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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.*

C. T. BOTTS & L. M. BURFOOT, Editors.

VOL. II.

RICHMOND, SEPTEMBER, 1842.

No. 9.

For the Southern Planter.

FOREST TREES.

(Continued from page 170.)

34. Chesnut, *castanea americana*, although by no means common in this section of the country as a forest tree, is however sometimes met with in considerable quantities in some portions of our woods; it is chiefly valuable as rail timber, and is said to last longer than rails made of any other wood.

35. Chinquapin, *castanea pumila*, is a mark of poor land, and unfortunately we are too well acquainted with it in Virginia.

36. Red mulberry, *morus rubra*. There are but few large trees of this variety remaining in this part of Virginia having been nearly all destroyed in reclaiming the lowgrounds, where I presume they were once very numerous. It delights in a deep and rich soil; its great durability renders it extremely valuable for posts.

37. White mulberry, *morus alba*. Although this is not properly indigenous, yet it has become so completely naturalized that I have thought it best to mention it as one of our trees. It is to be found growing everywhere, being propagated no doubt by the birds transporting the seed from place to place. This tree is also valuable for posts, but is not so durable, I imagine, as the red mulberry.

38. The catalpa, *catalpa cordifolia*, is a fine tree, it attains a very large size, its flowers are very beautiful, and it is exceedingly valuable on account of the unparalleled durability of its wood.

39. Hagberry, *celtis crassifolia*, is a large tree; seems to prefer highlands. It is not common, and is, I believe, of no value whatever.

40. Holly, *ilex opaca*, is found on the river cliffs, and scattered through the woods. Its deep green leaves and bright scarlet berries render it quite a showy tree. It is of no value as timber.

41. Sycamore, *platanus occidentalis*, is found on the banks of the rivers and on lowgrounds that have never been reclaimed. It is the largest by far of all of our trees, and the contrast between the leaves and the white trunk and branches render it a very striking object. It is of no value as timber.

42. Black walnut, *juglans nigra*, is a very handsome tree and very valuable as timber. It

is a mark of rich land. The nut of this variety is round.

43. Butternut, *juglans cinerea*, is very much like the last, and indeed they are both commonly called the black walnut. The fruit of this variety is oval.

44. White ash, *frazinus acuminata*, is very valuable as timber for various purposes on account of its great toughness.

45. *Frazinus sambucifolia*, black ash, is in respect to its timber entirely opposite to the white ash, the grain of this being short and coarse, and the wood, therefore, brittle and of little value for anything but fuel.

46. Red ash, *frazinus pubescens*, derives its name from the color of its heart, which is of a reddish brown. It is not as handsome as the white ash, being much less symmetrical.

47. Swamp ash, *frazinus juglandifolia*, is a rather dwarfish variety, and is found everywhere in the swamps. All of the varieties of the ash prefer land that is rich and alluvial, being found generally on or near the banks of rivers, and but rarely in the forest; they will, however, grow very readily on highland when transplanted. It is superior even to hickory as fuel, to say which is to say that it is the best of all fuel.

48. Red cedar, *juniperus virginiana*, grows chiefly in waste lands and in piney old fields of some thirty or forty years standing—it is always found along fence rows and sometimes in the forest. It is valuable for posts. A beautiful hedge may be made of it, but unless it is assisted by a fence it can be penetrated by hogs, as the twigs about the bottom of the bushes will die before they attain any size, and are never replaced. It requires frequent trimming to render it thick and to prevent it from assuming too much the form of a tree. When left to itself the cedar attains a considerable size. I think that this is the only distinct species of the cedar that we possess; there is, however, certainly a considerable difference of appearance between some of these trees; for the branches and twigs of some are much more delicate and inclined to droop than those of others, which are stiff and erect.

49. Birch, *berchemia*, is found on the banks of rivers and on low, moist spots; it is remarkable for its singular and numerous coats of bark which may be pulled off readily one after another. Its long and slender branches afford the

best switches in the world, and they were formerly very much esteemed by schoolmasters, but now unfortunately for the rising generation, they have fallen almost entirely into disuse. It is of very little value as timber.

50. Persimmon, *diospyros virginiana*, is utterly useless.

51. Sassafras, *laurus sassafras*, is very common, and is an exceeding great nuisance to the farmer, it being impossible to eradicate it.

52. Black gum, *rhamnus volubilis*, is found on swampy ground in the forest and is of very little value.

53. Prickly ash, *Xanthoxylum frozinium*, grows on low, marshy lands, and is of no value.

54. Spice wood, *laurus benzoin*, grows as a shrub in the swamps. It is quite gay with its rows of yellow flowers in the spring.

55. Sumach, *rhus*. There are several varieties of this plant, but I know them only by the collective name. The berries are useful in dying.

56. Poison sumach. Thunder wood. *Rhus vernix*, is very common in and about swamps. It should be most carefully avoided as to the touch—it is the most severe poison, by far the worst of any of our plants. It may readily be distinguished from the sumach by the whiteness of its bark and of the leaf stems. Berries are white.

57. Red bud or judas tree, *cercis canadensis*, grows quite abundantly on the unreclaimed low-grounds of creeks and rivers, but is rarely found on high land. It is a tree of no great size but of great beauty both in leaf and bloom. It will succeed well when transplanted, and is very ornamental when in flower.

58. Lime tree, *tilia glabra*, is not a very common tree, but is often met with on the banks of the river. It is large and beautiful and very much like the linden.

59. Honey locust, *gleditrichia triacanthos*, is a large and handsome tree, but not very common, and of no value, I believe.

60. Swamp laurel, *magnolia glauca*, is very common in our swamps, and its large white flowers possess the most delightful fragrance.

61. Sheep laurel or sheep ivy, *kalmia angustifolia*, is common on any cliff about the river or in the forest. This plant bears branches of the most beautiful flowers; it is said to be injurious if eaten by sheep.

62. Dogwood tree, *cornus florida*, is universal through the forest; it is very showy in the spring with its white flowers. It is useful when a small piece of hard timber is wanted, for instance, for whirls, rounds, &c. &c.

63. Fringe tree, *chionanthus virginicus*, grows in the swamps very abundantly. It is a most beautiful object with its deep green leaves and

superb clusters of white fringe-like flowers hang profusely about it.

Respectfully,

X.

NOTE to 52.—I am not sure that I should not have called the black gum, *nyssa aquatica*, rather than *rhamnus volubilis*.

TOBACCO.

In pursuance of a resolution of the House of Representatives, the Secretary of the Treasury has transmitted to Congress an interesting document, containing all the information he could obtain on the cultivation, manufacture, and consumption, of tobacco in the United States and other countries.

Although much of these statistics is vague and uncertain, from the want of data, yet the subject is of such consequence as to impart interest even to the rude guesses that are attempted from what could be ascertained. A great deal of the information afforded is perfectly familiar to every Virginia reader, but the following estimates, of the correctness of which we are unable to form an opinion, are somewhat novel and curious:

"It has been stated that the annual consumption now amounts to upwards of one hundred millions of pounds—giving seven pounds to every man, woman, and child. The sum annually paid by the consumers of this quantity of tobacco, in its manufactured state, has been computed, by a writer in the 'Portsmouth Journal,' at \$20,000,000." Dr. Mussey, in his "Essay on the Influence of Tobacco on Life and Health," says, "Eighty thousand dollars worth of cigars, according to estimate, were consumed in the city of New York in 1810; at that rate, the present annual consumption would amount to more than \$200,000."

"The Rev. O. Fowler, from considerable attention to the statistics of tobacco consumption in the United States, estimates the annual cost at \$10,000,000; time lost by the use of it at \$12,000,000; pauper tax which it occasions at \$3,000,000.

"This estimate I believe to be considerably below the truth; it has been estimated that the consumption of tobacco in this country is eight times as great as in France, and three times as great as in England, in proportion to the population.

"According to the Editor of the 'New York Commercial Advertiser,' 100,000 persons in the city (about one-third of the whole population) are supposed to be smokers, and the average cost to each smoker is computed to be 10 cents

a day; total daily, \$10,000, and the annual cost \$3,650,000."—*American Almanac*.

"In 1834, the consumption of tobacco in value was estimated by Mr. Hunt (Editor of 'Hunt's Merchant's Magazine') at \$16,000,000, of which \$9,000,000 were supposed to have been for smoking Spanish cigars, \$6,500,000 for smoking American tobacco and chewing, (equal to the value of the annual export,) and \$500,000 for snuff. In 1838 the consumption of tobacco had increased to 100,000,000 of pounds, valued at \$20,000,000 cost to the consumers." It is to be regretted that no data is given on which the above estimate is made. Mr. Lyford estimates the consumption at one-fourth of the quantity grown in the United States."

It would appear that the production is greatly on the increase in the United States, especially in the new States in the South and West, but so far, experience has shown, that for the prime article for manufacturing chewing tobacco, the region is limited to Eastern Virginia and a small part of North Carolina. Upon the subject of retaliatory duties, by which it has been proposed to force a reduction of the heavy duties imposed on tobacco by some of the governments of Europe, various letters of inquiry were addressed by Mr. Hubbard, of the House, to some of the most distinguished tobacco dealers in Virginia; amongst these we note Messrs. JAMES GRAY, JOHN CASKIE, and RICHARD ANDERSON, of the city of Richmond; Messrs. T. LYLE and W. E. VENABLE, of Farmville; Professor DEW, of William & Mary; Messrs. MORDECAI BRANCH, and others, of Petersburg; and Mr. J. M. WARWICK, of Lynchburg. The replies of these gentlemen, who upon this subject are probably as well informed as any others in the Union, are published in this document. They unanimously, and unequivocally, deprecate any such action as was proposed by the tobacco convention held in Washington last winter, for these plain and simple reasons. The governments of France and England, against whom this contemplated action has been chiefly directed, are so dependant upon the immense revenue derived from the high duties imposed upon tobacco, that they absolutely forbid its cultivation within their territories. This circumstance gives to the American product the monopoly of their markets; but if the duty was so reduced as to cause them to look to other sources for revenue, the prohibition would in all probability be removed, and we would find competitors in the cheaper agricultural labor of both countries, many portions

of whose climate and soil it is well known are adapted to the growth of tobacco. Moreover, a reduction of duty is to be particularly apprehended by the American manufacturer; the consequence of which would be, that for other European markets, he would be brought into competition with the cheaper labor of the English manufacturer, who, by the present rate of duties, is confined to his home market, from which we are entirely excluded. The circular of Mr. DODGE, noticed in our number, is hinted at by more than one of the writers as an extravagant humbug. This was pretty much our own opinion from the first. We would advise those interested in the subject to procure this document, which they will find well worthy of perusal.

For the Southern Planter.

AGRICULTURAL REPORT.

Messrs. Editors,—At the particular instance of several friends of agriculture, I have attempted to reply, to some of the queries of the Board of Agriculture, for the State of Virginia, so far as the county of Prince George is concerned. If you consider the answer as possessing any interest, you are permitted to use it in any way that is calculated to advance the interest of agriculture. There is a great deal of simplicity in some of the answers, but it must be attributed to the nature of the queries.

ROBERT HARRISON.

Description.—Prince George County is situated on James and Appomattox rivers, and lies contiguous to Dinwiddie on the west, Sussex on the south, and Surry on the east. It is intersected by several streams that run generally a south-east direction. These streams are denominated Otter Dam, Blackwater, Second Swamp, Warwick, Joseph and Joneshole—the two last mentioned empty into Nottoway river, and the others terminate in Blackwater. The land lying immediately on these streams is light, and some of it produces good crops of corn and oats, but it is not so well adapted to the culture of wheat. The land intermediate from Blackwater and Otter Dam and the river is generally stiff, and naturally unproductive, except the bottom land.

Climate.—The climate is generally healthy, and the atmosphere salubrious, but from the decay of vegetable matter in the fall, marsh miasma is generated, and autumnal fevers peculiar to a southern climate are the consequences.

Surface.—Its surface is generally level, or even, considered as a whole; but that portion contiguous to the rivers, is agreeably diversified with hills, plains and valleys.

Minerals.—Its mineral sources are not abundant, but she contains within her bowels abundant materials for the renovation and improvement of her impoverished soil. Prince George has been remarkable for the poverty of her soil and the scantiness of her production, except the part lying immediately adjacent to the rivers; even this latter part, a few years back yielding but a scanty allowance to the hardy exertion of the agriculturist. This sterility was produced by a skinning process of cultivation, and land naturally fertile was successively cultivated, until it would barely remunerate the expenses of its culture. Under this deplorable state of things, calcareous manures were discovered, applied, and demonstrated to be, an enricher of the soil. We are informed, the first application of calcareous manures was made by Mr. James Cocke, of Bonaccord, and may be dated some time anterior to thier general application; this first effort was very partial and its effect barely noticed, or remembered by some of the oldest members of the Bonaccord family. This is recorded merely as an incident of agricultural history, which deserves to be chronicled, for the benefit of posterity. What appears "passing strange" is, that after its use was begun, it should have been discontinued, and the circumstance barely remembered; but we are informed an overquantity was applied which produced injury, instead of benefit.

About the year 1816 the general or extended use of calcareous manures was commenced and successfully applied on the Coggins farm by Mr. Edmund Ruffin, of Prince George; and to him we are principally indebted for all the advantages arising from its introduction and application. The merit of raising from obscurity what had become dark, or reviving what had become obsolete is equal to that of original discovery.

These manures are familiarly denominated marls and the places of their deposite marl beds, which abound on James River, from a point a little below the confluence of James and Appomattox rivers to Powel's creek, yet it may be found in different parts of the county, but more particularly confined to the streams above specified, and the marl varies in quantity, quality, color and superincumbent earth. The inhabitants generally possessing this valuable enricher of the soil, have used it to considerable extent, and it is the current opinion, that the region of country, which has been subjected to the application has increased generally in value one hundred per cent, while individual instances far exceed this estimate. The production of the soil is considered to be generally doubled, and in some instances quadrupled. Corn, wheat and clover, grow now luxuriantly upon soils which a few years ago were poor indeed. Fields of clover may be now more frequently seen than acres, previous to the use of calcareous manures, and this astonishing and delightful fact is made

apparent to the most incredulous observer, that a crop of clover is sure to follow and succeed after a dressing of from two to three hundred bushels of marl, provided the land is seeded with good seed, and at a proper time. The instances of disappointment are so rare, as to constitute scarcely, an exception to the general rule. The growth of clover may be increased in quantity by other manures, by plaster and gypseous earths. This latter substance frequently abounds in the same bed, with the marl, and is supposed to possess the properties of sulphate of lime; but other properties may be superadded. It has generally a greenish cast, and is also of a saponaceous character; consisting of innumerable shining particles, and it forms most frequently the sub-stratum of these beds. By the application of this earth to clover in the proportion of forty bushels to the acre, the most decided beneficial effects have been discovered, enough to satisfy the most sceptical that it is an improver. Its effects are considered to be equal to the plaster of paris. The possession of these powerful agents and other auxiliaries, lying contiguous to a large navigable river, by which our produce may be carried abroad to foreign markets, entitle Prince George to be described as possessing advantages, and a locality far beyond counties in the interior; and it only requires industry and frugality, to render her hardy yeomanry not only to be abundantly supplied with all the necessities of life, but also with its delicacies and luxuries. And the marl region of Virginia will finally constitute, in our opinion, a delightful and desired district of country.

Water.—The water is generally good and abundant; wells and springs abound to considerable extent; and there is no part of the county but what is well supplied. Besides the streams before mentioned, there are Ward's, Flour de Hundred, Powel's, Bicuses, Jinny's and Bailey's creeks, which are tributary streams to James River, or branches of it.

Land.—The greater portion of open land is devoted to tillage, and but little to pasturage, and the latter is generally the most inferior. In the marl region the open land predominates and there is a scarcity of wood, rail timber, and building timber, but in other sections there is an abundance of wood and rail timber, and considerable proportion in its native forest growth, that has never yielded either to the plough or axe; and there is yet a considerable proportion of land that must not be overlooked in our estimate, called "piney old field," a term sufficiently significant to every Virginian: this kind of land far exceeds in quantity, the land standing in its natural growth.

Size of Farms.—The size of the farms may be properly described as being of a medium character, and the greater number of their owners comfortably situated.

Rotation of Crops.—The rotation of crops in lands, that have received an application of calcareous manures, consists first of corn, then wheat, followed by clover,—and the farms are consequently divided into three shifts; and this may be described as the most frequent rotation; yet many may be found who pursue the four field system. In the section of the county which has not been marled, the process of rotation is corn, oats, sometimes rest, but most frequently pasturage.

Corn.—The average product per acre in that section of the county that has received an application of calcareous manures, we consider equal to four barrels, and the remaining portion of the county is considered not to exceed two barrels per acre. And we believe it more frequently falls below, than exceeds this estimate.

Wheat.—The average product per acre in the marled district of our county, will amount to ten bushels per acre, while on the contrary the part unmarled will not more than amount to five bushels. Indeed in this latter section, the land is considered to be so poor and light as to be rarely sown. The grain crop in this section is principally oats, and generally follows corn. The oat crop is considered to be hardier, safer, and from our proximity to Petersburg, to be a much more profitable upon our light and gray soils, than wheat. But at the same time, the opinion generally prevails, that oats exhaust land more rapidly than wheat, that there succeeds them less vegetation, they are more rapid in their growth, and the land is more exposed after they are cut to the rays of the sun.

Rye is occasionally sown, sometimes as an improver, at other times for the benefit of its grain and straw. Our very light and sandy lands will yield more profit in this grain, than in wheat or oats.

The march of improvement in agriculture, though slow in its advancement, has been progressive as is manifested by the greater care of stock and attention to providing suitable articles of food for them. The cultivation of the root crops is of modern date, when we consider them as field crops proper, potatoes, carrots, mangel wurtzel, sugar beets and turnips form important articles towards providing for the wants of many of our domestic animals.

Prices of Crops.—The value of the wheat depends upon the quantity made and the demand both at home and abroad—but the price per bushel varies from one dollar to one dollar and ten cents; and corn varies from forty to eighty cents per bushel; and the average price of oats may be set at forty cents.

Fencing.—The fences are made mostly of rails, and run generally a zigzag course, known familiarly with us as the Virginia worm fence.

Grass.—The grasses have been successively tried, but none have succeeded so well in our

hands as the red clover. We have cultivated herdsgrass, lucerne, orchard grass and timothy, and so far as our limited experience would enable us to form an opinion we would not recommend their culture as field crops; they have not proven in our hands sources of profit. We do not wish, however, to deter others from experiments, nor declare their culture will be unprofitable, but merely mention the result of our experience.

There are several varieties of hogs introduced among us which have their respective advocates. The Berkshires are the favorites of some, who contend they stand unrivalled for symmetry and beauty of form, aptitude to fatten, and of obtaining their growth at an early age; that they are superior to any hog for the sty and clover field, that they are a prolific stock, quick in action, and that they make better bacon than any other variety. Their opponents contend they are one of the humbugs of the age, of which the present generation is so fruitful; that they are very subject to disease; that they are very delicate, and cannot stand the severities of the winter, and contend the large white hog is best, with large pendulous ears, introduced into Prince George by Capt. Gary from near Liverpool; but on the other hand it is said they are very subject to mange, which impedes their growth; that they are not fit to be kept in the winter. Others contend for the no bone; others again, condemn all breeds but the "razor backs"—they can best stand the short keep, and that there is more in the corn crib than there is in the variety.

Woods and Waste Lands.—The woods and waste lands are appropriated chiefly to the grazing of our cattle, and afford also the range for our hogs. Some years our hogs in some sections become almost fat from the quantity of acorns, and they also fare well on the marshes of creeks; but whether this is the best mode of raising them remains yet to be ascertained; for it is agreed, that generally when they are put up they are so miserably poor that the food and trouble more than equals their value, particularly during the low price of pork—and so long as our corn commands a good price and pork is low, it would be considered good economy not to raise it.

Our cattle consist principally of the native breed, yet two Durham bulls have been introduced into our county, and our stock has been much improved in public estimation. The half breed has been demonstrated to be both good milkers and good oxen, with more size and greater strength and full capacity to endure, so far as the trial with them has been made.

The Dairy.—The great requisite in this department is neatness. The buckets, pails, bowls, strainers, should all bear the marks of the careful supervision of the housewife. The appearance of a plate of butter is a pretty fair index

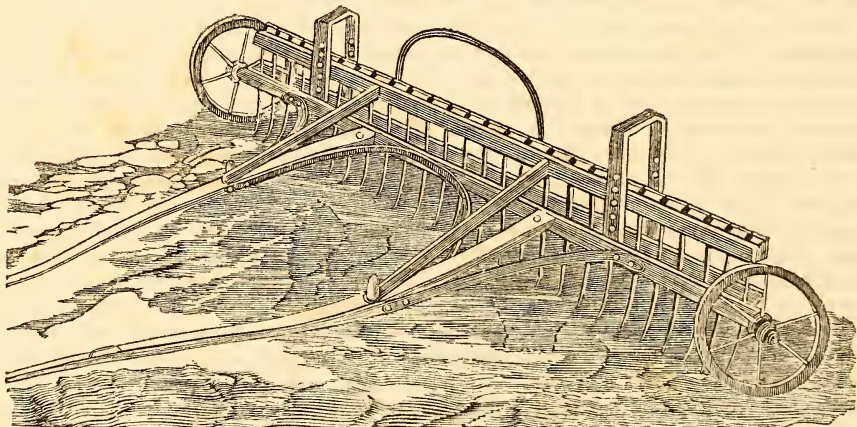
of the character of the female that prepares it. The butter in the marled district of the county is a source not only of pleasure but of profit; it is considered to be better, sweeter, richer, and has almost a golden aspect when compared with the inferior article made in the adjoining district.

THE WHITE ASH.

This tree, which is not uncommon in our forests, and which is not surpassed as an ornament for our yards, is endowed with several virtues at

the north. The leaves, wood, or bark, are supposed to afford an effectual antidote to the bite of a serpent; indeed, it is said to be so obnoxious to those reptiles, that a single log will secure a wood-pile from their presence. The application of the bruised leaf, it is said, affords instantaneous relief to the sting of the musquito, bee, &c. We would recommend a trial of its powers to our unfortunate friends of the low country at this season.

HORSE DRAG RAKE.



In our last we gave a cut of the revolving rake recommended by Mr. Fontaine, and so highly esteemed at the North; we now present our readers with an engraving of a rake for the same purpose, upon, what we conceive to be, a cheaper and simpler principle. This rake, like the other, is carried forward by a horse between the shafts, and when the teeth are full, they are cleaned simply by lifting the rake at the handle, when the tines will come up together between the bars of the fixed frame, and leave the hay raked up neatly in the field. We copy this engraving from the advertising sheet of an English almanac, which is filled with representations of agricultural implements, and for which we are indebted to the kindness of a friend just from London. We shall probably resort to it again, if for no other purpose, only to give our readers an idea of the complication and prices

that the English agriculturist is willing to put up with in his implements, for the sake of furthering his art.

For the Southern Planter.

MAY WHEAT.

Messrs. Editors,—Mr. Barbour wishes to be informed why the May wheat is preferred on the low lands of James River.

The principal reason is, that there is but little to be apprehended from rust, which has been so destructive of late years to the wheat crop. From 1826 to 1834 I cultivated the white May wheat, and did not fail during that time to make good crops: the last year, 1834, the smut made its appearance, and not being able to procure seed elsewhere I discontinued its culture: since then until the last year I have sowed late wheat, and every crop with the exception of one has been injured more or less by rust, and several years almost entirely destroyed.

The last year I sowed a part of my crop with May wheat and the residue with late wheat, (red shuck.) The May wheat is of the finest quality, whereas the part of the red shuck which was sowed in September is also good; but the part sowed in October is very much injured by rust.

An opinion prevails, that May wheat is not as prolific as later kinds, but this opinion, I think, is erroneous, and believe its yield is as great as any other; and when sowed as late as the 10th of October, agreeably to my experience, there is but little danger to be apprehended, of injury by frosts.

Hoping the above information will be satisfactory,

I remain, yours truly, M.

Buckingham, July 20, 1842.

From the Maine Farmer.

A PREVENTIVE OF THE WEEVIL IN WHEAT.

Mr. Holmes,—Great loss has been sustained in this section of the State for several years by the weevil. A remedy has been found—first suggested, I believe, by our *curious and useful* friend, Dr. Leach, of Sangerville. The remedy is no less than this. Sow spring rye with the wheat. I sowed a square lot of six acres to wheat last spring, and then to test this preventive, I sowed the borders of the field, two rods in width, with twelve quarts of rye. The result was, the weevils were deposited in the rye in such numbers as to produce a famine in nearly every head. There were no weevils in the wheat, and I think there was not a quart of rye grown in a hundred bushels of the wheat. My neighbors were apprised of my design of sowing the rye, but they were wanting in the faith, and their grain sown at the same time suffered very materially.

CALVIN CHAMBERLAIN.

PRINCIPLES OF FEEDING.

Stewart in his "Stable Economy" says,

"*Slow work aids digestion*, empties the bowels, and sharpens the appetite: hence it happens that on Sunday night and Monday morning there are more cases of choleric and founder than during any other part of the week. Horses that never want an appetite ought not to have an unlimited allowance of hay on Sunday; they have time to eat a great deal more than they need, and the torpid state of the stomach and bowels produced by a day of idleness renders an additional quantity very dangerous.

"By slow work I mean that which is performed at a walk, not that which hurries the breathing, or produces copious perspiration.—The moderate exertion of which I speak does not, as some might suppose, interfere with the

digestive process. It is attended with some waste; there is some expenditure of nutriment, and that seems to excite activity in the digestive apparatus for the purpose of replacing the loss. Farm and cart-horses are fed immediately before commencing their labor, and the appetite with which they return shows that the stomach is not full; but

"*During Fast Work, digestion is suspended*.—Of this we have not indeed any positive proof, but there is good reason for believing it. In the general commotion excited by violent exertion, the stomach can hardly be in a favorable condition for performing its duty.

"*The Effects of Fast Work on a Full Stomach* are well enough known among experienced horsemen. The horse becomes sick, dull, breathless. He is unwilling, or unfit to proceed at his usual pace; and if urged onward, he quickly shows all the symptoms of over-work, to which I allude among the accidents of work. The effects are not always the same. Sometimes the horse is simply over-worked, distressed by work that should not produce any distress.—Some take colic, some are foundered, some broken-winded. The most frequent result is over-working in combination with colic. Perhaps the colic, that is the fermentation of the food, begins before the horse is distressed; but whether or not, his distress is always much aggravated by the colic.

"These effects are not entirely produced by indigestion. The difficulty of breathing may be ascribed to mere fulness of the stomach.—Pressing upon the diaphragm, and encroaching upon the lungs, it prevents a full respiration; and its weight, though not, perhaps, exceeding eight or nine pounds, must have considerable influence upon a horse that has to run at full speed, and even upon one who has to go so far, though not fast.

"Some horses commence purging on the road, if fed directly before starting. They seem to get rid of the food entirely or partly; for these, which are light-bellied horses, do not suffer so much, nor so often, from any of the evils connected with a full stomach. The purgation, however, often continues too long, and is rapidly followed by great exhaustion. They should be kept short of water in working days, and they should have a large allowance of beans.

"All work, then, which materially hurries the breathing, ought to be performed with an empty stomach, or at least without a full stomach. Coaching-horses are usually fed from one to two hours before starting, and hay is withheld after the corn is eaten. Hunters are fed early in the morning, and I believe racers sometimes receive no food on running days till the work be over. Abstinence, however, must not be carried on so far as to induce exhaustion before the work commences.

"After Fast Work is concluded, it is a little while ere the stomach is in a condition to digest the food. Until thirst has been allayed, and the system calmed, there is seldom any appetite. If the horse have fasted long, or be tempted by an article of which he is very fond, he may be induced to eat. But it is not right to let him; a little does him no good, and a full feed does him harm. The stomach partaking of the general excitement, is not prepared to receive the food. Fermentation takes place, and the horse's life is endangered; or the food lies in the stomach unchanged, and produces founder.

"Food, then, is not to be given after work till the horse be cool, his breathing tranquil, and his pulse reduced to its natural standard. By the time he is dressed and watered, he is generally ready for feeding.

"*Salt and Spices aid digestion.* On a journey, or after a severe day, horses often refuse their food. When fatigued or tired of his feed, a handful of salt may be thrown among the horse's corn. That will often induce him to eat it, and it will assist digestion, or at least render fermentation less likely to occur. Some, however, will not eat with this inducement. Such may have a cordial ball, which in general produces an appetite in ten minutes. I am speaking of cases in which the horse has become cool, and those in which the work has not fevered him. The horse should always be cool before food is offered; and if his eye be red, and pulse quick, cordials, salt, and the ordinary food are all forbidden. The horse is fevered."

New York Spirit of the Times.

For the Southern Planter.

In the last number of the Planter an Inquirer requests me to state, whether "sheep will not neglect to browse the sassafras" when a field is thickly set with clover? The field on which I destroyed the sassafras had no clover on it, when the experiment was made, but was thickly set with sassafras bushes. I had the large bushes cut down and the small grubbed up, and kept the sheep grazing on the land, during the spring and summer of that and the succeeding year; and the land was closely grazed. Since then no sassafras bushes have made their appearance, and twelve or more years have elapsed since it was done. I suppose the clover would first be eaten by the sheep, therefore, to succeed in destroying the sassafras, it will be necessary to graze the field closely. SKRINECKY.

Buckingham, July 22, 1842.

FIRE AND WATER-PROOF CEMENT.

To half a pint of milk put an equal quantity of vinegar, in order to curdle it; then separate the curd from the whey, and mix the whey with

four or five eggs, beating the whole well together. When it is well mixed, add a little quick-lime through a sieve, until it has acquired the consistence of a thick paste. With this cement, broken vessels and cracks of all kinds may be mended. It dries quickly, and resists the action of water, as well as a considerable degree of fire.—*Mechanic's Own Book.*

CHARCOAL.

This substance is attracting great attention as a fertilizer, and we make the following extracts from a paper published in the Transactions of the New York State Agricultural Society, by Mr. J. H. Hepburn:

"In the neighborhood in which I live there are a great many hearths of coal pits, as they are called; places where wood has been piled, and burned into charcoal, scattered about the country. I have invariably observed, that upon these hearths, in the course of a few years, a luxurious coat of grass made its appearance, when all around in the vicinity scarcely a blade of grass could be found, and what there was found out of the coal hearth was sickly and dwarfish. This was so well known that in the heat of summer, when the pasture in other places was dried and withered by the summer drought, it was a common practice to drive the cattle to the 'coalings,' as they are called, sure that they would there obtain food. During the last autumn, business called me into Hartford county, in Maryland. While there, I was surprised at the exceedingly luxuriant growth of a crop of grain but lately seeded into a field, on Deer creek, and also at the very peculiar appearance of the soil. The soil upon which the grain was growing had a remarkably dark appearance, and appeared to be so mellow and friable as nearly to bury the foot at every step, and although it lay very level did not appear to the touch to be so; not as the soil in the other fields around it on the same level. My attention was excited by what I saw, and I inquired if the field had not been covered with charcoal, and was told that it had been. I inquired when it was done, and was told it had been spread upon it more than *twenty years ago*!! I then asked what was the general quality of the crops raised upon it, and I was told that they were invariably fine, both as to quantity and quality. The person who lived upon the property informed me that he had repeatedly hauled the soil from that field and spread it upon the surrounding fields, and he could, for years, or in fact from the time he spread it there to the present day, always see, by the growth upon these places, exactly where he had put it!!

I had for some time past had my attention

directed to the subject but here I found it fully developed to my full satisfaction.

"When I returned home, I made it the subject of conversation frequently with the farmers in our neighborhood, and from one of them I learned that when he lived in Chester county, Pennsylvania, with his father, a part of their farm became worn out and unproductive. It was abandoned for several years, and in the mean time many coal pits had been formed upon several of the old fields, by drawing the wood there to burn into coal, that had been cut in the adjoining timber lands. After some time they again put those fields under tillage, and he states that wherever a coal hearth had been left, there the crop of grain and the growth of grass was equal, if not superior, to that which grew upon any of their most productive fields. Another case of the application of charcoal I have found in this neighborhood was made by a gentleman in the iron business to his meadow, near the coal house. He had a large quantity of the coal that had become too fine to be used in the furnace; he did not know exactly what to do with it, it was in the way, and he concluded, as the easiest way to dispose of it, to haul it out and spread it upon the grass land. He spread it late in the fall, and for many years he informed me he observed the most astonishing effect produced upon his yield of grass. The quantity was nearly double, and the effect continued as long as he owned the property, which was at least ten years; so he informs me.

"From what I can see of its effect, where a large quantity is left upon the ground, as for instance, in the centre of the hearth, it takes a considerable time for it to acquire a sufficient degree of moisture to penetrate to the bottom, and until it has acquired that degree of moisture nothing will grow there. Around the outer edges of circle where it is thrown upon the ground it is soon saturated with moisture, and vegetation is soon facilitated, and goes on rapidly. I should judge, from this, that when about to be applied to land the coal should be ground fine, and then thoroughly wetted and sown or spread with a lime spreader over the surface of the soil. From the circumstance of its being easily powdered or mashed up, I should suppose that the process would be very easily effected by making a floor of plank, say circular, and procuring a good sized stone, to be affixed by a shaft to an upright post, throw the coal into the circular planked way, and attach a horse to the shaft passing through the stone, and drive him round, carrying the stone, in its passage, over the coals. A very simple and easy process, precisely similar to the old fashioned way of grinding or breaking up bark, practiced by the tanners, previous to the invention of the cast iron mill now in use. The cost of covering an acre would be trifling, and if it

produced no other effect than that of forming a permanent vegetable basis in the soil, for lime to act upon, it appears to me it would well repay a greater amount of labor and expense than would be necessary to try it.

"I have just been made acquainted with another result of the application of charcoal to arable land, that if general, from its application, will induce its use by every one who can procure it at a reasonable price: that is, wherever charcoal has been applied *rust never affects the growing crop of wheat!!* My friend who has communicated this fact to me states, that he has observed it particularly, and when the field generally has been 'struck with rust,' as it is called, those places where he had applied the charcoal *invariably escaped.*

J. H. HEPBURN.

Jersey Shore, Lycoming Co., Pa."

Charcoal is supposed to influence vegetation in two ways. By its combination with oxygen it may afford carbonic acid gas, furnishing the supply of carbon for plants. For this purpose, it is probable, that the more minutely it is subdivided, the better. But the property for which it has been chiefly valued in agriculture, is its extraordinary power of absorption. Pure, fresh burnt, charcoal possesses the power of absorbing ninety times its volume of ammoniacal gas, and thirty-five times its volume of carbonic acid gas. This power of absorption is much diminished by reducing it to powder; it should, therefore, when used for agricultural purposes be just broken so as to allow of its equal distribution over the surface of the soil. Its power of absorption is pretty much in proportion to the density of the wood from which it is made.

Nothing in nature is more immutable than charcoal. Its action, as we have described it, is merely that of a mechanical holder or receiver of the gases with which it may be brought in contact, and which would otherwise be dissipated. Upon the falling of the first rain, they are filtered out for the use of vegetables, and the charcoal remains unaltered, prepared to renew its kindly offices for ages.

PULVERIZING THE SOIL.

To demonstrate that dews moisten the land when fine, dig a hole in the hard dry ground, in the driest weather, as deep as the plough ought to reach; beat the earth very fine, and fill the hole therewith; and after a few nights' dews, you will find this fine earth become moist at the bottom, and the hard ground all round will become dry. Till a field in lands: make one land very fine by frequent deep ploughing, and let

another be rough by insufficient tillage alternately; then plough the whole field crosswise in the driest weather, which has continued long, and you will perceive, by the color of the earth, that every fine land will be turned up moist, but every rough land will be dry as powder from top to bottom. In the driest weather, good hoeing procures moisture to roots; though the ignorant and incurious fancy it lets in the drought, and, therefore, are afraid to hoe their plants at such times.

AGRICULTURAL IMPLEMENTS.

We fully concur with the Editor of the "Agricurist" in the following views. Indeed we undertook last year to demonstrate that the folly of the farmer in carrying too far the principle of "buying cheap," would deprive him of the opportunity of purchasing good implements. We think now, as we said then, that the difficulty arises from the fact that he is seldom sufficiently skilled in mechanical products to distinguish a good from an indifferent piece of work, consequently, he has not confidence enough in his own judgment to induce him to pay a good price, for which only good work can possibly be afforded; for, as every body ought to know, a good article can only be made by good workmen out of good materials, which always have, and always will, command a good price. And considering the rough and unworkmanlike usage to which it is subjected, there is no department of art in which a tool requires to be better made than in agriculture.

"There seems to be a *fashion* among the manufacturers of farmers' implements, that varies from time to time, not simply in the form and style of the article, but in the quality and durability also. These changes occur to such an extent, as sometimes seriously to incommode the farmer. And it is observable not only in the more complicated instruments whose character for utility is not fully established or generally acknowledged, as in some of the mowing and threshing machines, but with those of the simplest construction and of universal use. We have, for instance, found it for two seasons past almost impossible to procure at the western extremity of this State, a well-constructed durable hoe, rake, pitchfork, or basket. Here are utensils that almost any mechanic can make, in use for thousands of years, and of absolute necessity, and yet not to be found of a proper kind in an extensive market. There are an abundance of the articles, to be sure, such as they are, and cheap enough,—for no one could object to the price; but being, like Pindar's razors, made only

to sell, are so utterly useless to any but the manufacturer and merchant, as to leave it very questionable whether a person could not do almost as well without as with them.

"This vexatious condition of the tool market is, to a great extent, owing to the farmers themselves, who, in their eagerness to get things cheap, carry the principle so far, at last, as to get such as are utterly valueless. Axes, shovels, and spades, cradling and other scythes, are articles that subject the workman to so much less labor when good ones are used, that, for many years, by universal consent, only the best, *the very best*, would be tolerated; and it is no difficult matter to find, in every market, such as are made on the best principles, and of the best and most durable materials. The others, by almost as universal consent, have been allowed to deteriorate to a point beyond endurance. The only remedy we suggest, and it is a sufficient one, is for farmers to buy only the best, and give such prices as will enable the manufacturer to make a fair profit from them: the inferior he ought never to buy, if furnished at one-fourth the price of good ones. In this way he will always secure a supply of such as may be depended on. We need not add, that every farmer should always see that he has tools enough, and always in order, and always at hand, that time should not be lost in finding or putting them in order, when he ought to be at work with them. More time frequently is lost by borrowing twice of a neighbor, than would suffice to purchase the article, to say nothing of the loss and inconvenience to them, which is an item not to be overlooked by men of even moderate honor and integrity. Money cannot be put to better interest than in a surplus stock of good tools, if kept properly housed."

A CEMENT FOR STOPPING FISSURES IN IRON VESSELS.

Take two ounces of muriate of ammonia, one ounce of flour of sulphur, and sixteen ounces of cast iron filings or turnings; mix them well in a mortar and keep the powder dry. When the cement is wanted, take one part of this and twenty parts of clean iron filings or borings, grind them together in a mortar, mix them with water to a proper consistence, and apply them between the joints.

This answers for flanges of pipes, &c. about steam engines.—*Mechanic's Own Book.*

We make the following extract from an editorial in the American Farmer, and commend it particularly to the notice of Mr. PEYTON, assuring him of that of which he is already probably aware, that the source from which the

suggestion emanates, entitles it to the highest consideration :

THE RUST.

We subjoin an article upon this subject from the pen of *W. M. Peyton*, Virginia, which we copy from the *Southern Planter*. This paper is written well, and we confess we incline to the same opinion of the writer with regard to the cause of the rust, though we are not so sure that he is right in the conclusion to which *his premises and reasoning lead him*. After ascribing the disease to "*excessive vegetation*" he says,

"If then I am right, is it not an evil without remedy—dependant upon the seasons, and of course beyond human control?"

Now, it appears to us, that some substances may be yet introduced, which will not favor this "excessive vegetation," by producing a more gradual decomposition of the manure applied, and consequently a more stinted supply of the nourishment of the plants. If this retardation of food can be effected, we can see no reason to doubt that the grain may be preserved from rust. It is possible, that by a change in the *rotation*—by making wheat, instead of corn, follow clover—and increasing the depth of ploughing, the desired healthful check may be given to the decomposition of the vegetable matter turned in. In addition to this too, it may be found salutary to sow plaster over the clover before ploughing it down, as an auxiliary agent in preventing the too rapid decay of the vegetable matter. *Leibig*, who we must confess, we believe to be the first writer who ever explained, upon just principles, the mode of the operation of plaster, says :

"The action of gypsum (plaster) really consists in its giving a *fixed* condition to the *nitrogen*, or *ammonia*, (food of plants) which is brought into the soil, and which is indispensable for the nutrition of plants."

In further illustration of his views, he says :

"The decomposition of *gypsum* by carbonate of ammonia does not take place instantaneously; on the contrary, it proceeds very *gradually*, and this explains why the action of gypsum lasts for several years."

If then, Mr. Peyton be correct, in referring the cause of *rust* to "*excessive vegetation*," or in other words, to an over, or superabundant supply of nourishment, we would respectfully ask, whether a corrective might not be found in the plan we suggest. At all events, the character of the *food* which the plants would receive from decomposing clover, would be much milder than that it extracts from the manure usually applied to corn, which is, generally, the grossest and strongest on the farm; and perhaps, notwithstanding the supply afforded to the previous year's corn crop, still too strong for the nature of a plant so delicate as *wheat* is known to be.

But, if in addition to the more bland charac-

ter of the manure arising from the decomposed clover, we are able to *regulate the supply*, by means of the retarding principle ascribed to the action of plaster, may it not be, that, in the combination of the two, we may find the very thing to prevent the occurrence of the disease whose effects are so disastrous to the wheat grower? We merely throw out this idea for the consideration of others better able to form an opinion than ourself; and from the pleasure we have received from reading the communication of Mr. Peyton, should be pleased to see his views upon the subject.

Again—the Editor of the *Southern Planter*, in a brief article upon the virtues of *salt* as a manure, says :

"The best opinion seems to be that it operates chiefly by producing or preventing the decay of animal and vegetable matter in the soil, consequently the quantity applied should be proportioned to the quantity of these constituents: for it is a well known fact that a small quantity of salt promotes decay, whilst a larger quantity is universally used to prevent it."

The virtues here ascribed to *salt*, we know from experience in its use upon corn, at the rate of *six* bushels to the acre, to be correct. For we had evidence in the growth and ripening of that plant, in the same field, all of which had been manured and treated precisely alike, with the exception that one acre had been *salted*, the other not, that the decomposition of the manure was carried on much slower on the part salted than on that which was not. Long after the blades on the latter part were *fired*, the former remained a dark green, presenting a most healthful condition, though evidently slower in its growth of stalk, and later by a few days in the maturation of its grain.

We have alluded to the effect of *salt* here, because we are of opinion that it may be made a useful agent in the prevention of rust, if sown on the field of growing wheat, in early spring; the which operation we would invariably follow with the harrow and roller.

These ideas are thrown out, as we have before premised, merely as suggestions, and we do so, thus early, in order that there may be time left to act upon them.

LARD OIL.

This is a new item in the domestic manufactures of the West. At Cincinnati there are now in operation three factories which consume daily from twelve to twenty barrels of lard. The oil, it is stated in the Cincinnati Republican, has already attained a high degree of excellence and popularity; and it is not only used extensively there, but is shipped to the East every week, thus completely changing the course of the oil trade. It is used for machinery on the Little

Miami railroad, in all the city works, at the hospital and asylum, in several of the churches, and in numerous stores and dwellings. It is very obvious that this new manufacture will be of the greatest importance to Cincinnati and to the West generally.

PLASTER OF PARIS.

Mr. ALLEN lays down the following rules and principles with respect to the use and application of plaster:

"1. It generally has little or no effect on strong clay lands; unless applied in large quantities, say fifteen or twenty bushels to the acre, when it has been known to change the character of a stiff clay in a single season, to a loose, friable, mellow and rich soil.

"2. It is used with great effect on dry, sandy, (not a barren sand,) or loamy soils.

"3. One to two bushels per acre, is considered a sufficient quantity to apply at once, though as high as six, have been sowed with marked advantage.

"4. Its effects last through two seasons, and frequently much longer.

"5. It should be sown generally in April or May; (and always applied when the ground is dry,) thus affording an opportunity for dissolving it by the rains. Its application to crops as late as June, have frequently been attended with decided advantages, though the large quantity of water required for dissolving it, being about 500 parts of water, at a temperature of 60 degrees to one of gypsum, renders the advantage much more conspicuous when sown earlier.

"6. The effects are much more striking when applied with manure, and sometimes with lime.

"7. It is a stimulant, as well as manure, and has a tendency to exhaust the humus or geine already in the ground, which renders it necessary to add manures occasionally, when the crops are carried off the ground; when they are consumed on it, the soil is constantly improving without the addition of manure.

"8. It is in some instances a *specific* food of vegetables, by this means greatly increasing the quantity of some plants, as clover, sainfoin, and other of the broad leaf grasses; peas, corn, roots, &c.; while some of the narrow leaf grasses, and wheat, barley, oats, &c., are scarcely benefited by it.

"9. In opposition to the suggestion of our correspondent, we have well attested experiments of its immediate beneficial effect on crops suffering from drought, before any rains had come to its aid; it having been in some slight degree dissolved by copious dews.

"10. Its application in the neighborhood of salt water, has seldom been attended with bene-

fit, owing undoubtedly to its combining with the saline vapor, wafted to it by the sea breezes.

"11. Frequent benefit is derived from its use, on vines and other plants infested with insects, for though the diluted acid constituting a portion of it, may be highly beneficial to the vegetable, it is poison to the insect.

"12. Wet lands are not improved by it.

"13. Many soils are already so highly charged with gypsum in their natural condition, as to derive no benefit from an additional quantity. There is scarcely any saline substance more generally diffused, it constituting a portion of almost every soil, and is contained to a greater or less extent, in all river and spring water; and giving to the latter especially, when in considerable quantity, the character of *hardness*."

CEMENT.

In the *New England Farmer*, Vol. 12, No. 3, p. 21, we find the following statement:

"The late conquest of Algiers, by the French, has made known a new cement used in the public works in that city. It is composed of two parts of ashes, three of clay, and one of sand. This composition, called by the Moors, *Fabbi*, being again mixed with oil, resists the inclemencies of the weather better than marble itself."

Mr. Dorr, of Roxbury, called upon us, a few days ago, to look up the above article in our back volumes, and stated that he used a cement made according to the above directions, around the window casings of a stone-house he was building about the time this article appeared, and it has proved as good as the statement represents. It is as hard as marble, and will stick to wood as well as to stone.

GERMAN, OR FLY-PROOF WHEAT.

Cambridge, Md., July, 1842.

To the Editor of the *American Farmer*:

You have asked a report of the result of my experiment with the sack of German wheat which I purchased of you last fall. Concisely, I give it below:

The sack contained 2½ bushels; I seeded it on the 17th September upon two, precisely measured, acres; on this space were two varieties of soil, very opposite in character, one portion was a low, black, clayey loam; the remainder, a more elevated dry clay, equally rich: the growth was very luxuriant, and no difference observable in the two portions; its height was nearly six feet, with a large straw; it was a dense mass of vigorous vegetation—though partially attacked by the "fly," it sustained no apparent injury from it whatever; nor was it in the least affected by the scab, rust, or any other disease. It might have been harvested by the 17th June, but rainy weather deferred it to the

21st: the product was within a small fraction of fifty bushels, and its weight upon once through the fan was 62½ lbs. The grain is much more full and plump than the seed grain was: though it was quite as dark; and this (the color) I think, is the only exceptional point of its character. I have tried a bushel of it for flour, but the miller reports it to have been too damp for a fair experiment.

It is, perhaps, worthy of remark, that, immediately alongside of this wheat, and on soil equal, or similar, grew several acres of the N. Y. white flint wheat, which was injured by the fly, though slightly, and finally ruined by scab and rust.

These facts were so conspicuous, that the lot containing the two varieties, being situated on the county road they attracted general attention, and its unusually vigorous and early spring growth was a matter of astonishment to all who saw it: and in this, and its early ripening, before the return of the blighting season, which is known to observe a very regular periodicity, consists no doubt the security of this grain against the usual disasters of other varieties.

Respectfully, JOSEPH E. MUSE.

This is the same wheat we last year received from Mr. Gray and advertised and sold under the name of "Fly-proof." We should be glad to hear from some of our customers how it has turned out. We are in daily expectation of another supply, and Mr. Gray writes us that the last season fully established its claims to be considered *rust* as well *fly* proof.

BLOWING ROCKS.

A much cheaper and safer way of breaking up rocks, may in many localities be used, instead of drilling and blowing them with gunpowder. The method referred to has been tried with great success in many instances. It is simply to build a fire with some dry wood upon them, and when they are well heated, throw water upon them, which will be as certain to break them as powder. In this way the largest and hardest rock may be reduced to small fragments in a very short time, by the labor of a small boy.

Newburyport Herald.

From the Farmers' Cabinet.

A FALLACY.

The popular idea of modern times, and of which our agricultural periodicals are constantly reminding the farmer, is to cultivate no more ground than can be well manured. Make your fields small, say they, that you may accomplish this end.

But the writer has been more successful in

practising upon the converse theory, viz: extended cultivation on a small farm. Five years since he confined his operations to a small farm of little more than fifty acres of arable and meadow. The land was chiefly rough, and in a very moderate state of productiveness; soil loamy, with a good healthy clay subsoil. At present the face of it is pleasing to the eye; and, in point of productiveness, nearly double that of the former period. Only about thirty-five acres of it have been cultivated in grain and artificial grasses; the remainder in meadow, and lawn about the dwelling. Of the cultivated portion, the grasses are never suffered to lie longer than three years, frequently but two, and occasionally but one. The basis of this improvement has been moderate attention to raising and applying manures, all within the farm, excepting lime, (magnesia,) and one experiment of ground bones. He manures double the space usual among creditable farmers; and last year, by the help of an extra supply of fifty loads, obtained by soiling cattle before harvest, was enabled to manure one-fourth of the whole farm. If it be asked how so much manure is obtained, the answer is, chiefly by using straw for no other purpose than bedding for animals; feeding them on hay and the better portions of corn-fodder; winter-feeding a few cattle on meal and some roots; hauling most of the manure in the spring, and protecting the portion left for autumn use under cover, or thrown into shallow banks with earth over the top; by confining the cattle in their yard altogether, until the 15th or 20th of the 4th month; afterward, during a month, let out an hour or two every day—then, and not until that period, when the grass is strong, and operating as feed rather than physic, they go upon their permanent pasture.

It will be observed that this practice has resulted from a belief that the offal of crops is an ample basis for the manure which they require; and that, if only tolerably well managed, it is capable not only of supplying the annual exhaustion, but also of carrying on a progressive improvement. Consequently, extended cultivation, provided there be a just relation of the requisite number of animals for manufacturing the offal into manure, is believed to be advantageous to improvement of the soil, to the pocket of the husbandman, and to the country, rather than a stinted cultivation, which provides manure only in proportion to its limited extent, and looks to extensive grazing, or a disproportion of meat to the bread which is to accompany it. This just relation of tillage and of stock is supposed to be exactly that number of the latter which can be kept without eating up the source of manure offal of the crops; and, in summer, without pasturing very close, animal manure being looked upon only as a small ingredient to ferment the mass of vegetable matter; and all the better for

that object, when the beasts are kept in good plight, which feeding on hay instead of straw supposes, to say nothing of the superior profit of cattle so kept, and the humanity of it.

Frequent tillage, if supplied with its rights in manures, keeps the ground loose and lively for the largest product of grasses, supplying exactly what is wanted, in an abundant hay crop for winter; and for pasturage has the utmost value, when combined with a portion of perennial or green-grass meadow, where the cattle can roam from one to the other at their pleasure.

J. JENKINS.

West Whiteland, 4th mo., 9th, 1842.

INDIA RUBBER.

A new use has been found for this article at the South. They make large bags of it, which they fill with cotton and then float them down the rivers, as the lumbermen do their pine logs. Ninety-three bales were lately floated down the Alabama by this method. These sacks may supersede the "broad horns" on the Mississippi yet.—*Mechanic.*

For the Southern Planter.

CORN RAKES.

Gentlemen,—I see in the last number of your paper a communication headed "Corn Rakes," and signed E. G. I am inclined to think E. G. is one who from proper use has gone into ultra theory upon the subject of rakes. As you request an exposition of the objections to the use of rakes, I humbly offer mine, in hopes that they will at least call out others upon the subject.

E. G. says, "he knows they have been tried and discarded by some, but he is sure this has happened only where the experiment has not had a fair trial." Now, what is it reasonable to call a fair trial? I say, when a crop of corn is worked (when it needs working) with rakes, and another piece, at the same stage, and in the same field, is worked with hoes. This experiment I tried, and the result was, that the hoed corn so far eclipsed the raked, that many persons thought I had not worked the latter at all.

There is one advantage in the rake, and only one that I can see, and that is for cleaning and weeding very puny, small corn, which is so wet and foul that it cannot be well worked otherwise. But that advantage is attended with great risk, for should the field be so wet that it cannot be worked with the plough and hoe, it is because of a long rainy season, which will probably be followed by a very dry one. Thus, when the weather will permit you to use your rakes, the clouds will have dispersed, and the sun shining out kills the roots of your young and tender crop, as fast as you hackle and expose them. Again, it loosens the close, wet

earth around the stalk, and lets the sun have a powerful effect upon the young and tender roots of the puny plant. Besides, when corn is infested with grass before it is large enough to be ploughed, it is very small indeed, and the grass is as large, or almost as large, as the corn, and it is growing so close to it that the roots are entangled with each other, and then to extricate the grass from the corn with the rough and merciless teeth of the rake, must, most unquestionably, injure or molest the whole stalk, and especially the roots, in which all the life of the plant is contained.

Now, is not example, practice and proof worth more than fireside theory and *philosophical* reasoning?*

Let any one try rakes, or any other implement, for hackling their corn roots, and they will pretty soon see the *benefit* they derive from them.

I do not mean to say that I am totally opposed to rakes. They certainly are most valuable farming implements, and useful for a variety of purposes, and *sometimes* almost necessary to save *some* corn; but, that they are very valuable for the cultivation of corn, and are worth five hundred dollars to the corn grower, I have every reason to deny.

A YOUNG FARMER.

TO WASH WOOLLEN GOODS.

The art of washing woollen goods so as to prevent them from shrinking is one of the desiderata in domestic economy worthy of being recorded; and it is, therefore, with a satisfaction we explain this simple process to our readers. All descriptions of woollen goods should be washed in very hot water with soap; and, as soon as the article is cleansed, immerse it in cold water; let it then be hung up to dry.

Nashville Agriculturist.

TAMING HORSES.

Mr. Catlin, the celebrated Indian painter, says, that the savage tribes of North America are remarkable for the wonderful facility with which they subdue the buffaloes and wild horses of the prairie. This astonishing effect is produced simply by securing the animal, and placing the hand over the eyes and breathing into the nostrils, when it immediately becomes perfectly docile and subdued.

An English gentleman, Mr. Ellis, of Yorkshire, says he happened to read this account and

* I was glad to see the article of "Anti-Philosophy" in the Planter and to such philosophy I here allude.

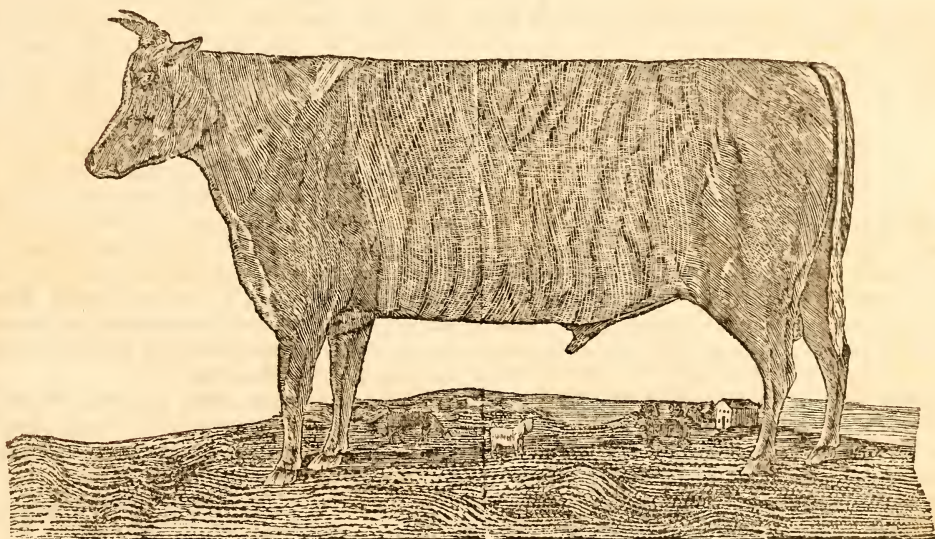
remained entirely incredulous of its truth, until two experiments upon unbroken and unmanageable colts satisfied him of its efficacy. He supposes this to have been the secret of the celebrated Irish whisperer.

INDIA RUBBER PASTE.

The following recipe, discovered by a Mr. Smith, of Baltimore, is highly recommended as a water-proof covering for boots and shoes. The following preparation is said to be sufficient for fifty pair of shoes.

Take three ounces of gum-elastic, cut it into fine shreds; put it into a gallon jug, add to it three quarts of Seneca oil; let it stand three or four days, when the gum will have been dissolved and the paste fit for use. Stir before using; then rub the uppers and soles of the boots and shoes well with it three or four different times before the fire, so long as the leather will absorb it. The degree of comfort which the mixture will insure to the wearer of heavy boots can only be realized on trial. It might be used with an equally good effect upon the harness and gearing of work-horses, and we have no doubt make one pair last as long as two.

L A I R D .



The above portrait represents "Laird," an Ayrshire bull purchased by my father of C. M. Bement, Albany, New York. He is an animal of great power, and considerable size, but very low, being short in the leg, and very deep from the back to the bottom of the belly—his color is red and white, with a yellow skin, that handles extremely soft and mellow to the touch—he is the easiest animal to keep fat I ever saw—he was purchased particularly on account of the great milking qualities of his family—his mother, an imported Ayrshire cow, giving twenty quarts per day while suckling him. It is quite remarkable how he impresses his own form on all of his get. His face is white, and he has never in two years gotten a calf, no matter what the color of the dam (and they have been of all colors) that had not a white face. I think for the small farmer, or he who is "blessed" with

poor land and scanty pastures during summer, that this breed is better adapted than any other of the many valuable kinds which have been imported into this country from Great Britain, and at such enormous expense and risk. Without any disposition to disparage the Durhams, I confidently assert that the Ayrshire is much the best suited to Eastern Virginia and the South generally, and those who wish to commence a stock of fine blood cattle would do well to give to this breed mature consideration and a thorough examination before passing it by for larger and heavier animals, whether of the Durham or Hereford breed. They are particularly prized in Scotland as "the poor man's cow," and I think all things considered, they will prove to be the best and most productive stock for us.

L. M. BURFOOT.

For the Southern Planter.

HENRICO AGRICULTURAL AND HORTICULTURAL SOCIETY.

The next meeting of this Society will be held on Wednesday, the 19th day of October next, commencing at Goddin's Spring. The Society will be called to order at 11 o'clock precisely, when the report of the Executive Committee and Committees of Award will be read; after which, the annual election of officers of the Society will be made.

At 12 o'clock, the first day's exhibition will commence with stock, agricultural implements, &c. and a fair be held for the sale of such stock and other articles as may be offered.

The following premiums will be awarded on the first day:

No. 1.—For the best stallion calculated to produce stock adapted to the saddle, harness or draught, \$15 00

Committee—Gen. Bernard Payton, I. A. Goddin and Ro. Carter Page.

No. 2.—For the most highly improved and best cultivated farm, a premium of \$25 00
 For the second best, 20 00
 For the third best, 15 00
 For the fourth best, 10 00

Reference being had to the means (as well pecuniary as others) of the proprietor for improvement—the amount of labor employed—the advantages resulting from the vicinity of the farm to the city, &c. The object being to place the industrious cultivator, with limited resources and no other labor than his own, upon the same footing with the largest cultivator with ample resources. It is to be distinctly understood, that not only the actual fertility of the soil will be considered, but special attention shall be paid to the means which are in operation for enriching the farms; to the condition of the enclosures; to the mode of cultivation, whether conducted with neatness, system and economy; to the condition of the stock, and especially whether provision has been made for their comfortable accommodation in bad weather. The buildings also, farming utensils, garden, and every thing connected with the comfort and prosperity of the establishment, will come under the review of the Committee.

Committee on Farms—John Carter, George M. Savage, Charles Marx, Henry L. Carter, and William Miller.

No. 3.—For the best field of corn, not less than five acres, \$15 00
 For the second best, 10 00
 For the third best, 5 00

No. 4.—For the best crop of turnips, not less than half an acre, \$7 00
 For the second best, 5 00
 For the third best, 3 00

No. 5.—For the best crop of beets, carrots and parsnips, not less than half an acre, \$7 00
 For the second best, 5 00
 For the third best, 3 00

No. 6.—For the best crop of Irish or sweet potatoes, not less than half an acre, 5 00
 For the second best, 4 00

Premiums 3, 4, 5 and 6 will be determined as follows:

The Committee of Award heretofore having found it extremely inconvenient and burthensome to go over the county, and in some instances, out of it, to view the crops offered for premiums, and impossible to view them all, the Executive Committee have resolved, that for the present year at least, the proprietor of each crop of corn offered, shall at his own trouble, procure the attendance of two respectable and disinterested freeholders, who shall carefully view the crop, and after fixing upon a spot which shall be neither the best nor the worst, but shall afford, in their candid judgment, a fair average of the whole, shall proceed with a rule, chain or any other instrument, by which exact accuracy may be attained, to measure off one-eighth of an acre. The crop on this spot shall then be gathered, shucked and fairly measured, heaping measure, in the presence of said freeholders, who shall certify under their hands, the precise contents, as also the supposed size of the field. This certificate shall be forwarded to A. Robinson, Jr., Secretary and Treasurer of the Society, by the 15th October, and be by him delivered to the Executive Committee.

Crops of turnips, beets, potatoes, &c. to be ascertained in the same mode, except that the ground measured shall contain five square yards. Certificates to be forwarded as before.

No. 7.—For the best crop of cabbages, not less than half an acre, \$5 00
 For the second best, 4 00

Committee.—Francis Staples, Jesse Williams and J. M. Sublett.

PLOUGHING MATCH.—C. W. Gooch, W. C. Allen, W. B. Sydnor and Albert G. Hobson are appointed a committee to arrange and conduct a Ploughing Match, on such principles as they may agree upon, and premiums of \$10 and \$5 are placed at their disposal to be awarded as they may determine.

Committee to arrange and conduct the first day's Exhibition.—Wm. D. Wren, C. T. Bouts, Richard G. Tunstall and Edwin Hill.

COMMITTEE TO RECEIVE DELEGATIONS FROM OTHER SOCIETIES—Richard B. Haxall, Wm. H. Richardson and James R. Bridges.

A substantial farmers' dinner will be provided on the first day by Capt. Goddin, for the members of the Society and such others as may desire to participate.

The members of this Society are particularly requested to wear the customary badge of green ribbon on the left lappel of the coat.

The mechanics of the city, and others to whom it may be convenient, are respectfully requested to send to the exhibition such specimens of their own skill and industry, especially agricultural implements, as they may think proper to have exhibited, either on the first day or any succeeding day.

Proprietors of live stock of all kinds, whether members of the Society or not, are also requested to send it forward for exhibition. It is a particular object of the Society to bring together at their fairs all those who desire to purchase, and to accommodate all, as fully as possible. The agricultural portion of the exhibition and fair will be continued, if necessary, on the second day. The most particular and ample arrangements have been made for the accommodation of stock, for any number of days, and it is desirable to have it on the ground by the evening preceding the first day's exhibition.

The farmers of the State, and all others who feel an interest in the cause, are respectfully invited to attend.

The succeeding portion of the Society's exhibition will be held in the city, in the largest room or rooms that can be obtained.

Committee to select a place for, and conduct the same—William B. Chittenden, Gustavus A. Myers, Peter W. Grubbs, Richard Hill, Jr., Wm. McCrery and Charles S. Thompson.

The address will be delivered at the commencement of this part of the exhibition, after which the following premiums will be awarded :

- No. 1.—For the neatest and most substantial counterpane, \$6
For the second best, 4
- No. 2.—For the neatest and most comfortable mattress, filled with hackled shucks or cotton and made at home, 5
For the second best, 3
- No. 3.—For the best comfort, 5
For the second best, 3
- No. 4.—For the best quilt, 5
For the second best, 3
- No. 5.—For the best table cloth, 5
For the second best, 2
- No. 6.—For the neatest and most substantial carpet, not less than 10 yds. 6
For the second best, 4
- No. 7.—For the best hearth rug, 5
For the second best, 3
- No. 8.—For the best specimens of stockings, socks, gloves or mittens, of Virginia raised silk, thread, wool or cotton, worsted or mixed, 5
For the second best, 4
For the third best, 3

No. 9.—For the best specimen of fruits—apples, pears, peaches, &c. \$5

For the second best, 3

No. 10.—For the best specimen of dried fruits, not less than half a bushel, 5

For the second best, 3

No. 11.—For the best specimen of domestic silk, the production of the exhibitor, 5

Committee to award the eleven last mentioned premiums.—Wm. Mitchell, Jr., Mann S. Valentine, Thomas R. Price and Charles Palmer.

No. 12.—For the best specimen of plants, shrubs or flowers, \$10

For the second best, 5

Committee.—Nicholas Mills, Thomas Ritchie and Loftin N. Ellett.

Premiums will in all cases be given in money or plate, at the discretion of successful competitors.

The Committees appointed to act upon subjects requiring early attention, are requested to organise promptly.

The Executive Committee will be ready at all times to give attention to any calls upon them.

THOMAS S. DICKEN.
JOSEPH RENNIE.
WILLIAM D. WREN.
WM. H. RICHARDSON.

GRASS.

We have, over and over again, urged upon our readers the value of the grass crop. This is the season for seeding, and we hope it will not pass without seeing thousands of acres laid down to grass. We should most undoubtedly be exporters, instead of importers, of hay, and we rejoice to see that the success of some of our most distinguished farmers is daily removing the erroneous impression, that this crop, productive of more clear profit than cotton in its palmiest days, is unsuited to our soil and climate. The following extracts upon the proper mode of seeding grass lands are taken from that excellent agricultural paper, the Massachusetts Ploughman, and meet with our hearty approbation :

"In a former number we have reminded our readers of the advantages of seeding on a green sward furrow ; we shall now state the mode of ploughing and of seeding which we have found the most safe and profitable.

"We turn the furrow over as flat as we can— if there are many rocks or stumps in the way it will be well to have one hand with a hoe to lay flat those sods that the plough did not turn well. After the ploughing is finished a good roller should be used to fit the sods more close and to

prevent their being torn up by the harrow. The next step is to haul on the manure.

"As soon as the manure is spread the harrow should follow to mix it thoroughly with the mould of the furrow. The harrow should at first be drawn lengthwise of the furrow to avoid tearing it up; it may then be drawn in a diagonal direction, varying, however, but little from the range of the furrow, and it is not advisable to draw it directly across in any case.

"After the ground has been well harrowed the seed may be sown. We find one peck of good herdsgrass and three or four pecks of red-top sufficient for an acre; and we prefer to cover the seed by dragging a bush harrow over it. The roller may follow if you choose; and if any loose sods remain on the surface they may be raked into the dead furrows or other low places in the field.

"A fresh furrow will be more moist than one that has been turned several days, and seed will vegetate sooner on it. When the season happens to be dry, therefore, it is well to plough but one acre at a time and then throw on the seed.

"All farmers know that lands which lie high and have lain in grass three or four years, need some renovating process or they will yield not half a crop. All know how difficult it is to keep all the high land, not in tillage, in good grass; for so much manure is required for planting and raising exhausting harvests of grain that many fields are suffered to lie fifteen or twenty years, not in grass, precisely, but with something on them that yields no profit. Now the great objects we have in view in the 'New Husbandry' are to keep all our grass lands in such a condition as to obtain good harvests; and to avoid planting so much as to take up all the manure in tillage. To bring our old bound-out mowing lands directly into grass again without the expense and the delay of a three year's course of tillage. We also wish to avoid the risk which we usually run, when we sow grass seed with spring grain, of having it summer killed on taking the grain away.

"We, therefore, cut across lots—we turn the furrow over at the very best time for seeding, and we avoid exhausting the soil by crops of grain. We save a green crop under the furrow, and we miss no harvest; we have no fallow for the year. In this way we may give every acre a taste of the manure heap; for instead of giving one field a full dressing two years in succession, we give but half a dressing, and for one year only; thus we are enabled to go the rounds of our mowing fields four times as fast as by tilling and raising exhausting crops.

"The new system admits of ploughing low, cold, wet, lands, altogether unfit for tillage, and seeding at once on the furrow. And one great advantage gained by this system is, the land thus seeded will lie more light and will continue

in grass two years longer than land which has been two or three years in tillage."

THE PLANTER.

We copy the following from the Hillsborough Recorder and hope, since we have afforded our brother Editor an opportunity of judging of the merits of the Planter, he will be almost ready to endorse the flattering estimate of his judicious correspondent:

"We are not acquainted with the work mentioned below, and cannot, therefore, from any knowledge of our own, comply with the wishes of our correspondent in recommending the work to our readers. But we have confidence in our correspondent, and know that his judgment, having been assisted by experience, is far superior to our own in this matter: we, therefore, publish his note.—Ed.

"*Mr. Heartt*,—If by recommending to your farming subscribers the *Southern Planter*, edited by Botts & Burfoot, Richmond, you could induce them all to send for it, I don't know how you could do them a greater service. I have it from the beginning—January, 1841—and am sure that I do not exaggerate, when I say, that any one of the nineteen numbers in my possession is worth the whole price of the paper per annum, i. e. one dollar, if paid within sixty days from the date of subscription, free of expense to the editors. It is edited by practical southern farmers, and suited to our southern climate and products. Besides it is done up in pamphlet form, with neat paper covers, and is, therefore, more convenient both to read and to preserve.

Yours, &c.

AN ORANGE FARMER.

August 15, 1842."

MEDITERRANEAN WHEAT.

Patent Office, July 20, 1842.

MESSRS. BOTTS & BURFOOT:

Gentlemen,—I have the honor to transmit a parcel of Mediterranean wheat, respecting which much has lately been published, and the peculiar qualities of which are described in the accompanying letters from Dr. Smith, of Philadelphia, and Mr. Powell, seedman, in the same city.

I am, most respectfully yours,

H. L. ELLSWORTH.

Philadelphia, July 14, 1842.

Dear Sir,—Yours of the 6th instant, came duly to hand, and I should have answered it sooner, had business and other circumstances permitted.

That variety of the Mediterranean wheat which I have sown for several years past, I con-

sider *proof* against the *fly* and *almost proof* against the *rust*.

For the former, no rational explanation has thus far been given; but the instances have been so numerous where *this* and the *other kinds* of wheat among us have been sown on adjoining lands in the same field, with cultivation precisely the same—where *this* has remained untouched by the fly, producing a heavy crop, and the *others* almost entirely destroyed, that the most sceptical have no longer any doubts upon the subject.

But that it should so *generally* escape the mildew we have endeavored to explain from the fact, that it ripens from ten to twelve days earlier than any wheat *now* sown in the middle or eastern States (as far as my knowledge extends) But that this is a full and satisfactory explanation I am not entirely prepared to believe; for the causes to which we have generally attributed the production of mildew *may* exist, when this wheat is *susceptible* of being acted upon by them, as well as the other kinds.

These causes we understand to be:

1. That state of the *plant* when the grain is fully formed but very soft and milky, the whole energies of the plant directed to its perfection, and the sap vessels all distended.

2. That state of the *atmosphere* which tends still farther to distend the vessels; as heavy dews, and fogs and clouds, which obscure the sun for several hours after his rising.

3. A sudden outbreaking of the sun, with such *power* as to rupture the sap vessels of the plant, thereby giving a nidus for the seeds of the parasite to take root.

But be the causes what they may, *it is rarely* injured by the *fly* or *rust*; nor are these all its advantages over any wheat among us. For it may be sown from the first of September to the middle of October, and upon soil so thin that the farmer would not think of sowing any other kind of wheat, and yet produce a fair crop.

I have sown it for two years, after a crop of corn and potatoes had been taken from the ground, and fully believe, that the yield after the potatoes, was upwards of thirty bushels to the acre.

If sown early one and a half bushels per acre will be enough, but if not sown till in October, at least two bushels should be sown.

Now, although the straw is so soft that it will most certainly fall in rich ground, still it ripens well, even should the timothy grow up through it and hide it from view. And although the grain is not so white and mellow, as some other varieties of wheat, still, that it will produce more superfine flour to the acre for a given number of years than any other wheat now extant, I feel no hesitation in asserting.

I shall be able to supply any moderate quan-

tity in time for sowing, delivered at any place to be mentioned in Philadelphia.

With sentiments of regard,
I remain your friend,
MOSES B. SMITH.

HON. H. L. ELLSWORTH,
Commissioner of Patents.

—
Philadelphia, July 14, 1842.

H. L. ELLSWORTH, Esq.

Dear Sir,—So far as heard from, the Mediterranean wheat grows more in favor as it becomes better known. Mr. White, formerly a merchant of our city, stated to me last fall, that he had tested side by side with two or three others, and that this was the only one escaped rust, fly, &c. It is an early wheat, adapts itself to the generality of soils, but especially to light land—and as it becomes acclimated assumes more the cast of our Orange wheat. I find a concurring opinion from many neighborhoods, that the Mediterranean wheat this season, exceeds by great odds, all other varieties. I can supply a clean good article, as per sample, at \$1 75 per bushel.

Very respectfully,

M. S. POWELL,
23 Market Street.

The parcel for which we are indebted to the kindness of Mr. Ellsworth is at our office for distribution. The wheat presents a good deal the appearance of that sent us last year by Mr. Gray, but is, we think, lighter and darker. Our millers to whom we have exhibited the specimen unequivocally condemn it as tough, coarse, and indifferent. One of them went so far as to say that he would not recommend the farmers of Virginia to cultivate even if he *knew* it to be invulnerable to fly and rust; another said that it was at least ten cents in the bushel below what he would call good wheat. We feel it our duty in making public the recommendations of others, to state thus fully the opinions of gentlemen, entitled to so much weight as the millers of Richmond, and this course, if we understand him rightly, Mr. Ellsworth will be the first to approve.

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For the Southern Planter.

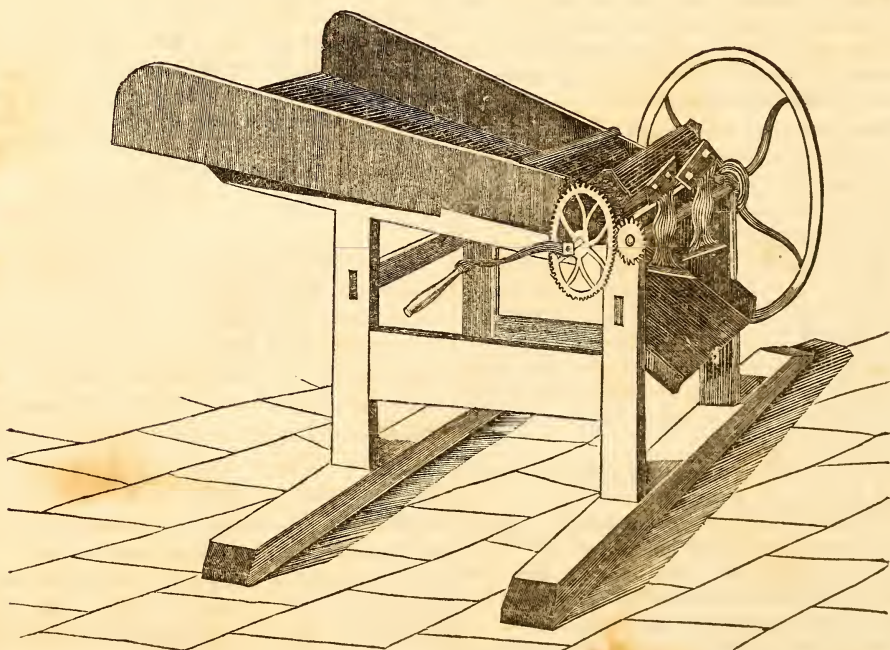
I was much pleased on reading the last number of the Southern Planter to see that my friend Gen. Wm. H. Richardson had accepted the proposition made by me some time since, to feed some of my best Berkshires against pigs of any other breed in Virginia. I was pleased for two reasons—first, because the General was the man to accept the proposition, well knowing that I would then be contending against one

who is incapable of practising any thing unfair in the experiment; and also that he would conduct it in such a way as to make his pigs *all* that the breed was capable of being made by unceasing attention and the most skilful management; and then if my Berkshires triumphed they would be entitled to so much the more credit. Secondly, because the white hogs of Mr. Dicken's were the hogs to be fed against my Berkshires. These hogs have obtained considerable notoriety, and if they are or can be made superior, or equal, to the best Berkshires, I, for one, am anxious to ascertain the fact, as I will then purchase a pair of the best of them.

The General and myself then will feed four pigs each next spring; he four of Mr. Dicken's white pigs, I four of my Berkshires, up to the age of ten months, &c. &c. as proposed in my former communication.

I hope the General will inform me at what time, as near as can be, he expects the birth of the pigs, which he intends to feed, so that I can breed mine at the same time, it being very important to have them of the same age.

L. M. BURFOOT,
Chesterfield, Va.



THE FARMER'S REPOSITORY.

The subscribers have taken the room formerly occupied by the Exchange Bank, (nearly opposite the Bank of Virginia) in which they design to open an agricultural wareroom and an agency for the general transaction of agricultural business. They will buy and sell upon commission crops, seeds, and implements; in short, they offer their services to the agricultural community for the transaction of any business in this city, where the offices of an agent may be required.

They design to keep themselves constantly

supplied with every variety of tool, implement, or agricultural product, that can be either useful or interesting to the farmer. To effect this object, one of the partners is about to leave for the North, in the expectation of making such arrangements as will enable them to afford facilities to the farmers of Virginia, that they have never heretofore enjoyed.

They are now manufacturing, and have ready for sale, their STRAW CUTTER, highly improved. The inventor has been long ago satisfied, that the qualities required in a straw cutter, were

simplicity and durability rather than rapidity of execution. We had many cutters that, whilst in order, were sufficiently efficient, but it is a notorious fact, that, from the failure to bring them within the power of a negro's management, they have generally been abandoned for the clumsy and imperfect cutters made by the common blacksmiths of the country.

Keeping this fact in view, and thinking it comparatively unimportant whether it required one minute or two to cut a bushel of straw, the inventor, who has had some mechanical as well as agricultural experience, applied himself to the construction of a knife, which, if it was less rapid in execution, should be more durable, and within the control of the simplest capacity. He found this no easy task, but after years of thought and trial, he flatters himself he has more than accomplished his undertaking, for, whilst he thinks that the knife is perfect in simplicity and ease of management, its efficiency is not inferior to that of any other in use.

Although others were perfectly satisfied with the knife as it was made twelve months ago, the proprietor was not. He has finally succeeded in rendering it still more simple, and it is now offered to the public without fear of competition.

The nature of the last improvement consists, chiefly in shortening the knives, and is attempted to be represented in the accompanying engraving. They are now not wider, and are as easily ground and set as a plane iron. Except to turn the crank, this is all that the operator has to do, from one year's end to another.

These cutters are made up in the most perfect and substantial manner, and although the work upon them has been a little increased, yet, in consideration of the "times," and in hopes of securing larger sales, the proprietors have determined to offer them at thirty and twenty-five dollars. An attempt was once made to reduce them as low as twenty dollars, but it was found that it was only practicable to do so at the expense of substance and durability in the machine, and the design, after much expense encountered for patterns, &c. was abandoned with the first dozen that were made.

The thirty dollar cutter corresponds to the one that was formerly sold at thirty-five, and the one offered at twenty-five is rather lighter and a little different in construction.

One principle the subscribers have determined

to adopt and rigidly maintain, esteeming it equally beneficial to themselves and their customers; this is to buy and sell for CASH only. Buying for cash, they will of course procure their articles on the best terms, and determined to be satisfied with very small profits, they hope to be able to furnish them as low as they can be had in the Union.

C. T. BOTTS.

L. M. BURFOOT.

P. S.—The Office of the Planter is kept in the rear of the Wareroom, where the Editors will be happy to see their country friends generally. To make such a visit the more interesting, they are making collections of drawings, and models, and curious agricultural products, to which mechanics and farmers are respectfully requested to contribute.

ROTATION OF CROPS.

By particular request we make the following extracts from a communication in the Farmers' Register.

Although we are fully assured that philosophers and chemists have frequently drawn upon their imaginations for facts otherwise difficult of attainment, and although we believe that discredit has been brought upon the philosophy of agriculture by the want of practical knowledge in some of its most distinguished votaries, still, we are undoubtedly indebted to the chemical investigations of modern times for a knowledge of some principles established almost beyond dispute. Amongst the most valuable of these, we had classed the fact presented by chemical analysis of the different and opposite constituents of different plants, from which has been drawn the most perfect system of a rotation of crops, upon the principle, that whilst one crop was consuming certain constituents, nature was elaborating others rejected by the growing crop, to be consumed by the succeeding and opposite one.—This principle has been denied and ridiculed by Mr. J. H. Turner in several articles in the Farmers' Register, and it is in answer to these views, and in defence of the established principle, that Mr. Peyton has written the article from which we copy below.

We have not been unobservant spectators of the contest between these distinguished gentlemen, and we have failed to give our readers heretofore the benefit of Mr. Peyton's handsome and able defence of the established doctrine,

simply, because it afforded so complete a refutation of Parson Turner's views. A novel idea had been advanced, and, in our opinion, clearly refuted. By giving both, we brought the reader, after some labor, exactly to the point from which he started. We never care to administer poison, for the sake of giving an antidote which we happen to have in our possession.

These considerations would still have precluded us from this subject but for the request of our correspondent.

After some preliminary remarks, Mr. Peyton, referring to Mr. Turner's opinions, asks the Editor,

"What do you think of the leading idea of his communication, No. 4, 'that a rotation of crops is unnecessary?' Is it not opposed to every opinion on this subject ever advanced by yourself? Is it not at war with every principle established by the experiments in vegetable physiology? Is it not directly in the teeth of all that is taught us by Sir H. Davy, Chaptal, De Candolle, Liebig, Buel, and every other agricultural writer of reputation? And lastly, is it not opposed to the experience of every farmer who does not live within the smoke of a city, where the fertility of his lots may be almost maintained by the continual presence of an atmosphere loaded with gases generated by the filth of a crowded population?"

"It is a common observation of farmers in this quarter, that when lands are worn down with long continued and severe cropping, so that their yield in *grain* is not worth the labor of cultivation, they will produce a luxuriant crop of *clover*. Not less common is the observation, that old tobacco lots, when they grow tired of the crop which they have borne for a long succession of years, and refuse to produce the same heavily, however well cultivated or highly manured, can only be restored as a tobacco lot by a rotation. It would be easy to illustrate these opinions by many striking examples around me; but I deem it unnecessary to cumber this letter with them, as I presume there are palpable illustrations of their truth in every neighborhood in the State.

"We have always thought that these results were perfectly natural, and consistent with the organic laws of vegetable physiology. We have been content with the theory, that some plants require a peculiar species of food, whilst others require a different. That, of course, when the peculiar food of the cultivated plant was exhausted, it was no longer capable of producing it, whilst its adaptation to the growth of other plants, demanding a different *pabulum*, was unaffected. We have always believed, too, that the excrementitious matters, thrown off by plants, were as incapable of nourishing plants of the

same kind, as the excretions of animals are of being assimilated by the same species. We have believed, too, that the analogy is farther maintained in this, that these excretions may nourish other plants, differently constituted, as the excretions of one species of animals affords nourishment to another. Such have been the opinions of all enlightened agriculturists for a great many years; certainly ever since the theory was revived and illustrated by the genius of De Candolle. Liebig, in his great work on agricultural chemistry, maintains it, with some slight modification, in all essential particulars. He thinks that the excrementitious matters suffer various transformations in their passage through the organism of the plant, (pp. 54 and 55,) till at last, being capable of no further changes, they are separated from the system, by the organs destined for that purpose. That these exudations, though they may be absorbed, can never (until decomposed) be assimilated by the plants producing them, while they may very well be fed on by plants differently organized.

"Independent of the cogent inferences from the known principles of vegetable physiology, in support of this theory, the experiments of Macaire Princep, alluded to by Liebig, seem to place its correctness above controversy. How will Mr. Turner, except upon the principles here advocated, explain the fact that plants of the *leguminosæ* family, wither in the water in which the same species have grown until the excretions have colored it brown, whilst corn plants grow vigorously in the liquid, and the brown color diminishes sensibly with the growth of the plant.

"You will observe in this experiment, that the plants selected are unlike in their organism, and whilst the one feeds largely on the phosphates, and other requires scarcely any. I ask Mr. Turner if the inference is not irresistible, that the beans first grown in the water, had destroyed its fitness to sustain a second crop of them, either by exhausting the peculiar food on which they fed, or by *poisoning* the water with their excretions? It is not equally clear, that at the same time that the liquid was thus rendered unfit for the support of beans, it still retained a capacity for producing corn, and that this corn, instead of rejecting, actually fed upon the exudations of the beans? If true, as is proven, with regard to the *water*, I would again respectfully ask your intelligent correspondent, would it not be equally true of the *soil*? Can there be any difference, when every thing absorbed by a plant from the soil must necessarily be previously dissolved? I am sure he will at once admit that the second fact is a legitimate corollary from the first, and in so doing his own theory loses its foothold, and falls to the ground. If this experiment were not so perfectly conclusive, it would be very easy to pile proof upon proof, 'Pelion upon Ossa,' in support of it.

"Liebig relates an instance of a landed proprietor in the vicinity of Göttingen, who, to obtain potash, planted his whole farm with wormwood. The consequence of which was, that it so effectually exhausted the potash in the soil, that it was incapable of bearing grass for many years—the grass requiring a large supply of the silicate of potash.

"In combatting these universally received opinions, Mr. Turner sets out, rather ominously, in the midst of a strange confusion of technical terms, and an entire misapprehension or misapplication of authors quoted, and when he has thus, under the delusion of an honest zeal for his theory, dove-tailed an ingenious and plausible argument, he then endeavors to varnish over the whole with some striking facts.

"In adverting to this part of Mr. Turner's essay, I will not confine myself to his precise language where it is unimportant, as it would unnecessarily lengthen what I have to say, but merely quote the substance.

"He says there is one ingredient which is necessary to all crops, and that ingredient is *fertility*; and that this ingredient is just as necessary to one crop as another. *Fertility*, as understood by him, is synonymous with humus, as understood by Prof. Webster, *geine*, as called by Professor Dana, and ammonia as maintained by Liebig. He makes, in confirmation, an extract from the Second Report on the Agriculture of Massachusetts, whereof Professor Dana says, 'If we can induce the state of *geine* best fitted for each plant, then adieu to the doctrine of the necessity of a rotation of crops.' Without quoting farther at present, let us halt and review the ground.

"That this *fertility* here referred to, and easily comprehended by every farmer, is not, as Mr. Turner supposes, synonymous with humus, *geine*, &c. will be perfectly obvious when it is recollected that many plants, wheat, for instance, will not thrive in pure humus. The word *fertility*, as used by Mr. Turner, is much more comprehensive. Liebig states that, in many parts of Brazil, where the soil is particularly rich in humus, wheat will not thrive, and in many parts of Europe, where they have formed soils of mouldered wood, [pure humus,] it has been attended with the same result. The stalks attain no strength, and droop prematurely. The cause assigned is, that the strength of the stalk is due to silicate of potash, and that the grain requires phosphate of magnesia, neither of which substances a soil of humus can afford. Liebig adds that wheat will not flourish on a sandy soil or a pure calcareous soil, (e. g., the bald, calcareous prairies of Alabama,) unless it be mixed with a considerable quantity of clay. These soils are deficient in the alkalies, which are indispensable constituents of wheat, while potash and soda are universally present in clay.

"But Professor Dana says, 'if we can induce the state of *geine* best fitted for each plant, then we may bid adieu to the doctrine of the necessity of a rotation of crops. This may be true, but the very condition on which it is made to depend destroys its applicability, as used by Mr. Turner. 'If we can induce the state of *geine*,' &c. is the language of the author. But how induce it? *Geine* or humus, or to be more specific, the decomposed organic matter of the soil can only be brought to the state necessary to give vigor to the growth of plants indiscriminately by the presence of alkalies. Humus is not soluble in any useful degree in water, requiring as it does two thousand five hundred parts of water for one of humus, while it is readily soluble in alkalies. If then you can always have the requisite supply of alkalies present, you at once induce that state of *geine* so much desired by Professor Dana. But can any practical mode be devised of effecting this, other than a judicious rotation of crops, which will feed successively on the different constituents of the soil, and give to the great laboratory of nature time to restore what has been taken away?

"But Mr. Turner, feeling probably the weakness of his argument, and the inconclusiveness of his authority, endeavors to sustain himself by a few isolated facts. It seems to me, however, that little weight should be given to these few straggling examples, ('*rari nantes in gurgite vasto*,') which his industry has picked up over our extended country, against the proofs of philosophical investigation, and the almost unanimous testimony of enlightened farmers in every quarter of the world. It is an old adage 'that a single swallow does not make a summer,' and my Lord Coke says, that exceptions to a general rule, instead of weakening, prove it. The most striking example relied upon by Mr. Turner is that recorded by Mr. Colman, the Massachusetts commissioner, who says, that he saw a rich alluvion field on the Connecticut river, the proprietor of which told him that without any manure it had continued to produce good crops of wheat for thirty years in succession. This, you will observe, is a piece of *intervale* land on the borders of a stream whose low grounds are of remarkable fertility, and whose inundations annually, or at intervals of several years, may have deposited new soil, and thus maintained its capacity to produce the same crop. The Nile, the Po of Italy, and many of the principal rivers of France, have long been employed as fertilizers of their low lands, and wherever they have been able to irrigate them, they exhibit the same capacity for production with the example cited by Mr. Colman. The most important alkalies always abound in such lands. The overflowing waters, too, hold oxygen in solution, and are thus enabled to act promptly and effectually in producing the putrefaction of the excrementitious

matters contained in the soil. But, Mr. Editor, I did not take up my pen with the view of discussing this question with so skilful an antagonist as Mr. Turner, but merely to draw your attention to the subject, that you may enter the lists, and allow me to retire. This letter has insensibly grown to so inordinate a length, and so contrary to my intentions, that I feel that I almost owe you an apology for troubling you with it. When I had once embarked I found all my efforts to regain the shore fruitless, until the present moment.

Yours respectfully,
WM. M. PEYTON."

M'CORMICK'S REAPING MACHINE.

Since the publication of our last we have received several additional certificates of the superiority of this implement, and also a statement from the inventor that he is prepared to furnish machines of the best quality for \$100, or to sell rights upon accommodating terms. His address is Steele's Tavern, Augusta, Virginia.

RECIPE.

The fumes of brimstone are useful in removing stains of linen, &c.—thus, if a red rose be held in fumes of a brimstone match, the color will soon begin to change, and at length the flower will become white. By the same process, fruit stains or iron moulds may be removed from linen or cotton clothes, if the spots be previously moistened with water.



TO CORRESPONDENTS.

We are much obliged to J. M. of Fredericksburg, for his valuable communication. We esteem it too highly to introduce it at the fag end of this number: it shall have an early insertion in the next.

Many other communications have been received, all of which will be duly attended to.

OUR LIST.

We cannot omit this opportunity to return our thanks to our friends for their successful exer-

tion to increase our list. The number of subscribers we have received since our July issue has far exceeded our expectations, and is wholly attributable to the exertions of our friends, whose kindness we hope to have an opportunity of reciprocating.

THE NEW WORLD.

We acknowledge the liberality of the Editor of the New World, who is not only kind enough to exchange with us, but who lays us under additional obligations by the transmission of the novel publications of his extras. Mr. Benjamin, by the enterprize and spirit which he has exhibited in the attempt to cheapen American publications, has entitled himself to the gratitude and support of every lover of light literature.

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