowl through a white cotton cloth, to strain it. The oil obtained by this treatment is sweet and pure, excellent for oiling fine machinery, and for making perfumed oil for the hair.—*Scientific American.*

QUANTITY OF LIME IN BURNT SHELLS.—One hundred and eight bushels of shells will make seventy bushels of quick lime, which will slake to one hundred and twenty-five bushels.—*Farmer's Register.*



THE SOUTHERN PLANTER.

RICHMOND, MAY, 1855.

TERMS.

ONE DOLLAR and TWENTY-FIVE CENTS per annum, which may be discharged by the payment of ONE DOLLAR only, if paid in office or sent free of postage within six months from the date of subscription. Six copies for FIVE DOLLARS; thirteen copies for TEN DOLLARS, to be paid invariably in advance.

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ADVERTISEMENTS.

A limited number will be inserted at the following rates: For each square of ten lines, first insertion, ONE DOLLAR; each continuance, SEVENTY-FIVE CENTS. Advertisements out of the City must be accompanied with the money, to insure their insertion.

It is indispensably necessary that subscribers ordering a change should say *from* what *to* what post office they wish the alteration made. It will save time to us and lose none to them.

Postage on the Southern Planter, (when paid in advance,) to any part of the United States one cent and a half per quarter, or six cents per annum.

GREEN CORN FOR SOILING AND FOR HAY.

It has always been a favorite idea with us, the sowing of corn for soiling and for hay; and though we have tried it several times, and have always been disappointed on account of the difficulty of curing the fodder, we have never despaired. Now that we are on a farm where the absence of cross fences, the scantiness of the herbage, and the danger of depasturing up-country cattle, make it expedient and safe to keep stock confined during the summer, we mean to try it again.

But to avoid blunders as far as possible, we wrote to Mr. Lewis Bailey of Fairfax for his experience with corn; and having received it, we shall now communicate it to the public. Mr. Bailey is known to some of our subscribers by the fine beasts he has exhibited at both of our State Fairs, where he has taken premiums on an essay on dairy management, on ploughing with oxen, and on his stock of various ages and different sexes. Better stock of their kind—and they are our favorites, the Devons—have not graced the show grounds.

"I have been sixteen years in Virginia," says Mr. Bailey, "and commenced seeding corn for summer feed the first year I came. I have never missed doing it but one summer, and then I learnt its value by being without it, more than I did any year that I had a plenty of it.

"I have sowed the early northern eight-rowed corn two seasons, and found it was no earlier, and that it produced but little more than half as much as the Virginia corn sowed at the same time. When the northern corn was large enough to eat or in blossom, the Virginia corn was not so forward, but it was larger and longer, and produced more and better feed.

"I have often sowed in drills, and though the labour of tillage is greater, I have never found any resulting advantage in product. On a farm of about one hundred acres of grazing, plain and meadow land, I have usually sowed from fifteen to twenty-eight bushels of corn for summer and winter feed.

"The ground for this crop should be ploughed in the fall or early winter for an early spring crop, and well manured at that time if stable manure is to be used; and the ploughing may be deferred for the summer crops until the spring and summer. In all cases, if the land is not rich make it so. For the first crop sow about the middle of April, or a few days earlier or later, according to the season, but at all events as early as possible. For the next crop sow again in about twelve or fifteen days. Let the interval between that and the next crop be still longer, and increase it for each successive sowing, as the season becomes more and more favourable to the rapid growth of the corn.

"The ground having been got into good order, I harrow in the corn, and if after four or five days I find much of it uncovered, the boys go over it with sticks about an inch diameter and three feet long, and mash down the grains that are not covered. But on clover sod, or other fresh ploughed land, after spreading the manure as evenly as possible over the surface, I sow it with plaster, then sow the corn and turn all under with a light two-horse plough, ploughing only deep enough to give a good covering. I follow the first plough with Ruggles, Nourse & Mason's subsoil plough. The first plough, with a sharp point and share, is worked with one horse, and runs about three inches deep; the subsoil plough, a light one, is worked as deep as the horses can pull it to advantage. Both have the guage wheel attached.

"I sow from three to four bushels per acre. For four horses and fifteen milch cows I have used about two acres per month. My cows are fed morning and night in the stables, and run in a short pasture during the day. My horses are fed in the stable all the time. The first and second

will not yield as much per acre as later sowings, because the season is not so well adapted to the growth of corn.

"I begin to feed it as soon as the tassel appears, cutting after the dew is off in the morning, and hauling in in the evening. But when the corn gets its full growth, cut and feed at your convenience.

"I have found much difficulty in making hay of it. That which is intended for early winter fodder I cut and stand up in the field, never laying it on the ground. I make medium sized shocks, using two bands, either of straw or fodder, (straw is best,) to secure it, and tie one quite near the top, the other as low as convenient. What I wish for later feed I cut and lay in swathes, like wheat left by the cradle, only spread more over the ground. It is left there to wilt for three or four days, then taken up, if free from rain-water, and laid on a top stack, or as we term it, fodder house, with both ends open. It is put on the frame, just as tops are from two to two and a half feet thick, securing the top with the corn, straw, or coarse grass to keep out the rain. If the corn lodges or blows down, and does not rise again, you will be obliged to lay it on a top stack frame, as it will not save well in the shock. On no account bind it in sheaves, as the rain gets under the bands, and will produce rot.

"I estimate the yield to average from seven to eight tons of dry winter feed per acre."

Here, then, according to the statement of a man with fifteen years experience, in Virginia, is a certain resource for abundant grass and hay in one and the same plant, and here is a quality which gives our noble and beautiful maize an additional claim to rank first among the cereals in this country. It is the only plant we know of which gives bread, grass and hay in one.

We know that repeated failures have discouraged the many persons who have tried it, but we hope they will not yet despair. We know that intelligent persons, who will admit the suitability of this product for cows and hogs, will yet discredit the practicability of using it as a food for horses that are hard at work; but, in refutation of the arguments they can adduce, we beg to remind them that Mr. Edmund Ruffin, among his memoranda as commissioner, states the fact that the Cuban horses of all sorts eat nothing else. The same fact was stated to us a good many years ago by our friend N. P. Trist, Esq., sometime consul at the Havana, who informed us that the diminutive but hardy and vigorous horses of the island, (they use stallions there entirely,) fed on nothing else, will go on the gallop, the common gait, sixty miles of a day, with a heavy rider. The splendid mules they have, too, for their volantes, or huge gigs, eat no other food, though they are all Kentucky raised and accustomed to corn in the ear. We have ourselves done some of

the hardest fallowing on green clover for rack food, and never hurt a horse by it. Indeed, for ten years, when we practised soiling habitually, or pasturing the horses on good grass or clover all night through the late spring and the whole summer, we lost only one per cent. of our team, or one horse in ten years out of an annual team of ten horses. We know farmers who make their corn, and summer-fallow pretty tight land, with scarcely a grain of corn, by following Mr. Gilmer's plan of spelling their horses alternately.

It is true that a horse with his belly-full of green food must be treated in a somewhat different manner from one who has only a moderate portion of highly stimulating food, or colic or broken wind will be the consequence; but it is only necessary to give him more time to eat and digest his food, and to give it to him heavily at night and more sparingly at mid-day, when he requires any how most generally more rest than victuals.

We shall return to this subject at another time, and treat it more elaborately. It has a very important bearing on the rural economy of the whole South. For the present we have written enough. But not too much, if the advice we give is followed, and our subscribers decide, not to try an experiment, but to follow the simple rules of Mr. Bailey. We feel confident that an observance of them, a patient and intelligent observance, will save thousands of dollars to the community. It is not too late to begin this year, for the most that any one will have lost by our delay in this article will be only the first sowing, or one month's feed.

ALBEMARLE INSURANCE COMPANY.

This Institution, advertised in this number of the Planter, is a Virginia Institution, whose managers, as most of its stockholders, are well known to us. We have enquired of that one among their number with whom we are best acquainted, and feel authorized to recommend it to the public. We have done a considerable amount of Insurance with the concern upon our own account, and greatly prefer it to the Yankee Companies, of whose solvency and management we know nothing. Some of these have laid a heavy tax on Virginia and then have failed to give the expected security from loss. We know of several cases in which this Company has paid its losses promptly, and we believe that no useless impediments will ever be thrown in the way of losers.

The life and fire departments are particularly worthy of attention of our friends in the interior of the State. This institution has been in operation only about nine months and by its cautious, prudent policy has already secured a large hold on public confidence. Agents in the principal towns of the State.

JEFFERSON COUNTY DOGS.—A writer in the *Charlestown Spirit* of Jefferson, complains of the depredations of dogs upon sheep. Within a circuit of a few miles, in the southern part of Jefferson, it is stated, \$400 worth of sheep have, within the last two months, been destroyed by dogs. The writer estimates that there are 3000 families in Jefferson county, and that there is an average of two dogs to a family—making the enormous number of 6000 dogs in that small county. Some families have as many as five and six dogs. An army of 6000 dogs to prey upon the property of the people of the county the writer thinks a serious evil, and advocates a tax as a remedy. It is maintained that "it costs as much to keep a dog as it does to keep and rear a hog. But if that estimate is too high, take one-half of the above estimate, and still we have the enormous sum of \$15,000 to keep the dogs of Jefferson county; for surely no one will deny that it costs half as much to keep a dog as a hog. Fifteen thousand dollars! (exclaims the writer). Money enough to educate all the children in the county for one year, and, at present prices, give a half barrel of flour to every family in the county."

STOCKING KNITTING MACHINE.—This is among the latest novelties in New York. It was patented in 1851, but, with the exception of a few in Connecticut, has not been practically tested. The *Mirror* says:

A girl ten years old can knit half-a-dozen pairs of stockings in a day, working the machine by hand or foot. In a factory, with motive power, one person can manage a dozen machines. The stocking is entirely made by the machine, from top to toe, and no nimble fingers of industrious elderly maiden, sitting by the hearth corner, could 'widen' or 'narrow' or 'heel' or 'toe' more perfectly. The invention is now in the hands of a stock company, who are about to apply it in a large factory in this city, and who offer for sale rights to use the machines.

BREAKING COLTS AND OXEN.

We are indebted to Mr. Howard of the Boston *Cultivator* for the following cut and description of a mode of breaking colts, which it strikes us is first rate.

We wrote for it, because on the farm of W. W. Gilmer, Esq., many years ago, and afterwards at Col. T. J. Randolph's, we saw a similar device for breaking oxen—similar, but simpler, in that nothing was required but the post A. and one of the poles B., with its free end fitted to receive the bow of a yoke. To that simple contrivance it was only necessary to haul up a young steer, or an old one,

a bull stag, say, yoke him in, and "let him rip." With kind treatment, they can in that way be broken more easily than in any other mode we know of, and without the barbarity of tying their tails together.

We think our horse breaking friends in Augusta and Rockingham had better try this plan and report the result.

From the Boston *Cultivator*.

Messrs. Editors:—A little more than one year since, having three fine colts, that were wholly untutored, I adopted a new expedient for bringing them into subjection, which succeeded to a charm. Several of my neighbors availed themselves of the privilege gratuitously offered them by the use of my apparatus in breaking their colts, and in every case they were delighted with the ease, safety and thorough success of the scheme. Last Autumn, having bought another large and vigorous colt of three years past in age, and wishing to bring it under subjection, I resorted to the same method that was found so effectual last season, which has been equally satisfactory, both to myself and my neighbors, who have either availed themselves of the use of the apparatus, or have witnessed its operation; and in compliance with their suggestion, I send you a drawing of the *run round*, now in rig in my yard for breaking colts. To the machine thus completed, I harness the colt, I care not how ugly or ungained, buckling the pole strap so short that he will have no slack harness; then tying his halter to the cross-bar, I pull off his bridle and let him have a fair chance, and his own course. He never runs at first for fear of the wheel before him, but alternately trots and stands still. After the colt has been harnessed an hour or so, I seat myself astride the rear pole at the point where the inner end of the bar supporting the whipple-tree is attached, when he generally starts off at a rapid speed; I retain my seat until the colt comes to a stand, which is always after he has been from six to twenty rounds. I then feed him a handful of oats, and put a wisp of hay in the rope which confines the pole strap, and leave him to pursue his own course. He should be kept harnessed in this way through the day, being visited frequently with the oat dish, and supplied with hay, where he can help himself at will.

The second day, let the colt be bridled, with leading lines attached, and fed a few oats as soon as harnessed, then left for some time to promenade at his leisure, then drove, and taught to start and stop at bidding. After being drilled in this way for half an hour, make fast one of the wheels to a post a little outside of the range, and leave him for an hour or more, thus teaching him to stand; keep him harnessed through the day, occasionally feeding, driving, backing and teaching him to stop and to stand still, but using no harsh measures, for none are needed. After three such days

of training, I have always succeeded in making a colt completely manageable, and hesitate not to take my wife on board a cutter or wagon for a ride, having done so repeatedly. I consider the above method for breaking colts cheap, safe, expeditious and effectual, and those who have examined the affair, say that a colt broken to go in that machine will go anywhere.

Explanation of the Drawing.—A A post set firm in the ground, and rising three feet, with a shouldered three-inch round tenon or pivot at the top.

B B Two straight rough hard wood poles, thirty feet long, eight inches in diameter at the butt ends, and four inches in diameter at the tops. One of these poles is confined on the top of the post, six feet from the butt end by a round mortice, three and a half inches in diameter. The other pole is lapped into the first, near their butt ends, made fast by locking, and by a two inch pin.

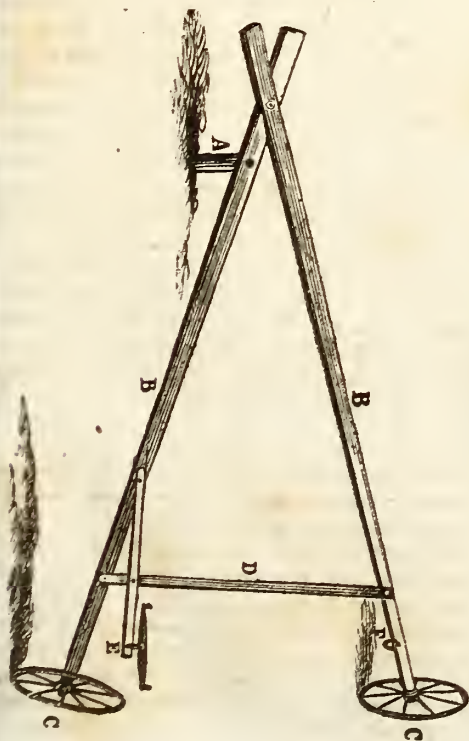
C C The hind wheels of a lumber wagon, fitted on the end of the poles.

D. Crossbar, a rough pole twelve feet long, bolted at each end on the long poles, four feet from the wheel hubs.

E Rough pole, bolted on one of the main poles and on the cross bar, to support the whipple-tree.

F An augur hole bored through the forward pole, in which is fastened a rope for confining the pole strap of the harness.

PHINEAS FIELD.



DICKEY'S BUTTER-WORKER.—An advertisement of this now almost indispensable fixture in every well managed dairy will be found upon the cover of the journal. In confirmation of the accompanying testimonials of those who have tried the butter worker, we may add, that we had one of them used in our own dairy during the past year, and speak knowingly when we award it the credit of having already saved in labor alone its first cost—to say nothing of the superior quality of the butter over that worked by hand. We have no hesitation in recommending this butter-worker to dairymen, as being well worthy their attention, and preferable to any thing of the kind that has come under our notice.—*Farm Journal.*

TO CURE SHEEP SKIN WITH THE WOOL ON

Take one table spoonful of alum and two of saltpetre; pulverize and mix well together, then sprinkle the powder on the flesh side of the skin, and lay the two flesh sides together, leaving the wool outside. Then fold up the skins as you can, and hang them in a dry place. In two or three days as soon as they are dry, take them down and scrape them with a blunt knife till clean and supple. This completes the process, and makes a most excellent saddle cover. Other skins which you desire to cure with the fur on, may be treated in the same way.

We can speak in favor of the above recipe. It does all it promises. Such skins make excellent mats for in-doors.—*Farmer's Companion.*

NEW CORN-CUTTING MACHINE.

H. E. Wilson of this county has invented a machine for cutting up corn, which it is believed will form a considerable addition to the agricultural implements of the country. He is about to apply for a patent. We find the following notice of it in the Daily Republican:

THE INDIANA CORN-CUTTER.—This is the name given to a new agricultural machine, for which a patent is to be applied for by the inventor, H. E. Wilson, of Hendricks county, now one of the door-keepers of the House of Representatives. We have examined a drawing of the machine, which is intended to cut two rows of stalks as it proceeds, something after the manner of the machine reapers though not exactly. The knives, as the machine progresses, are made to cut diagonally, downwards, while the stalks fall back upon racks at each side, and are occasionally discharged by means of a lever, the effect being similar to that of the horse-rake contrivance of this kind, reversed, or bottom up.

A working model will be got up for practical experiment. If good, the machine will be very valuable to the farmer and cattle feeder.

WOOL DEPOT OF THE MESSRS. CRENSHAW.

Our readers who are interested in wool may remember that last summer we called their attention to the establishment of a wool depot in this city, by the Messrs. Crenshaw, and suggested the importance of having a market here at home in preference to relying on more distant places of sale. Whether from respect of our advice, or from other reasons, we are pleased to know that many sent their wool to the Messrs. Crenshaw, who have lately sold their whole consignment at prices which are very satisfactory to the parties we have heard from, and must be so to all, since they compare very favorably with any sales made during the past season at more distant points in the United States.

We recur to the subject at this time because the season for the new crop is approaching and growers must be making their arrangements to sell. The enterprise of the above gentlemen has been tested by success, and we now, more confidently than before, recommend our friends to try them. There is this further inducement to consign to them; the more wool that can be brought together in one house the more certain is the manufacturer to come after it and the better chance consequently for a good sale. There is no wool factory of any kind in Richmond—to the shame of the city be it spoken—so it is only adding to the expenses of sale to stop it here in the usual way. Still as each farmer produces too little to sell directly to the manufacturer, and can offer him no inducement to that kind of traffic, it is evident an agent must intervene, and the question is, shall the manufacturer send an agent to deal directly with the farmers or shall *they* employ an agent to deal directly with *him*? It is of small moment to the manufacturer where that agent may be located so he is accessible by railroad and can command wool enough to make it to his interest to look at his stock. But is it not better for the grower to employ an agent here at home with whose character and responsibility he is, or may at pleasure become, acquainted, than to trust to a more distant consignee? and particularly if it is remembered that the expense of transportation, in detached parcels, is much heavier to the farmer than of a large lot to the manufacturer who buys at first hands and can get it from Richmond on his own account at rates almost, if not quite, as low as from any other point?

We thought well of this enterprise from the first, considered it indispensable to the growth of wool as a great Virginia staple, which we estimate as of the very highest importance, next to wheat; were glad it had been undertaken by such reliable and energetic gentlemen as the Messrs. Crenshaw, one of whom is a heavy wool grower

himself and knows a great deal of the subject practically, and consigned them our wool at once. They have recently effected a sale of all their wools, and though they labored under the usual difficulties of a new undertaking and had to contend with the additional disadvantage of a depressed wool market and hard times, and had, as was to be expected in the outset, a comparatively small stock, we may congratulate their consigners, as well as the firm, on their success.

For the information of those farmers who may not have read what we said of the benefit of a wool depot last year, we will merely state that, so far from letting a small lot go at a sacrifice and losing sight of the individual in the mass, a wool depot always commands better prices the more wool it has, because there can be made a greater number of the grades of wool, there are never less than six, we think, adapted to each particular department of manufacturing. So that a firm which had ten thousand pounds of each kind would stand a much better chance for good prices than a man who had only a few hundreds which could not be "stapled," from its small quantity.

At the Messrs. Crenshaw's establishment all of the wool of each man's consignment is sorted and a separate account kept of it, and though all of that grade is sold in the lump, yet each man gets more for it in that way than if the buyer had to purchase and sort it himself, because he must re-sell all that he does not want. It may be news to many of our farmers who work up their own wool at home to learn that they included in one piece of cloth what would make six or eight different kinds in the hands of nearly as many different manufacturers; but it is true, and in that fact alone they may see the great advantage of a depot to a wool grower. We hope to be able to illustrate it more fully in our next by publishing, in whole or in part, Messrs. Crenshaw's account sales.

We have said more on this head than we meant when we took it up, but not more than its importance demands. We believe in sheep and wool, and if the Planter shall be instrumental in increasing the quantity of both in Virginia we shall not have been without our reward.

FOR THE BENEFIT OF ANTI-ANT.—We give you a sure remedy—procure a large sponge, wash it well, press it very dry; by so doing it will leave the small cells open—lay it on the shelf where they are most troublesome, sprinkle some fine white sugar on the sponge—lightly over it; two or three times a day take a bucket of hot water to where the sponge is, carefully drop the sponge in the scalding water, and you will slay them by the thousands, and soon rid the house of those troublesome insects. [Exchange.]

FAILURE IN A STAND OF GRASS, AND A REASON FOR IT ASKED.

FRANK G. RUFFIN, Esq.,
Ed. So. Planter:

Dear Sir:—You have farmed some years, successfully I suppose, and have lived in that time and until recently, adjoining one of the very best agriculturalists of our country. You are also, I presume, intimately acquainted with some of the very best farmers of Virginia, and of the Union; and you have now become sole Editor of the Southern Planter; and no doubt you have access to all the chief agricultural periodicals of America, in the way of exchange. Under such circumstances, some of us small farmers, and subscribers to your valuable paper, look to you as the great Doctor, who will give us a cure for all the many ills which now threaten our agricultural prosperity. No doubt the many suffering patients will crowd in their numerous cases, and most urgently plead for advice; so you will please excuse an old friend for troubling you with a perplexing case of his, and modestly requesting a prescription therefor.

Having long been convinced that the cultivation of the grasses would yield more profit to the outlay, and be far more easy and pleasant labor than is imposed by any other crop we can make, at least under the present disastrous reign of the joint-worm, Hessian fly, and tobacco fly, and (with us last year by far the worst of all) the destructive hordes of chinch bug which assails with equal destructiveness every crop, save only the tobacco, pea, and buck-wheat, I was induced to try my hand upon the grasses. I have succeeded pretty well until last summer, when the greatest effort I ever made, was completely foiled. I will lay the circumstances before you, and beg for some advice, which I trust you will give, and thus save many from the like heavy failure in future.

A change in the public road brought a portion of my prettiest and most expensively improved flats into full view; and I resolved to beautify it by putting it into meadow, the best ever seen in these parts. The lot of six acres was in tobacco year before last. In the fall of that year I doubled the beds of eighteen feet to thirty-six feet, with a four-horse Livingston plough, and cleared out the furrows nicely with shovels: by the spring it was as thoroughly pulverized as any land I ever saw. Last spring I seeded it with oats—three bushels per acre—with the intention of ploughing them in, and then seeding the land with peas, buck-wheat and timothy; but the chinch-bug compelled me to cut them. They were a fine

crop, though worse lodged than any I ever had. I then reversed the beds with a three-horse plough, and, in August, reversed again with a four-horse plough. Then I sowed peas, buck-wheat and snaps at the rate of a bushel to a bushel and a half per acre, harrowed them in, and then sowed three gallons of clean timothy seed per acre, and rolled them with a heavy four ox roller on the 19th of August. It did not rain till the 9th of September, when all came up well. It was the nicest preparation I ever saw. The timothy was pronounced too thick in the fall. The peas, buck-wheat, &c. I thought would protect the young grass from the cold of winter, and yield some food in the spring; but, to my great mortification and surprise, the timothy is nearly all dead. I have seeded it again—upon the snow in January—and at the same time sowed by hand sixty bushels of mixed lime and ashes upon it. If it does not look sufficiently thick by April, I shall then re-sow, plaster and roll it, as too much has been done to give it up so. Now what was the cause of this failure, and how can it be prevented in future? The land was thoroughly drained by five blind ditches, and as nice water furrows as I can make. I think it was too light, and admitted the cold to the roots. My Randall and orchard grass was much injured, seeded upon heavily-guanoed wheat lands.

So you see we are trying to improve in these parts. We are about to have an agricultural club of twelve members, first for the benefit of ourselves, and then to give out our results to the public through your paper. We expect to hold our first meeting next month, and then once a month at each member's house, successively, when we will minutely inspect every thing of agricultural interest on the whole farm. We will select a subject upon which each member will be required to experiment, and to give the result of his views in writing: one of these will be selected and sent to your paper monthly; and from this much good will result to each member, and if so, to our brethren of the plough elsewhere. If these pieces should prove worthy of publication, and the like societies could, as they should, be gotten up all over the State, it would greatly lessen your labors, and at once swell your paper to double its present size and usefulness; and be one great means by which it might be placed in the hands of every farmer of Virginia at double (half?) its present price. You shall hear from me more fully next month. In the mean time permit a friend to give you a little hint. One great cause of the Virginia farmer's doing so little, is, first, he is too much a man

of intention, going to do great things, but always postponing its commencement. We are too slow. Now as you occupy a high place in our midst, and a good example from you might tell well on us, suppose you, at once, do as I think you promised to do. Just add on a little steam and press out your paper on the first of each month, for which it is intended, and not wait until the month is half-gone ere we get it. Again, make your year close on the day of the Virginia Fair; at which time require a full payment of your dues, and I think your collections would be far more prompt, as the Fair, of itself, would remind us of the pittance due you for a whole year's good we had been receiving from your labors.

Most respectfully yours,

GEO. C. GILMER.

Buckeyeland, Albemarle, March, 1855.

We are very painfully aware that we are looked upon somewhat in the light of a Doctor, as our friend, Mr. Gilmer, asserts, and have protested against being "the physician in spite of himself," until we are tired of it. In this particular instance, we do not think the history of the case is given with sufficient minuteness, and we suspect that several circumstances are unintentionally omitted by Mr. G., which it is important to know before giving an opinion. Not the least among these is the kind of soil. For instance, if the land is of the character of soil of the Southwest Mountain, a great deal of which is washed down upon Buckeye land creek at some points along the mountain streams which flow into, and indeed form, that creek, then, from our knowledge of that land, and our experience of the pea crop on it, we would not hesitate to say that the land had been made too light by the peas and by repeated ploughings. In land of an opposite character the failure might result from defective drainage, which frequently exists to a most injurious extent, even when least suspected, and in some cases where the greatest and most praiseworthy efforts have been made to drain thoroughly.

But we publish Mr. G.'s communication to call the attention of others to it, who may explain, if they can, the unfortunate result of his so persevering attempt to get a stand of grass.

We are glad to hear of the determination to get up a farmer's club in that neighborhood, which we know well and deem a very improvable section. However shortlived such associations are, (and they generally last but a short time,) we have never known them fail to do much good. Why they are so ephemeral we may attempt to explain

at a future day. There is no reason why they should be.

We hope the Planter will now be issued punctually. It was out the first of April, and under the management of Mr. Baillie we think we can promise punctuality for the future. When we lag we hope our friends will remind us of it.

TARTARIAN SHEEP.

We have seen several accounts going the rounds, of Tartarian sheep, and they are said to possess the merit of yearning twice a year. We have not paid much attention to them, looking upon them as a sort of Barnum, and thinking that those who know what Tartary is, would not be apt to go there for sheep, or any thing else in the Agricultural way, unless perchance they have a fancy for learning to live on mare's milk. We merely notice them now to say that those who wish sheep that have lambs twice a year can get them more cheaply perhaps than from the owners of the Tartarian stock. In the more Southern States sheep year twice a year habitually. In Mississippi we know they do; we have heard the same thing of Georgia, and we presume is true of South Carolina, especially on the coast. Thither then let those look who want that kind of stock, or if not so let them import the Dorset sheep of England, who possess this quality in a slight degree.

But in our climate is this peculiarity any recommendation to a breed of sheep, and under our ordinary farm management is it desirable? It is as much as our best farmers do to raise one crop of lambs well, and those who do that would be better employed in setting the example to their neighbours than in trying experiments of such questionable utility.

ESSAYS AND NOTES, BY EDMUND RUFFIN.

It is unnecessary for us to say a word in commendation of any agricultural writing of Mr. Ruffin, and we now intend to do little more than give notice that a volume of his essays have just been published by our enterprising friend, J. W. Randolph. The volume embraces fourteen essays, nearly all of them of a practical character and some of very great value. We have read most of them in another form, but have only had time, since the date of their later appearance, generally in an enlarged and improved form to read "the essay on Draining," which we have studied closely. It is the best treatise for the agriculture of his particular section, and for the kind of land he professes to prescribe for, that we have ever seen. We don't know an equal investment for ten times the money.

We are sorry that the typography and getting up are not equal to the merits of the work. It is badly printed.

RIDGELINGS.

A correspondent wishes to know whether Ridgelings can be safely castrated, and whether they have the procreative power.

When a colt is first dropped the testicles are near the kidneys. They are soon forced into proper position by the contraction of the duct in which they are lodged. But it sometimes happens that they are stopped *in transitu*—occasionally both but more frequently one—and are permanently retained in the abdominal cavity. Whether, when half gelt, the power of procreation remains, depends on circumstances. If the hidden testicle is in such a position in reference to surrounding organs as to compress it and prevent its full development, the power does not exist; but if its position allows full development then the power does exist, though the animal is rarely so vigorous as he otherwise would be. This explains the contradictory accounts we hear in regard to the procreancy or impotence of such horses.

It results from the above that an attempt to castrate them is not always successful, but is always attended with great risk. To get at the testicle an incision must be made into the cavity of the abdomen, and if peritonitis—an inflammation of the lining membrane of the cavity—does not ensue directly, as most likely it will, it is very apt to be produced by the irritation of the operation of gelding. To do that the hand must be introduced and the testicle felt for. In the search other organs may be injured, and if found and removed it will produce considerable hemorrhage and irritation, especially if of full size. None, therefore, but a surgeon, and a good one at that, should be permitted to perform the operation.

Ridgelings are generally "squealers," but they are almost always fine horses, hardy and vigorous, which is some compensation for the trouble they give. If we had one, we should not value him as much the less on account of this objection, and would rather prefer him for the saddle or quick draft. In fact, we are in favour of gentlemen's riding and driving stallions, and regret that the fashion and false delicacy are opposed to it.

CHAUNCEY P. HOLCOMBE OF DELAWARE.

We regret to announce the death of this gentleman. He was one of the most useful, public spirited and distinguished farmers of his State, and was in the full tide of life and energy. His death is a real loss to the agricultural public, particularly at this time, when he had undertaken to start a movement in opposition to that one-sided kind of protection which taxes farmers for the benefit of manufacturing and commercial interests and at the same time, by a reciprocity treaty, exposes them to the competition of a great grain-growing country.

CAPACITY OF BOXES.

We published in the last issue a table of the capacity of boxes. An acute friend has favoured us with the following in correction of that. A comparison of the two will show the errors of the first publication.

	Inches square	In. deep	Will contain	Cubic In.
A box	24 by 16	by 2½	1 barrel,	10752
"	24 " 16	" 14	½ barrel,	5376
"	16 " 16.8	" 8	1 bushel,	2150.4
"	12 " 11.2	" 8	½ bushel,	1075.2
"	8 " 8.4	" 8	1 peck,	537.6
"	8 " 8	" 4.2	1 gallon,	268.8
"	{ 8 " 8	" 2.1	} ½ gallon,	134.4
"	{ 7 " 4	" 4.8		
"	4 " 4	" 4.2	1 quart,	67.2
"	4 " 4	" 2.1	1 pint,	33.6

SEYMOUR'S PATENET BROADCASTING MACHINE.

We again call the attention of our subscribers to this machine. Since the last number of the Planter was published we have sowed with it one hundred acres in oats, and they are now up. We never had a crop so well seeded or that promised better.

As to the quantity of work that it will do, we can only state our own experience. One horse works the machine with perfect ease, it being no heavier than a single gig. The driver, in our case, was so engaged that he could not get to the work sooner than an hour by sun and had to leave it about the same time in the evening. We had four three-horse harrows in the field and a three-horse plough to sweep the water furrows. The land required only once harrowing to get it in order, the tilth upon the fall and winter ploughing being remarkably fine. Dividing the work of preceding and following the machine, as occasion required, so as to keep all the work well up together, we found that it was perfectly able to keep ahead of them. It sows a breadth of ten feet, as fast a horse can walk, and carrying two bushels at a time, does not require as many stoppages as are necessary with a man who seeds by hand and can carry a much less supply with him. The seeding, too, is entirely independent of the wind and was done with us as well during very high winds, which prevailed most of the time, as during a calm, because the seed are delivered so close to the ground. We not only recommend the machine, therefore, to every farmer, but we urge them to buy it, not on Mr. Seymour's account, who is nothing to us, but on their own.

EFFECTUAL METHOD FOR DESTROYING
RATS.

A correspondent of the *Genessee Farmer* gives the following method for destroying rats. He says:

"One day a stranger came to the house to buy some barley, and hearing my father mention the difficulty he had in freeing the house of these disagreeable tenants, he said he could put him in the way of getting rid of them with very little trouble. His directions were simply these: mix a quantity of arsenic with any sort of grease, and plaster it pretty thick around all their holes. The rats, he said, if they did not eat the poison, would soil their coats in passing through the holes, and as, like all furred animals, they are very cleanly, and cannot endure any dirt upon their coats, to remove the offensive matter they would lick their fur, and thus destroy themselves. This plan was immediately put in practice, and in a month not a rat was to be seen about the house or barn."

STATISTICS AND DISTRIBUTION OF THE
WHEAT CROP.

As an article of commerce, wheat has been raised in surplus in several countries; but, taking the whole earth into view, the production of wheat has never equalled the demand for it. There have always been countries which, in pursuit of greater gain from other crops, or, in consequence of natural deficiencies, have not raised enough for their own food; and, if we equalize the crop, we shall find there has never been enough.

In giving the statistics of wheat in this country, we state in advance, that the production of wheat, in the interior of the United States, is of great consequence and interest to our western railways. A single fact will place this in a striking point of view. In the year 1854, the wheat crop of Ohio fell short of a fair average, ten millions of bushels. The whole of this was taken from the surplus—that which would have been carried to market. The consequence is, that a single railway fell short in its freight business to the extent of seventy thousand tons!

The following is a table of wheat production in the United States for 1852, being found by adding the average annual increase to the census of the crop for 1849, and substituting the crop of Ohio, as ascertained by the State Assessors. In 1854 the crop was not as large as in 1852, by probably twenty-five millions of bushels; a fact which has not been generally recognized in the noise which was made about

the corn crop, but which is amply proved in the high prices. If, in 1855, (as is very probable), the wheat crop should be a good one, it will be larger than that of 1852, so that that year is the proper one to compare by.

TABLE OF THE WHEAT CROP IN 1852.

States.	Bushels.	Product to each inhabitant, in bushels.
Maine, -	350,000	$\frac{1}{4}$
N. Hampshire, -	230,000	$\frac{1}{4}$
Vermont, -	600,000	2
Massachusetts, -	220,000	1-5
Rhode Island, -	3,500	$\frac{1}{4}$
Connecticut, -	50,000	1-40
New York, -	15,000,000	5
New Jersey, -	2,200,000	5
Pennsylvania, -	17,800,000	7
Delaware, -	350,000	5
Maryland, -	5,200,000	9
Ohio, -	22,300,000	11
Indiana, -	7,200,000	8
Illinois, -	11,000,000	11
Michigan, -	5,800,000	12
Wisconsin, -	5,000,000	15
Iowa, -	1,800,000	9
Kentucky, -	2,500,000	2 $\frac{1}{2}$
Missouri, -	3,500,000	5
Tennessee, -	2,500,000	2 $\frac{1}{2}$
Virginia, -	13,000,000	9
N. Carolina, -	2,500,000	3
S. Carolina, -	1,200,000	2
Georgia, -	1,300,000	1 $\frac{1}{2}$
Alabama, -	350,000	$\frac{1}{2}$
Mississippi, -	150,000	$\frac{1}{4}$
Florida, -	1,200	1-40
Louisiana, -	500	1-1000
Texas, -	50,000	$\frac{1}{4}$
Arkansas, -	250,000	1
California, -	30,000	$\frac{1}{4}$
Aggregate, -	123,925,200	5

This may be regarded as a full crop for the year 1852; and although, as in the States of Kentucky and Tennessee, the statement is in some instances low, on account of the basis in these States, the crop of 1849 being a deficient one, yet, in the main, it is very nearly correct.

Now, the fair allowance to each person in the United States is five bushels, which is just the amount; but we have three millions of negroes in the South, and probably two millions of whites in the same region, whose bread-stuff is almost exclusively Indian corn. The allowance for the five millions is twenty-five millions, and supposing the stock on hand to be sufficient for seed, this is all, even in a good year, we have for export; but, what can we have from such a crop as the last? Absolutely nothing.

In the above are three classes of States, (as to the wheat crop,) divided as follows:

1st. *The Surplus States.*—These are, Virginia, Pennsylvania, Maryland, Ohio, Indiana, Illinois, Michigan, Wisconsin, and Iowa.

2d. *States which supply themselves.*—These are New York, New Jersey, Delaware, Missouri, Kentucky, and Tennessee. The last two States are included here for reasons stated above, because their crops in the table are below their usual average.

3d. *States importing their bread.*—These are, Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut, N. Carolina, S. Carolina, Georgia, Alabama, Mississippi, Florida, Louisiana, Texas, Arkansas, and California, sixteen States, or more than half the American Union. These are the manufacturing, cotton planting, sugar, and mining States. These States find it, as they think, more to their interest to buy other people's bread, than to make their own.

In a common year, such as 1855, (with no blight on the harvest,) may be, the surplus States will export something like the following amounts of wheat, viz:

Pennsylvania,	-	5,300,000 bushels.
Maryland,	-	2,700,000
Ohio,	-	11,300,000
Indiana,	-	2,200,000
Illinois,	-	6,000,000
Michigan,	-	3,000,000
Wisconsin,	-	3,000,000
Iowa,	-	300,000
Virginia,	-	5,500,000
Total,	-	39,300,000

This is fourteen millions of bushels more than what can be afforded for foreign export; but this fourteen millions is what the manufacturers and planters eat, and enters only into the internal commerce; so does the whole amount of what is carried to foreign countries, for that must be carried to port.

Of the above fourteen millions, about eight millions are consumed in New England, and the residue in the South.

We come now to the question, What is the movement of wheat in commerce? And what is the railway movement? It is not very difficult to ascertain this. We have about (as above) forty millions of bushels exported from the producing States. That must all be carried off. Then we have the consumption of wheat in the large cities and towns of the producing States, which must be transported from fifty to one hundred miles. The population of these cities and towns

amounts to about one and a half millions; and require about seven and a half millions of bushels for their consumption. We have then this result of the wheat commercial movement, viz:

Foreign export,	-	25,000,000 bush.
Domestic export,	-	15,000,000
Consumption of cities and towns in the producing States,	-	7,500,000
Aggregate,	-	47,500,000

This is equal to one million six hundred thousand tons of freight. It is very easy to see from the above statement, where the great ports for the distribution of wheat are. The principal ones are as follows: Philadelphia, Baltimore, Richmond, Pittsburgh, Cleveland, Sandusky, Toledo, Detroit, Milwaukee, Chicago, St. Louis and Cincinnati. In a common wheat year, such as 1852, 1853, and as we suppose we shall soon have again, the shipments from these ports will verify the above tables in every particular. Boston, New York, New Orleans, &c., handle a great deal of wheat and flour, but they are not original shipping ports of this article at all.

In a short time we expect to show the whole agricultural export of Ohio for 1854.—*Western Farmer's R. R. Record.*

BREEDING TURKEYS.—Every turkey breeder is not aware of it, but it is a fact, that of either sex, one old turkey is worth two yearlings for rearing young ones. A turkey does not arrive at its growth and maturity till the next fall after two years old, and of consequence, to its full strength and vigor for breeding in the best manner. The continual repetition of keeping young gobblers and pullets for breeding, as some people do, reduces the size of their young till they arrive at scarcely half the weight they should do. Besides this, the young of these immature birds are exceedingly tender, and much more difficult to raise than those of old birds. We have tried this thing thoroughly, and are convinced of the difference.

Were we to choose our birds for the very best breeding, both hens and cocks should not be less than three years old, and then the cock should be from a different stock from the hens. We think that turkeys bear breeding from close affinities less successfully than any other fowl—at least we have found it so—and we would never breed a cock to hens when closely related, if it could be helped.—*Montgomery Ledger.*

For the Southern Planter.

USEFUL HINTS FOR VIRGINIA GARDENERS.

BY E. G. EGCELING, FLORIST.

May is the third and last of the spring months, and as most of the vegetables are already in the ground, the chief duty to be performed is to keep the garden clean. This will constantly employ the diligence of the workman, as grass and noxious weeds spring up continually and in the greatest abundance. Our directions for the kitchen garden, this month, will mainly relate to such plants as mature late in the season.

KITCHEN GARDEN.

Egg Plants should be planted out now, so soon as a wet spell of weather prepares the ground for the purpose. Soon after they are removed they should be covered with trash tobacco, to guard them against the ravages of the fly. If once attacked nothing can save them. Preventive measures are the only safe measures.

Peas and Radishes—A few of each may be sown at short intervals to keep up a supply.

Cabbage Plants—These should still receive an application of lime or trash, as heretofore directed, to preserve them from the insects.

Tomatoes—A full crop may be planted without delay. When removed from the bed they should be supported by sticks if they are tender and weak. The soil should not be over rich, and it is especially important that the plants are not shaded. Let them stand where the sunshine will fall full upon them.

Peppers—These may be transplanted during the month.

FLOWER GARDEN.

Like the kitchen garden there is scarcely anything to do this month but to keep things clean. Should the green fly make its appearance upon the rose bushes, notwithstanding attention to the cautions heretofore given, we know of no efficient remedy but a liberal use of trash tobacco.

Caution—It is often the case that when the garden is hoed it is done carelessly, with here and there spaces untouched by the hoe. Every inch of the earth should be disturbed. Furthermore, it is the custom, after hoeing, to rake over the surface, taking away all the weeds which have been rooted out. This is improper. Let the weeds lie on the surface, where they not only do no harm but are a positive benefit. If they are chopped up when the sun is shining (and the ground should be hoed at no other time,) they will wither soon and die. Then as they lie they shade the earth and keep it moist, while they enrich it as they decompose. If left growing they would exhaust the soil and impoverish the plants, but when cut down they may be allowed to lie where they fall and no injury will ensue but a decided good.

Watering Plants—From the constant enquiries which are addressed to us wherever we go we are convinced that a small space in this number can be profitably employed with some suggestions concerning the use of water in the green-house, in the garden and the field. Water enters largely into the composition of all the vegetable creation and is essential to the healthy growth and development of every plant. Some plants require more than others, and our task would be endless if we attempted to go into specific details concerning all the shrubs and plants cultivated in conservatories

and gardens. This is not our object, but merely to give a few plain hints, which may serve to guide those who have sound judgment and discretion.

We remark, first of all, that plants are oftener killed by having too much water than for the want of it. Plants should have water only as they need it, in other words, when they are thirsty. As to plants in green houses, in pots or tubs, water should be supplied only when the earth is dry and dusty. How often it is to be poured on must depend upon many circumstances, and we can not give any rule for the guidance of the gardener, save that already given. The water used should not be such as is just taken from the well. That is too cold. The water should be drawn and allowed to stand exposed to the influence of the sun at least one day before it is employed.

As to watering vegetables in the kitchen garden, we do not approve of that at all, except as we have indicated in former numbers. We would substitute deep cultivation. Where the spade is used let trenching be resorted to, and in the field with the plough, subsoiling is the remedy. By breaking the earth deep it will retain more moisture and in very dry seasons the sun's rays will draw up moisture from the lower deeps.

Water applied to trees soon after they are planted may do good or harm, according as it is judiciously or injudiciously applied. When a tree has been put in the earth no water should be given until it gives signs of having rooted itself and is beginning to grow. If put on sooner the plant does not absorb the water and it only serves to rot the roots. After the tree begins to grow then the application of water will greatly facilitate its progress. Trees planted out late in the fall should never be watered, as generally through that season and the winter the earth is well supplied with water from the clouds.

Water should not be supplied to any thing, whether trees, flowers or vegetables, during the hotter parts of the day. Early in the morning, or late in the afternoon are the proper periods, and the latter always preferable.

When water is applied, to guard against the baking of the earth, the space immediately around should be covered with tan bark, or trash, or manure—indeed any thing will answer that will shield the ground from the fierce heat of the summer sun. This accomplishes a double good: it prevents the earth from baking, and the formation of fissures which let in the heat to the roots of the plant, and retain the moisture which else would be evaporated by the sun.

In watering trees, most people commit the error of putting the water where it is not wanted and where it can do no manner of good. That is to say, they pour the water just around the stem of the tree, where there are no fibrous roots to suck it in. It should be poured down where the outer ends of the roots extend, as there it comes into immediate contact with the mouths of the tree, which imbibe all the nourishment that is obtained from the soil.

CUTTING CLOVER FOR HAY.

We had promised a respected correspondent to publish, this month, the essay of Mr. Edmund Ruffin, on cutting and curing clover hay, but we find that we have over-calculated the capacity of

the Planter and have no room for it. But those who wish to see the essay, can do so by purchasing Mr. Ruffin's book, just published, to which we have referred elsewhere. In the same connection, they will please see the following, extracted from p. 14 of the present volume of the Planter:

Mr. Ruffin, if I remember aright, after turning the recently cut clover, so as barely to wilt both sides, throws into little heaps, enough to be conveniently taken by the hay fork and carried to the little stack. I tried this plan with a part of my crop one year, and found the scorching sun not only parched the top of the piles, but penetrated them to a very considerable depth. Since then I let one side be exposed to the sun just long enough barely to wilt it, then turn and lap the rows, and let the other side be also dried and wilted. Then at once take from the rows to the little stacks. This is not only a saving of labor but makes better hay.

We think it will be time to publish the essay in June, very few persons cut clover before that time; no one can this year. And as the Planter now appears the first of the month it will do then as well as now.

For the Southern Planter.
IRISH POTATOES.

It really seems that the Irish potato is about to become extinct. I understand that they are selling in Richmond at six dollars per barrel, which is at the rate of at least a dollar and a half per bushel, and "small potatoes" at that.

It may be well to state, that some years ago, seed being scarce and dear, I raised some from the slip, in the way of transplanting yams and sweet potatoes; and the result was, that the slips produced better potatoes than those planted whole and growing up in clusters. Nothing is gained by having more than two or three slips in a place. True, you make more potatoes in number, but all of them will be small.

Let house-keepers and gardeners try the experiment the present year, and I will vouch that if the seasons be good and the ground suitable, there will be no failure, if the slips be carefully drawn. This ought to be done by holding down the old potato with the left hand, and carefully inserting the thumb and fingers of the right hand along the slip to be drawn for transplanting, and carefully slipping it off the old potato with the thumb and finger ends.

Let us try too this year to raise seed from the apple or ball which grows on the vines. There may be a good chance to renew the stock and arrest the rot so destructive to the breed of Irish potatoes. Let us try it, at all events.

T. H. A.

THE WATER MELON.

The history of the watermelon, so much esteemed for its sweet, delicious and cooling juice, as well as that of the muskmelon, or canteloupe, which is equally prized for its rich aromatic pulp, may be traced back to remote antiquity. The former, which is generally considered as the melon of the Jews, mentioned in various places in the Bible, is believed to have originated in Egypt or Southern India, where it has been cultivated from time immemorial. It would appear that it was unknown to the ancient Greeks and Romans, as no definite information respecting it can be gleaned from their authors. The muskmelon, which is represented to have been a native of Asia, was known to the Greek and Roman physicians, and its properties and uses described by them at length.

The kind of muskmelon most esteemed among amateurs in various parts of Europe, and described, is the "canteloupe," so called from a place about fourteen miles from Rome, the country seat of the Pope, where this fruit has long been cultivated. This variety is stated to have been brought thither from that part of Armenia which borders on Persia, where it grows in the greatest perfection and abundance. The flesh of this melon, when fully matured is delicious, and may be eaten with safety, without injury to the dyspeptic or those of the weakest stomachs. The form of the canteloupe is generally roundish, with a rough, warty, or netted outer rind or skin. The size of the plant is rather small, and the flesh for the most part of a yellowish color, though with some it is green.

Patent Office Report.

WILL ASHES DISSOLVE BONES?

Owing to the indisposition of farmers generally to use sulphuric acid to reduce bones to pulp or powder, many persons, knowing the value of the bones cast away from the kitchen of every farm house as worthless, have racked their brains to discover some means of turning them into account. Some have had them broken and ground like plaster, which when mixed with the soil becomes a valuable and lasting manure, but not very speedy in its operation. It has been known to many that bones heaped together, and covered with some moist substance, would heat and soften, and could thus be prepared for the field; but the best account we have seen is the following, given in a recent number of the Country Gentleman.

If the question be asked, will ashes dissolve bones? the answer is, No: not in the proper

sense of that term—not as water dissolves sugar or salt. But if it be asked whether ashes will reduce bones to a condition in which they will be speedily available to plants, the answer is, Yes. The Hon. Phillip Pusey ascertained several years ago, and, after carefully experimenting upon the discovery three or four years, published in the Journal of the Royal Agricultural Society, that bones, if placed in a pile and covered over with wood ashes, of fossil coal, leached ashes, common soil, or sand even, will heat and crumble to powder. He showed, as the result of careful experiments, several times repeated, that bones treated in this way become a valuable manure; and upon the strength of his own experience he recommended the course to English farmers.

A friend of ours, in whom we have entire confidence, informs us that seven years ago he fell into the practice of reducing bones by means of ashes, by a sort of fortunate blunder. Being at the head of a very large family, in which fresh meat was largely consumed, he found that his Irish cook was in the habit of throwing all the bones out of the back window. This drew such a bevy of dogs, with voices bass, tenor and treble, about the house, that it was impossible to sleep quietly. In order to withdraw temptation from the dogs, and to preserve the bones for the use of his land, to be prepared in some way then unknown, he ordered the bones to be carried and put into an old sugar hogshead, placed in a grove at a little distance from the house, and the ashes from the kitchen to be thrown on them, the hogshead to be uncovered that the rain might fall into it. Whenever an offensive smell arose from the bones, which was only in dry weather, he found that a little water thrown on prevented it. As soon as the first hogshead was filled another was placed by it and filled, and then another. His intention was to use the ashes and bones on Indian corn, supposing that by the next spring the bones would be somewhat softened, so much so that they might be pounded to pieces with a sledge hammer on a flat stone. The hammer and the stone were actually procured for the purpose. But no bones were found, except near the top of the hogshead last filled. Instead of the bones, were found soft saponaceous masses, retaining the form and size of the original bones, but none of their hardness. They were easily cut with a shovel and mixed with the ashes; and when so mixed, and applied to corn at the rate of a half pint to the hill, they proved an excellent manure for corn.—*Farm Journal.*

RICHMOND MARKETS, APRIL 28, 1855.

- APPLES—Va. \$5 per bbl. none in market.
 BACON—City cured hog round, 10cts. Western Sides (new) held at 9½c., no old in market, would bring 8¼a8½c., new Shoulders, 8¼a 9c., Hams, 10¼a12½c., Smithfield hog round, 10½c.
 BUTTER—Mountain 30 to 35 cts., Roll 20 to 25 cts., do Goshen 35a37 cts., old and inferior, 8a10½ cts.
 BEESWAX—25¼a26½ per lb.
 COTTON—9¼a9½ cts. per lb.
 COTTON YARNS—17a18 cts., cash. Cotton Cordage 20 cts., per lb.
 CORN—We quote 100a105 cts., per bushel; in small lots sales at 105 cts.
 CORN MEAL—\$1 15.
 COFFEE—Rio 10½a11½ cts., Laguira 11½ c., Java 14½ c., Mocha 15 c.
 FLOUR—Stock light and receipts small. We quote country superfine at \$11½, extra \$12, family \$12½.
 FLAXSEED—We quote at \$1 60 per bushel.
 FEATHERS—Live geese 40 cts. per lb.
 FISH—Horrings, N. Carolina, clipped, \$7 per bbl., Halifax, clipped, No. 1, \$5½; No. 2, \$4½. Shad—\$8. Mackereel, No. 1, \$21 per bbl., half bbls. \$11, No. 2, \$12 50, No. 3, large, \$5 50a6, No. 4, \$4 50a\$5.
 GINSENG—30a35 cts., per lb.
 GRASS SEEDS—Clover \$6 75a7 per bushel, Timothy \$4a4 25, Herds' Grass \$1 25a1 50 per bushel.
 GUANO—We quote \$50 from wharf, \$50 50 delivered, for Peruvian, Mexican Guano \$30a\$35.
 GUNPOWDER—Dupont's and Hazard's Sporting, F, FF, and FFF, \$4½, Blasting, \$2,75a\$3 per keg.
 HOOP POLES—We quote at \$7a\$8 per thousand.
 HIDES—Slaughtered 6½ cents per lb., green weight; calf skins, green, \$1. No Spanish Hides in market.
 HAY—Sales from store \$1 25.
 IRON AND NAILS—Pig Iron, no sales since of note and prices nominal, \$32a\$40 per ton, Swedes \$107 50 per ton, English refined and Tredegar \$95, Common English \$80, American country \$85. Cut Nails 4½c., cash, 5c. time.
 LIQUORS—Brandy, Otard, Dupuy & Co. \$3a5 per gal; A. Seignette, \$2 25a\$4; Sazerac, \$3 25a \$4 50; Hennessy, \$3 95a\$5; Peach, scarce at \$1a\$1 25; Virginia Apple, 60c. a\$5c.; do. old, 75c. a\$1 50; Northern do, 55a75c.; Imitation, 45a47½c. Rum, New England, 45c. Gin, Holland, \$1a \$1 50; American 45 cts.
 LEAD—Pig 6¼a6½c., cash and time.
 LARD—Prime Lard, in bbls. 10 a10½c., in kegs, 11a11½c. in pails, 13c.
 LEATHER—Good stamp 20a22c., per lb., damaged 13c., poor 15a17c., upper leather \$1 50a\$3, as in size, weight and quality, the latter price only for superior heavy sides. Skirting and harness leather is more plenty with less demand. We quote 20 to 22c., as extremes, principally sales 22a26c.
 LIME—\$1 37½ in store, \$1 25 from vessel.
 MOLASSES—New Orleans 30a33c. per gallon. No Cuba and Porto Rico received yet.
 OATS—Stock very light—sales at 65cts. per bush.
 OFFAL—Bran, 25c. per bushel; shorts, 50c; brown stuff, 60c. shipstuf, 100c.
 POTATOES—Stock on hand much diminished, and we quote \$1 65 per bushel.
 PLASTER—Lump sells at \$5 25 on the wharf, ground \$9 per ton, calcined \$2 50 per bbl.
 RYB—\$1 25 per bushel.
 RICE—New 6a6½ cts. per pound.
 SALT—Liverpool fine \$1 60 per sack from wharf.
 SUGARS—Pair to strictly prime New Orleans 5a6½ cts., Porto Rico 5a6, Coffee Sugar 7a8½, refined loaf 9¼a9½, crushed and powdered 8¼a9c.
 SHOT—7a7½ cts. per lb.
 TEAS—Imperial and Gunpowder 55c. a\$1 20.
 TOBACCO—We quote Leafs at \$4 75a5 25 for inferior, good and fine \$5 75a6 75. Common Leaf \$7 50a\$8. Common \$ 50a9 Good \$9 50a10 50. Fine stemming 11½.

WHEAT—Primered \$2 57½, do white \$2 62½. Good qualities \$2 45a\$2 55 per bushel.

WHISKEY—Richmond rectified 37½a38½ cts. Cincinnati 2c., 4 mos., nominal, none now in market.

WINES—Port, Burgundy \$1a\$2 50 per gallon; Port Juice, \$2 50a\$4; Madeira, Sicily 45c\$1 75; Old Madeira, \$2 50a\$4; Sherry, Permartin, Duff Gordon and Amontilado, \$2a\$4 50.

WOOD—Oak \$3 50 per cord, \$2a2 25 for Pine, retail \$2 50a5 for Oak, \$3a3 25 for Pine.

WOOL.—The following quotations are for sales of about 50,000 lbs., made at Crenshaw & Co.'s Wool Depot in this city, all of the wool having been previously graded according to quality and condition: Extra fleece Saxony and Merino, 55c; No 1 do. do., 50; No. 2 do, part blood, 40c.; No. 3 do. do., 35c.; No. 4 do. do., 33c.; No. 5 do. native, 30c. Tub washed, No. 3, 29c.; do., No. 2, 30c.; do., No. 1, 32c. Unwashed 20 to 25 per cent. discount as in condition.

BEER—\$4 50, 5a5 50 per cwt. gross, which is \$9a10 and \$11 net.

HOGS—\$7½ per hundred, supply moderate.

SHEEP—Mutton scells for \$3a7 a piece for ordinary and superior Sheep.

STOCKS—Va. 6 per cents, (34 years) no sales; Va. 6 per cents (25 years) \$96; State Coupons \$97; Bonds guaranteed by the State, \$99; Richmond City Bonds, (34 years) \$97; Va. Bank stock 74; Farmer's Bank stock 104 Exchange Bank stock \$106; Richmond, Fredericksburg and Potomac Railroad stock, 95 dol.; Va. Central Rail Road stock 35 dol.; Richmond and Petersburg Rail Road stock 45 dol.; Richmond and Danville Rail Road stock, 50 dol.; James River and Kanawha stock 13 dol.

PAYMENTS TO THE SOUTHERN PLANTER,
To the 22d of April, 1855.

All persons who have made payments early enough to be entered, and whose names do not appear in the following receipt list, are requested to give immediate notice of the omission, in order that the correction may be made in the next issue:

G. Sampson to January 1856	1 25
T. J. Wallace to January 1855	2 50
T. Moore to January 1855	1 00
A. Curtis to January 1855	2 50
John Sloeum to January 1856	3 50
T. Gaskins to January 1855	1 00
E. Wallace to January 1859	4 00
E. S. Safehell to January 1854	1 00
Capt. W. M. Walker to Sept. 1855	1 00
J. A. Allen to January 1856	1 00
Col. D. B. Hancock to January 1856	1 00
T. Baylor to January 1856	1 00
H. S. Hathaway to January 1855	1 00
W. Huntington to January 1856	1 00
E. W. Green to January 1855	5 00
H. B. Miller to January 1855	1 00
Dr. W. T. Banks to January 1856	2 00
E. T. Chandler to January 1856	1 00
W. Gravatt to January 1856	2 00
J. B. Whitehead to January 1856	1 00
Capt. J. H. Marshall to January 1856	2 00
G. P. Chalkley to July 1855	2 00
P. St. Geo. Cocke to January 1856	1 00
S. P. Collier to January 1856	1 00
A. Maxwell to January 1856	1 00
R. D. Powell to January 1856	1 00
J. C. Crutchfield to January 1856	1 00
J. A. Traylor to January 1856	1 00
B. F. Traylor to January 1855	1 00
Geo. Tucker to January 1856	1 00
G. Hood to January 1856	1 00
J. S. Coles to April 1855	1 00
J. E. Richardson to January 1857	1 00

G. H. Houston to January 1856	1 00
G. Breant to January 1857	2 00
Judge W. W. Crump to January 1856	3 75
L. P. Ellis to January 1856	3 75
F. Griffin to January 1856	2 50
J. M. Garland to January 1856	3 75
W. M. Harrison to January 1856	2 50
W. G. Clarke to January 1856	2 00
Mrs. A. M. Moore to January 1856	1 00
E. Goode to March 1855	1 00
Col. W. Bailey to January 1856	1 00
J. Young to January 1856	1 00
J. E. Johnson to January 1856	1 00
E. Y. Wimbish to January 1856	1 00
Dr. R. V. Barksdale to January 1856	1 00
A. Hamlet to January 1856	1 00
F. C. Stainback to January 1856	1 00
J. W. Pleasants to January 1856	2 00
P. P. Nalle to January 1855	2 00
W. J. Webb to April 1855	1 00
G. Depp to January 1856	1 00
G. J. Anderson to January 1856	1 00
J. D. Seott to January 1856	1 00
J. O. Perkins to January 1856	2 00
J. M. Thomas to November 1855	1 00
J. T. Henley to January 1856	1 00
James Roane to July 1855	3 00
W. R. Hatehett to January 1856	1 00
R. D. Hill to July 1855	3 00
Miss N. Perkins to January 1856	1 00
J. C. Tuttle to January 1856	1 00
W. W. Porter to June 1855	3 00
T. D. Bell to January 1856	1 00
C. Dimmock to January 1856	2 50
W. Goddin to July 1855	1 00
H. Rhodes to January 1856	2 50
W. Palmer to July 1856	3 75
Col. T. H. Ellis to January 1856	3 75
J. A. Nun to January 1856	1 00
W. S. Fontaine to January 1856	1 00
Col. H. C. Cabell to January 1856	4 00
Dr. T. B. Anderson to January 1856	1 00
W. G. Fretwell to July 1855	1 00
H. W. Barksdale to July 1855	2 00
J. Burton to January 1856	1 00
W. F. Wilkenson to January 1856	1 00
M. D. Echols to January 1856	1 00
B. Dodson to January 1856	1 00
W. Wilson to January 1856	1 00
J. H. Tanner to January 1856	1 00
A. Anderson to January 1856	1 00
G. M. Moss to January 1856	1 00
C. Waiters to January 1856	1 00
W. J. Carpenter to January 1857	5 00
C. A. Speeci to January 1856	1 00
S. Jones Cralle to January 1856	1 00
J. Collins to July 1856	2 00
Dr. J. Morris to January 1856	3 00
J. L. Ege to May 1856	1 00
T. Young to January 1856	1 00
S. H. Ragland to January 1856	1 00
J. H. Vaughan to January 1856	1 00
F. H. Mays to January 1856	5 00
C. H. Biuns to January 1856	1 00
B. M. Jones to January 1856	1 00
B. Howell to January 1855	2 00
R. Keatts to January 1855	1 25
W. R. Hankins (dec'd) to January 1856	3 00
J. H. Hankins to January 1856	3 00
J. Massie to September 1855	2 00
C. Q. Goodwin to January 1856	1 00
T. Daniel to January 1856	1 00

R. F. Ferguson to January 1856	1 00	T. W. Meriwether to January 1854	1 00
A. Burton to January 1856	1 00	R. Hill, jr. to January 1856	2 00
Dr. T. Smith to July 1856	3 00	A. B. Davidson to January 1856	1 00
J. B. Crawley to January 1856	1 00	W. J. Weir to January 1856	1 00
W. B. Taylor to January 1855	1 00	H. H. Hite to September 1855	1 00
R. E. Bullock to July 1855	3 00	P. Fowlkes to January 1856	1 00
W. Boulware to July 1856	2 00	Dr. M. M. Harrison to July 1856	2 00
W. G. Overton to January 1856*	2 00	Rev. E. G. Adams to May 1856	2 00
J. M. Taylor to January 1856	1 00	L. W. Rose to January 1856	1 00
W. H. Fowlkes to January 1856	1 00	J. Tabb, sr., to November 1855	1 00
Col. J. A. McCraw to January 1856	1 00	J. T. Childrey to January 1856	1 00
J. D. Coleman to April 1855	1 00	John Stewart to January 1856	2 00
Col. E. Shelton to January 1856	2 00	W. Anderson, jr. to January 1856	2 50
Jos. Allen to January 1856	3 00	W. Goulden to July 1855	1 s5
R. M. Nimmo to November 1855	3 75	R. H. Lorton to January 1856	2 00
A. Hart to January 1856	1 00	B. L. Johnson to July 1855	2 00
R. Harrison to January 1856	1 00	S. S. Moore to July 1855	2 00
W. W. Eustace to January 1856	1 00	Dr. C. Brown to January 1856	1 00
Samuel Ball to July 1855	1 50	S. Allen to July 1855	1 00
J. Trice to January 1856	1 00	Dr. T. Johnson to January 1856	1 00
S. E. Lee to January 1856	1 00	Dr. P. Carrington to January 1855	1 00
R. Harrison to April 1856	1 00	C. M. Adkisson to January 1856	1 00
T. G. Turner to July 1855	1 00	E. N. Palmer to January 1856	1 00
E. M. Tompkins to January 1865	1 00	G. W. Easthm to January 1856	1 00
T. J. Blake to January 1856	2 00	R. L. Rudasill to January 1856	1 00
Dr. E. P. Talley to January 1855	2 00	W. M. Connelly	1 00
W. E. Meade to March 1857	2 05	W. S. Dabney to January 1856	1 00
Capt. J. Phillips to January 1856	1 00	J. W. Dabney to January 1856	1 00
A. Joyner to January 1856	1 00	D. E. Siggitts to January 1856	1 00
Dr. T. P. Mitchell to January 1856	1 00	Dr. M. Pendleton to January 1856	2 00
C. W. Gill to January 1856	1 00	R. G. Bibb to January 1856	1 00
S. Brown to January 1856	1 00	W. Gough to January 1856	1 00
J. A. Padgett to January 1856	1 00		
T. E. Jopling to January 1856	1 00		
P. W. Phelps to January 1856	1 00		
Capt. F. S. Leftwich to January 1856	1 00		
George Grounds to January 1856	1 00		
J. G. Wright to January 1856	1 00		
B. Wilkes to January 1856	1 00		
M. T. Harris to January 1855	3 00		
W. P. Shepherd to January 1856	1 00		
W. P. Tatum to January 1856	1 00		
J. C. Page to January 1857	4 00		
Capt. W. R. Irby to July 1855	2 00		
G. N. Gatewood to January 1856	2 00		
E. W. Morris to April 1856	3 50		
J. M. Jeffries to October 1856	2 00		
W. W. Watkins to January 1856	1 00		
R. M. Jones to January 1856	2 00		
W. D. Bennett to April 1855	1 25		
Dr. W. R. Nelson to January 1856	1 00		
R. W. Tomlin to January 1856	1 00		
Carter Braxton to July 1856	3 50		
John Harr to January 1856	3 50		
W. B. Newton to January 1856	1 00		
J. T. Priddy to April 1856	2 00		
S. F. Norment to January 1856	4 75		
H. Hill to January 1856	1 00		
R. Amonett to January 1856	1 00		
Col. E. Rowe to July 1855	1 00		
James Jones to January 1856	2 00		
T. J. Valentine to January 1856	1 00		
R. Martin to March 1855	1 00		
Dr. N. W. Floyd to January 1855	5 00		
T. Henshaw to January 1856	1 00		
P. M., Pleasant Gap, to January 1856	1 00		
T. L. Spraggins to September 1855	3 00		
T. R. Holladay to January 1856	1 00		
Jesse Barnes to September 1855	1 00		
H. Carter to January 1856	1 00		
A. Powell to November 1855	1 00		
R. A. Gibbons to January 1856	1 00		

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