

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.

J. E. WILLIAMS, M. D.,
PROF. WILLIAM GILHAM. } EDITORS.

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For the Southern Planter.

[PAPERS FROM THE NOTTOWAY CLUB.]

Experiments with Wheat.

Mr. President,—Being required to report an experiment, or present an essay on some agricultural subject, my response may, to some extent, combine the elements of both. On the general subject of experiments, I may suggest that there is too much proneness to confine ourselves to those which are successful. It is frequently as advantageous, or more so, to report those which are unsuccessful, that they may be avoided, or corrected, in any deficiency. It is also important to state the attending incidents of season, soil, and special management. It is usual, in the beginning, to procure a small quantity of an article, and bestow upon it extraordinary attention, and thus attain results ensuring future disappointment. I was induced, by the wonderful accounts of the Bowers' wheat, to procure twenty bushels; not that I expected to equal the success achieved by others, but because there were other recommendations, of early maturity, beardless head; and more especially of the *white* variety. The great difference in price now almost excludes all kinds of red wheat, although I now doubt whether, in every variety of soil and season, it is possible to procure a better kind than the early mountain purple straw (red) wheat. I bestowed no particular attention on the Bowers' wheat. It happened, in the progress of my operations, to be the first sown, on a good tobacco lot, with the usual practice of turning it in with the single turning plow, followed by the large harrow, about the 15th of October—the balance of the lot having been sown continuously with the early purple straw; the growth of which is not as tall as other varieties. It is, however, fully equal to the Bowers' in that particular, rather surpassing it.

I concluded, from my experiment, that the purple straw was earlier by about

three days. The heads of the purple straw are much smaller than the Bowers'—the height of which is diminished by the weight of the heads. Another evidence that it is not as tall as other kinds, is plainly discernible in a mixture of other kinds, rising considerably higher. Not being remarkable for height, I did not discover that it was more inclined to tumble than other kinds, notwithstanding the size of the heads; nor is the straw as hard and strong as the purple straw. The joint worm was very perceptible, though not very destructive. I found, perhaps, more injury *at the joint*, in this, than in my low land; though, on the latter, the injury at the root was much more fatal. I find much diversity of opinion, as to this injury at the root causing it to bunch like broom-straw, and throw up but few heads. By some it is considered the effect of the same worm at the roots. It certainly resembles much what I have always regarded the effects of fly, which, however, is more apt, generally, to attack the early seeding. I suppose the only remedy for joint worm, is to sow early on strong land, concentrating the fertilizing applications on a smaller surface, and avoiding, as much as possible, small detached pieces, which seem more obnoxious to injury, in proportion, than large fields. In reference to the product, I will premise, that the quantity I sowed was so much mixed with other kinds, as to induce the necessity of picking over the whole, to preserve as much purity as possible; and thus diminished, I found one acre, measured and threshed separately, to yield a fraction over thirty-two bushels, and another, a fraction under thirty-one, after passing through the fan-mill once—my operations being hurried to secure this variety before any other was put in the granary.

The same lot was in the Coland, or Woodfin wheat, several years ago—the growth very much superior to the Bowers'. It was pronounced by Mr. Edmund Ruffin, the finest growth he had ever seen; and according to his special desire, two acres were measured and threshed that year, and to my surprise, as well as his, the product of one was only 25½, the other 23 bushels; and it was still more surprising to me, that what I supposed the heaviest yield of straw afforded the smallest product. He regarded it as an evidence that growth secured by other fertilizing agents, was not as productive as from calcareous manures. I saw his, the same year, thus improved, which nearly averaged, through the crop, with one of my choice acres—though the appearance was less promising. Both of these acres were cut by one of Hussey's reapers in the eighth year of its performance, and still three bushels and one gallon of good wheat were gleaned from two acres—showing the great loss even in the most careful management. The hand engaged in the operation, thought near double was gleaned from that cut by cradles.

I will here remark, that much care is necessary in threshing wheat thus gleaned—as many tobacco stalks, sticks, &c., are collected. The necessity of threshing, cleaning and removing this variety, before any other is introduced into the granary—to prevent mixture—throws on my hands, for the first time in my life, my seed wheat in a cleaned condition, and causes an appreciation of our

association, in the opportunity of consultation as to the safest method of keeping it from heating, &c. I suppose its removal to some dry floor, and spread as thinly as possible, most desirable. Those whose machines thresh and clean in the same operation, may have some important experience. When in large bulks I have been in the habit of putting some large rocks in the centre, especially when in hogsheads. It is, no doubt, best, whenever circumstances allow, to leave seed wheat in the chaff; and, indeed, that for market also, until used. I may say, that my experiment of this kind of wheat has been satisfactory on good land. I must, however, try it further, and particularly on thin land, before I can corroborate the impressions of superiority entertained by others. Our great desideratum is to procure that which suits poor land, for most any kind will succeed on rich land; and the lower growth of this indicates that it is not so suitable for ordinary land.

I recollect a very sensible remark, in the address of the President of the Union Agricultural Society, in Petersburg, in reference to guano, that it came amongst us as a stranger, with high pretensions, and it was proper they should be fully canvassed before they should be passed upon. This is true as to any innovation; and, again, exhibits the value of our association, in making the experience of one the common property of all.

In connection with this subject, I will be much gratified if any member of the club can suggest any machine, or any fixture, or arrangement of a machine, which will prevent the cracking of the grains—an annoyance and injury to which I have been subjected in every one I have yet tried. I regret that the meeting, occurring so early in the season, precludes a more full account of the general product of this crop, and a comparison with other varieties, which may yet be supplied.

E. G. BOOTH.

July 12th, 1860.

For the Southern Planter.

Mr. Wm. Irby's Report, 1860, to the "Nottoway Club."

Mr. President:—At our August meeting the subject for discussion was, the relative profits of tobacco, corn and wheat; tobacco at \$8 per cwt., corn at \$3.50 per barrel, and wheat at \$1.40 per bushel. The following thoughts and calculations were advanced, and at the request of the club, have been written off with the understanding that this shall be received as my annual contribution.

These calculations are made on the supposition that the farm is cultivated on the four-field system, and as there are only two crops made in the four years, each crop should be charged interest two years on the estimated value of the land on which it is made, which I have put at \$25 per acre. I have entered into minutiae at the risk of being considered tedious, in order the several items may be more readily corrected if found inaccurate. The charges for labor are on the supposition that hands, &c., are hired by the year, and not by the day.

TOBACCO ACCOUNT.

To interest on \$25, value of one acre of land, for 2 years,	\$3 00
“ ploughing one acre of land with double plow,	1 25
“ raking, laying off, and ridging up do,	2 00
“ planting and re-planting do,	1 00
“ ploughing twice and raking once,	1 50
“ working with hoes three times,	3 00
“ worming and suckering one acre,	4 00
“ cutting and housing do,	2 00
“ cutting wood for and curing,	2 00
“ stripping 700 lbs. tobacco, (estimated quantity for one acre,) at 40 cents per cwt.,	2 80
“ hanging up and packing down 700 lbs.,	75
“ prizing do,	1 50
“ hoshead for do. and carrying do. to depot,	1 50
“ burning, &c., plant land for one acre,	50
“ manure or guano for do,	6 00
	<hr/>
To amount of expenses for one acre of tobacco,	\$32 80

CREDIT.

By 700 lbs. tobacco at \$8 per cwt., after paying commissions and freight,	\$56 00
By benefit to land,	2 00
	<hr/>
	\$58 00
	<hr/>
By net profits from one acre in tobacco,	\$25 20

CORN ACCOUNT.

To interest on \$25 for two years,	\$3 00
“ ploughing one acre with double plough,	1 25
“ raking, laying off and planting,	1 00
“ ploughing once and raking twice,	1 50
“ working with hoes twice,	1 50
“ gathering and shucking four barrels corn,	1 50
“ damage to land,	2 00
	<hr/>
To amount of expenses for one acre of corn,	\$11 75

\$8 per acre J.S.N.

CREDIT.

By four barrels corn at \$3.50 per barrel,	\$14 00
By value of short corn and shucks, (fodder not estimated, as the labor of gathering, curing and damage to corn, is at least equal to its value,)	2 00
	<hr/>
	16.00 \$16 00
	<hr/>
By net profits from one acre in corn,	<i>\$8.00</i> <i>\$8.00</i> <i>J.S.N.</i> \$4 25

WHEAT ACCOUNT.

To interest on \$25 for two years,	\$3 00
“ ploughing one acre of land with double plow,	1 25
	<hr/>
Amount carried forward,	\$4 25

Amount brought forward,	\$4 25
To raking twice and sowing,	40
“ cutting and shocking wheat on one acre,	60
“ hau ing up, threshing and fanning out,	75
“ 1½ bushel of seed wheat,	1 75
“ damage to land,	1 00
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To amount of expenses for one acre in wheat,	\$8 75

CREDIT.

By twelve bushels wheat, estimated produce for one acre, at \$1.40 per bushel,	\$16 80
By offal from do.,	25
	<hr/>
	\$17 05
Net profit from one acre in wheat,	\$8 30

RECAPITULATION.

Net profits from one acre in tobacco,	\$25 20
Net profits from one acre in corn,	4 25
Net profits from one acre in wheat,	8 30
“ “ “ “ “ Oats,	6 00
Supposing one hand to cultivate 2½ acres in tobacco, the net profits would be	65 50
Supposing one hand to cultivate six acres in corn, the net profits would be	25 50
Supposing one hand to cultivate eight acres in wheat, the net profits would be	66 40
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Net profits from one hand would be,	\$157 40

In the several accounts I have made no estimate of the cost of enclosing for houses, nor for machinery. The tobacco crop would have the advantage of either of the others as to cost of enclosing, but its charge for houses would be greater than for corn or wheat. The corn crop would have the advantage as to cost of houses, but the cost of enclosing would be greater than for tobacco, and about equal to wheat.

The wheat crop should not be charged as much for houses as the tobacco crop, but the cost of a threshing machine, &c., should be added. Taking this view, the charges against each of the crops would be about equal, and should be deducted from the net profits of each.

Respectfully submitted,

October 10, 1860.

WM. IRBY.

For the Southern Planter.

Hungarian Grass—Tobacco.

Mr. President :—Perhaps there is not a more pressing want with the farmers of this section of Virginia than a sufficient and easy supply of long forage for horses, &c. The oat crop is an uncertain one, and often not remunerative. At gathering blades from corn a hand will not generally earn more than he would

hire for per day. It is not only attended with considerable exposure to the heavy dews of autumn, but is thought by many to damage the corn more than the worth of the fodder at its usual price. I have tried clover, but as we sometimes fail in getting a good stand, it would perhaps be unsafe to rely greatly on it. Moreover, I find horses will consume or waste in bulk, and probably in weight, of clover hay, than they will of fodder. But with these drawbacks I consider it very valuable, as a large quantity may be cut in a day with a mower, and it is easily cured. The hay is the very best food for the winter feeding of sheep. The Chinese sugar cane has been highly recommended for winter forage, but on experiment I found the stalk so succulent that the blades would be ruined long before the stalks became sufficiently cured to stow away.

Although I felt discouraged with these and other failures, I was induced last year to try the Hungarian grass. I fallowed an acre of land, sufficiently strong to produce pretty good clover. On it I used 150 lbs. Peruvian guano raked in, which leveled it for the seed, which were gotten in by a second raking, and then rolled, leaving the ground in pretty good condition. The seed were long in coming up, but when up, the grass grew off well and made a handsome appearance, but mine did not turn out as well as the advertisements promised. I threshed it, but as it was not dry, did not get it out clean. The acre produced about 16 bushels of seed. The hay is very good, but probably not worth as much per cwt. as oats. If this grass has any advantage over oats, it is that an acre requires only one-eighth as much to seed it as of oats, thereby saving seven-eighths of seed. Again: it is found that oats grown on very rich land are not as good in quality, nor does the yield correspond proportionably to those grown on moderately rich land. I consider my experiment with Hungarian grass pretty much a failure, but not being satisfied, have concluded to give it a second trial.

As I consider the above experiment unsatisfactory, I will report another, although it is equally, if not more so, but as two negatives are equivalent to an affirmative, perhaps two imperfect experiments may be taken for one good one; though, to be candid, I do not so consider them. The second one is as follows: I used last year on tobacco, at the rate of 200 lbs. to the acre, the following fertilizers, viz:—Peruvian, American, Elide and Robinson's manipulated guanos, also Rhodes' superphosphate of lime, mixed with Peruvian guano by myself, in equal quantities. The tobacco dressed with superphosphate and Peruvian guano grew off much more rapidly than any other, and continued to be superior until it was topped. Up to that time I considered it *the* manure for tobacco. The strength appeared then to be exhausted and the tobacco did not mature as well, nor was it larger than the balance. At this result I was much disappointed, as it was reported that its superiority was in maturing the tobacco, and being a less evanescent manure than guano. I saw no very marked difference between the tobacco dressed with Peruvian, American, Elide and manipulated guano, but will remark that I found so much foreign matter in the American and Elide,

that I consider them nearly as costly as the Peruvian. I think the wheat, now growing where the manipulated was used, looks rather better than that on which any other guano was applied.

Respectfully submitted,

WM. IRBY.

May 10th, 1860.

For the Southern Planter.

Comparative Value of Different Guanos.

Mr. President:—The following experiments were made to test the relative value of Peruvian guano, Ruffin's phosphor guano, Petersburg manipulated guano, Ruffin's tobacco manure, and Peruvian guano and Ruffin's bone ash mixed in equal quantities at home.

On a tobacco lot in good heart, but lightly dressed with farm-pen and stable manures, I applied the above manures at the rate of 167 lbs. per acre. Without freight, they cost as follows: Peruvian guano \$57, Ruffin's Phosphor-Peruvian \$50, Petersburg manipulated \$48, Ruffin's tobacco manure \$45, Ruffin's bone ash and Peruvian guano mixed in equal quantities at home \$41.50. Cost of each per acre, at 167 lbs., as follows: Peruvian guano \$4.51, Ruffin's phosphor \$4.17½, Petersburg manipulated \$4.08, Ruffin's tobacco manure \$3.75¼, bone ash and Peruvian guano \$3.46½. I intended weighing an equal number of plants from each, but as I saw no difference in color, form or size, though noticed at every stage of growth, both on the lot and on a piece of old field land on which there was no manure (other than the fertilizers) applied, I omitted, as I did not suppose at the time it would alter the result, which omission I now regret. The result of the experiments in one point of view are not satisfactory, as they did not accomplish the purpose for which they were designed, but I will say the tobacco, both on the lot and old field, was as good or better than I had any right to expect. As the effect of each fertilizer was so far as I could see equal, the only end accomplished is, that it shows the difference in cost of each, at 167 lbs. per acre, which is as follows: Ruffin's phosphor guano cost 33½ cents less than Peruvian guano, Petersburg manipulated 43 cents less, Ruffin's tobacco manure 75¼ cents less, bone ash and guano mixed \$1.04½ less than Peruvian guano. The bone ash and Peruvian is to be preferred, as it cost less than any of the others, and we may know what we are using.

Respectfully submitted,

WM. IRBY.

November 8th, 1860.

For the Southern Planter.

Value of Mixed Guanos.

To the President of the Farmers' Club of Nottoway:

SIR—As I have an experiment somewhat in connection with the subject to be discussed to-day, I will present it for the consideration of the Club.

In the summer of 1857 I fallowed up about two thirds of one of my fields, and the following fall sowed it to wheat, giving the land a dressing of Mexican

and Peruvian Guano, mixed half and half, at the rates of two hundred lbs. per acre. The wheat came up well, and presented a healthy appearance during its entire growth, and was pronounced by several of my neighbors to be one of the finest fields of wheat in the neighborhood. In fact, it yielded better than my tobacco lots. The year 1859 the field rested and was lightly grazed; the vegetation showing, I thought, a much more luxuriant appearance than I had ever seen on the same land before. Last winter I had the whole of the field fallowed with a two horse plow, and in the spring prepared and planted in corn. The corn now upon the land where the application of the mixed guanos were made to the wheat in the fall of 1857, is a hundred per cent better than the same land produced when last in corn, and fifty per cent better than that portion of the field that was not fallowed for wheat; the portion fallowed for wheat having rested one year, and the other two. This experiment satisfies me that the mixed guanos are more permanent in their effects upon the soil, as I have never seen the same improvement from the application of Peruvian guano alone.

Respectfully submitted,

R. S. HURT.

September 10th, 1860.

For the Southern Planter.

Winter Oats.

To the President of the Farmers' Club of Nottoway:

SIR—Some five or six years since, I procured a few bushels of oats, which were recommended as suitable for fall sowing. I sowed them, as directed, late in November. The winter was not unusually severe, but nearly all of the oats died. The next year I sowed a little earlier, with rather better success. In September, 1856, I seeded a piece of moist land in herd's grass, and scattered over it a few oats as a protection to the grass. The oats, as well as the grass, stood the winter remarkably well, both together yielding a heavy crop, which I cut and cured as hay. Since that time I have adopted the plan of sowing oats and grass seed together, early in the fall, always getting a good crop of oats and a good stand of grass.

In 1858 I sowed my winter oats in the spring. They did not turn out well; not owing to the kind of oat, I think, but to other causes. The season was unfavorable, and the cats were injured by an insect that infested the crop that year in all this region.

In 1859 my crop was the best I ever made, and the best I ever saw grown on such land. Fifteen bushels seeded the 1st of October, on ten acres of very thin land, yielded 210 bushels, at the rate of 21 bushels per acre, or 14 bushels for every one sown. Eighteen bushels of the same kind of oats sown the 1st of March yielded, as nearly as I could judge, about the same quantity. Common oats in the same field, but on better land, did not yield half as much.

The field that was in oats last year, I fallowed for wheat about the first of

September. On a portion of the field, finding the oats to come up thickly, I concluded not to sow wheat. The oats stood well, afforded good grazing for sheep during winter, and now give promise of a heavy crop. Oats that I sowed in October are also doing well. On northern hill-sides they were killed out, but not much more than wheat similarly exposed.

On the whole, the result of my experience is favorable to the winter oat. My failure for the first two years was owing, I think, to late sowing. When sown early in the fall, I have never failed of a good crop. When sown early in the spring, I have found them much more prolific than the common oat. I would not recommend the sowing of the entire crop in the fall, for the two-fold reason that the time for sowing and the time for cutting both occur at very busy seasons; the sowing interfering with the saving of tobacco and the sowing of wheat, and the cutting pressing closely upon the wheat harvest. When sown in the spring they are later in maturing than the common oats. But I would always sow enough in the fall for seed. I have invariably saved my seed oats from those that had stood the winter, and have been pleased to notice from year to year a gradual improvement in the quality of the grain. My oats this year, as tested by several of my neighbours, weighed 40 lbs. to the bushel.

Respectfully submitted,

THOMAS W. SYDNOR.

* Oakland, April 12th, 1860.

P. S.—February 14th, 1861. The above communication was read before the Club at their meeting in May last. From inadvertence on my part it was not handed to the Secretary. To what is said above I would add that my crop last year was not equal to that of the year before, either in quantity or quality, but regarded, nevertheless, as a good crop for the land. My present growing crop is unusually promising, having stood the winter thus far even better than the wheat.

Cf. Am. Pa. n. Nov. 1848, p. 145. So. Pl.

T. W. S.

For the Southern Planter.

Plan for Bulking Tobacco when in Order for Prizing.

To the President of the Nottoway Farmers' Club:

SIR,—I do not know that I could render a more acceptable service to the Club, than by giving, as my annual report, the details of a plan, adopted and pursued for several years by me, in packing or bulking tobacco after it has been ordered, and for preservation and straightening it, until such a time as the owner may desire to press it. I have long thought that farmers are more deficient than all other classes men, in all those mechanical conveniencies by which labor may be saved and comfort, security, and facility imparted to the indoor operations of the farm. In other departments, taste and skill, under the guidance of a judicious economy, have been so blended, as to give not only dispatch, but also to lend a charm to the dry details of daily business. In ours

the monotony is unrelieved, except by such variety as the avocation itself imposes.

A frame of sills, 24 by 7, is first securely put together with sleepers, at such distance as may enable the floor placed upon them to bear considerable weight. The floor should be jointed and laid as tightly as possible, and the whole of the frame raised from 6 to 12 inches from the ground-floor of the barn, to prevent injury arising from the escape of moisture from the floor underneath. At intervals of from 6 to 8 feet along this frame, upright standards, or swords, are let in by mortise and secured by pins. These are from six to seven feet long, and bored thickly with pin-holes, over which a lever, ten feet long, is to work. A prize is then fixed in the middle of the bulk, made of blocks; or, what I think better, two parallel poles, on which are a few cross-pieces for the resting of a third one, which forms the fulcrum of the lever; in the end of the lever is a pin to receive the weight, which consists of poles, either half or the whole length of the frame, and may be of such size and number as the operator may desire. The tobacco is bulked down, one bundle at a time, on the *platform*, (unless this word is now too odious to use in any sense,) and as the bulk advances, planks are stepped along inside the upright standards, so as to form a close box when the bulk is completed; the top of the bulk should be thickly covered with plank, or what answers equally well, tobacco sticks, to prevent injury from either exposure or the prize; the lever then being applied, and properly weighted, you have your tobacco under a miniature prize, scarcely less powerful than the screw which prepares it for market.

The advantages claimed for this mode over the old plan, are: First, the greater security of the tobacco from mould, either in the body or on the heads. Secondly, it is better straightened as the levers increase the power, which continue to operate as long as it is in bulk. Thirdly, the weights, instead of being applied to the bulk, are applied to the end of the lever, which is done with much more facility, and you avoid the injurious effect of dirty feet on the bulk. Fourthly, it may be taken up in sections, in any quantity, without injuring other sections or disturbing the general condition of the bulk, or *exposing* the remaining portion to injurious atmospheric influences.

All of which is respectfully submitted,

J. M. HURT.

For the Southern Planter.

Tobacco.

To the President of the Farmers' Club of Nottoway:

SIR,—In obedience to the requisition of our constitution, requiring each member to report, in writing, the result of some experiment, or farming operation, or an essay, I report to the Club, that for the year 1860, I cultivated, in tobacco, a manured surface of 120,000 hills; the whole was manured with home-made

manures; aiming to make it as nearly equal as I could, having reference to the condition of the land. It was made up of three lots, two of thirty thousand each, and one of sixty thousand; the two of thirty thousand each, had each been manured for a number of years; the lot of sixty thousand was manured for the first time. One of the old lots was grey land, the other mainly red; the new lot grey. One of the old lots, having grey land, had a dressing of about 260 lbs. of Peruvian guano per acre; about one half of this was very fine tobacco. The whole averaging better than the other two lots, but the land was better and ought to have produced a better crop. The red lot had a dressing, on one half of it, of about 300 lbs. of Petersburg manipulated guano per acre; the other half, of the same quality, of an equal mixture of Peruvian and Sombrero guano, the mixture made at home. The half dressed with the Petersburg manipulated guano was the best; that, however, was the lightest portion of the lot, and I think the best land. The new lot of sixty thousand was manured, in different portions, with equal portions of Peruvian, Sombrero, and Peruvian mixed at home, and Petersburg manipulated guano. I saw no difference in the result, other than what might have been expected from the different qualities of the home-made manures used on the land. That portion of the land manured by summer cow-pens was best,—that with compost next, and the portion manured with farm-pen manure the most inferior. I am sensible that these results prove nothing, but I give them for what they are worth.

WM. R. BLAND.

April, 1861.

For the Southern Planter.

Report of T. F. Epes.

I tried Peruvian guano, and Peruvian and Sombrero mixed, half and half in weight, on tobacco, and found no difference in result.

For the Southern Planter.

A Dung Hill Chicken.

GEN. KNOXES' HEAD QUARTERS, }
Mortonville, N. Y., November 25th, 1859. }

Messrs. Editors:—In your November number, pages 692 and 693, I notice an article signed J. J. Bowers, on the subject of poultry, and the mode of making fowls lay, &c.; and as the conclusion I've come to, after thirty years' experience, are somewhat different from his, I will give them to you for the benefit of whom it may concern. Mr. Brown says, fowls don't want meat. Animal food is absolutely necessary for them. In summer they procure it in the shape of worms and insects, and lay eggs; and in winter, when deprived of it, they don't lay. But keep them warm and give them plenty of grain, and meat of any kind, and they will lay all winter; at least, that is my experience, and that of some of my neighbors, who have followed that course. Mr. Brown says hay breeds ver-

min, and tobacco stalks must be used. We raise no tobacco north, and I've used hay, and not had a chicken louse in any of my chicken houses during any part of the season for years past. It is the fowl that breeds the vermin, or rather, they breed on the fowl. I've had stacks and hay-houses of hay for thirty years past, and never knew of their breeding a single chicken louse. I've found, by keeping my chicken-houses and coops clean and well whitewashed with lime and salt, or pickle mixed with it, I am not troubled with lice or the gapes.

While on this subject I would recommend you to republish an article on the gapes. You will find on page 305 of the October, No. 10, of the New York Cultivator, 1844, where you will find the disease and its cure described. Since that time, now 17 years, by following that mode, I've never lost a fowl with the gapes, though I've operated on hundreds of chickens, turkeys and goslings, though never a single one of mine ever had the disease.

MAY 9th, 1861.

I had written the above a long time since, but mislaid it till now, when—although you have seceded and turned traitors to your government, and made war on the North—I thought I would send it to you to publish, so that when “Abraham” and his hosts, like Moses of old, goes down South to expel the traitors from the lands, (sparing the women and children,) they might have broiled chickens for breakfast. I yesterday operated on twenty chickens, which are now all doing well, and racing about as if nothing had ailed them. I send you some of the gape-worms, which, though shriveled up, you can form some idea of what they are, when fresh from the bronchus or windpipe.

I am in doubt whether this communication may not be considered traitorous, as affording comfort and aid to the enemy and traitors; but, as I expect those who are true to the stars and stripes, will have their full share of the poultry yards, when they go down South, to re-hoist our national flag, I've have concluded to forward it to you.

I remain your subscriber,

CHARLES F. MORTON, *late Capt. 2d U. S. Infantry,*

And for the last thirty years a Farmer.

[Above we give our readers “verbatim et literatim” a letter from Charles F. Morton, “late Capt. 2d U. S. Inf’y” of N. Y.]

We are sorry to find that any man, who “for the last thirty years” has occupied so respectable a position as that of “a Farmer,” has sunk so low as to be willing to do the dirty work of “Abraham and his hosts”—of dirty followers. We hope he is, for his own sake, and the gentlemanly dignity which should belong to manhood, in his dotage. If he is, then this contemptible effort to bandy insult, can readily be excused. If he is not, we are inclined to the opinion that the “women and children” of this section of the *late U. S.*, will prove more than a match for an innumerable army of such *chicken-hearted* “late Captain’s.”

We are perfectly willing to believe that, like himself, many of those who are

professing such devotion to the "stars and stripes," would greatly prefer the run of the "poultry yards;" and, if they can succeed without incurring any danger to themselves, "*will have their full share of the poultry*"—but we are by no means certain that patience or patriotism, will restrain them *until they "go down South,"* and we advise their neighbors to keep a sharp look out.

We had supposed that the entire breed of *Dung Hill* chickens had "run out," but there seems to be a "late Captain" of them still left, who will doubtless soon *follow* his "illustrious predecessors," if he should come *South* in the hope of acquiring "broiled chickens for breakfast."—Ed.

For the Southern Planter.

A Poor Farm made Rich.

Facts may strike the attention of farmers, even in these troublous times. So in accordance with your urgent appeals in the spirited editorials of the April number, allow me to relate a remarkable case. Mr. B. bought a farm of 200 acres, four miles west of Gordonsville, on the famous stage route to Charlottesville—reduced, except a few acres around the house, below the point of paying for cultivation. His neighbour, Mr. C., agreed to plow up and sow it in wheat, with 200 pounds of Peruvian Guano per acre, taking all the grain and leaving the straw—C. doing all the work, and furnishing the guano; B. at no expense, except the seed wheat, which is returned to him out of the crop. The result was highly satisfactory to both parties. The point of the case is, that Mr. B. took good care to sow the whole abundantly with clover and Timothy, and to let the land have the *full benefit* of these grasses, aided by plaster and rest. This farm, which, five years ago, was too poor to bring crop or grass, is now covered with rich verdure by this one effort, costing the owner a *year's interest on the seed wheat*, besides the grass seed and Plaster.

A part of this same farm, bought by General G., treated in like manner, paid in the first crop of wheat, (sold at \$2.10 per bushel,) for the land, the guano, and a handsome profit over—but, without the grasses, was not much improved.

The permanent improvement of land by grasses is certain; and the great use of guano and other manures in Virginia farming, is to bring luxuriant crops of grasses where otherwise they would not grow. Then the patience, I might say *sense*, to let the land have the *full benefit* of them, is, I consider, the great desideratum with us. It is not the want of grass seeding, or of plaster, or even of guano—for all these are rather liberally given—but the fact that so few do allow the land to profit by them as they should do.

In horticulture, or even *lotculture*, as most Northern farming is, the land may be enriched by manuring the whole surface; but with us that is idle and impracticable; we must sow, and nourish, and *save* the grasses on our large fields, and thus *certainly* enrich them.

M.

Albemarle, April 16th, 1861.

Purifying Agents.

Ever since Messrs. Corne and Demaux proposed sulphate of lime and coal tar as a disinfectant, purifying agents have been the order of the day. The merit of the discovery was of course at first disputed; and every one who thought he could contrive some disinfecting compound, sent papers and samples to the Academy of Medicine or of Science. The last applicant is M. Boinet, well known by his works on iodine, who, in a paper read September 20th, before the Academy of Medicine of Paris, contends that the foulest sores can be rendered perfectly sweet by applications of tincture of iodine. There will be no harm in trying this agent, which, no doubt, has already rendered very great service. Mr. Grace Calvert, of Manchester, has addressed a letter to the French Academy in reference to this subject, (noticed in our last under the head of "Disinfection of Sores,") pointing out the great variation which exists in the composition of coal tar, and the consequent necessity for more accurately ascertaining to which of the constituents the disinfecting properties are really due, in order to insure the uniform action of the preparation. From the results of his own experiments he considers that the antiseptic properties of the tar are entirely due to the carbolic acid present. He states that a corpse, injected with a weak solution of this acid, was preserved from decomposition for several weeks; and that a piece of flesh, steeped in carbolic acid, was exposed to the weather for three years without change. He also states, that a small quantity added to urine will preserve it from decomposition for some weeks; and that it is also capable of preventing the gallic fermentation from taking place in the solutions of tanning substances.—*Chemist and Druggist.*

Gas, Stone, and Shell-Lime Compared.

In reply to a query from a correspondent, the *Working Farmer* remarks, upon the difference of value between these limes, that "shell lime, in its natural state, is very superior to stone lime, for Agricultural purposes, as it contains a trace of phosphate of lime, in and about that portion of the shell where the valve or muscle is attached by which the oyster is enabled to close its shell, and usually known as the heat. When shell lime, however, has been used for the purification of gas, its value is materially deteriorated, if intended for immediate use, as large amounts of sulphuret of lime are contained in the refuse of gas lime. By exposure to the atmosphere for one or two years, this sulphuret changes to sulphate of lime, known as Plaster of Paris, and after such change, it may be used with propriety; but before the chemical changes occur, above referred to, the sulphuretted hydrogen occasionally given off, is unfriendly to vegetation. Afterwards, however, it has greater value than stone lime: The stone lime, before use, is materially increased in value, if slaked with salt water, or a strong solution of salt, before using—in the proportion of one bushel of salt to three of lime—thus forming the chloride of lime and carbonate of soda, we have so often described as the lime and salt mixture."—*Southern Cultivator.*

Curious Terms.

AS DRUNK AS A LOON.—Few persons understand the force of this figure. A loon (or walloon) is an aquatic bird, about the size of the muscovy duck. It is speckled very much like the Guinea fowl. It is a great diver. It utters a dismal scream at the approach of rain. Its feet are not in the middle of its body, but quite behind. A western man would say it was a stern-wheel affair. If it wishes to pass over land its only way is to draw its feet far forward under its body, rise up and pitch forward on its breast, draw forward its feet again, and so make its way. To be as drunk as a loon, then, is to be so drunk as not to be able to take one step without falling. I have spoken of the western or fresh water loon. That of the salt water is larger, and is otherwise different.

BUCKEYED is a phrase often used to describe intoxication in its various stages. In the western country cattle are, in the spring, let into the woods, where, in the absence of suitable food, they sometimes find the balls of the buckeye, (the largest kind of horse-chestnut,) and eat them. A very few seem to do no harm; but a considerable number intoxicate the cattle. A gorge will send them home reeling and staggering like a drunken man. The resemblance in the gait of a drunken man is as perfect as that of any quadruped could be. I have seen grown people laugh heartily, not at the misery of the brute, but at its mimicry of man. The poison of the buckeye often kills.

How Canada Prize Butter was Made.

The winner of the silver medal for the best butter shown at the Provincial Exhibition, at Hamilton, C. W., gave the process of making it, as follows: "My dairy consists of eight cows, which are milked regularly twice a day. I use earthenware pans, which are sealed with hot water and then cooled with cold water every time they are used. I let my milk stand forty-eight hours; I stir my cream every morning; churn twice a week, and use a box churn. I bring my cream out of the cellar over night and let it stand till the temperature is about 60°, then it generally takes from forty to sixty minutes churning. When the globules of cream begin to break, I put a little cold water into the churn, and continue to do so until the butter is well gathered. I have my butter tray well sealed with boiling water, then rinsed with cold water, then take the butter out of the churn with a wooden ladle, and first work out the buttermilk; secondly, wash it well with clear cold water, and thirdly I work in the salt in the proportion of about one pound of salt to twenty pounds of butter; after which I wash it again with cold water, and let it stand in the butter tray in the cellar till evening, then work it again and leave it till morning, then work out all the water possible. It is then ready to pack in the firkin.

The manner in which I prepare the firkin for use is as follows: I first put a handful of salt and one of bran into the firkin, and also one pail of sealding water, and cover it close for an hour, after which I empty it and fill with cold water, and let it stand a day, then empty and rub well with salt; the firkin is

full I put a cloth on the butter and cover the cloth with a thick layer of salt to keep the air from the butter. I use the common salt, rolled, and I consider it the best—*Rural New Yorker*.

Cheap and Expeditious Method of Preserving Timber.

The method pursued at Closeburn, by the late Sir Charles G. S. Menteith, in preparing wood for the purposes of building, was to saw it into such lengths as the occasion demands; next, to plunge the planks or beams into a pond, of suitable dimensions, having the bottom and sides rendered water-tight. Before receiving the wood, a quantity of fresh-burned lime was thrown into a pond and well stirred with the water, to dissolve as much as possible of it. Into this strongly-impregnated solution of lime-water the planks or beams were then thrown. As lime-water absorbs carbonic acid from the air, the lime previously held dissolved in the water becomes insoluble and falls to the bottom, and becomes carbonate of lime. Hence the necessity of now and then throwing in fresh portions of recently-calced lime, that the solution may maintain its strength.

With respect to the time that it is necessary to soak the wood in lime-water, it must depend very much upon the thickness and texture of the wood; roofing timber of fir will require at least a fortnight; larger and closer grained wood, as oak and other ship timber, ought to be steeped for three or four weeks, or even a longer time.

After removing the wood from the lime-water pond, it must be allowed to dry and season before it is used.

Among the benefits that this preparation of wood, by the late Sir C. G. S. Menteith, presents, we may safely enumerate the following, viz:

1. The lime which is absorbed by the pores of the wood, appears to alter or destroy the albuminous and saccharine principles, and, destroying the food of the worm, saves the wood from its ravages.

2. The last elements, the albumen and sugar, having been so acted upon by the lime, there is less apprehension of the wood being infected by the dry rot.

3. The wood soaked in lime water becomes firmer in texture and more durable. It is the well-known property of waters holding lime in solution, called "petrifying wells," to penetrate and deposit upon all substances exposed to their influence small crystals of carbonate of lime. When wood is plunged for some time in a strong lime-water solution, a slight petrification of the wood is observable. The carpenter who has to work up the wood taken out of the lime-water pond, complains grievously that the edge of his plane is constantly blunted, and requires to be again and again sharpened. This arises from the small crystals of carbonate of lime covering the surface of the wood, and also from their having insinuated themselves into the pores of the wood; the plane coming in contact with these has its edge taken off. Were the wood, prior to being put into the pond, smoothed with the plane, this objection of the carpenter would be prevented.

For the Southern Planter.

Rearing Calves.

The method I have always pursued in rearing calves, has been to bring them up by hand instead of permitting them to run to the cow. As soon as the calf is a day old, or two days at the farthest, it is removed from its dam and confined, so that it can be readily caught. It is then taught to drink milk, and this is performed in the following manner: The dairy-woman holds the calf with one hand, whilst she introduces two or three fingers of the other into its mouth. When this is done, the bovine infant, under the promptings of instinct, immediately commences sucking; its mouth is then immersed in a pail of milk just drawn from the cow, and as it continues to suck the finger it obtains the desired supply of food. After the calf has got fairly under way, in this agreeable and natural operation, the fingers ought to be gently withdrawn from its mouth; if it then, as it probably will do, raises its head from the pail, the process must be repeated until it has learned to "drink alone." But, ordinarily, in two or three times feeding this will have been accomplished, and then all trouble is at an end.

There is considerable diversity in the disposition of calves in this respect, some learning to drink more readily and kindly than others. The exercise, however, of a little patience and gentleness will generally be rewarded with success. Although I have known a few individuals of tempers so stubborn and intractable that they could not be taught to drink, albeit the efforts to do so were seconded by

. . . . "hunger and thirst at once,
Powerful persuaders."

But such cases are of rare occurrence.

When the calf has learned to drink without the finger, it ought to be turned into a grass lot, (if the season permits,) as it will soon begin to graze. This method of rearing calves is attended with much less trouble than turning them to the cows morning and evening. I have occasionally reared one in that way, and it always gave more trouble than a half dozen on the plan recommended. It is a considerable task to wean a calf which has gone to its dam morning and evening, daily, for six weeks or two months, so strong becomes the attachment of the mother to her off-spring.

Under the treatment described above calves soon acquire a degree of self-reliance that enables them to shift for themselves, and whilst they may not present the sleek and pampered appearance of those carefully "wet-nursed," they will be equally thrifty and more hardy, so that when entirely deprived of milk they loose but little flesh.

I continue to give them milk until at least two months old; after the first three or four weeks, however, skimmed milk may be substituted as their food—and it promotes the thrift of the calf to add to it a small quantity of scalded corn-meal or ship-stuff.

Calves are sometimes deprived of milk when but a month old, and although they will generally survive this harsh treatment, yet it is a plan not to be commended, as it renders them pot-bellied and unsightly, and for a long time stunts their growth, if the animal is not permanently injured by this infantile starving. If, when their supply of milk is discontinued, the calves are turned into fresh and nutritious pastures their growth will scarcely sustain a perceptible check.

As the time of the parturition of domestic animals is in a great measure under the control of the farmer, he ought to provide for having, most of his calves at least, in the spring, from March to June. Calves coming at this season will not only have an abundant supply of green food as soon as they can avail themselves of it, but will, by the beginning of winter, have attained such age as to enable them to resist its severities without much suffering or injury.

I am well satisfied from my experience that the best mode of wintering calves is upon a field of winter grain, wheat or rye. I think any one having ten or a dozen calves to winter, where early seeding is impracticable, would find it economy to sow a few acres of rye, the last of August or first September, for their special benefit, even if he should plough it up in the spring for some other crop.

I had ten calves all last winter upon about fifteen acres of rye. They were never fed except when the ground was covered with snow, and then a little corn-fodder was thrown them. They were removed from the rye on the 6th of this month, in as fine condition as I would wish them, fat and thrifty.

I am in the habit of salting calves regularly and bountifully. It seems more grateful to them even than to grown cattle, and they will consume nearly as much per head.

The method of rearing calves I have recommended in this paper, is predicated upon the idea that they are the offspring of cows kept for milking. Where the herd is maintained for the sole purpose of rearing cattle, the owner of course would not incur the labour of drawing the milk from the cows in order to feed it to the calves.

The male calves ought to be castrated at an early age; the younger they are when this operation is performed, the better, both upon considerations of humanity and interest. When allowed to run, as is often the case, until a year or more old before emasculation, the horns become thick, the neck heavy and "dew-lapped like Thessalian bulls," impairing very considerably the intrinsic, as well as the exchangeable value of the animal. The heifer calves, which are not intended to be reared for cows, ought to be spayed. An operation more safely and easily performed when the calf is but a few months, or even weeks old, than if postponed until it is a year old, or upwards. Spayed heifers are valuable, because they fatten more easily and rapidly, and make better beef than steers.

The only disease calves are subject to in this part of the State is what is called "black-leg," or "quarter evil." But this is, I think, much less prevalent now than formerly. It rarely attacks them after they have reached the age of

twelve or fifteen months. It is most common during winter among calves of the preceding spring. The general impression is, which is probably correct, that it more frequently attacks fat and thrifty calves, than those in inferior condition. And I have sometimes known farmers to excuse the "lean, gaunt, and hungry" appearance of their calves upon this hypothesis. This disease runs its course rapidly. The first intimation of its presence often being the discovery of one of its victims stretched in the fence corner. I know no remedy for it. Nor am I aware that any individual has ever recovered from an attack, but there may be such cases. When the skin is removed from an animal dying of this disease, one quarter, rarely more, is found blackened by the extravasated blood, hence the name "black-leg" given to the malady. I have lost very few calves from this disorder, and hence my observation is much too limited to enable me to speak with confidence in reference to it. How far my habit of regular and abundant salting may have operated as a preventive, I know not, yet I am inclined to place considerable confidence in its efficacy in that respect; like a quiet conscience, it "helpeth digestion," and thus promotes the general health and well-being of the animal.

T.

Augusta, April 19th, 1861.

Wise Sayings.

The Cranes of Ibycus.—This is a proverb well known to the Greek scholar. It had its birth in a story so remarkable and of so deep a moral interest, that we shall not hesitate to repeat it. Ibycus, a famous lyrical poet of Greece, journeying to Corinth, was assailed by robbers; as he fell beneath their murderers strokes, he looked around to see if any witnesses or avengers were nigh. No living thing was in sight, but a flight of cranes soaring high over head. He called on them committed the avenging of his blood. A vain commission, as it might have appeared, and as no doubt it did to the murderers appear. Yet it was not so; for those sitting a little time after in the open theatre at Corinth, beheld this flight of cranes hovering above them, and one said scoffingly to another, "Lo, there, the avengers of Ibycus." The words were caught up by some near them; for already the poet's disappearance had awakened anxiety and alarm. Being questioned, they betrayed themselves, and were led to their doom, and "the cranes of Ibycus" passed into a proverb, very much as our "murder will out," to express the wondrous leadings of God, whereby the secretest thing of blood is continually brought to light.

It is easy to go a-foot when one leads one's horse by the bridle.—How exquisitely delicate is the touch of this French Proverb. How fine an insight into the inner workings of the human heart is here. It is easy to stoop from state, when that state may be resumed at will; easy to part with luxuries and indulgences, which he only parts with exactly so long as it may please himself. No reason, indeed, is to be found in this comparative easiness for the not "going afoot;" on

the contrary, it may be a most profitable exercise; but every reason for not esteeming the doing so too highly, nor setting it in value beside the trudging upon foot of him who has no horse to fall back on at whatever moment he may please.

He who says what he likes, shall hear what he does not like.—This is an English proverb, and gives a motive for self-government in speech; and this Spanish one is in a higher strain:

The evil which issues from thy mouth falls into thy bosom.—Nor is it enough to abstain ourselves from all such words; we must not make ourselves partakers in those of others, which it is only too easy to do; for, as the Chinese have said very well: *He who laughs at an impertinence, makes himself its accomplice.*

There is no worse robber than a bad book.—This is a proverb from Italy. Other robbers may spoil us of our money, but this one of our “goods;” of our time at any rate, even assuming the book to be only negatively bad; but of how much more of our principles, our faith, our purity of heart, supposing its badness to be positive, and not negative only?

A child may have too much of its mother's blessing.—Yes, for that blessing may be no blessing, but rather a curse, if it take the shape of foolish and fond indulgence; and in the same strain is this German: *Better the child weep than the father.*—Trench.

Sowing Grass Seed in the Fall.

P. Morrill, in the *Maine Farmer*, offers the following reasons for sowing grass after harvesting the grain crop, instead of with it in the spring:

Grass seed should be sown in the fall, because it is the *natural* time; and as much so as winter rye or wheat. By turning under the stubble of your grain crops to prepare for sowing grass seed, you give your grass seed the *clean* possession of land. If sown with grain in the spring, the tender grass plants are crowded, above and below ground, by grain and weeds above, and their roots below, and for three months have a hard struggle for life in the shade. Is there any other plant that would sustain life so crowded and shaded as grass plants are when sowed with grain? All plants derive the chief part of the bulk and value through their leaves, and when grass seed is sown with grain at the time of harvesting the grain by mowing, as is now the common practice, the grass leaves are nearly all cut off, leaving the bare stalk suddenly exposed to the scorching, withering rays of the sun to struggle for life. Can it surprise any one that, after such exposure and trial, his crops of grass, on which his hopes of a good crop are strongly based, should prove short and thin?

His method of preparing and sowing is as follows:—Plow the land just deep enough to cover the stubble completely, harrow with a light harrow, then sow the grass seed, and brush it in thoroughly.

The broken word, the sped arrow, past life, and neglected opportunity, never return.

Timothy and Clover, and Winter Wheat.

HOW TO PREPARE CLAY AND LOAM SOILS FOR TIMOTHY AND CLOVER—HOW TO PREPARE GROUND FOR WINTER WHEAT.

I was asked not long since, by a neighbor farmer, the best mode of preparing our clay and loam soils, for stocking with timothy and clover, with the request that I would, through the *Farmer*, solicit its readers to give their experience in the matter, and also their experience in preparing the ground for winter wheat, and to give the matter a start, I will give mine.

It has been my custom, instead of summer fallowing the ground and lying out of a crop, to break my sod in the spring, about eight to ten inches deep, and sow on oats. I take much pains to break the ground well, and cover all the grass. I sow three bushels to the acre. As soon as I can after harvest, I plow my stubble into eight-paced lands, and manure it as well as I can, and give it a thorough harrowing, and sow one and a half bushels of wheat per acre; and if I sow timothy alone, I put on twelve quarts per acre; if mixed with clover, I sow eight quarts of timothy when I sow my wheat, and in March following, I sow clover, and in so doing, I have never failed to get my ground well seeded. The past fall I prepared six acres as above, and it looks well.

I tried an experiment on a piece of five acres, as follows:—After oats, I plowed and managed it the same as the six acres, except the manure. I had on hand about seven hundred and sixty pounds. I gave directions to sow on two bags broadcast, leaving one land unsown, to see the difference, if any should be apparent. Instead of sowing two bags, as ordered, my man sowed five bags, harrowing the ground before sowing. On sowing the piece, I gathered up in lumps that I found, about one bagful. The result so far is, that the wheat and oats that sprouted up is a perfect swamp, and in many places lodged down; while, on the land that was not sown with guano, the wheat looks apparently weak and feeble. The grass seed sown on the land where the guano was sown, is alike forward. My greatest fear is that my wheat will be so rank next season as to be worthless. While, on the other hand, if a suitable amount had been put on the land, I might look for a great crop of wheat.

I would like to inquire also, if any of your readers have tried sowing peas, instead of oats, to prepare the ground for wheat? Let us hear from some of them on the above.—CHESTER PALMER, Mulberry Corners, O.—*Ohio Farmer*.

How the Chinese make Dwarf Trees.

We have all known, from childhood, how the Chinese cramp their women's feet, and so manage to make them "keepers at home," but how they contrive to grow miniature pines and oaks in flower pots for half a century, has always been much of a secret. With the breaking down of their famous wall, and of their exclusiveness, this, among other curious nonsense, has been partly discovered and understood. It is the product chiefly of skilful, long continued root pruning.

They aim, first and last, at the seat of vigorous growth, endeavoring to weaken it as far as may consist with the preservation of life.

They begin at the beginning. Taking a young plant, (say a seedling or cutting of a cedar,) when only two or three inches high, they cut off its tap-root, as soon as it has other rootlets enough to live upon, and replant it in a shallow earthen pot or pan. The end of the tap-root is generally made to rest on the bottom of the pan, or on a flat stone within it. Alluvial clay is then put into the pot, much of it in bits the size of beans, and just enough in kind and quantity to furnish a scanty nourishment to the plant. Water enough is given to keep it in growth, but not enough to excite a vigorous habit. So, likewise, in the application of light and heat. As the Chinese pride themselves, also, on the *shape* of their miniature trees, they use strings, wires and pegs, and various other mechanical contrivances to promote symmetry of habit, or to fashion their pets into odd, fancy figures.

Thus, by the use of very shallow pots, the growth of tap-roots is out of the question; by the use of poor soil, and little of it, and little water, strong growth is prevented. Then, too, the tap and side roots being within easy reach of the gardner, are shortened by his pruning-knife, or seared with his hot iron. So, the little tree, finding itself headed off on every side, gives up the idea of strong growth, asking only for life, and just growth enough to live and look well. Accordingly, each new set of leaves becomes more and more stunted; the buds and rootlets are diminished in proportion, and at length a balance is established between every part of the tree, making it a dwarf in all respects. In some kinds of trees this end is reached in three or four years, in others ten or fifteen years are necessary. Such is fancy horticulture among the "celestials."

American Agriculturist.

Abuse of Old Horses.

I feel a deep sympathy for old horses. It is a common practice in this country to make old horses break the colt, and too often work with them for years. It is hard for an old horse to work with a colt, or a young, active horse. Old horses, like old men, are often capable of performing more hard work than some young ones, who can beat them for an hour or more. The old man wants to take a moderate jog, and can hold out all day; but a little over exertion for a few minutes, unstrings him perhaps for all day. An old horse, driven at the top of his speed a few miles, spoils the day's journey. When once made sore or strained, the result is stiffness the next day. The old horse should not haul his load to town, and then be forced to trot back. It does not injure him as much to do the heavy work with slow motion, as to do the light jobs, at the fast gait.

Again the old horse requires more time to eat his meals, and rest his nerves. Of all animals, the old horse is the worst abused. Although he has been our most faithful and profitable servant, yet in his old age, the lash is applied to force out his youthful vigor. The older he grows, the more he feels the lash.

He is often turned out of doors, to give place to the colts. Too often the neglect and abuse he is subjected to, because he is a little old, results in a greater loss, than is made up in the care for the young horse. The last part of a horse's life's may be more profitable, if rightly used than the first part. There is more comfort and less danger, in working old horses. We understand them, and they understand us; and we should be as willing to conform to their nature, as they are to conform to our wishes. It would be more humane, as well as more profitable, to use them as they should be, as long as it would pay, and then take them out and shoot them down. But the wicked practice is to knock them about as much as they will bear, and pay well, and then trade them off to some *more inhuman wretch than themselves*. The old servant is gone among strangers, and he receives no sympathy in his last extremity. We do not blush to say, that the man who has enjoyed the profits and pleasures of a good horse, as long as he was profitable, and then shoves him off among inhuman jockeys, is *an inhuman, treacherous and a suspicious friend*. The man who does so without regard to how his horse may be cared for, is, in my estimation, of a suspicious character; and I never see a horse abused, so as to excite pity, but my sympathies are directed to the man's wife, and children, also, (if he has them.) Gentle reader of the *Ohio Farmer*, I am not alone in entertaining these sentiments; they are perhaps more general than you are aware, but it seems my lot to express them. Hoping this admonition may redound to the comfort of some old horse, I am—
W. PIERCE, Ravenna, Ohio.

[We endorse every sentiment of the above. A good farmer who would sell an old horse to get rid of him, would sell an aged parent just as readily.]

Ohio Farmer.

The Use of Raw-Hide.

How few persons know the value of raw-hide. It seems almost strange to see them sell all of their "deacon" skins for the small sum of thirty or forty cents. Take a strip of well-tanned raw-hide an inch wide, and a horse can hardly break it by pulling back—two of them he cannot break any way.

Cut into narrow strips and shave the hair off with a sharp knife, to use for bag strings; the strings will outlast two sets of bags. Farmers know how perplexing it is to lend bags and have them returned minus strings.

It will out-last hoop iron (common) in any shape, and is stronger. It is good to rap around a broken thill—better than iron.

Two sets of raw-hide halters will last a man's life-time—(if he don't live too long.)

In some places the Spaniards use raw-hide log-chains to work cattle with, cut into narrow strips and twisted together hawser fashion. It is good to tie in for a broken link in a trace chain. It can be tanned so it will be soft and pliable like harness leather. Save a cow and "deacon pelt," and try it.

Country Gentleman.

Old Horses.

The term old, as applied to horses, is generally intended to convey not only the statement of their age being past marks in the mouth, but also the common impression that comparatively they are of little value, if past eight or nine years. Now, if we rightly understand it, the horse has not attained his full growth and perfection of bodily frame, until he has passed his seventh year; and until that growth is attained, he is just as unfitted for extreme hard labor as a man before arriving at full manhood. In this country, the practice of putting horses to work at two and three years usually results in their becoming broken down by over-driving or over-straining before they have attained firmness of muscle, and capacity for enduring labor. Thus it is, that horses are often, with us, rendered comparatively valueless before they have in truth arrived at an age of full powers and endurance. We have owned a number of horses, and whenever we have had one that had not been injured before arriving at maturity, we have found him more capable of performing regular labor at from ten to fifteen, than those of four to seven years. In our opinion, therefore, judging from observation, we consider the horse in his prime at from nine to thirteen years of age, always remembering that previous to his having attained his growth, say at seven years, he has not been over-driven, strained, or otherwise injured by reason of high stimulating food or abuse.—*Ohio Farmer.*

What We are Made Of.

The following is from an article by Oliver Wendell Holmes :

If the reader of this paper lives another year, his self-conscious principle will have migrated from his present tenement to another, the raw materials even of which are not yet put together. A portion of that body which is to be, will ripen in the corn of his next harvest. Another portion of his future person he will purchase, or others will purchase for him, headed up in the form of certain barrels of potatoes. A third fraction is yet to be gathered in the Southern rice-field. The limbs with which he is then to walk will be clad with flesh borrowed from the tenants of many stalls and pastures, now unconscious of their doom.

The very organs of speech with which he is to talk so wisely, plead so eloquently, or speak so effectively, must first serve his humble brethren to bleat, to bellow, and for the varied utterance of bristled or feathered barn-yard life. His bones themselves are, to a great extent, *in posse*, and not *esse*. A bag of phosphate of lime, which he has ordered for his grounds, contains a large part of what is to be his skeleton. And more than this, by far the greater part of his body is nothing at all but water—the main substance of his scattered members is to be looked for in the reservoir, in the running streams, at the bottom of the well, in the clouds that float over his head, or diffused among them all.

Never insult misery, nor deride infirmity.

From the Northwestern Farmer.

How much Pork will a Bushel of Corn make.

We have seen of late several statements as to the yield of pork from a bushel of corn. One of seventeen pounds net, and another of twenty pounds to the bushel. We have to say in the beginning, that the animal, its health, and adaptation to fattening, or taking on flesh, have much to do with this subject—also its age and maturity.

We have before us a report of an experiment made by Mr. Lawes, of England, and published in the *Journal of the Royal Agricultural Society*.

Thirty-six pigs, three in each pen, weighing as nearly as possible to 140 lbs. each, were obtained. These were fed Egyptian beans, lentils, corn-meal and bran. From the report we condense the following table:

No. of Pen.	Kind of Food.	Weight of food for 8 weeks.	Increase.
1.	Bean and lentil meal,	1,512 lbs.	303 lbs.
2.	“ “ “ and corn meal,	1,584	336 “
3.	“ “ “ bran,	1,304	200 “
4.	“ “ “ bran and Ind. corn meal,	1,428	252 “

Each series represents the feeding of twelve pigs, three in each pen. To the above but little corn meal was given.

5.	Indian corn,	1,086 lbs.	221 lbs.
6.	“ and of bean and lentil meal, 336, total,	1,401	298 “
7.	“ “ bran, 336, total,	1,399	309 “
8.	“ bran, bean and lentil meal, 672, total,	1,586	347 “
9.	These experiments were with bran chiefly, in which 3,000 pounds were fed, and a gain realized, on nine pigs, of		
11.			392 “
12.	This pen, eat of bean and lentil meal 684 lbs., Indian corn meal 616 lbs., bran 71 lbs.,		356 “

It will be seen by this table that pen 5 gave a net increase of 221 lbs. for 1,086 lbs. meal, being little over 10 lbs. to the bushel.

“It is stated in regard to this pen, that during the first fortnight one of the pigs gained over 2 lbs. per day, while the other two gained only about half as much. Before the end of the first period, it was, however, observed that this fast gaining pig, and one of the others, had large swellings on the side of their necks; and, at the same time, their breathing had become much labored. ‘It was obvious that the Indian corn meal alone was, in some way, a defective diet.’ Though Indian corn is comparatively poor in nitrogencous as well as in mineral matter, it was thought that in this case it was the latter, rather than the former, which was deficient, and accordingly the pigs were supplied with a mixture of 20 lbs. finely sifted coal ashes, 4 lbs. common salt, and 1 lb. superphosphate of lime. A trough containing this mixture was put into the pen, and the pigs soon began to lick it with evident relish. From this time the swellings or tumors, as well as the difficulty in breathing, which probably arose from the pressure of the former, began to diminish rapidly. Indeed, at the end of the second period, they

had disappeared entirely. The quantity of this mixture consumed by the three pigs, was nine pounds, during the first fortnight or period of its use; six during the second, and nine during the third. The quality of the meat of these Indian corn fed pigs, we should suppose, was excellent,—for it is said that a dealer in pork, with a practical eye, selected and purchased the carcass of one of these pigs which had been diseased, from among the whole thirty-sixty, after they had been killed and hung up.”

In these experiments it was ascertained that feeding 449 lbs. of bean, lentil meal, and corn meal, gave 100 lbs. increase of live weight. Further experiments prove corn meal superior to any other feed for hogs.

Towards the close of this lengthy detailed report, we find the following: “to produce 100 lbs. of pork consumes 491 lbs. of Indian corn.” We presume this is taken from the result with pen 5.

We do not consider it safe for any pork grower to estimate upon over ten pounds of pork to each bushel of corn consumed—especially if fed in the ear as is usually practised in Prairiedom. The general tenor of this report evidences that no one food is best alone, or as productive in flesh as when mixed with other food.

Mr. Richard Thatcher, in New York Tribune, gives details of experiments on Chester County Whites, which gave a result of 16½ and 17½ lbs. to the bushel.

Amboy, Ill.

H. W. G.

Importance of Salt in Agriculture.

If we should ask why so enormous a quantity of this incalculable gift of salt is distributed throughout the earth; why three-fourths of the surface of the planet designed for the home of man is covered with it? the answer would be: in order to preserve the work of nature, to enable man the more readily to sustain himself, and to make him wealthier and better. It has become an indispensable condition for the existence of man, and his civilization. In all organic beings we meet with two processes—that of life and that of decomposition—the latter beginning its full activity after the former has achieved its end, at the moment when organic beings are dissolved into those constituents from which the plant was formed and nourished.

If, however, we intend to check, or, at least, delay decomposition, we must employ acids, for we know that the Creator formed of the sea-salt a mighty barrier against the immeasurable mass of water becoming putrid; we know that our stocks of flesh, grease, &c., are preserved by the application of salt; that cabbage-water, acids in general, and kitchen-salt are the means employed by the agriculturist against septic diseases in our domestic animals, and against diseases of the mouth and feet. The separation of milk and deposit of meat will be increased by the application of salt, thus forming an essential means for the promotion of cattle-raising. By the application of salt, the fruits, especially wine, will become much better; and even the ancients were in the habit of throwing salt

on their grounds, their vineyards, and fruit trees. Agricultural chemistry informs us that the simplest combinations through which nourishment is conveyed to plants consist in acids, alkalies, and alkaline substances. Animal chemistry shows that free muriatic acid and kitchen-salt form the principal constituents of the contents of the stomach.

In a French prize paper, by Dr. Desaiève, on the manifold advantages of the use of salt in agriculture, the following results have been laid down by the celebrated French veterinary surgeon, Grognez :

Common salt serves as a preventive of the fermentation and heating of hay, which has been heaped up in large stacks during wet weather. Forty quintals of hay require fifteen pounds of salt, to be strewn among it in alternative layers.

This effect is much better shown in straw, which, if intended to be used as fodder, by being moistened with salt-water, may be preserved for a long time, when it can be given to cattle instead of hay, a method in use among the ancients.

Leaves of trees, when put in ditches with salt, may be prevented for a long time from putrefactive fermentation, and will even make good forage. Intelligent farmers of the Mont d'Orlyonais are in the habit of thus preserving their vine leaves as fodder for goats.

Fodder of inferior quality, for instance, straw, or other kinds, soaked and bleached by rain and sun, cured too late, or become woody, may be rendered more palatable and easy of digestion by being saluted. A pound of salt in three quarts of water is required for a quintal of bad hay.

The sharp taste which the milk of cows usually assumes in consequence of beets, turnips, and white cabbage being continually fed to them, can be removed by salting those vegetables.

In Flanders, common salt is strewn on new and wet oats, to be fed to horses, and, thus prepared, will not be dangerous to the animals. The same application may also be made to hay newly harvested, to prevent injuries when it may become necessary to feed such hay, the moisture of which has not been fully evaporated.

Though the bad qualities of dusty, muddy, or moldy fodder, after having been washed and threshed, are not entirely removed, yet, by giving a sprinkling of salt-water, they will be diminished to a considerable degree. This fact will be of advantage to the farmer whenever he may be in want of appropriate fodder.

By means of salt, such water as otherwise could not be used for cattle for drinking, will be rendered proper.

The great advantage to be derived from common salt with regard to the health of cattle have been clearly shown by many experiments made by that learned and celebrated agriculturist of Alsace, M. Boussingault. Cattle, by being fed with salt, receive a soft and glossy skin, their digestion and appetite are in good order, and they increase in flesh and strength. Cows thus fed yield much milk, while those treated otherwise have dull skins, with rough hairs, exhibit less appe-

tite, produce a smaller amount of flesh, and yield not only an inferior quantity, but also quality, of milk.

Manure from cattle fed with salted fodder is also of a better quality.

Finally, manuring with salt will banish mosses and hurtful parasital plants from meadows.—*U. S. Patent Office Report.*

Meteorology for the Farmers Again.

Three or four months ago, when Lieutenant Maury was in England, he was consulted on behalf of the government there, on the subject of giving, for the benefit of shipping, warning by telegraph of approaching storms. His opinion as to the importance and value of the magnetic telegraph as a meteorological implement, which has for several years been so often expressed in the columns of the *Ohio Farmer*, was reiterated, and a detailed account of the plan given in a letter addressed last December to the Royal commission on Light Houses, &c., showing how, through them and the telegraph, timely warning might be given of many a storm. The plan is now in practice there; and on the 7th ult., the Admiral in charge of this new system of meteorology, telegraphed to the principal ports of the realm to look out for a storm on the 9th. And sur enough, those shores were on the 9th visited by one of the most furious and destructive storms ever known.

These warnings are as important to the farmer, and indeed to all classes of citizens whose pursuits or avocations are at all affected by the weather, as they are to ships and seamen. We hope the new administration will enable Lieut. Maury to carry out his plans. Other nations have tried, approved and adopted them, so that they are now pressed upon us with the lights of experience.

We perceive that he has recently addressed a letter to the new Secretary of the Navy upon the subject, which we are gratified to learn has been favorably received. The American Telegraph Company, whose lines extend from Nova Scotia to New Orleans, have in the most liberal manner tendered to Lieutenant Maury their co-operation.

We hope the farmers will take the matter up, and encourage this move; for by discussing it in their clubs, and before their Agricultural Societies, the plan will find such favor with the people as to ensure an order by the government for its adoption.

The following in commendation of it, is from a recent number of "The Scotchman," of Edinburgh:

Captain Maury, of the Washington Observatory, on the prediction of storms along our coasts.

The lately appointed British Royal Commission, to inquire into the whole subject of the purposes, uses, construction and management of lighthouses, has had a question before it which no previous Lighthouse Board, we believe, ever had, and which may fairly be taken as a sign of the progress of physical science in

the age in which we live. The question stated formally is: "In the event of telegraph wires being laid down from the Board of Trade to each lighthouse, what sort of meteorological information should be transmitted for the purpose of being signaled to passing ships?"

Answers to this question have been sought by the Commission from the most eminent men of science in this country; and not satisfied with such information as our own island could supply, they have sought advice and counsel from an eminent American, who has made the dangers of nautical life a subject of careful study. This gentleman, we need hardly say, is Captain Maury, of the United States Navy, known in reading circles as the author of the "Physical Geography of the Sea," and known and honored in every sea that is sailed over by ships, either European or American, for his admirable "Wind and Current Charts"—charts which are founded on a comparison and systematic discussion of a large number of nautical observations than, we may safely say, were ever before collected, compared and discussed by any man, living or dead.

The subject came before Captain Maury at a time when the critical condition of his country had claims upon his attention, which might have excused him had he postponed its consideration. But no sooner did the communication of the British Royal Commission reach him, than he entered into the subject earnestly, and wrote out a copious and instructive reply, which we are unable to insert. But it may interest nautical readers to learn that he is anxious to see the plan adopted, of communicating the approach of storms by signals to ships from every light-house. He holds, that, though storms cannot be predicted in all cases, they may in many; and this by the establishment of a central office to which meteorological observations should be transmitted by telegraph from a wide circle of surrounding stations, and compare together. He points out that, taking a general view of the world, the coasts of Britain are peculiarly dangerous, for they seldom fail to present a lee-shore to the sailor in any and every wind that blows.

On the other hand, the geographical position of these islands is such as would enable them to give early and valuable warnings to countries eastward, of western storms. Predictions of weather founded on observations at any one point would exhibit uncertainty and confusion, but when derived from observations at many and distant points, instantaneously communicated and combined, order and sequence appear, and the progressive march of special storms can be traced. Hence a central meteorological office is in a vastly more favorable position for judging of the weather than any single ship, though steered by a scientific commander, amply provided with barometers and thermometers. To every ship, therefore, when it comes into the neighbourhood of our iron-bound shores, after its solitary voyage through the watery waste, it would be one of the greatest boons conceivable if each lighthouse hung out a signal, intimating what Captain Maury well calls "the invisible dangers of the atmosphere," thereby indicating to the mariner from what quarter he may presently expect a storm to break forth,

which coast will be dangerous, and which safe for him, to be found in the neighbourhood of —.

Had any such system been in operation when that magnificent Australian liner, the Royal Charter, with its hundreds of passengers, came in sight of our shores, after the long voyage, with its precious freight from the other side of the world, the dire calamity which ensued could never have occurred. That sad wreck shocked the public mind for a moment grievously, yet it is but a drop in the great aggregate of the nation's losses in the same manner, and from the same causes, as the public notifications of more than a thousand weeks in the year testify. Is it not a duty then to endeavor, by such means as science puts into our hands, to lessen the number of such calamities; and shall we not unite our efforts with those of the public-spirited American who gives us the aid of his abilities and his immense experience in the laudable enterprise.— *Ohio Farmer*.

Nutritive Properties of Peas and Beans.

The *Maine Farmer*, in evidence of the value of peas and beans for supporting the animal system, makes the following abstract from observations made in England, some years ago, by Dr. Buckland:

"The seeds of leguminous plants," says he, "especially peas and beans, are loaded with the constituents of muscle and bone, ready prepared to form and maintain the muscular fibre of the body of animals. Hence, the rapid restoration of the shrunk muscle of the exhausted post horse by a good feed of oats and beans, [the English horse bean is here meant.] Hence, the sturdy growth of the Scotch children on oat cake and porridge, and of broth made of the meal of parched and kiln-dried peas." On this he avers a man can live and do a good day's work on 1½ penny a day; while the children of the rich, on the finest wheat flour, and on sage and rice, butter and sugar, may appear fat and sleek, but would often die, as they sometimes do, on such non-nutritious food were it not for the mixture of milk and eggs they eat in their cake and puddings.

He further remarks that an old laborer of Axbridge complained to his master, Mr. Symonds, that laborers feeding there on potatoes, could not do so good a day's work now as when he was young and fed on peas. "Peas, sir," said he, "stick to the ribs." In this he uttered the very truths of organic chemistry.

In beans we have vegetable "caseine," or the vegetable element of cheese. What is more grateful to a man when fatigued by labor or a long walk? *Sépoys*, on long voyages, live exclusively on peas. The working and healthy man and beast want muscle, and not fat. Fat incumbers and impedes activity, and every excess of it is disease. We seldom see a fat soldier, except among the sergeants, who sometimes eat and drink too much.

We have thus abridged some of Dr. Buckland's remarks for the benefit of our readers, some of whom are beginning to look upon beans and peas, especially bean porridge and pea porridge, as very unfashionable and vulgar food. Flour, flour, superfine flour, must be the bread, morning, noon and night, and thus fool-

ishly throw away the most nutritious food—food that every muscle and every bone in our bodies is begging for, and supply them with that which satisfieth not all, for fashion's sake. We will not say that the man who invented the modern "bolt," or sifting apparatus, by which the most nutritive part of the wheat is separated and cast one side, while the "superfine" part is saved and made the staple food, ought to have been hung—but we do say that he was far from being a benefactor to his race. He pandered to a sickly and suicidal sentiment, that *fine* people must eat *fine* flour. He helped to bring about a degeneracy in the physical strength and powers of the people, which is in strange contrast with the enduring and stalwart frames of our fathers, and which can only be reproduced by a return to the more substantial diet upon which they fed.

From the Farmer and Planter.

Observation.

MR. EDITOR:—I heard a somewhat amusing dialogue between two friends, which is suggestive of the importance of observation. One was an enthusiast, and always full of some one idea; the other clear-headed and practical, and always looking for facts.

"You need not talk to me," says Mr. Enthusiast, "about it—I know I am right. Why, I have tied strings around cotton forms and blooms, and examined them twenty times a day." "Yes, and you might have examined them a hundred times," retorted Mr. Practical, "and then know nothing about it."

The gift of observation is a precious one. I have seen some men who could boast of very little intellect or intelligence, yet they observed a great deal, and did it well; and I have seen others remarkable for their good sense and learning, who would cultivate a farm for a life-time, without picking up an idea in the field.

I am inclined to think the greatest obstacle in the way of our agricultural reform, is this very matter of a want of observation. If we would study the results of experiments more carefully in the field, if we would watch nature's operations, and take a little more pains to understand the methods she uses to restore her exhausted energies, and the efforts she makes to overcome the difficulties we throw across her path, we would, I think, arrive at more practical conclusions than we often do, by poring over the analysis and investigations of the faculty. I am beginning to lose faith in those learned professors who, awhile back, promised so much. They have led me into many labyrinths, and left me there to work my way out as I best could.

We are all too much in the habit of following in the footsteps of our predecessors, of believing they were right because they were successful. We don't look at the field and study its wants—why it failed last year, or succeeded this; we don't study the seasons, and their influences upon the crops, near as much as we ought to do. If we did there would be more pleasure, as well as profit, in our business. Now, here is a case in point.

I have a field upon which I had failed to get a stand of corn in 1848 and 1849. It was always either eaten up by the bud-worm, or it never came up. In 1849, after a failure to get a stand of corn, in June I drilled peas on it; got a pretty good stand. I cured vine and all in October, and found it good food. In March, 1860, bedded the field up for Sorghum, 3 feet distance, but finding it mellow, and in better condition than I ever found it before, (was it the result of the peas?) crossed it 5x3, and contrary to everybody's opinion and my own too, planted *on the bed*. I got a fine stand, and it has outgrown any corn on the plantation. It is a stiff clay field, with a tenacious yellow or white clay subsoil running under it, that holds water like a jug.

The other day I had a big rain, and it swept like a creek through a part of the field (where an old road once ran), cutting down into the subsoil, and exposing the corn roots. And here was the whole matter explained. There were hardly any roots within three inches of the top of the bed; they began to spread out below that, and right over the yellow clay subsoil were spread out that beautiful net-work of delicate roots which feed the corn.

Now, what were these corn roots doing away down there, spread out like a spider's web over the pipe-clay? Did they go there to avoid the water on the surface? Did they go there to be ready to drink up the fertilizing solution which came down through the bed and could not get through the pipe-clay? Or did they go there to keep out of the way of the plow? Their healthy condition showed that they made something by the visit, and their deflection from the horizontal direction they first took from the stalk, showed that they went there, I think, on purpose.

I saw a remark from some great Agricultural Chemist lately, perhaps Liebig, saying it was all nonsense to say that roots went in search of food; that they had any preference, or exercised, as it were, any discretion. It may be so, but I would like to know why it is that you cannot apply manure to roses or shrubs in a yard amongst forest trees, but the roots of the trees will find it out and reap the benefit.

But to return to my corn. I was surprised to find that, in every instance, with large stalks and small ones, the extent of the limbs corresponded with the extent of the roots, and when dried and cleaned, the roots weighed a few grains more than the leaves and stalks. If I could have taken them all up, I think they would have outweighed the tops considerably. The germ root, after having performed its function, grows very little—there are very few fibres connected with it. Above it other roots strike out, getting regularly higher as the corn advances towards maturity, and the last roots are the brace roots and dew roots. It is an interesting and instructive feature, that the roots grow longer and spread more and more through the soil, as the plant advances toward maturity, and would seem to indicate unmistakably that the cultivation should be adapted to their progress, by plowing shallower and farther off from the corn as it grows.

One of my neighbors (an old farmer too) thinks that you can't plow corn too

deep or too close—cutting the roots does more good than harm, he says, anyhow; but I think that it is getting to be the generally received opinion, among intelligent farmers, that cutting the roots is a necessity, or rather a choice between two evils—the grass must be killed, and as everybody plants more than they can cultivate well, the most expeditious means must be used to smother up. Now, if the soil can be kept loose and the grass down, common sense would say superficial culture would be the best; but if our spring rains pack the earth together, it may become necessary to plow deep, and if we let a corn field stand four weeks it certainly will be some trouble to kill the grass.

I have spun you a pretty long yarn, Mr. Stokes, but it may set somebody to looking a little closer into things, and deriving some instruction as well as pleasure from it.

A. P. M.

How we Waste Manures.

The collection, management and application of manures, is perhaps, the most important branch of farm practice. And is equally true, it is one which is in greater need of improvement, than almost any other. For a number of years past, agricultural chemistry has explained the proper method of managing manures, but thus far, its teachings have had but a partial effect. The fact is, if there were no other cause for the deterioration of our soils, and consequent annual diminution of our crops, the waste of manures would sufficiently account for it. No one at all familiar with the subject, will, we presume, pretend to dispute the assertion that in this direction at least, we are more wasteful than any other nation in the world. Were the same unthriftiness practised by the Chinese, with their dense population, or even by the German States of Europe, the result would be actual starvation, if, as at present, the people were dependent upon the products of their own soil for support. It is almost impossible for an American farmer, who has not had the opportunities for personal observation, to form anything like a correct idea of the jealous care with which the smallest particle or shred of every manurial substance is collected and husbanded by European nations generally. It is asserted on good authority, that at least one-third of the nutritious value of food used by the people of the United States, is lost either in its preparation, or, by actual waste; and it may be as safely asserted, that fully one third, (we were about to say one half,) of our available fertilizing material is also wasted and lost. Unlikely as this may at first glance appear, we have abundant evidence to sustain it, and did space permit, it would not be a difficult matter to satisfy every reader, that we annually waste nearly as much manure as we use. Our limits will only permit a brief reference to one or two of the principal sources of waste.

First, we have the *drainage of our cities and towns*. This is composed mainly of the rich dirt from the streets, the wash-waters from the kitchens, the refuse of manufactories, the cleaning of water-closets, together with a variety of other substances, rich in manurial ingredients.

The following statistical fact in relation to the sewerage of London, will convey a better idea of the immense waste of valuable fertilizing material, than anything we could say upon the subject.

“By carefully conducted experiments, and very accurate gaugings, it has been found that the chief London sewers convey daily to the river Thames about 115,000 tons of mixed drainage, consisting on an average computation of one part solid and 25 parts absolutely fluid matters; but if we allow one part in 30 of this immense mass, to be composed of solid substances, then we have the large quantity of more than 3,800 tons of solid manure, daily poured into the river from the city of London alone. Allowing twenty tons of this manure as a dressing to the acre, the annual waste is equal to the full fertilization of 50,000 acres of the poorest land. This, with a fair average yield, would maintain at least 150,000. And this enormous waste flows from one city only, and refers only to the solid matter. The fluid portion is also rich in fertilizing matter, containing, as has been proved by chemical tests, full 16 per cent. of animal matter, salts, &c., combined with the water.”

Now the same estimates may be made with reference to all our American cities and towns, with this difference in favor of our superior prodigality, that our people being better fed than the majority of the people of London, or of England generally, and permitting more of our food to go to waste, either before or after preparation for the table, our sewerage is consequently richer in ingredients, and the waste of course greater.

Is it not a striking comment upon our farming economy, that while we are sending our ships to the remotest parts of the world for guano, with which to maintain the fertility of our soils, we are permitting millions upon millions of dollars' worth of equally valuable material to flow past our very doors, and pour itself into the sea? Nay, we do more, we puzzle our brains to devise the most effectual method of getting rid of it, with the least possible expense and trouble. The Agricultural Chemists and Engineers of London, have given the subject their attention, and a movement is now on foot to arrest the further progress of this enormous and heedless waste of manure, so far as that great city is concerned. A celebrated English writer, in answering to the inquiry, *What is Sewerage?* says, “In it the chemist recognizes rounds of beef and basins of turtle, cargoes of sugar, coffee and port wine, millions of four pound loaves, and thousands of tons of cheese and butter. Therein are not only all the alimentary productions of our own country, but also our enormous alimentary imports, altered in form it is true, but scarcely altered in utility or value. It is truly a well known, but unworked mine of gold, equal in value to one half the interest of our national debt. We might call it a stream of liquid guano. It exists in a form of peculiar availability and almost self-portability; its fertilizing powers are enormous. We may estimate its value by the sums expended to compensate for its loss. We pay for our guano two million of dollars annually. For unprofitable oil cake and corn to feed our manure-making animals, many millions and vast

sums are annually abstracted from the agricultural pocket for phosphates and other artificial manures."

It is not for us to point out in what manner this unpardonable extravagance is to be checked. "Necessity is said to be the mother of invention," and when we have exhausted all our other manurial resources, then, perhaps, some plan will be devised for bringing into profitable use this immensely valuable material.

But let us turn our attention nearer home for a few moments, and see whether we are as economical of the manures of the farm as we should be. It is to be feared that a strict investigation in this direction would develop little if any less prodigality than in the sewerage of our cities and towns.

We have already adverted to the unceasing attention given by the Chinese to the collection and careful preservation of every substance, however trifling, which will in any degree serve to enrich the soil and increase their crops. We might profitably imitate the example of "John Chinaman" in this particular, for certainly no department of farm practice has been as grossly neglected. Many of our farmers absolutely waste as much manure as they apply beneficially; or, in other words, permit one half of it to go to loss through downright neglect or mis-application.

This neglect is shown in a variety of ways. We see it in the location and construction of our barn yards. Were it a special object with the farmer to expose his manure heap to the fullest action of the sun, wind and rain, and to afford the most complete outlets for all the liquids, he could not accomplish it more effectually than by following the plans of tens of thousands of farmers in our own and adjoining States. The barn yards, as a general thing, slope from the barn or stables, and as a consequence, the liquid manure soon accumulates at the lowest point. The first rain causes it to overflow the trifling barrier sometimes raised to prevent its escape, and away it goes to the nearest rivulet, to the horse pond, or into the public highway, to be lost to its owner forever. Few who have not studied this subject, are aware of the immense quantity of fertilizing material that accompanies the little black stream that oozes so quietly and steadily from the majority of our barn yards. If such careless farmers were to behold gold dollars rolling from their pockets as rapidly as gold dollars worth of liquid manure flows from their manure heaps, what immense activity would immediately be manifested, and how energetically would they go to work to stop the drain. Its apparent insignificance is the reason why it is permitted, for if farmers understood, as they undoubtedly should, the actual dollar and cent value of the material they are thus permitting to escape them, this, another one of the every day errors of farming, would be speedily corrected.

The fact is, true economy points to a complete reformation in the management of our manures, and more particularly the manures of the farm yard. How many farmers are there, who give a single thought to the importance of protecting their manure-heaps from the injurious effects of exposure to the sun, wind and rain. True economy points to the covered barn yard; to the properly pre-

pared manure pit; to the indispensable tank for the surplus liquid manure; to the protection of the manure-heap from the deluges of rain water, which are poured upon it from unspouted barn roofs, and other buildings, every time a rain falls. Agricultural chemistry has conclusively demonstrated the absolute necessity that exists for attention to these points, if the farmer desires to save from total loss, a very large proportion of his manure. It teaches him that a loss of manure is equivalent to a diminution of his farm products. If permitted to continue, it can result only in either gradually impoverishing the farm itself, or what is equally unfortunate, the pockets of the farmer himself.

It should be a cardinal principle with every farmer, to allow no portion of fertilizing material, however minute, to go to waste. The scrapings of the roadside, old shoes, woollen rags, hair, bones, the wash-water of the kitchen, soap-suds, the contents of the water-closets, unripe weeds; in fact, a thousand little matters, which are not only permitted to go to waste, but are in many cases regarded as nuisances, and the disposition of which is often times a source of annoyance and inconvenience to the farmer, all possess a high manurial value, and one of the most common of our every day farming errors, is to permit them to be lost, instead of adding them to the compost or manure heap. If neglect to preserve and apply these valuable materials is the result of indifference, it properly belongs to the class of every day errors. If, on the other hand, it proceeds from ignorance of their value, the sooner this want of information is supplied by the teachings of Agricultural Chemistry, the better it will be for the interests of the country at large.—*Farmer and Gardner.*

From the Farmer and Planter.

"Peeps Over the Fence."

"Procrastination is the thief of time."

How many of us, Mr. Editor, sitting upon a slab bench in a country school house, by the dim light of a log-cut-out window, have written over this copy a thousand times, with a very poor appreciation of its wisdom. There never was penned a more important lesson, morally or physically, mentally or agriculturally. Did you ever know a boy, who intended to begin studying hard next Monday morning, that made a good scholar? Did you ever know a good farmer, who never had time to do anything, and was waiting for next week, when he intended to fix up? Now, there is my neighbor, Capt. Bustle; he is undoubtedly the busiest man I ever saw—never has time to do anything—always has a dozen irons in the fire, but he intends, so he has been saying ever since I knew him, "as soon as he gets a little time, to straighten out things wonderfully." The other morning I found him in a terrible stew; a heavy rain had fallen—he wanted the hoes to clear out some ditches which had overflowed, from a neglect to clean them out at the last plowing.

"Where are the hoes?" cries Bustle.

The negroes run here and there, and after an hour's search, a few old stumps, loose on the helves, are paraded.

"Can't you find a better hoe than that, Jack?"

"No, sir."

"Well, I'll get some new ones the first time I go to the village."

Next Monday, mind you, Bustle was to begin to chop out cotton. But everything about Bustle's premises told the same old story of putting off for to-morrow what should be done to-day.

He was in a great fume about neighbor Fussy's pigs rooting up a field of corn—"the prettiest stand you ever saw," said Bustle. And Fussy said he had told Bustle, over and over again, that those old water racks of his wouldn't keep out a yearling, but he was always waiting for "a spare time to fix up things."

Bustle lost a fine horse a few years ago, by his getting hung in a stable door, which could have been fixed in half an hour, and the worst of it was, he owns a very good smith.

Bustle is scarce of corn, yet his hogs have eat up a wagon load by drawing the ears through a break in the floor, while he has been waiting for a time to fix it up. Go into his field when you may and you will find his plow hands banging with a rock at the plow-handles, or tying them on to the beam with a withe—all because the smith has not time to make a staple.

Bustle has no back-bands on his mules, and the plows go bobbing about every way—he can't take time to make them; he never can take time to make muzzles, and the mule, nipping at this and that stalk, staggers over and knocks down a good many barrels.

Bustle has a very good cutting knife, but can never find time to cut up his food—says the overseer says he has not time to do it.

But yesterday his wife was in a terrible stew about her Irish potato patch being rooted up—all for the want of a nail in a gate slat—one nail in gate slat *vs.* many messes of good Irish potatoes. Make the calculation, reader, and profit by Bustle's being too busy.

Bustle's wheat wants cutting, but he can't take time till he gets over his cotton, and many a bundle will, when cut, tumble down and spoil before the busy fellow can find time to haul it in.

Bustle's stables have no hasps on the doors—there are holes in the roof through which leaks may destroy tons of provender; his gates are ricketty, and yet there never was a more industrious, energetic, get-up-by-3-in-the-morning, and go-to-bed-at-10-in-the-night fellow in the world.

It is a whoop and a hurrah with him from year's end to year's end; as he often says, "well it is hip and thigh with us, but some of these days we'll get out and fix things up right." And Bustle believes it—he knows his failing, and the fellow intends to "fix it all right," but the longer he lives the less time he finds to fix up.

A Practical Paper upon Gardening, Ditching and Improving Land.

BY D. WYATT AIKEN.

INTRODUCTION.

In agriculture, theory and practice are by no means correlative terms. Theory depicts the planter's life one of ease, and portrays his arduous labors a task of leisure, while it flatters the sluggard, equipped with a little scientific knowledge, that planting, of all other pursuits, should be his. In theory "Paul may plant and Apollos may water," and the increase follows *ex necessitate*.

Theoretically, stimulating manures have only to be heaped upon all lands indiscriminately, and fat harvests will be reaped; or gullies are prevented by taping the subsoil; or the level has only to be applied, and hill-side ditches are located. Theoretically, grain must be sown in level furrows, or seed must be planted upon horizontal beds, to prevent the escape of the virgin soil. In fact, theory in agriculture attaches plausibility to the most visionary schemes.

How different is the result of actual practice! Practically, agriculture climbs high in the scale of sciences; it develops thought, matures judgment, and requires, for execution, untiring energy, perseverance and industry. The skillful planter stops not to theorize about the result effected by certain means applied; plow in hand, he grapples with the soil, sows his seed, vigilantly watches the progress of his growing crop, and after assiduous cultivation, at harvest time anticipates a yield commensurate with his unabated zeal. It is he who understands best the caption of this essay, and knows that the improvement of land consists in increasing its productive capacity. Nor does any one know better than himself that this end is attained in three ways:

- 1st. By Ditching, *i. e.* hill-side ditching, draining and bottom ditching.
- 2nd. By cultivation, *i. e.* horizontal and grade culture.
- 3d. By rotation of crops and manuring.

The first step, then, towards improving any plot of exhausted undulating land, is the location of a series of ditches, so arranged as to empty, with least detriment to the land, all the surplus rain-water into the creek or branch bottoms below, or into the adjacent forests, or in some direction out of the field. To do this effectually the land must be studied. Its elevations and depressions must be studied; they must first be seen by the eye, and then made more perceptible by applying the level. The most practised eye should never venture to locate a ditch without the assistance of the level, in hilly lands, and the more moderately undulating the land, the more difficult the task, and the more judgment required to accomplish it successfully. It often happens that the particular inclinations of a large field are westward, while the general declination of the land is eastward, and *vice versa*, so that the level, when giving sufficient fall to the ditch, seems to the eye to be laying off a perfectly level line.

The nature of the land being understood, the next question is, where shall be the mouth or the source of the ditch. If the mouth be determined upon, commence there, and with _____ run backwards or up the ditch, always following,

and never straining or forcing the level from its indicated direction. If the source can be more easily fixed, apply the level there and run towards the mouth, always observing one absolute requisite in hill-side ditching, viz: never let any part of the ditch near the source have a greater fall than any portion between this point and the mouth; for if such should be the case, the water in this steeper portion, having an accelerated motion, becomes retarded as it reaches the leveler section, deposits its rolling sand, and heaps up upon the water in advance, and most probably causes a break in the ditch-bank just there. Where sudden curves occur in circling abrupt knolls, the ditch should be made wider and not steeper than the succeeding portions.

The general directions of all ditches, if practicable, should be down the branch; for the water must, sooner or later, reach the bottom, and the lower down the bottom it is emptied from the ditches, the less injury sustained by the bottom lands above.

The distances between ditches should be best known by the planters upon their respective farms, depending upon the declivities of the land and the nature of the soil. On steep hill-sides ditches should be distant from each other from twenty to thirty yards; upon gently inclined planes, from sixty to two hundred yards; upon stiff clay lands, close together; upon loamy soils or sandy lands, further apart. In a similar way should the fall of each ditch be determined, varying from two to four inches in every twelve feet, always observing to have the first or upper half of the ditch slightly more horizontal than the last or lower end.

Where the land is to be horizontalized, the ditches should have somewhat more fall than where the grade system is adopted, simply because where the horizontalization is complete, not enough water flows in the ditch to wash it into a gully; and when a freshet occurs, any water-furrow filling up and breaking over, produces a "wash" from this point in a straight line to the ditch below, and empties into the ditch at right angles to its bank a column of water which will certainly wash away the bank, unless sufficient fall is given to the ditch to change the direction of the water before this result is produced. In the grade system, where the ditch receives constantly the rain-water as soon as it begins to flow in the water-furrow, the injury to the ditch bank is not so great, because the ditch carries off the water gradually from its commencement to flow.

To make a hill-side ditch, run the first furrow with the level; or the upper side and close to this furrow run three other furrows with a common shovel-plow. Draw the earth from these four furrows, with hoes or scoops, to the lower side of the first furrow. Then require all hands there at work to walk several times the entire length of the ditch upon this earth, thereby compacting it for a bank, while the plowman is running three more furrows just where the last three were run. Treat this earth the same as before, and run two more furrows on the upper side of the ditch, draw out the dirt, walk the bank thoroughly, and the ditch

is complete, with an almost level bottom ; there being a slight depression on the side next the hill.

If a ditch should withstand the ordinary rains of a season, and break over during an extraordinary freshet, it should not be abandoned, but should be deepened for ten or fifteen feet on either side of the "break," sufficiently to furnish earth for a new bank and to fill up partially the "wash" recently made, as far as the earth can be thrown with the shovel. These sinks in the ditch act as deposits for the soil otherwise washed away, and can be emptied at leisure by scattering the sand in the wash below, which, when mixed with the clay previously thrown there, produces an improved soil.

DITCHING WET LANDS.

Wet lands cannot be drained by hill-side ditches, but must have drains dug for the purpose ; either blind or open drains. From the lowest spot of the wet plot (found by the level,) run a straight line to the nearest point where an exit from the field or into the creek can be obtained ; along this line dig the ditch, circling, if necessary, any intervening or immovable obstruction, and when complete observe if the water follows the course of the ditch. From the point where this drain began, continue the ditch through the wet spot until its source reaches the opposite side, or perhaps the highest point of the wet land. To be most effectual the ditch should be left open. If necessary to be closed, lay tiling in the bottom and throw the dirt back upon this tiling. If tiling is not at hand many substitutes can be had by the planter. Three pine poles peeled, (the larger the better,) and two of them laid in the bottom of the ditch, and one just over these two, make a capital underground trough. An occasional rock thrown into the ditch covered with slabs, the sawed face downwards, answers a good purpose. The ditch half-filled with small stones, these covered with brush, and the ditch filled with dirt, is the best method of underdraining.

I once owned a sour spot of land contiguous to a road, in which there was always a mud-hole. Along the edge and through the whole length of this sour spot, parallel to the road, I dug a ditch three feet deep and eighteen inches wide. From the middle of this ditch, and at right angles to it, a similar ditch was dug across the road, opening into the hill-side below. These ditches were filled eighteen inches deep with small stones, and the earth previously taken from these ditches returned upon the stones. To this day the road is dry in moderately wet weather, and that sour spot of land mellow, fertile and productive.

In draining wet spots on bottom lands, the draining ditch should always be run in a straight line to the creek or branch, entering the same at an acute angle, and the dirt from this ditch invariably thrown on the lower side of the ditch.

DITCHING BOTTOM LANDS

The protection of bottom land by a successful system of ditching, involves an outlay too heavy to be borne by the majority of planters, particularly in the mid-

dle and upper Districts of our State; and hence the unsightly banks of sand, the decayed and dying timber, the crooked streams, and the prevalence of sickness on almost every plantation containing more or less of these valuable bottoms. Many planters, too, are prone to charge their willful neglect in this matter upon their next neighbour below. They say, "he will not ditch below, and hence, ditching mine is only digging a ditch to be filled up with sand." Such a plea is unwarranted, because any bottom worth the labour to be bestowed can be successfully ditched, and protected in cultivation, regardless of the bottoms above or below.

Before the main ditch is dug, drains should be cut on each side of the bottom, through its entire length, and just where the adjoining hill-side and bottom come together. The size of these drains is, of course, dependent upon the quantity of water flowing from the hill-sides after a heavy fall of rain, or upon the uses to which they may be put. If the bottom is to be enclosed with a fence, these drains may be three and a half feet wide at top, one foot at bottom, three feet deep, and all the dirt thrown on the lower (or branch) side. Upon this bank an economical fence may be built, while the drain answers the purpose of carrying off the rain water coming from the hill-sides. If care is taken to give these drains a fall of one inch in twenty feet, and their exits made at the lowest ends of the bottom, the water they contain is kept entirely from the volume which usually flows in the branch. These drains finished, the main ditch must be dug, which should only follow the channel of the branch when it is in the lowest part of the bottom, (which is not always the case,) or when it is nearly straight. The ditch should always be straight in the lowest bed of the bottom, and large enough to draw the water of all ordinary rains. Unless from necessity, it should never run through the middle of the bottom, but have at least two-thirds of the bottom behind the bank, there being but one bank to the ditch; then if the ditch has to encounter a freshet, only one-third of the bottom crop is liable to be overflowed, as the water in this third must be as deep as the ditch bank before the two-thirds behind the bank can be injured. If the ditch be in the middle of the bottom, only one-half the crop is protected; and if the dirt be thrown on each side of the ditch, making two banks, either or both are liable to be destroyed and the entire crop lost. These ditch banks should be made solely of earth, unless a foundation cannot be obtained without the use of logs. Logs and brush put into a bank, made to confine running water, are oftener than otherwise an injury to the bank. At such places leakage is almost certain, and where either the logs or the brush project from the face of the bank, the constant laving of the water will, sooner or later, undermine the bank or percolate through behind the logs, and ultimately create a "crevace." If properly ditched, no lands remunerate the planter more handsomely than his bottoms. If improperly ditched, no lands subject him to a greater and more useless expense.

SYSTEMS OF CULTURE.

Some agricultural writers are accustomed to speak of the different systems of culture. I incline to the opinion there should be but two systems of culture, viz: the horizontal and the grade systems. To speak of the up and down hill method of destroying land as a system, is akin to calling ours a system of stock-raising, when our cattle and stock generally are turned out to seek a sustenance upon the unenclosed pasture lands of our neighbors. The one is as systematic as the other, and both equally condemned by charity and science.

Perfect horizontalization is certainly practicable, but that it is sure protection to both land and crop against freshets, however great, I hold to be an error. Innumerable causes, which the vigilant eye of the most skilful and energetic planter cannot prevent, will at one time or other produce "breaks" upon the hill-side, and often upon a comparatively level plot of land. A tree, a stump, a rock, an unfinished furrow, irregular plowing, and most of all, shallow plowing, are all obstacles in the way of the horizontalizer. That these should discouragè him, is no argument, however, against the horizontal system of cultivating our crops.

The prime necessity in preparing a field for horizontalization is, to protect it perfectly from all water except what falls upon it from the heavens above. The adjoining forests, or roads, should be so ditched as to prevent any water flowing into the enclosure, for it is most often the running water, and not the falling rain, which destroys the labor of the horizontalizer.

This prevention being effected, the planter is ready for his work, and begins horizontalizing by finding with his level, the highest part of the field, and the longest row, or bed, that passes through this point. The first corn or cotton bed may not be over ten feet long, and must be straight. On each side of this straight bed two or three more must be "laid off," each bending inwards at the ends, until it meets a fellow at the opposite side of the straight row. The plow team must never stop until the ends do meet, for stopping the team before the shovel reaches the end of the bed, leaves a mould in the water-furrow, which diminishes its capacity to hold water, and often causes a "break." This irregular plowing will certainly be done, unless each plowman is instructed as to his certain duty; *i. e.*, never to stop his mule until his shovel reaches the extreme end of the bed.

The few being finished, at a distance from the last bed equal to the space occupied by a couple of beds, apply the level. It will, directly, as you follow it, diverge from the last bed, and assume a direction possibly the reverse of that indicated by the eye. But the horizontalizer should always bear in mind, he is to follow the level, and not the level follow him. This guide-row now laid off by the level, may reach the opposite side of the field six or eight beds distant from the row from which it was but six feet at the commencement. This divergence, which is strictly a sperical angle, must be filled up by short rows, the first being "laid off" parallel to the short completed bed, observing, as above, to make

their angles of union complete, and not allow the plow to stop as the *team* reaches the end of the row.

This much done, the planter begins again with his level three, four, five, or six (never more) rows below the lower end of the last guide-row, and follows his level in the opposite direction from the row last run. This row may diverge and its end be five and twenty beds distant from the beginning of the row above. If so, the level is again applied in the angle, and several short rows run, when the divergencies are filled in as directed above. If this method is followed, the lowest point of the field will ultimately be reached, and none of the work of to-day injured by the rains of to-night. The same direction should be followed in the cultivation of the crop—always begin on the highest point. If the planter beginning to horizontalize at the foot of the hill, and climbs the hill, all the labors of to-day may be destroyed by the rains of to-morrow. If galled places are to be encountered, the horizontalizer should not be deterred, but follow his level across them; it knows how to manage broken as well as smooth surfaces, and will turn the planter as he approaches, and down as he recedes from these spots, without the assistance of a thought. If gullies are met with, they should be filled up by dams of stone, brush, pine-tops, with thier straw pointing up the gully, or by driving stakes a few inches apart, across the gully, and interlining with willow or green limbs. The last span or two of the level being inclined slightly towards the gully, will, after a few heavy rains, furnish earth enough to partially fill an ordinary gully.

A field in small grain stubble, or one previously cultivated in corn or cotton, is more easily horizontalized than one freshly broken up, because the smooth, worn stubble land, or the regular and equal undulations of the cotton or corn beds, do not present so many irregular depressions as the newly plowed field. The surface, moreover, is firmer, and does not yield to the weight of the level. As the field is laid off horizontally, it should be bedded "out and out" immediately, or the irregular ridges between the horizontal furrows, not being themselves horizontal, will occupy the space which should be occupied by water after a rain, and a break is often the consequence.

When one bed yields to the water, this running water does not stop until it reaches the hill-side ditch below. Its passage across the beds may be a straight line, or it may be a ziz-zag rill, washing through one bed here and another there. To prevent these overflows entirely, is practically impossible, for sometimes, falls of three, four or five inches of rain occur in a single afternoon; and this quantity of water will fill up the water-furrows and overflow the beds before the most thoroughly pulverized soil can absorb the half of it. On the 15th, 16th, and 17th, of last May, my plantation was flooded by successive unusually heavy rains. My cotton, in stiff clay land, had been planted in a scooter furrow on the bed, covered by a double-footed scooter plow, and harrowed off as it was nearly all coming up. This harrowing had made the land comparatively level, and these heavy rains overflowed the entire crop in a sheet of water, without a perceptible

injury to the land. Some of my corn was in sandy, loose land, planted on the top of very high beds, but had not been worked. The high horizontal beds became so saturated with water, and the subsoil failing to absorb it rapidly enough, they actually slipped, in regular land-slide fashion, down against the bed next below, without even diverting the young corn from its erect growing position. No system of horizontal culture can survive such freshets. But they do not often occur, and their evil effects must be remedied afterwards, which I propose doing thus: Just where the break first occurs across any bed, a rectangular hole is dug, say eighteen inches wide, and three, four, six or ten feet long, (as the damage done may require,) parallel to the bed, and deep enough to furnish earth to replace the broken places in the next beds below. The distance between this hole and the next hill-side ditch below, is divided into so many equal parts, and at each point of division a similar rectangular hole is dug, furnishing earth for the breaks below, and so on to the ditch. Should the ditch break over, the same kind of hole is dug in the ditch to procure earth for a new bank. These holes will, in time, be filled up by the constant plowing beside and near them, and by the rain-water draining into them from the adjacent water-furrows, bringing along with it more or less soil or sand. The hole in the ditch will, after the first rain, be filled with excellent soil to be scattered upon the washed spots below. If such rectangular holes be dug across gullies at small intervals from each other, and the dirt thrown on the lower side, they will rapidly fill up a gully, as the rain will soon fill the holes to their original level with sand.

GRADE CULTURE.

The grade culture is best adapted to hill-sides and wet spots. If the wet places are higher than the branch, they may sometimes be dried sufficiently for cultivation by deep plowing and a gradual fall given to each row towards the branch. Such places are generally dried by blind ditches. But on hill-sides this system is more feasible than the horizontal system, because it is impossible for a horizontal corn or cotton bed, on a steep hill-side to contain all the water that falls into it. In practicing this system of culture a furrow should be run by the level, with one inch fall to every span of the level, beginning at the highest point of the-hill, on the side where the ditches empty, and running in a direction crossing ditches, and not stopping until the hill is circled or the bottom reached. Fill in the angle as directed for horizontalizing, and, if short rows occur, they must have a slight inclination in the same direction. The reason for beginning these furrows at the mouths and not at the source of the ditches, is obvious. If a row with one inch fall begun at the source of a ditch having three inches fall, they must diverge from each other, and a furrow so run form the source of the second ditch; for instance, upon a hill-side, would very soon strike the first ditch above on the lower side or behind the bank, and having a descending grade would empty its water against the bank and form a gully.

There are circumstances under which the horizontal is the most destructive system of culture.

In the first place, if the planter is not indefatigable and unceasingly watchful, all the little breaks over his horizontal beds will soon become gulleys, never to be obliterated.

Second—If the seasons are too wet, his corn fires, and his cotton grows too much to weed. And if too dry, the roots of both corn and cotton are scorched. During the past season horizontalizing has been injurious to my own crop. An excessive drought of eleven weeks and three days baked the land until any little shower would deposit puddles of water in my horizontal water furrows, which, when heated by the scorching sun, burnt the surface roots of both corn and cotton.

And *thirdly*—Horizontalizing requires the planter to be content with moderate crops and an improving plantation, or large crops and speedy emigration.

THE LEVEL.

The level being among instruments the planters' reliance, a description is probably requisite of the one I use, and so often spoken of in this essay. Several kinds of levels are recommended—some too tedious to handle, and others too complicated for plantation purposes. I use simply a rafter level of twelve feet span, made by my own negro carpenter, and altogether accurate enough for the planter. A plummet is ordinarily attached to this level, but where perfect accuracy is required a spirit level is *hinged* upon the cross-bar of the level, one end being made stationary by a hinge, and the other free to move up and down.

In using the level, I take with me into the field a small boy with a hoe. Placing the level where I wish to begin, he is made to dig a hole in front of each foot of the level. Starting in the direction I wish to go, the rear foot of the level is placed where the front foot stood, and as soon as the proper pitch or level is found, "chop" is cried by myself, and the boy digs another hole in front of the foremost foot of the level. This proceeding is continued to the end of the row or ditch. The fresh dirt from these holes can be seen for many yards, and are plowed through by myself, leading my gentle mule, and a trusty plowman holding the handles. I lead, following the course of the holes, and he holds the plow erect; no line is used at all. I greatly prefer this extra labor to the "gee" and "haw" movements of the very best plowman. Some planters use little sticks instead of digging holes with the hoe. The hoe is easier carried than an armful of sticks. If the level is followed, and never driven, it will never lead the planter astray.

The third, and probably most important point in improving lands, is the rotation of crops, and the accumulation and application of manures. A few words will suffice for my views (which is my practice) on these subjects.

ROTATION.

Divide the plantation, as far as practicable, into four equal parts—as many fields as you please. Upon one of these fourths plant cotton, upon another corn, upon a third small grain, (wheat, rye and oats—let the barley and turnip patches be pot lots near the house,) and allow the last fourth to rest. Prepare this rest-

ing-fourth properly and thoroughly in the fall for cotton the next spring. Plant corn next spring where cotton was this year, and sow small grain this fall upon the corn land of this year. The stubble land of this year rests next year.

A similar rotation may be made of the pet patches near the house. Put one in potatoes, one in barley, and one in turnips; let the fourth rest. Sow turnips on the rested lands; follow turnips with barley and barley with potatoes. Sow peas on the resting lands, and when ripe, plow under peas, vines and all.

MANURING.

To improve land by manuring every vestige of vegetable matter left on the land after harvesting should be plowed under and nothing should be burned.

If foreign manures are to be used, or guano or phosphates, they should be rolled in moistened cotton seed. The lint will absorb the manure, and afford the easiest method of scattering it. This composition, when used on small grain, should be sowed broadcast in such quantities as the planter thinks he can best afford. For cotton or corn it should be drilled. I have always found the heavier the manure, *ceteris paribus*, the more abundant the yield.

From thirty to fifty bushels of raw cotton seed per acre, broadcasted, is fine manuring for small grain; and from twenty to thirty in the drill, is equally good for cotton or corn. My experience is, that cotton seed, composted with any kind of manure, is more profitable than the same quantity of either applied alone.

All home-made manures should be applied broadcast. A large bulk in this way covers but a small area of ground, but that area is productive for several years, it matters little what is planted upon it. In the drill or in the hill such manures benefit the immediate crop, but they must be applied often to produce lasting effects.

A minute description of the *modus operandi* necessary to enlarge the manure heaps does not properly belong to this essay, but the general methods of making manure may not here be inappropriately related.

In the first place, stated times and regular hands should be employed to collect trash, leaves and litter for every spot where every kind of stock is required to stand or rest, night or day. The stables, the cow-house, the hog-pen, the sheep-house, and the lots surrounding these houses should be regularly littered. When this litter was well trampled in the lots, it should be raked up into large heaps, *under shelter*, during dry weather; it should never be touched in wet weather. These heaps composted with cotton seed early in the spring, make the best possible manure for cotton. Stable, cow-house, or sheep-house manure, or all manures made under shelter, should be moved but once, directly from the shelter to the stubble land upon which cotton is to grow the following season. This stubble resting the entire year, may be manured or "broken up" whenever time and the season will admit. Manure hauled out in dry weather (for in wet weather neither wagon nor hoof should enter a field) during the spring, or summer, or fall, and throw in heaps of ten bushels each, will remain upon this stubble until time can be had to scatter and plow it in without a material loss of any of its

virtues. It is, however, easier and more economical to scatter manure from the wagon and plow in as scattered.

In the second place, no rainy days should be lost on a plantation, unless the rain falls very heavily and constantly. The simplicity of machinery has superseded the cotton-card and spinning-wheel, so that it is cheaper to buy than make thread. The time heretofore devoted to such indoor work should be spent making manures—either turning over that already made, or raking trash for new heaps. To expose negroes in this way, however, is only economy when they are glad for the occasion. An oil suit can be made or purchased cheaply for each hand, which will in one winter save time enough to pay for itself, and it will last five or six years.

In the third place, a sink should be dug in some convenient place and sheltered, into which is thrown the chips and trash from the wood-yard, sweepings from the house-yard, slops from the chamber, kitchen and wash-tubs, bones, occasionally a little lime, salt and sand, and every chicken, pig, turkey, and in fact, everything useless about the premises that can be made to rot. This sink will furnish the planter annually with an amount of excellent manure, incredible to those who have never tried it.

In the fourth place, no planter should keep more stock than he can conveniently pen every night in summer, or house every night in winter. Too much stock will irrecoverably impoverish any plantation, and be themselves always poor. Just enough stock will furnish droppings and compost manures, worth infinitely more than the gleanings of which they have robbed the plantation. Every horse should be made to pay in manure for the fodder and hay he eats during the year; sheep and cattle for the shucks they eat during the winter, and each hog for one-third the corn he eats after being penned for fattening.

And, in the fifth place, if the planter's object be the reclamation of land, nothing should be lost—neither time nor labor, nor must he lack judgment or energy. Indeed, he must possess all the cardinal virtues. Patience must be added to his perseverance, idleness subtracted from his industry, carefulness multiplied by his vigilance, and his expenditures divided by economy.

Respectfully submitted,

D. WYATT AIKEN.

“I want something for a bronchial affliction,” said Mrs. Partington to Dr. Restieux. The doctor, with that smiling urbanity which has become a feature at the north end, told her what he thought would help her. Filling a small bottle, he handed it to her. “This isn't the Pictorial Syrup, is it?” she inquired; “because,” continued she, “that creates a nashua, and raises my expectations. I only want a simple lucubation for the throat.” He assured her it was just what she wanted. She thanked him, and departed.

TEA CAKE.—One pint new milk, two pints flour, two eggs, two table-spoonful butter, one do. of soda, do. of cream tartar.

Early Breakfast.

Breakfast should be eaten in the morning, before leaving the house for labor of any description; those who do it will be able to perform more work, and with greater comfort and alacrity, than those who work an hour or two before breakfast. Besides this the average duration of the life of those who take exercise or work will be a number of years greater than those who do otherwise. Most persons begin to feel weak after having been engaged five or six hours in their ordinary avocation; a good meal reinvigorates; but from the last meal of the day until the next morning; there is an interval of some twelve hours; hence the body in a sense is weak, the stomach is weak, and in proportion cannot resist deleterious agencies, whether of the fierce cold or mid-winter, or of the poisonous miasma which rests upon the surface of the earth, wherever the sun shines on a blade of vegetation or a heap of offal. This miasma is more solid, more concentrated, and hence more malignant about sunrise and sunset, than at any other hour of the twenty-four, because the cold of the night condenses it, and it is on the first few inches above the soil in its most solid form; but as the sun rises, it warms and expands and ascends to a point high enough to be breathed, and being taken into the lungs with the air, and swallowed with saliva into the stomach, all weak and empty as it is, it is greedily drank in, thrown immediately into the circulation of the blood, and carried directly to every part of the body, depositing its poisonous influence at the fountain head of life. When in Cuba, many years ago, we observed that the favorite time for travel was midnight; and the older merchants of Charleston may remember that when deadly fevers prevailed in hot weather, they dared not ride into town in the cool of the morning or evening, but mid-day was accounted the safest. We know, from many years' living in New Orleans, that it was when the evenings and mornings were unusually cool, balmy and delightful, the citizens prepared themselves for still greater ravages of the deadly epidemic for the first few days following.

If early breakfast was taken in regions where chill and fever, and fever and ague prevail, if in addition, a brisk fire were kindled in the family-room, for the hour including sunset and sunrise, these troublesome maladies would diminish in any one year not tenfold, but a thousand fold, because the heat of the fire would rarefy the miasmatic air instantly, and send it above the breathing point. But "it is "troublesome" to be building fires night and morning all summer, and not one in a thousand who reads this will put the suggestion into practice, it being no "trouble," requiring no effort to shiver and shake by the hour, daily for weeks and months together; such is the stupidity of the animal man!—*Hall's Journal of Health.*

RICE PUDDING.—Half-pint of rice boiled: drain off the water, and let the rice get cold; two ounces butter, four ounces sugar, one quart rich milk, five eggs beaten very light, a table-spoonful of nutmeg and cinnamon. Stir all together.

From the North Carolina Planter.

Fixed Facts in Agriculture.

These may be assumed as fixed facts in agriculture :

1. All lands on which clover, or the grasses are grown, must either have lime in them, naturally, or that mineral must be artificially supplied. It matters but little, whether it be supplied in the form of *stone lime, oyster-shell lime, or marl.*
2. All permanent improvement of lands must look to lime as its basis.
3. Lands which have been long in culture, will be benefitted by applications of *phosphate of lime*, and it is unimportant whether the deficiency be supplied in the form of bone dust, guano, native phosphate of lime, composts of fish, ashes,—or in that of oyster-shell lime—or marl—if the land needs liming, also.
4. No lands can be preserved in a high state of fertility, unless clover and the grasses are cultivated in the course of rotation.
5. *Mould* is indispensable in every soil, and a healthy supply can alone be preserved through the cultivation of clover, and the grasses, the turning in of green crops, or by the application of composts, rich in the elements of mould.
6. All highly concentrated animal manures are increased in value, and their benefit prolonged, by admixture with plaster, salt or pulverized charcoal.
7. *Deep ploughing* greatly improves the productive powers of variety of soil, that is not wet.
8. *Subsoiling* sound land, that is, land that is not wet, is eminently conducive to increased production.
9. All wet lands should be drained.
10. All *grain crops* should be harvested from 7 to 10 days before the grain is thoroughly ripe.
11. *Clover*, as well as other *grasses*, intended for hay, should be mowed when in bloom.
12. Sandy lands can be most effectually improved by clay. When such lands require liming, or marling, the lime or marl, is most beneficially applied, when made into compost with clay. In slacking lime, salt brine is better than water.
13. The chopping, or grinding of grain, to be fed to stock, operates as a saving of at least twenty five per cent.
14. Draining of wet lands, and marshes, adds to their value, by making them produce more and better crops—by producing them earlier,—and by improving the health of neighborhoods.
15. To manure or lime wet lands, is to throw manure, lime and labor away.
16. Shallow ploughing operates to improverish the soil, while it decreases production.
17. By stabling and shedding stock through the winter, a saving of one-fourth of the food may be effected—that is, one-fourth less food will answer, than when such stock may be exposed to the inclemencies of the weather.
18. A bushel of plaster per acre, sown broadcast over clover, will add one hundred per cent. to its produce.

19. Periodical applications of ashes, tend to keep up the integrity of soils, by supplying most, if not all of the inorganic substances.

20. Thorough preparation of land, is absolutely necessary to the successful and luxuriant growth of crops.

21. Abundant crops cannot be grown for a succession of years, unless care be taken to provide, and *apply* an equivalent for the substances carried off the land in the products grown thereon.

22. To preserve meadows in their productiveness, it is necessary to harrow them every second autumn, apply top-dressings, and roll them.

23. All stiff clays are benefitted by fall and winter ploughings; but should never be ploughed while they are wet. If, at such ploughings, the furrow be materially deepened, lime, marl, or ashes should be applied.

24. Young stock should be moderately fed with grain, in winter, and receive generous supplies of long provender, it being essential to keep them in fair condition, in order that the formation of muscles, bones, &c., may be encouraged and continuously carried on.

25. Milch cows, in winter, should be kept in dry, moderately warm, but well ventilated quarters, be regularly fed and watered three times a day, salted twice or thrice a week, have clean beds, be curried daily, and, in addition to their long provender, should receive succulent food, morning and evening.

26. Full complements of tools, and implements of husbandry, are intimately connected with the success of the husbandman.

27. Capital is not only necessary to agricultural success, but can be as profitably used in farming, as any other other occupation.

28. Punctuality in engagements, is as necessary to an agriculturist, as it is to a merchant.

29. Every husbandman should carefully read, and digest matters connected with his business; his success being as dependent upon a full knowledge of its principles and details, as is that of the lawyer, or physician, with a knowledge of the science of law, or physic.

30. Wheat, rye, oats and barley, should never follow each other in a course of rotation; there should always be an intervening hoe crop between them.

31. *Weeds* should never be permitted to mature their seed on a farm, but be pulled up or cut down as often as they show themselves, such being the only effectual method of eradicating them. To ensure this result, the ground should be planted in corn, and that kept clean.

32. Time and labor devoted to the collection of materials, to be converted into manure, are the most fruitful sources of profit in the whole range of farm economy.

33. The orchard, to be productive of good, fair fruit, requires to be fed as much as does a field of grain. The soil of each requires that the substances abstracted by the crops should be restored. The soil should be kept clean, and open to the meliorating influences of the sun, the dews, the rain and the air,—

the bark of the trees should be kept in a healthful condition, by scraping when necessary, and by alkaline ashes.

From the American Agriculturist.

Tim Bunker on Seed.

"Where you get de seed of dem big beets you raise last year, Massa Bunker?" said Jim Baker to me this morning. "Never seed sich beets down South in all my life. Reckon dey come from Africa, or somewhere dey git up airly in de morning."

"No, Jim, I got them from New York, where they lie abed badly in the morning, I am sorry to say. Half of them don't get their breakfast till nine o'clock."

"Can't be, Massa. Must have come from some place close by sunrise, or dey never growd so big. I watch 'em last Summer, and I declare fur sartin, I tho't dey never would stop growin."

Jim Baker, though he has been with us but two or three years, is one of the institutions of Hookertown, as much so as Mr. Spooner, or the school master. He was liberated by his master, a few years ago, with all the rest of the negroes upon the estate, and sent out to Liberia. He had made himself useful upon the plantation as cooper, in preparing sugar and molasses casks. He went out to Liberia with rather elevated notions of that land of promise, and of the freedom he was there to enjoy. Feeling rather above digging for a living, and not finding much demand for a cooper's labors in that new country, he became homesick, and took the first vessel bound for the States. Some of his shipmates hailed from this place, and Jim brought up here, and considers himself settled for life. He takes naturally to gardening, and often excites the envy of Jake Frink, by beating him on garden *sauce*, and a rude kind of joking, which Jake calls "*sassy*." Jim takes note of all the best gardens, as he goes round doing odd jobs among the villagers, and is an appreciative beggar of good seeds. He turns up the white of his eyes at an extra sized patch of onions, and if he cannot get a dozen of the bulbs to set out, he wants just a pinch of the seed to plant. With his hat under his arm, and that deferential air which marks the well bred servant, he is pretty sure to get what he wants. "Nebber could see, Massa Bunker, what's the use planting poor seed. Sartin to git jest what you plant."

Jim's philosophy, and Jake Frink's, do not belong to the same school. Jake thinks a seed is a seed, just as a cow is a cow, whether she is a skeleton, or have five hundred weight of beef laid in between her skin and bones. Jake has no idea but what old seeds are just as good as any, and so he keeps his old stock on hand from year to year. He has an old basket in his pantry for this purpose, and there you will find of the cucumber, squash, pepper, corn, beans, onion, cabbage, turnip, nasturtium, and a little of everything else that ever grew in his garden. They have no labels, and there is no means of ascertaining the age of any package in the basket. Some he has begged, a few he has bought, but the most he has raised upon his own premises in that slipshod way that marks everthing

about the establishment, and which has long since passed into a proverb. If you were to say a thing looked *frinky*, every man in Hookertown would know just what you meant.

The last three or four cabbage stumps, or turnips, he happens to have left in the Spring, are set out without any regard to quality or variety. So his cabbage is neither Early York, nor Drumhead, Red Dutch, nor Savoy, but a mongrel stock, showing streaks of everything he has raised. His turnips and other tap-roots follow the same law, for they have all been cultivated upon the same system. Jake has no idea of the mixing of varieties in the blossom, or of their running down by bad cultivation.

With Jim Baker, a seed is not a seed. "Tell you what, Massa Bunker, everything 'pends on what you plant. Iniquities of de faders visited on de children, and no mistake." Jim lives up to his philosophy, as a good many people who talk more, do not. The best beets are selected, and planted in a good rich soil, and the seeds are carefully labelled and put away where they can be found in planting time. Dinah cleans out the old basket Fall, and nothing but the seeds of the squashes, and other vines, are allowed to remain over a second year.

I raise but few seeds myself, because I have found it better economy to buy such as I want at the large agricultural ware-houses in the city. As a rule, the men who devote their time to raising seeds, will get a better article than those who have other business constantly upon their hands. Their success in business depends upon their fidelity, and they are generally careful to give the public a good article. Well established firms in the city have extensive arrangements with seed growers in all parts of this country and of Europe, to furnish the best articles in their respective lines of business. If I want twenty varieties of garden seeds, it is much less trouble to send an order for them by express, than it is to try to raise them, and take care of them.

This month I always lay in my stock of seeds, the best varieties, and enough of them. I know just how much ground I am going to plant in each crop, and can tell within a few ounces of the quantity I shall need of each variety. If it is put off till planting time, when everything is in a hurry, the best time for planting often goes by before you are ready, and you get only a partial crop. The best investments I have ever made in a small way, have been in this article.

(Take particular notice. Never buy cheap seed.

Yours to command,

TIMOTHY BUNKER, ESQ.

Hookertown, Feb.. 1861.

CUSTARD.—Five eggs, three cups new milk, grated rinds, and juice of three large lemons, five cups sugar, one table-spoonful of rice-flour. Mix all well together, excepting the whites, which should be frisked until light and added last of all. Bake on rich crusts. This is enough for five pies.

CRACKER PIE.—Eight crackers pounded fine; on which pour boiling water to soften, 8 tea-spoonsful of vinegar, 8 of sugar, 1 lemon; if too stiff, add water.

Editor's Department.

To our Subscribers.

The general prostration of business and financial convulsions precipitated upon us by the extraordinary derangement and difficulties in our political affairs have well nigh dried up the sources from whence the life-blood of the Southern Planter has hitherto flowed. "In other departments men can take in sail, or east anchor, until the storm is over; but to newspapers there is no cessation and no abatement of cash expenses, while difficulties are multiplied." Such has been our experience. The payments to the Southern Planter, with outstanding balances in Virginia alone of more than \$8,000, have not for the last three months, been equal to the expense of issuing one monthly number, and for a month past all payments have been, we might almost say, entirely suspended. What then shall we do in such a trying emergency? Shall we appeal to the sense of justice and the principles of common honesty of our delinquent subscribers for the reparation of the wrong they have done us, in withholding from us the just consideration which is *due to us*, for the faithful fulfilment of our engagement, in the regular transmission of our paper *to them*, at whatever sacrifice forced upon us by the failure of their remittances? If such an appeal were promptly answered by sending in the small sums, we will not say unjustly, but negligently detained from us, and which make up so large an aggregate, our difficulties would be at once at an end, the expenses of publication promptly and regularly met, and the interests of the paper placed upon a basis of permanent usefulness and prosperity. But the experience of the past does not warrant us in resting our faith upon so uncertain a contingency. We have lived upon "hope deferred" until the "heart is sick," and yet have realized but very little indeed of the substance of the things hoped for. What then shall we do? It is for you to determine whether we shall be the victims of cruel injustice, and have, at last, to suspend by your withholding our just dues, or whether, by your prompt payment of them, we shall be enabled to go on our way rejoicing, seeking to do good and to communicate through the pages of the Planter as heretofore.

We send out our bills in the present number. If mistakes are found in any of them they will be corrected as soon as reported to us, and we shall be most happy to acknowledge the receipt in full of such as are found correct. To those who find it difficult or impossible to pay all, at this time, we will say, *do what you can*.

Possibly some of the bills sent to subscribers may have been paid by them to our agents and not been reported. In all such cases, please overlook an unavoidable mistake on our part, and consider yourselves excepted from the call which is made only upon delinquents.

✎ Bills Sent Out. ✎

The amount due us in the State of Virginia alone, as proved by the bills which we send out in our present number, is upwards of Eight Thousand Dollars.

We know that large numbers of our subscribers are in camp, and that those who are doing military service, will not see these bills. We therefore ask the favor of their families to attend to them in every case where it is possible to do so, and carefully to retain them when this is not done.

To our Northern Exchanges.

We are in frequent receipt of *Agricultural* papers, portions of which are filled up with wholesale abuse of our own beloved old State, and threats of a disgusting character as to the disposition which is to be made of us and our lands by the United States Government, i. e., Abraham Lincoln, when he "disperses" the present "mob." In taking leave of them, we beg to say a few words for ourselves and for our State. First, *we* have never tried to stir up hatred and malice between the citizens of different States, who *should be brothers*. We have loved "the Star Spangled Banner" and "the Union" *as it was*, and *as our forefathers intended it should be*—a union of hearts, of destinies, of equal rights and equal glory. We have felt proud of being a citizen of the United States: we feel prouder now of being a citizen of Virginia. "Rebels" we may be—Traitors, never. We have seen within the last two years our State invaded by a band of Northern fanatics, whose errand was one of Murder, Robbery and Treason, not only to this State, but to the United States. Our citizens were murdered in cold blood, and this was done by men in the name of God, and under the cloak of religion, while many of your citizens, calling themselves *Christians*, excused, defended and applauded their act. We saw Virginia, calmly and without passion, give these assassins a trial, which, *even they* acknowledged to be fair and impartial; and we saw her *punish* them *according to law*. When "Black Republicanism" selected a candidate for the United States Presidency upon the sole ground of his hatred to the South and her interest, and he and his party determined to "manage our Union as we please," and to let the South have no farther connection with it than as submissive Provinces,—except to pay taxes for the support of "Government;—so strong was Virginia's attachment to "the Union," "the Constitution" and the "Star Spangled Banner," that she not only kept her own place in the Confederacy, but came forward, foremost, to try to conciliate all causes of difference between sections, and to restore peace and "good will to men" of all parties. At the same time she said the power of the "Government" should not, with her consent, be used as an engine of oppression and war against the citizens of *any* State.

She has tried every honorable means to avert civil war—to remain in the Union; but, when the President of the United States declares that he has no intention

to *invade any State*, while, at the same time, he is sending fleets to blockade our ports, and soldiers into our forts and navy yards, to *blow them up, instead of "occupying and holding" them*, and is calling for thousands of men to "subjugate" and "exterminate" the South, while the organs of the party, who elected him, are holding out to recruits the inducements of "Booty and Beauty," and the division of the property of Southern men (proposing to "spare the women and children") she sees, as will the whole civilized world see, the falsehood, the treachery and duplicity of the "Administration," and its utter contempt for "the Union, the Constitution, and the enforcement of the laws," except such laws as are the offspring of its own will, and which do not at all accord with Truth, Justice, Honor, Humanity or Civilization. Virginia takes up arms in self-defence alone, and appealing to God and the world for the justice of her cause, she accepts the issue which is presented to her. To all such Despotisms as that of Abraham Lincoln, she has always been, and ever will be, a Rebel.

Inquiries.

CLOVER, SHEEP HUSBANDRY, &C.

CARTERSVILLE, April 16th, 1861.

Messrs Editors:—Being a subscriber to your valuable paper, I will take the liberty of making an inquiry of you in regard to red clover.

We all know that clover sown on rich land in the Spring of the year with the wheat or oat crop, will, the second year, by an application of about one bushel of plaster to the acre, towards the last of March, make a fine quantity of hay in June, if the soil be at all adapted to clover; but what I wish to know is, would a clover lot from which the clover had been thus cut the second year produce as good a crop of hay the third year, by a like application of plaster, without any other manure as a top-dressing, provided a hoof is not allowed to go upon the clover; my object being, if practicable, to keep something like a standing clover lot near my stable for the convenience of cutting and feeding the clover to the horses in the green state, or soiling, as some call it, before the crop gets ripe enough to make a final cutting.

Also, how many years is it generally before clover dies out in the same place, unless the land be cultivated in some other crop and then sown in clover again, and whether it is a benefit or disadvantage to the clover crop to graze it at all—whether in the Fall of the first year, the Fall of the second year, or the Winter at any time, notwithstanding a poor horse or cow. (a)

Also, whether grazing sheep on clover during the Winter or any other time will give them the rot, as my neighbor, W. H., lost some very fine sheep with the rot last winter whilst grazing on clover, which he attributed to the clover. (b)

Being something like our State Convention at Richmond in regard to old Abe in making a final effort, a last final effort, and lastly and finally, an ultimatum, I beg leave to make another inquiry or two about sheep. Which is the best breed in (c)

Eastern Virginia for wool or for mutton? When is it the best time to castrate lambs, when very young or nearly grown?(d) Which is the best kind of pasture for them—an old field, a pasture the second year after wheat or oat crop, a clover field, or a fresh pasture immediately after the wheat or oat crop has been removed?(e) Being a young farmer and inexperienced in regard to the above subjects on which I requested information, you will do me a considerable favor by replying either by letter or through the columns of the Southern Planter. Having gone far enough for the present, I must now close. W. J. P.

REMARKS.

(a) Red clover (*Trifolium pratense*) is a biennial plant. If sown early in the Spring, and not too much shaded by other crops, it produces a few blossoms the first season. When allowed to grow the next year to full maturity, without cutting, it dies; but if it is cut or pastured, so as to prevent it from coming to full maturity, it lives throughout a third or even a fourth Summer, and retains vigor enough to produce a tolerably fair crop. But its heaviest product is always in the second season of the sowing.—(Campbell's Agriculture, p. 293.)—Our correspondent may rest assured that a top-dressing of plaster, "without any other manure," will not be sufficient to secure "a good crop of hay the third year."—The fertility of the land under successive mowings can only be maintained by liberal surface applications of nutritive manures. The frequent removal of the growth of clover—a very exhausting process—requires a timely compensation to the soil to arrest its rapid deterioration and ultimate sterility. *But see Voelcker*

(b) Whether grazing sheep on clover in Winter or any other time will give them the rot, "depends upon the soil or state of the pasture. The disease is confined to wet seasons, or to the feeding on ground moist and marshy at all seasons. It has reference to the evaporation of water, and to the presence and decomposition of moist vegetable matter. It is rarely or almost never on dry and sandy soils and in dry seasons; it is rarely wanting in boggy or poachy ground, except when that ground is dried by the Summer sun, or completely covered by the winter rain. On the same farm there are fields on which no sheep can be turned with impunity. There are others that seldom or never give the rot."—(Youatt, as quoted by Randall in his Sheep Husbandry in the South, p. 233.)

(c) With respect to the question, "which is the best breed in Eastern Virginia for wool or mutton?" we have to remark that its solution depends upon a careful comparison of the amount of food consumed by the different breeds, with the productive capacity of the land on which they are to be supported. As the food consumed by a full grown animal generally bears a definite proportion to its live weight, it will be easy for the observant farmer to determine by these criteria whether it will be best to introduce the larger, the medium, or smaller-sized animal on his pastures. Whether mutton or wool, with reference to their greater profit, shall control him in the choice of breeds, must depend on proximity or remoteness of market. A near market, affording a demand for mutton about

equal to the supply, must determine the question of profit in favor of the carcass, but one more remote, involving expensive transportation, must turn the scale in favor of the fleece.

(d) At an early age, it is undoubtedly best to castrate ram lambs, whether reference is had to the safety of the operation or the early development of the carcass and its maturity for market.

(e) Short grazing upon an old field pasture affording a good supply of grass is best for sheep, though they do well in stubble-fields after oats or wheat, if the time of their introduction into such pastures is judiciously chosen. From the general tenor of our remarks, our correspondent must not be led to infer that we recommend *clover* as a grass particularly adapted to sheep husbandry; there are several of the grasses common to Eastern Virginia to which we would give a decided preference over it.—EDITOR.

For the Southern Planter.

Sassafras.

Messrs. Editors—If any of your correspondents can give us any information as to the best method of exterminating Sassafras bushes, in cultivated fields, we will be much pleased to hear from them. N. W. R.

We invite replies to this query, as we know of no other method than that practiced in Albemarle county, viz: Grazing them off, during spring and summer, by putting a herd of cattle into the fields infested with them, and grazing them *into the ground*. It is death to the Sassafras, and is very little less to the cattle.—ED.

American Stock Journal.

We return our sincere thanks to the Editor of this paper for bound-volumes of his Journal for 1860. We hope, some day, to reciprocate his kindness.

We have always felt, since we have had the pleasure of knowing him through the columns of his paper, a cordial respect for himself, and a lively interest in the success of his "Journal," which has well deserved the support of every Stock owner—and we take this occasion to say, that though he and we may live and die under *different "Flags,"* he, nevertheless, has our best wishes for his health, happiness and prosperity.

The Craft.

Devoted to Typographical Interests. Published monthly, at 50 cents per annum. By J. G. Hague, Baltimore, Md.

This little paper is so well gotten up as to reflect credit on the craft engaged in the enterprise. We wish it success.

From the American Agriculturist.

Hints on Starting Garden Plants Early in Spring.

Various methods may be resorted to for procuring early vegetables and flowers, in all climates, and especially in the colder regions of the most Northern States, and of the British Provinces, as well as for securing the growth of those plants which will not ordinarily mature where the season is very short. Green-houses, hot-beds, and cold frames, are the most desirable, and these are destined to come into more extensive use, when people generally learn how simple, cheap, and valuable they are. Of these we speak from time to time; here we will only refer to one or two methods that may be adopted by all.

First, let it be remembered, that a soil deeply dug and thoroughly drained, is in a condition to receive seeds or plants much earlier than an ordinary soil, no matter how dry it may be. A free admixture of fermenting manure, like that from the horse stable, also tends to warm the soil.

The smaller seeds—lettuce, cabbage, cauliflower, turnips, tomatoes, many of the flower seeds, etc., may well be sown in cheap earthen pots, or in boxes of earth. These boxes, if water-tight, should have gimlet-holes in the bottom to drain off excess of water; an overdose of water, with no drainage, will often stop or greatly retard the growth. Though not indispensable, it is always preferable to water at the bottom, letting only so much soak in as will naturally rise by capillary attraction. While the weather remains cold during the day, these boxes or pots may be kept in a warm, light cellar, or, better still, in a room slightly warmed by fire heat. But as soon as the out-door temperature during the day is above the freezing point, they should be left in the sun, and only be brought in at night when there is a prospect of frost. It answers very well to leave them on the South side of a barn during the day, and remove them to the barn floor at night, covering with straw, if needed, to keep out frost. By a very little care of this kind, any one may have an abundant supply of plants, ready to be transferred to the open ground when danger of frost is past.

Another method, which has been highly commended by some, is this: Cut turf or grass sods into square blocks, or in long pieces; if grass sods, pare off a little of the grass side. Invert the pieces and plant in them various seeds, such as cabbage, lettuce, cucumbers, melons, corn, turnips, radishes—indeed anything which is desired to grow early. These can be laid closely together on the South side of the house, or barn, taking care to apply, from time to time, just water enough to keep them barely moist. On cold nights they can be covered with old carpeting, or blankets, and straw, until the plants begin to appear, after which the pieces should be temporarily removed to the cellar whenever there is danger of frost. As soon as the condition of the soil and weather renders it safe, the sods or turf may be cut into small pieces, each one containing one or more growing plants, and then set them into the open ground. There is a double advantage in this process: a gain of one to three weeks in time is secured,

and the sod or turf is an excellent material for promoting future growth and fertility. Any one who will try this method for a single season, will not be likely to omit it afterwards. Three or four hours of time expended in this way, will secure a considerable supply of extra early products of various kinds.

Those who have a few old baskets will find the following plan a good one: Put into the baskets a quantity of good soil, with rotten elips, with or without some well-rotted manure, as may be needed by the soil used. Plant in each basket a few melon, cucumber, squash, or pumpkin seeds. The baskets can be carried in or out, according to the state of the weather. After the plants are in vigorous growth, and the weather suitable, set the baskets in the soil, one in a hill, without disturbing the contents. If the sides and bottoms of your baskets be not pretty open, a number of holes should be punched through. The roots will find their way out into the surrounding soil. By starting early, so as to have large vigorous plants growing in the baskets of earth by the time the weather is settled, you may have cucumbers ready for the table almost as soon as other people have plants coming up, and melons and other products proportionately early.

Wheat Planted in Hills.

We noticed, a year ago, the experiment of D. YANT, of Bolivar, O., in planting an acre of wheat in hills, using a little over five pounds of seed to the acre. The hills were 20 by 15 inches apart, with five kernels in each. He now reports the result in the *Ohio Farmer*, from which we learn that the grubs and cut-worms destroyed full one-half of it, and that it yielded at the rate of 17 bushels per acre, or 204 bushels for one of the seed. Mr. Y. says: "It stooled enormously; thirty, forty, sixty, and seventy large, well-filled heads from one grain were common, and I have 112 stalks of wheat that grew from a single seed, yielding about 4,000 grains, and a rye plant that produced 183 heads, containing over 10,000 grains. About this there is neither mistake nor guesswork. Wheat put fifteen inches apart in the drills will not lodge; and to what extent liberal manuring, with some cultivation, may carry the yield, has yet to be tested."

Advice to the Volunteers—How to prepare for the Campaign.

A writer who signs himself "An Old Soldier," gives the following advice to young soldiers:

1. Remember that in a campaign more men die from sickness than by the bullet.
2. Line your blanket with one thickness of brown drilling. This adds but four ounces in weight, and double the warmth.
3. Buy a small India rubber blanket (only \$1 50) to lay on the ground or to throw over your shoulders when on guard duty during a rain storm. Most of

the Eastern troops are provided with these. Straw to lie on is not always to be had.

4. The best military hat in use is the light colored soft felt; the crown being sufficiently high to allow space for air over the brain. You can fasten it up as a continental in fair weather, or turn it down when it is wet or very sunny.

5. Let your beard grow, so as to protect the throat and lungs.

6. Keep your entire person clean. This prevents fevers and bowel complaints in warm climates. Wash your body each day, if possible. Avoid strong coffee and oily meat. Gen. Scott said that too free use of these, together with neglect in keeping the skin clean, cost many a soldier his life in Mexico.

7. A sudden check of perspiration by chilly or night air, often causes fever and death. When thus exposed, do not forget your blanket.

From the Virginia Herald.

An Affecting Incident at the Election in Fredericksburg.

The venerable JOHN TAYLOE LOMAX, known as the Christian Judge, whose talents, as manifested by his legal treatises and by his judicial decisions for twenty-five years, have excited the admiration of the legal profession in and out of his native State, and who is venerated for his wisdom and his Christian character, appeared on Thursday at the polls, his health impaired and enfeebled by recent sickness; with tottering steps, supported by friends, and with feeble voice from weakness and emotion, assigned the motives that influenced him in what he was about to do. The entire assemblage preserved the deepest silence, and all who heard him shed tears of sympathy with his feelings. It was a scene well calculated to produce a deep impression, and the words of this sage and patriot should be widely spread.

The following is mainly the substance, or spirit of the remarks he made when about to vote on the Ordinance of separation:

He spoke with feelings of the profoundest veneration of the State of Virginia; the land of his nativity, the land of his forefathers, among the earliest Colonial settlers, the birth-place of Washington; this good old State, by her influence and by her magnanimous donation to her sister States, mainly established the Confederacy of them all. It was mainly by her exertions that that Confederacy was strengthened in the bonds of a Constitutional Union, the most glorious that the world had ever beheld or admired, and it has ever been her zealous effort to preserve and maintain it. It was an union of peace, prosperity and brotherly love throughout the land, and of glory at home and of glory abroad; that Union has now been broken up into distinct Confederacies, in consequence of the aggressions of the North on the South. That South has desired and sought only a peaceful separation. Virginia has, to the last moment of exhausted patience, been in vain importuning, by every appeal she could make to her Northern confederates, to stay their aggressive spirit, and to restore the Union and the Con-

situation in its administration, to their pristine peace and harmony, and prosperity throughout all the sections of our country.

In sympathy with my noble State, said he, my soul has struggled with hope against hope, to behold the reformation of the policy of our Northern confederates; the awful question is now presented to the people of Virginia, whether she will continue her allegiance to the fragmentary confederation of the North, now practically changed by fanatics and party and sectional politicians, into a conspiracy against the liberty and rights of Virginia and the South, and is preparing to pour down upon them a desolation such as the world has seldom or ever witnessed.

O! how can I, in the duty which I owe to this beloved and honored Commonwealth, vote her continued allegiance to this baleful dominion? Our Union and Constitution have been my delight and the object of my affections, hardly less than idolatrous, from my earliest boyhood through "the years of a long life," which has been most graciously protracted. Now I come to perform, in my old age, the most distressful duty of my whole life, to vote her out, to vote her entire separation from the dominion of what remains of the Federal United States of America. With Christian faith I will trust in Divine Providence to overrule her destinies in the change which is now to take place, and whatever that change may be, to brighten her destinies with the beams of Divine favor, and to guide our people in the path of righteousness to their safety and peace, and to the Divine glory. I must, I must, in deepest convictions of duty, vote my dear old State out; and to secure separation from the United States, I must vote for the ratification of the Ordinance for that separation.

Hints for Gardeners.

Never train or support a plant unnaturally. Climbers will not succeed hanging about. Trailers will do no climbing. Grow it as it would grow naturally, and supply in such case where nature does not.

Carefully preserve the fallen leaves of trees, and procure as many as you can; when rotted into mould—they are invaluable.

Keep your seeds, bulbs, tubers, etc., in a place where neither heat, nor frost, nor damp can reach them; for either of these would destroy many.

Do not waste rain water; save all you can, for it is the best for plants.

Never allow weeds to bloom. One day devoted this year may save a month's labor next.

Whenever a plant suffers a loss of root, prune off a corresponding portion of the head.

Encourage toads and robins (unless you have pet cherry trees). They gain their living by destroying insects.—*Exchange.*

GINGER CRACKERS.—One point of molasses, one cup of sugar, six ounces butter, cloves and ginger to taste, flour enough to roll out and cut.

Death of Martin Tilghman Goldsborough.

Died at "Ellensborough," the place of his residence, in Talbot county, Md., on the 10th of March last, M. T. Goldsborough, in the forty-ninth year of his age. The death of so distinguished a farmer, philanthropist and Christian, deserves to be chronicled in a paper devoted especially to agriculture, that his memory may be held in grateful remembrance, and his name handed down as a benefactor of his profession. "He retired," says one of our exchanges, "at a late hour on Saturday night, cheerful and apparently in perfect health, and at 3 A. M., on the following morning," was found "struggling with apoplexy, which terminated his useful life in a short time after." "This sudden and unexpected demise," says another of our exchanges, "of this excellent citizen, has shrouded in gloom this whole community." * * * "It is not meet that the death of such a man should be simply announced. Some small record of his many virtues and great worth should be made, for the benefit of those among whom he spent his useful life, and as a right example for their imitation. In his early youth Mr. Goldsborough desired to enter that noble military institution, West Point. Failing to obtain a Cadetship he took private lessons of instruction at this school of the nation, with a view of fitting himself for the duties of civil engineering, a profession then opening bright prospects to the ambitious and enterprising young men of the country. He subsequently perfected his studies at Geneva College, in New York. Immediately on finishing his course of preparation, he obtained employment under the then celebrated engineer, John Randall, upon a rail road near Ithaca, in New York. At the close of his engagement on this road, without even visiting his relatives and friends at home, he entered upon duty on the Wilmington and Weldon Rail Road, in North Carolina, under Maj. Walter Gwynn who is now the superintendent of the fortifications in the harbor of Charleston. He soon won the confidence and warmest friendship of this distinguished officer, by his devotion to duty and his proficiency in his profession. He was rapidly advanced, and employed in high and responsible positions in the location and construction of this road. He was unusually beloved and esteemed by the people of this then undeveloped region; and the now flourishing and populous town of *Goldsborough*, the capitol of Wayne county, North Carolina, was called after our deceased friend, and will always remain a monument of the high appreciation in which he was held. His constitution suffered severely in the fearless and untiring discharge of duty at this time; and on his marriage, in 1840, to a lady of his own State, he relinquished his heretofore cherished pursuit for that of agriculture, in his native county of Talbot. His usefulness and unceasing labor, as an agriculturist, have not been confined to the limits of his own county. He was a distinguished officer of the State Agricultural Society, and as a writer, the agricultural journals of the country uttered his high intelligence and devotion to his newly adopted profession. As a practical farmer, his beautifully embellished homestead, his rapidly improved and renovated lands, and their superior culture, have elicited the unusual commendation of his fellow

county men. For fifteen years he was the faithful Secretary of the time-honored Agricultural Board of the county; and for the last five years its accomplished President. As a member of this Board his labors were always industrious, well directed and useful; whilst the suavity and urbanity of his manners endeared him to all his fellow members. Of our friend, as a Christian, husband, father, brother and master, we need not speak here, where he was so well known. In the bleeding and sorrowing hearts of surviving kindred, in all these endearing relations of life, and in the unmitigable sorrow of his servants, is found the surest and best record of his worth. In him the church has lost a true friend and steadfast member. For fifteen years he faithfully acted as vestryman and register of his Parish, and during most of this period served as lay-delegate in her conventions. His heart was ever open to the appeals of charity, and the poor he never turned away. The enterprising and meritorious in all stations of life—the ingenious machinist and inventor, struggling with the want of means, sought him not in vain. His high reputation in all the departments of Agriculture, caused many from a distance to visit and appeal to him; and in him they found the kind approving friend and ready helper. He was an active officer and a generous patron of our volunteer military organization, and his loss to the company, of which he was an efficient commander, will not be easily supplied. In the midst of his career of usefulness, he is cut down and removed from among us; but his bright example and memory will always be affectionately cherished in our county.”

The above was intended for insertion two months ago, but was inadvertently laid aside and overlooked.—ED. SO. PLAN.

Cultivation of the Dahlia.

They are propagated from the tuber. The proper season for setting out is May or June. Sandy loam is the best soil. Trim two feet from the ground, and allow only one stalk in a place. They are easily cultivated, though a very dry season is almost always fatal to them. The tuber will keep where potatoes will, and they should be taken up before the frost comes. The dahlia is of Mexican origin, and was introduced into England in 1790. The demand for these flowers has increased very much during the last few years. Mr. Soyez remarked that he raised a large number of plants, some years ago, from the seed that he brought from Europe. Very few of the flowers were perfect. He found that the varieties could not be reproduced from seed; the only successful way to raise them is from the tubers; these always reproduce their own kind. To produce dwarf plants, cut the bulb transversely and plant the crown or upper part.

The application of manure is injurious, as it is too heating and drying. Many of the plants raised from seed produced double flowers the first season, and several that had single flowers doubled them the second year. Mr. Holden said his dahlias flourished best in red clay; they produced more, larger and handsomer flowers. He had used white pine stakes to tie his dahlias to, which had

been dipped in hot coal tar. They had lasted thirteen years, and were still good.—*Exchange.*

Vegetable Garden.

Cabbage, Cauliflower, and Brocoli, are now set out for fall crops, and Endive sown for winter Salad. Lettuce, also, for summer and fall use. This, however, must be sown in very rich soil, and in a partially shaded situation, or it will go to seed. Peas, beans, and other crops, should be sowed every two weeks. They do much better than when a crop is sown at one time, and then have too many on hand at one time to go to waste.

In the cultivation of garden crops, the hoe and rake should be kept continually at work. Weeds should be taken in hand before they are barely out of the seed-leaf, and one-half the usual labor of vegetable gardening will be avoided. Hosing, or earthing up of most garden crops, is of immense advantage in nearly every case.

One would suppose that in our hot climate flat culture would be much more beneficial; but a fair trial, say on every other row of a bed of cabbages, will show a great difference in favor of the earthed-up plants.—*Gardener's Monthly*

Saving Matches.

They cost less than half a cent a paper, perhaps, but two gross of papers wasted, would, if *saved*, pay for the *Agriculturist* a year; besides, carelessness is a bad habit, however small the matter involved. Let the girls and boys roll up "lighter" of waste paper, to be used after the fire is once burning; it will take but little time to prepare them, the children like the sport, and will be kept out of mischief while thus employed; there will also be avoided much of the unpleasant smell of phosphorous and brimstone, so offensive to most persons. A subscriber recommends another plan that we have seen in use, which is quite convenient, and saves the trouble of making the paper lighters. Keep, say two tablespoonfuls of cheap alcohol in a small bottle: to the cork attach a wire, long enough to reach the fluid, with a bit of cotton fastened on its end. The fluid on the cotton is always ready to be lighted, and will burn long enough to light several lamps.

De Bow's mortality statistics, compiled from the last census, show that the people of the United States are the healthiest on the globe. The deaths are 320,000 per year, or one and a-half per cent. of the population. In England the ratio is near two per cent., and in France nearly three per cent. Virginia and North Carolina are the healthiest of the States, and have 638 inhabitants above 100 years of age.

MOLASSES CAKE.—One quart molasses, half pint thick milk, one teaspoonful soda, quarter pound of shortening (butter and lard), ginger and cloves to taste, flour sufficient to roll out.

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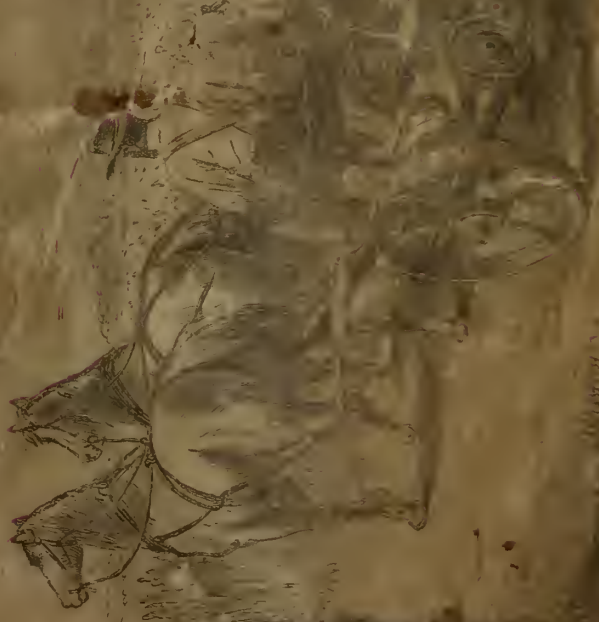
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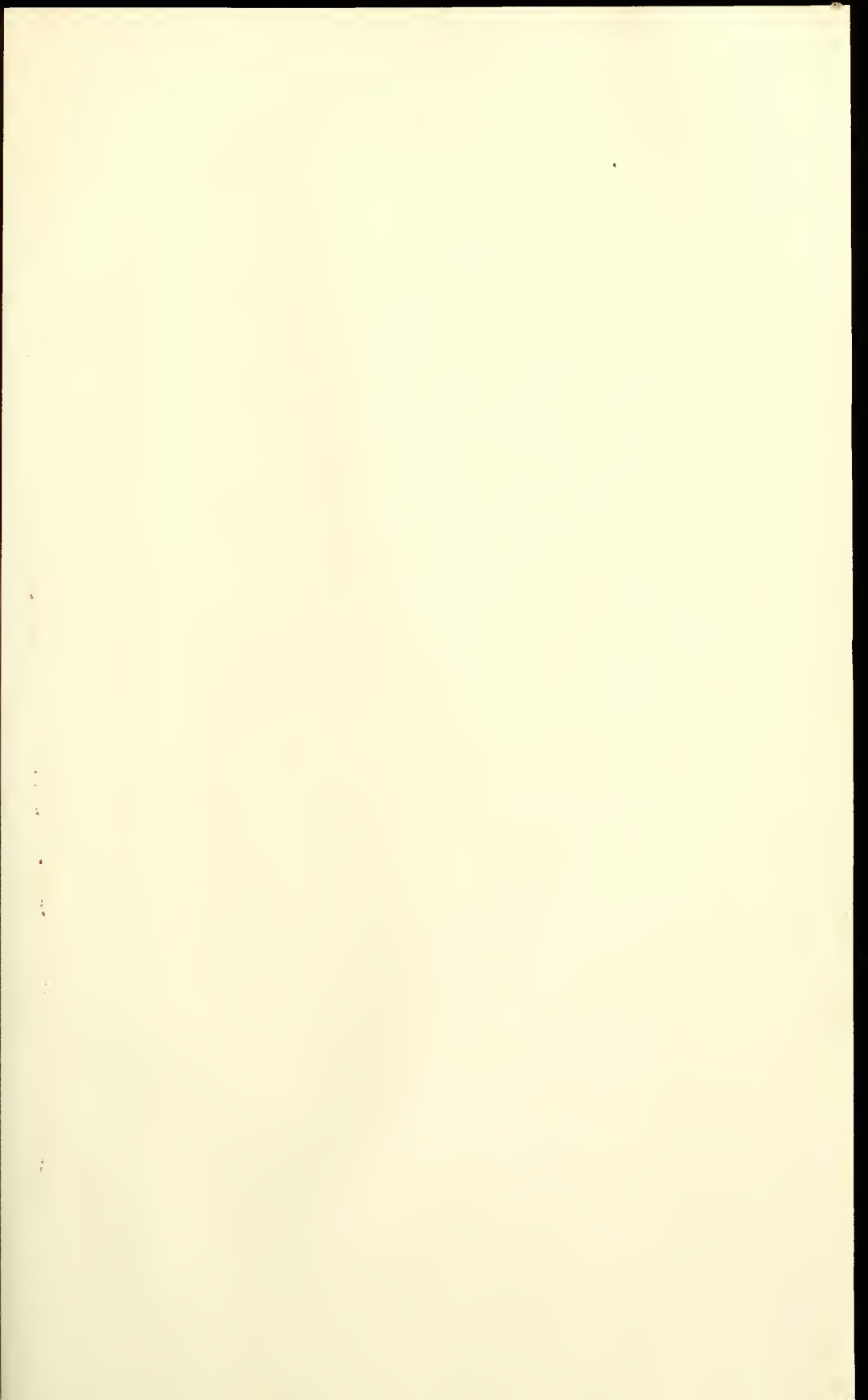
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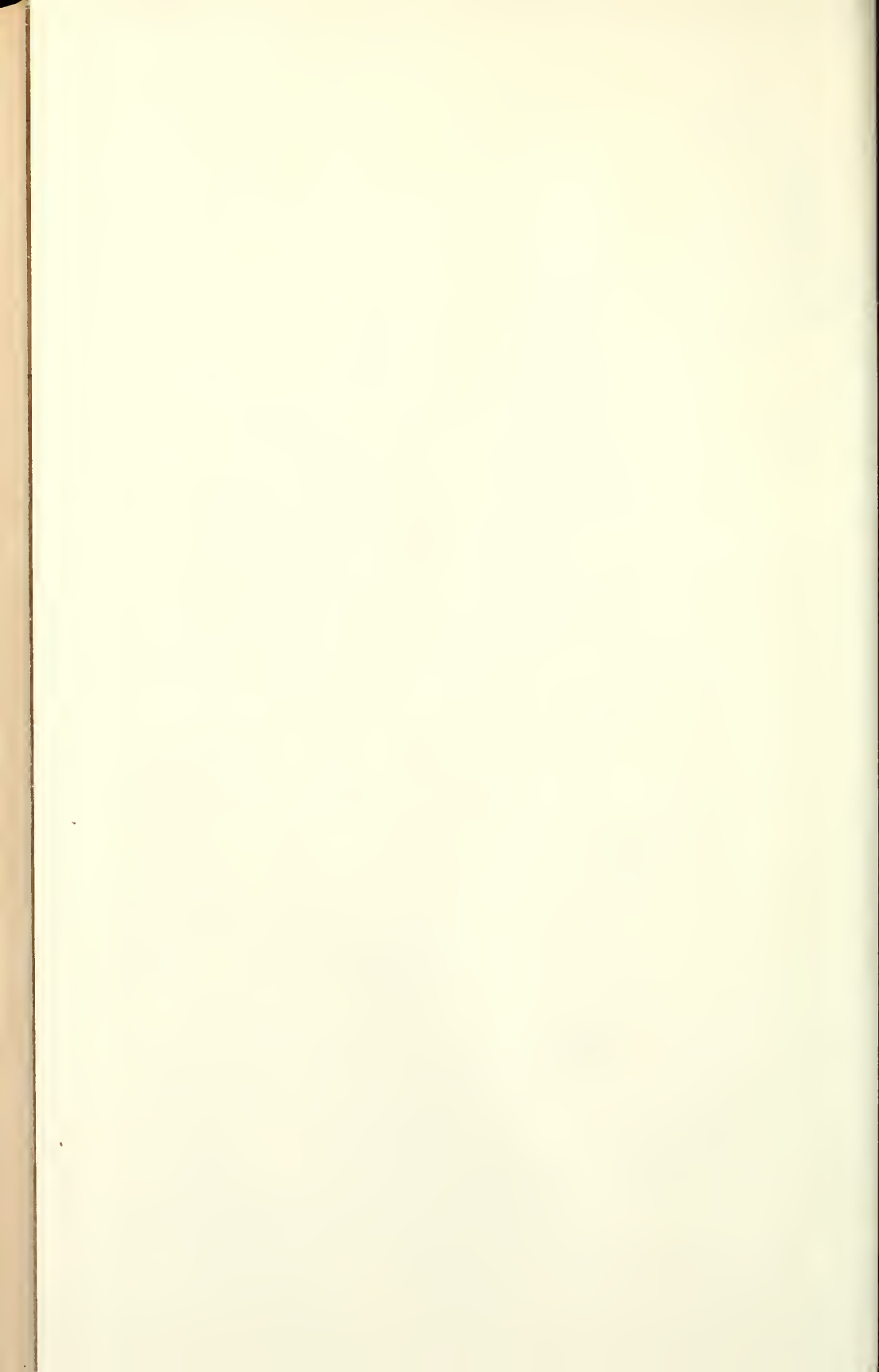
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