

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.

A Premium Essay on the Practical, Economical and Profitable Arrangement of a Farm of 300 Acres devoted to the Cultivation of Corn and Wheat as Staple Crops.

BY EDMUND TAYLOR.

[A gold medal of the value of \$100 was awarded to the author at the United Cattle Show and Fair of the Virginia State and Central Agricultural Societies, held in October last, for the best Essay on the practical management of a farm of not less than 300 acres, devoted to the cultivation of corn and wheat as staple crops. The necessary farm buildings to be described; the proper division of the farm into fields; the force in teams and farm hands necessary for its cultivation; the rotation of crops pursued; the artificial grasses cultivated; the green crops plowed in for manure; the quantity and kinds of stock which may be usefully and profitably kept upon it; and all other matters deemed necessary by the writer for its profitable and economical management to be distinctly stated. Also, the proper preparation of land for corn and wheat, the best times, in the opinion of the writer, for planting and sowing these crops, the method pursued in the management and disposal of the shucks, stalks, and fodder of the corn, and in harvesting, preserving and threshing the wheat crop, and preparing it for market.]—Ed.

In the following essay, the size of the farm is assumed to be 300 acres, divided into five fields of 40 acres each, four lots of 5 acres each, and 10 acres to be occupied by the necessary farm buildings, gardens, and for other purposes hereinafter mentioned; leaving 70 acres of wood-land for fuel, timber and fencing purposes, and as a general range for hogs.

The schedule requires that "the necessary farm buildings be described;" this requisition however is somewhat indefinite, as it leaves in doubt whether the buildings appertaining to the comfort of the *owner* are included or not.

As these, however, are so entirely controlled by the diversified and almost irreconcilable ideas of taste and comfort of different individuals, I shall assume that

only those buildings are designated which are exclusively necessary for the practical, and especially for the economical management of a farm of the assumed size.

The farm buildings should be located—as far as the nature of things will admit—near the centre of the farm.

This is essential in the application of manure, in going to and returning from work, in saving and securing the crops, and in giving the manager—from a central position—a complete and easy *oversight* of the entire premises. Such a position is not only economically beneficial, but also is practically suggestive of errors and improvements; for let the manager move as he will, much of the farm is brought under his inspection. Experiments are easily contrasted, and the stock is immediately under his eye and easily driven to and changed from such pastures as in his opinion may seem best.

I would enclose three acres as a *general* lot for stock of all kinds, to be subdivided as follows :

One acre for horses or mules, as the case may be, with a substantial log stable near its centre; the stable to be built of *barked* pine logs, and to have a loft its entire length for the storage of provender. The door to be on the South or Southe-western side, and stalls arranged on each side of the main length of the building at right angles to a passage-way, beginning at the door and running the entire length of the stable. The stalls should be at least $4\frac{1}{2}$ feet wide, with a good passage or gangway. There should be a slope from the head of the stalls to the gangway of from three to four per cent., to carry off the liquid manure from the beds of the stalls. Opposite to the door of the other end of the passage, a hole should be cut in the logs of sufficient size to throw out the soiled litter and manure. This opening should have a sliding door, to be closed or left open as the weather may suggest. An open shed ought to be constructed over this manure pile to protect it from the weather. Heaps of manure exposed to the weather lose a large proportion of their valuable constituents, in solutions carried off by rains, rapid evaporation and undue heating, which produces burning or scalding.

One acre and a half to be appropriated to the comfort of cattle. A shed made of plank, with joints well broken, ought to be constructed for their protection; it should open to the South, and have an extension of ten or twelve feet at each end, and at right angles to the main length. These extensions or wings break off the East and West winds, and materially add to the comfort of the stock during the winter. Stalls of good width for the convenience of milking, say five feet wide, should be strongly made, and stout troughs slightly raised from the ground ought to run the entire length of the shed. Racks must be fixed at a convenient height under the shelter, and feeding racks should also be made in different parts of the lot, *always* to contain food when the cattle are penned. The racks *within* the shed only to be filled with food at stated times, and of a more nutritious kind than that with which the uncovered racks are

filled. The troughs are to serve for wash, vegetables, and such short corn as may be advantageously used for stock. The general slope—either natural or artificial—of cattle sheds should be *dished*, in order to hold the liquid manure. For the purposes of manure, marsh mud—if convenient—weeds, turf, and occasionally leaves must be hauled into the cattle sheds. Leaves should only be taken from ravines where they have accumulated, if taken elsewhere there is danger of *starving* the trees.

The remaining half acre of the general lot I would enclose and devote to the occasional protection of sheep in snowy or rainy weather—they require none at other times—calves, and for any emergency—such as the necessary separation of stock—which may arise.

It is to be *distinctly* understood, that if the location admits of it, each lot should include a stream of water. Should this be impossible from the nature of things, water must be conveyed to the lots by pipes, or a well be dug in such a position as to afford at all times an ample supply of water for the different kinds of stock. Nothing contributes more essentially to their health than pure water, to be used as instinct and nature direct.

I should devote two acres to the houses and gardens necessary for the manager and farm hands. A *quasi* holding of property by negroes tends to make them industrious and respectable, adds materially to their comfort and keeps them from wandering about on holidays and at unseasonable hours of the night.

The manager's house to be built of hewed pine logs, one and a half stories high, pointed with mortar within and without, and containing four rooms. Such a building is substantial, comfortable and healthy; and, if occasionally white-washed, will last half a century.

Assuming that the farm hands are negroes, I should build for them one double cabin of plank; the planks to be vertical, and the joints broken by strips three or four inches wide. The cabin to be underpinned with stone or brick, with a tight, thick plank floor, a chimney in the centre, and a loft above sufficiently open to allow the noxious gases to escape, yet close enough to add comfort to the rooms below.

White-wash to be used freely within and without these buildings, and all filth and rubbish to be carefully removed, at stated intervals, to a compost heap, which must be sprinkled occasionally with lime.

In the neighborhood of the manager's house, but at a sufficient distance to prevent fire from communicating from building to building—a remark which is applicable to *all* the farm buildings—a wheat-barn must be built of sufficient size to insure the safe storage of the crop. It is almost impossible to say what the exact size should be, for under a gradual system of improvement, or in particular localities well or ill adapted to wheat culture, the size required might materially vary. Under no circumstances, however, would I build one of less size than 18 by 25 feet, with a loft over the main room, and a shed-room of 10 feet in width at each side. The loft and sheds will materially assist in storing

seed and refuse wheat, and serve at times for the temporary housing of other farm products. The construction, however, is of more importance than the size.

The usual plan of weather-boarding outside, and partly or entirely sealing within, is highly objectionable in my opinion. Such a plan affords a safe and comfortable harbor for rats—those destructive pests of the farmer.

I suggest, then, that the house be framed in the usual manner, and simply sealed up with tongued and grooved plank on the *inside* of the studs. This plan effectually excludes the rats, and saves a large outlay in weather-boarding and labor. For the protection of the exposed studs and frame-work, I would apply hot pitch or gas tar—the smell of the latter will soon disappear—and renew it at intervals of one or two years.

If grain garner are used, they should be placed head to head against the division walls of the main building and sheds; and they should be made of plank sliding in grooves on upright posts, for the convenience of throwing two or more together as well as for purposes of general storage, when the garner could be entirely removed.

I would here take occasion to say, that the roofs of all the farm buildings should be either painted with a thick coat of metallic paint, or thoroughly saturated with hot pitch—the latter is the cheapest plan. And let it be *remembered* that this must be occasionally renewed in the ordinary course of a generation.

Where slate is cheap and accessible, it may be used advantageously for roofing, if *well* put on, otherwise it will only prove a source of annoyance and expense.

The main room as well as the sheds of the barn should have external doors, and the sheds must connect internally with the centre-room by doorless openings.

We come now to the corn crib.

It is best to build this of hewed pine logs also, and not less than 15 by 30 feet, with a passage-way at one gable end, into which the outer door should open. This passage will prove very convenient in shelling and separating corn, and serves a good purpose, by preventing mud and dirt from being carried into the room appropriated to the corn. The logs should be close enough to exclude the necessity of chinking, and the house itself should by all means *be rat-proof*. To secure this desirable end I would recommend the following plan:

Locust posts must be obtained, and one end tapered down into a spile-shape, insert the large end in the ground, resting on rock or other firm foundation. Before the sills are laid on the posts, pieces of tin or sheet iron of two or three feet in diameter must be nailed on top of the posts horizontally with the ground, leaving or making a hole in the middle for pinning down the sills, and on these the sills should rest. It must be carefully borne in mind, that the building must be sufficiently elevated above the ground to exclude the possibility of a rat's leaping from the earth to the crib.

It is utterly impossible, if this plan be carefully executed, for a rat to reach the crib by climbing the posts; and if a little care be taken to leave nothing

resting on the house by which a rat might climb up, the farmer may safely defy this noxious pest.

The other buildings required, would be sheds large enough to shelter *all* the farming implements from the weather. The loss annually sustained by neglecting this precaution, is a steady and continual drain upon the purse of the farmer.

An acre of land around these farm buildings will be sufficient for loading and unloading, turning and hitching up, and also furnish the necessary space required for performing the various local farm duties.

We have now four acres left of the ten set aside for farm use of a specific kind; I should set apart three acres of this in some moist position as a standing meadow, the annual crop of grass from which will add materially to the support of the stock. The other acre I should devote to the rearing of locust posts for fencing purposes. The seed may be sown in drills, or planted at regular intervals, and trimmed out if too thick or when large enough for stakes or posts. I have seen successful plantations of locusts raised in the drill; and land once set well, continues to yield indefinitely a valuable supply of timber, and the land will become year by year more fertile.

The subject of fencing is not adequately understood or appreciated by farmers generally. Live fences of Cedar and the Osage Orange should be thoroughly tested, and wherever it is possible, they—one or the other—should be substituted for the present expensive and laborious system of fencing. The cedar-wattle, closely interlaced and nicely trimmed is a valuable fence; but this sort of fence must rest on a ditch-bank, so that the wattle itself may not be higher than four feet; if the wattle is higher than this limit, it is apt to blow down in high winds.

While on the subject of fencing, I will say a few words in reference to fuel and wood-land. The indiscriminate *slaughter* of valuable wood for fuel is deplorable, and enough to drive an economical and judicious European farmer mad, could he witness the *sang froid* with which it is done by our farmers generally. Judicious cutting is beneficial; and for fuel, the crooked, half-decayed and wind-shaken trees should be used first; and it should be a *cardinal* rule to cut out such trees as shade or injure a young plantation, which will soon become very valuable if assisted by the judicious application of the axe, saw or knife.

I have not designated, be it observed, the size of the stable, sheds and some other buildings, but the requisite size will of course be suggested to the intelligent farmer when I come to enumerate the farm-hands, team and stock which in my opinion are sufficient for the judicious cultivation and profitable management of the farm.

The number of farm-hands required for the cultivation of a farm of the assumed size, I should designate as follows:

Five able-bodied men, to be employed exclusively in the care of the stock and the cultivation of the farm. One woman to cook, wash and mend for the manager and the hands, to milk also, and attend to the dairy. This woman to be assisted by a girl of some twelve or thirteen years of age.

Thus we have seven hands in all, which number I think is sufficient for the profitable cultivation of a farm of three hundred acres, devoted exclusively to the two staples of wheat and corn.

An ample team is necessary on every farm, and I would here remark that Southern farmers are more in this particular than perhaps in any other connected with the cultivation of our lands. The number of team upon many farms is often inadequate for performing the work well and at the *proper time*, and the *quality*—where this objection does not hold good—is frequently so *detestable* as utterly to destroy the effect of numbers.

I might dilate upon the subject of labor-saving machines and the substitution of animal for human labor, but the scientific experiments and practical results on the subject are so satisfactory and patent, that it seems as useless as to argue upon a foregone result. I would, however, most earnestly recommend the application of labor-saving machines in every reasonable form, and especially the substitution of animal for human labor in every shape and form, where it can possibly be substituted.

The number of good horses or mules—the latter preferred—I should fix then at six; this number will enable the manager to use *two* three horse plows for corn and wheat fallows.

Under no circumstances would I permit any land to be *first* broken by less than *three* horses to a plow, and at a *less* depth than eight inches, but rather at ten or twelve if the soil admits of it.

I am aware that some farmers say, that in light soils two horses will plow deep enough. There *may* be such soils, but I have never seen an acre of land in Virginia on which deep plowing would not be advantageous. In many parts of the State, where the land had been plowed, from time immemorial, only a few inches deep, deep plowing *alone* has changed the desert into a blooming Eden.

Of course I do not mean to assert that judicious cultivation and improvement must not contribute to the renovation of these worn out lands, but what I mean to say is, that the foundation and basis of improvement is *deep plowing*; deep enough to turn up the hidden treasure which has been accumulating for ages.

It is asserted by some farmers also, that only an inch or so of subsoil should be inverted at any original fallow, upon the ground that this is as much as can be improved. I disagree with this theory also, and for the following reasons:

Because the surface-soil is not injured by the admixture of the subsoil, but rather gains by the absorption of agents in the subsoil not possessed by the surface-soil. And because the subsoil feeds upon the atmosphere, obtaining ingredients hitherto not possessed; and, besides, derives and confers untold benefits—through the decomposing action of frost—by the hitherto undeveloped but now released chemical agents which it contains. *One or Two inches enough with subsoil.*

In addition, I may mention the ease of cultivation after deep plowing, the facility with which the roots of plants may extend in depth and breadth for feeding purposes; and especially the advantages in absorbing and carrying off sur-

plus water to spring channels below, which never would be reached but for deep plowing.

Deep plowing is the antidote, while shallow plowing is the cause of washes and gullies.

I would keep nine good cows, and the manager—consistently with other duties—should turn his attention to making butter for market, an article of agriculture too much neglected by our farmers.

Forty merino sheep I should advise as scarcely enough for a farm of three hundred acres, but say forty *choice* merinos. I prefer this breed to any other, because it is very hardy, perfectly healthy in the largest flocks, and easily managed; it yields large and heavy fleeces of wool, second to none for general utility.* Four good oxen would complete the list of necessary stock.

I will suggest here, that it might be well to keep a good brood mare or two, to raise horses for supplying the wants of the farm, or for sale, as circumstances may suggest.

It is almost impossible to designate the number of brood sows, but the intelligent farmer will be able to estimate the required number when I come to mention the number of fatted hogs which should be annually killed. Let him be careful, however, to select a good and approved breed, this is a *sine qua non*, for it costs more, sometimes twice as much, to fatten a *land-pike* than his carcase will sell for when slaughtered.

Although not required to do so by the Schedule, I deem it proper to give the number and kind of farm implements which will be required for working the farm. Before doing so, however, I would again call attention to the fact, that the farmer who does not avail himself of the various labor-saving agricultural machines now in use, is, to say the least, behind the age, and wilfully neglecting his own interests. Especially on small farms, and with few hands, are these machines necessary and advantageous.

One good ox-cart, two light but strong two-horse wagons, one thresher, separator and cleaner *combined*, two three-horse plows of approved make, three one-horse plows, a heavy bull-tongue cultivator in harrow shape, two harrows, two light one-horse cultivators, one fan and two good cutting-boxes, I should enumerate as the principal farm implements required for the economical, *timely*, and thorough cultivation of the farm.

To these may be added one reaper, a good grain cradle for opening a way and for cutting such spots as are impracticable for the reaper, a corn-planter of the most approved make, and a light, substantial drill, without guano or other attachment, as we have nothing to do, in the present instance, with such manures.

It may not be amiss, however, to observe, in reference to bought manures, that as we call in the physician to heal the sick, we may likewise buy some of the

* The success of the merino sheep, in Culpeper county, is almost miraculous. See article "Merino Sheep," in last Patent Office Report, by a German sheep grazier.

1. Plaster. 2. Potash 10% and Plaster. 3. Superphosphate. 4. 2/3 mixed.

most approved fertilizers to heal galls and filled up gullies, when there is not sufficient manure upon the farm for these purposes.

It may be well, also, to observe, that some few of the farm implements, such as plows, &c., had better be duplicated, or rather an *extra one* should be on hand in case of breakage in a busy season. It would be well, in fact it is necessary in some localities, to have a clod-crusher for pulverizing the soil. There are several cheap kinds which may be made upon the farm, one or two of which I will mention. A stout log, of about eight feet, sawed into sections and attached to the usual frame, is a cheap and efficient crusher. The sections may be made to revolve upon a single iron rod, thus moving together; or by a separate rod and separate frame—the whole on one large frame—they may revolve independently of each other, a very convenient form for curves and turning, as it allows the various sections to revolve in the proper ratio of a moving radius. There must be an interval between the sections, in each case, to allow for the effects of centrifugal and centripetal tendencies.

Another simple plan is to bore a stout log full of holes, a few inches apart, and insert pins, leaving them four or five inches long, this is a very effective crusher, especially where the clods are very hard.

As it is a farming maxim, "that he who hauls well generally farms well," it may be proper to say a few words about farm roads. These should extend *into*, or *to* every field, as the locality may require; they should be graded, and have no grade higher than five degrees, and especially should the manager not put off mending them "until a convenient season," but *always* keep them in order. If the manager has a *true* eye, he can run these roads without a level, but if not it will be necessary to use that valuable instrument. A cheap and *good* one must be constructed for farm use, and this involves a difficulty not generally overcome by farmers, for I consider the ordinary rafter-level as utterly useless. I know I am treading upon dangerous ground in attacking an instrument which is so highly thought of by distinguished gentlemen of Virginia, and especially do I regret to differ with *one* gentleman whose talents and accomplishments are only equalled by his courtesy and honor.

But I am constrained to say, that the idea of running levels by a bit of board fixed horizontally to the end of a pole, and stuck up here and there in a field and *sighted* over by the operator, is, to me, supremely ridiculous. It always reminds me of the "*devil on two sticks*," seeking what mischief he can do. An instrument of this kind is used on many farms for running corn rows, and I have scarcely seen a farm upon which this practice was patent, that was not rapidly running away in washes and gullies. Instead of this worse than useless instrument, I recommend the following as cheap, accurate and valuable.

Take a piece of scantling and level one side with a plane, mortice a hole in it large enough to receive an elongated ounce vial. Fill the vial with spirit nearly to the top, cork and hermetically seal it. Then with putty, and by the *plumb* and the *air bubble* in the vial, imbed it in the mortice, and you have a cheap and

accurate level, sufficient for all farming purposes. Of course the level must be fixed on a leg or legs. *Prof. Gilham's Five-field Rotation in Waring's Bl. Ag. M.C. Note of F.P.A.*

It will be recollected that the farm is divided into five fields of 40 acres each, and into four lots of 5 acres each. One of these 40 acre fields is to be cultivated in corn. The plowing and preparation of the ground, and everything connected with the cultivation of the crop, will now be stated.

The field is to be plowed with three-horse plows as early in the fall as possible. In the spring—previous to planting—the land is to be thoroughly torn to pieces with the bull-tongue cultivator, and afterwards nicely and well harrowed. The corn to be planted with the corn-planter, and as early in April as the weather permits; distance between the rows, or drills, to be four feet; distance in the drill, or of the hills, apart, to be two feet, leaving one stalk in the hill. This distance will give 5460 stalks of corn to the acre.

It is thought by some that planting portions of the crop at different times is best, in order to secure a favourable season for at least a part of the crop. This may be well in some soils and localities, but is liable to the objection of deranging the general and systematic working of the crop, and of giving different periods—often inconvenient—for securing the matured crop and the fodder, and materially interferes with the regular progress of wheat seeding.

I am convinced, however, by practice and observation, that entire early planting, in any series of years, will eventuate in a larger yield than any other plan, however much specific rules may suit particular localities or peculiar systems of farming.

There are many modes of cultivating the corn crop, which recommend themselves to the farmer, but the basis of all modes is to work in time, and to keep the land free of grass and weeds. I prefer the following mode, which is sanctioned by some of the most successful corn makers in the State.

As soon as the corn is up, the dirt must be thrown *from* the corn with single-horse plows, running two furrows in a row with the bar side of the plow next to the corn, and as close as possible without cutting it up. The hands not engaged in plowing to follow on and thin the corn to the required thickness; this should be done as early as possible, so that the whole nutriment of the soil may be expended upon the stalk that is to bear the ear, and not on those which must eventually be destroyed. As soon as this operation is over, the earth to be thrown back to the corn, splitting the row out fully and clean, and lapping the dirt round the hills of corn. *Two-horse plough at the working. J. S. N. Sr.*

The hands should again follow the plows and uncover and straighten any corn injured by the plowing, and chop up the weeds and grass not entirely destroyed by the plow. These two operations should, if possible, be finished before harvest. As soon as harvest is over, the corn must receive its last or laying-by working. Then the single horse cultivator comes into use; it must be run twice in a row, levelling the high beds made by the last plowing. Again the hands follow;

*one
7.5.61*

*only
two fur
J. S. N.*

*level
with
cultivator
J. S. N.*

sucker the corn and chop up any weeds or grass not destroyed by the cultivator. This is all the working required by the corn crop.*

[TO BE CONTINUED.]

Oct. 7, 1923.

Love of Flowers.

No man can cultivate too earnestly a hearty love of flowers. We may not measure the value of them as we measure merchandise, for the influence flowing from them is ethereal and intangible; yet not more necessary is pure air to a healthy growth and broad development of body, than is a loving communion with these "sweetest thoughts of God" needful for all true up-building and expansion of the mind. The notion that it is a weak and feminine thing—a thing for children and women—to interest one's self in flowers, is utterly false. One of the most humanizing, and therefore *noblest* things in the world, is a devout study of these beautiful works of God. There are granite peaks lifting themselves bare and bald with forbidding aspect, which, though clothed with grandeur, are, nevertheless, the unloveliest objects of nature. There are other peaks which have as much of majesty, yet nestled in whose rifts and climbing up whose sides many colored flowers unfold their beauty, and by their soft hues relieve the sternness of the dull, harsh rock. He is the truest man whose character thus combines strength and conciliating tenderness—whose principles are firm as mountains, yet at the same time are always adorned by the verdure of a gentle charity. From no source can man gather so many gentle thoughts and unpolluted feelings, as from intercourse with flowers. If the Infinite is ever turning from the care of circling worlds to the adornment of the violet, surely it cannot be beneath the dignity of man to follow his Maker with a reverent step, and learn the lessons which he has written for him in the humble flower.—*Prairie Farmer.*

Management of Cream in Cold Weather.

For some reason not yet known, cream skimmed from milk in cold weather does not come to butter when churned, so quickly as that from the same cow in warm weather. Perhaps the pellicles which form the little sacs of butter are thicker and tougher. There are two methods of obviating this trouble in a great degree. One is to set the pan of milk on the stove, or in some warm place, as soon as strained, and let it remain until quite warm—some say until a skim of cream begins to form on the surface. Another mode recommended, is to add a tablespoonful of salt to a quart of cream when it is skimmed. Cream thus prepared will generally come to butter in a few minutes when churned. It is thought the salt acts upon the coating of the butter globules, and makes them tender, so that they break readily when beaten by churning.—*Maine Farmer.*

* Every farmer should have a calendar of work for each month, in which it would be well regularly to note "the stages of the game."

*For the Southern Planter.***Farm Account,***Showing net per cent. made on Plantation by TH. J. RANDOLPH, JR.***EXPENSES.**

1855.

To Sundries,	-	-	-	-	-	\$304 95
" Overseer's wages,	-	-	-	-	-	70 00
" Taxes,	-	-	-	-	-	64 00
" Hire of negroes,	-	-	-	-	-	316 88
" Railroad freight and commission,	-	-	-	-	-	484 46
" Guano, plaster and grass seeds,	-	-	-	-	-	923 00
Total amount of expenses,	-	-	-	-	-	\$2,163 29

Capital invested in plantation stock, etc.,	-	-	-	-	-	\$40,000 00
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A Equal to ten per cent. on capital stock.

B " " 12 6-10 " " " "

RECEIPTS.

1855.

By 1892 bushels of wheat, @ \$1 89,	-	-	-	-	-	\$3,531 95
" 1314 " " corn, @ 70 cents,	-	-	-	-	-	1,001 44
" Cash for tobacco,	-	-	-	-	-	729 33
" " " lambs,	-	-	-	-	-	71 50
" 2306 lbs. of pork, @ 8½ cents,	-	-	-	-	-	190 01
" 38,939 " " oats, @ \$1 15,	-	-	-	-	-	451 21
" Sundries,	-	-	-	-	-	211 97

Total amount of receipts,	-	-	-	-	-	\$6,187 41
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" " " expenses,	-	-	-	-	-	2,163 29
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A Net amount of receipts exclusive of support of family,	-	-	-	-	-	\$4,024 12
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Support of family derived from farm,	-	-	-	-	-	800 00
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B Net receipts including support of family,	-	-	-	-	-	\$4,824 12
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EXPENSES.

1856.

To Sundries,	-	-	-	-	-	\$98 18
" Taxes,	-	-	-	-	-	90 00
" Hire of negroes,	-	-	-	-	-	254 03
" Railroad freight and commission,	-	-	-	-	-	642 23
" Guano, plaster and grass seeds,	-	-	-	-	-	990 24
" Seed oats,	-	-	-	-	-	51 40

Total amount of expenses,	-	-	-	-	-	\$2,126 08
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Capital invested in plantation, etc.,	-	-	-	-	-	40,000 00
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C equal to 6 22-100 per cent. on capital.

D " " 8 72-100 " " " "

1856.

RECEIPTS.

By 2145 20-60 bushels of wheat, @ \$1 39,	-	-	\$2,991 60
" 317 " " corn, @ 73 cents,	-	-	231 04
" 4203 lbs. of pork, @ 8½ cents,	-	-	346 75
" 85,891 lbs. of oats, @ \$1 12,	-	-	952 51
" 25½ cords of wood, @ \$3 60,	-	-	93 33
Total amount of receipts,	-	-	\$4,615 23
" " " expenses,	-	-	2,126 68
C Net receipts including support of family,	-	-	\$2,489 15
Support of family derived from farm,	-	-	1,000 00
D Net receipts including support of family,	-	-	\$3,489 15

1857.

EXPENSES.

To Sundries,	-	-	\$50 00
" Overseer's wages,	-	-	150 00
" Taxes,	-	-	90 00
" Railroad freight and commission,	-	-	316 35
" Guano, plaster and grass seeds,	-	-	731 56
Total amount of expenses,	-	-	\$1,337 91
Capital invested in plantation, etc.,	-	-	44,000 00
E Equal to 6 46-100 per cent. on capital,	-	-	
F " " 8 73-100 " " " "	-	-	

1857.

RECEIPTS.

By 2136 30-60 bushels of wheat, @ \$1 19,	-	-	\$2,546 51
" 4531 lbs. of pork, @ 7½,	-	-	325 75
" Cash for beef,	-	-	93 80
" 73,840 lbs. of oats, @ 78,	-	-	582 81
" 8269 lbs. of tobacco, @ \$7 68,	-	-	632 09
Total amount of receipts,	-	-	\$4,180 96
" " " expenses	-	-	1,337 91
E Net receipts excluding support of family,	-	-	\$2,843 05
Support of family derived from farm,	-	-	1,000 00
F Net receipts including support of family,	-	-	\$3,843 05

1858.

EXPENSES.

To Sundries,	-	-	\$69 21
" Overseer's wages,	-	-	175 00
" Taxes,	-	-	90 00
" Railroad freight and commission,	-	-	294 75
" Guano, plaster and grass seeds,	-	-	750 30
Total amount of expenses,	-	-	\$1,379 26
Capital invested in plantation, etc.,	-	-	45,000 00
G Equal to 4 38-100 per cent. on capital.	-	-	
H " " 7 04-100 " " " "	-	-	

1858.

RECEIPTS.

By 1322 bushels of wheat, @ \$1 35,	-	-	-	\$1,789 42
" 20 " " potatoes,	-	-	-	20 00
" 149 " " corn, @ 95 cents,	-	-	-	141 82
" 8750 lbs. of pork, @ 7 cents,	-	-	-	612 50
" 6630 " " tobacco, @ \$6 79,	-	-	-	450 26
" 18,900 lbs. of hay, @ 75 cents,	-	-	-	141 75
" Cash for beef,	-	-	-	195 50

Total amount of receipts,	-	-	-	\$3,351 25
" " " expenses,	-	-	-	1,379 26

G Net receipts excluding support of family,	-	-	-	\$1,971 99
Support of family derived from farm,	-	-	-	1,200 00

H Net receipts including support of family,	-	-	-	\$3,171 99
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1859.

EXPENSES.

To Sundries,	-	-	-	\$232 64
" Overseer's wages,	-	-	-	150 00
" Taxes,	-	-	-	108 00
" Railroad freight and commission,	-	-	-	432 53
" Guano, plaster and grass seeds,	-	-	-	830 60
" Twenty head of cattle,	-	-	-	400 00
" Negro clothing	-	-	-	90 00

Total amount of expenses,	-	-	-	\$2,243 77
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Capital invested in plantation, etc.,	-	-	-	45,000 00
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O Equal to 5 62-100 per cent. on capital.

P " " 8 29-100 " " " "

1859.

RECEIPTS.

By 2095 bushels of wheat, @ \$1 10,	-	-	-	\$2,312 33
" 100 bushels of corn, @ 90 cents,	-	-	-	90 00
" 8060 lbs. of pork, @ 7 71-100 cents,	-	-	-	621 63
" 23,040 lbs. of beef, @ \$3 70,	-	-	-	851 45
" 524 lbs. of mutton, @ 08 cents,	-	-	-	41 92
" 388 lbs. of wool, @ 22½ cents	-	-	-	87 30
" 12,630 lbs. of tobacco, @ \$5 17,	-	-	-	653 66
" 11,680 lbs. of oats, @ 80 cents,	-	-	-	116 80

Total amount of receipts,	-	-	-	\$4,775 09
" " " expenses,	-	-	-	2,243 77

O Net receipts excluding support of family,	-	-	-	\$2,531 32
Support of family derived from farm,	-	-	-	1,200 00

P Net receipts including support of family,	-	-	-	\$3,731 32
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Net per cent. from plantation for five years, excluding support of family, is 6 53-100.

Net per cent. from plantation for five years, including support of family, is 9 7-100.

The Miller, his Son, and his Ass.

A miller and his son once drove an ass to a neighboring market town in order to sell it. They had not gone far on the road before they were met by a number of girls, laughing and singing. As soon as they saw the father and son trudging after the ass, they said one to the other, "Did you ever see such a couple of dull fellows, to let the ass go in that manner when they might be riding?" The father overhearing this remark, immediately desired his son to mount the ass, while he proceeded cheerfully by his side. After a while they came up to some old men, who seemed to be earnestly debating some important matter. When they saw the young man riding on the ass, and the old man walking patiently by his side, one of them exclaimed, "Do you see that young scapegrace riding while his old father walks by his side? Does not that prove what I have been saying? Is not that an instance of the respect shown to old age by the young of the present day? Get down you young rogue, and let the old man take your place!" As soon as the son heard these words, he immediately jumped off the ass, and let his father get up. In this manner they went some distance farther along a sandy road, when they were met by some peasant women. They immediately bawled out to the father, "You are a cruel old fellow to make yourself so comfortable on the ass, and to let your poor son toil through the deep sand. It is impossible for the lad to keep pace with you." The good-natured miller, wishing to oblige all parties, immediately desired his son to get up behind. In this way they were drawing near the town, when a shepherd, minding his sheep by the road-side, called out loudly, "Pray, my friend, does that ass belong to you?" "Yes," said the miller. "One would not have thought so by the unmerciful manner you have loaded him. Why, you two fellows are far better able to carry the poor animal than he you!" The father and son at once got down, and the son said to his father, "What now shall we do to satisfy the people? We must at least tie the ass's feet together, and carry him on a pole on our shoulders to market." So they tied the ass's legs together, and, by the help of a pole on their shoulders, they endeavored to carry him across a narrow bridge which led to the town. This was so novel a sight that the people left their shops and houses to enjoy the fun. But the ass, patient as he is said to be, could not endure either his situation or the noise on all sides of him, so he commenced kicking away at the cords which bound him. He soon managed to burst them asunder, and tumbling off the pole, he fell into the river, and being carried away by the tide, he was drowned. Upon this, the old man, annoyed at having tried in vain to please everybody, and vexed at the loss of his ass into the bargain, made the best of his way home again.

It is impossible to please everybody.—*Fable-Book.*

A WINTER CAKE.—Take half a cup of butter, two of sugar, three of flour, and one of thick, sour cream, (instead of eggs,) get it ready for the oven in the usual way, then sprinkle and stir in a teaspoonful of soda, bake it slow.

From the Northwestern Farmer.

Improvement of Hogs—Selecting Breeders.

As regards this special department of stock, the farmer should be as careful to secure improvement in fattening proclivities, as in anything else. Mind, I do not say that he should ignore a careful selection of kind, but that after he has made improvement in that, to see farther that he improve his own, particular *lot* of hogs, by increasing their abilities to fatten. The whole school or agricultural philosophers may think that I am "beside myself" with a new theory; but, I care not a mite, since I believe, that all I have written for the agricultural press is founded on experience, and not on "theory"—at least I intended it to be so. Let me submit the following proposition, which if not correct, let some one tell me. I for one believe it to be an important element in this improvement of swine by cross and otherwise.

Proposition. If from any litter, we take a female, marked for fattening qualities, steady growth, plumpness &c., and from another litter of the same kind—but unrelated—we take a male noted for similar qualities; *the offspring of these two, with scarcely an exception will have so much of the qualities of their parents, as to excel the litters from which their parents were taken.* In the case of cross, we might impute their improvement to that; but it operates as well in the full blood, or with the offspring of unrelated parents of mixed blood.

If the above proposition be true, then whatever disappointment has been experienced by farmers in the selection of kind, may be in part, traceable to their carelessness in producing from the original.

If the above proposition be true, then no farmer should allow the hogs to deteriorate, by employing his neighbour's inferior stock to associate with his own superior—much less with inferior stock.

If the above proposition be true, then can we improve even our common stock; and that has verily been done, we may improve Suffolk, and Yorkshire, and Berkshire, and Chinese; if we can make an improvement by crossing, we can make an improvement upon that first improvement. Is that too mystical? *

* * Some kinds of hogs require a greater age for full growth than others. I think that those which require the greatest age may be made to weigh much heavier than those which attain full size early, but are not so profitable, in as much as they have to be kept so much longer through cold weather, when a larger quantity of food has to be provided which is not paid for by their growth. Hogs kept over one winter may pay well enough, but kept two winters pay poorly enough. For instance, I had three hogs 16 months old, killed the 22d of Nov., one of which weighed 378 lbs. A warrant of 200 lbs. increase in each one, would not pay me for another year's feed and trouble of feeding them. The Chinese, Suffolk, and crosses with these and the common, attain size early, and make thick pork. The Suffolk is invaluable in many respects.

"Some one" has said, "some where," I do not remember where, that "hogs should be kept thin through the summer; that they would fatten more rapidly

in the fall, &c., &c." Now all that may be true, and be very disastrous to the farmer in the end. Will a hog grow, and be stinted at the same time Impossible. For this process then to be profitable to the farmer, the hog must have a mushroom growth, which is contrary to experience. They should not be kept fat, but in good order to insure steady growth, and should be thoroughly fattened by the time cold weather sets in. for we do not get half price for our corn to keep our fat hogs till "Christmas" in this cold country; especially do we not, if we keep them exposed. We would not get full price to keep them in close pens till Christmas.

I keep my pigs in close, tight pens in the winter—allow them a small yard only in the summer, and put them up close again by the first of September. I do not feed pumpkins, squash, or "arms-full of Panic grass," to them, but all the corn or meal they can eat, and plenty of cold water to drink. A person need have no "flabby pork," nor pork that will "shrink in the pot," if he will take pains to rear them properly—keep them close—feed those he intends to fatten, on perfectly sound corn, with plenty of pure water to drink.

Draining Orchards.

I visited, not long since, the successful orchard of seventy-five acres, owned by Mr. James Wakeman, of Cottage Hill, Du Page county. One of the leading features of this orchard was, the trees had the appearance of being planted on ridges, which was caused by annually ploughing towards the trees. He commences to plough next the tree first, which leaves a deep furrow in the centre between the rows, which acts as a partial drain—a very efficient surface-drain in winter. For when the snow is thawed by the influence of the sun, the ground being frozen, it runs into hollows. It cannot penetrate the soil. If the slope is completed to the dead furrow, it goes there. But if there is a hollow immediately about the body of the tree, it flows there. I have seen it stated recently that the expansion or lifting power of ice is nearly equal to twice the lifting power of gunpowder. Hence the effect of a body of ice immediately about the body of a tree; hence, too, the importance and benefits of banking up with earth, in the fall, immediately about it. I have had trees destroyed in this manner by ice forming about the collar. I have seen hardy grapes ruined in the same way. Scores of trees, whose bodies are otherwise protected by the sun, are filled at the collar by this lifting ice. It is a good plan, I think, to bank up about trees in the fall, and especially plough orchards as above described.—*Prairie Farmer.*

PICKLE FOR BEEF.—To eight gallons of water add two pounds of brown sugar, 1 quart of molasses, four ounces of salt-peter, and fine salt till it will float an egg. Beef put up in this way will keep good without absorbing so much salt as to make it hard and tough when cooked.

From the Northwestern Farmer.

Practical Hints about Poultry.

BY C. N. BEMENT.

Our object in this communication is to give our method of improving and keeping fowls, as we have paid considerable attention and have had some experience in the business.

Every one must be aware of the fact that, generally speaking, the fowls ordinarily kept by our farmers are small in size and usually but indifferent layers. Neither their inferiority in size, nor their poor egg-laying qualities, however, is to be attributed to the kind of food they receive, (for farmer's fowls generally fare well,) nor to want of attention; but to the fact that in many cases, the stock is never changed, or if changed at all, so seldom as to be productive of no good results. Thousands of miserable, weak-minded people, idiots and lunatics, attest the evil results of marrying between blood relations. If such be the consequences resulting from breeding in-and-in, from the human family, will not the principle apply equally to fowls? Will not a stock of fowls degenerate from year to year, both in size and in other good qualities, if no addition from other varieties or other yards are not made? Look to the condition of the fowl known as "Dunghill," a variety more generally had than any other in this country and which, although now small and comparatively worthless, were, doubtless, at one time in every respect equal to those for which such enormous prices have latterly been obtained. Why this degeneracy? It is very easily understood. The idea of improving the breed of fowls rarely visits a farmer's mind; and in the multiplicity of duties resting upon him, he does not think it a matter of sufficient importance to change cocks with his neighbor, or to kill off his old ones and purchase new. This is a great error, as we shall endeavor to prove, by facts from our own experience.

Some thirty years ago, being convinced that by changing our plan of breeding fowls, we could very materially improve them in some very essential particulars, we purchased some forty or fifty head of the finest "Dunghill" fowls we could find, paying attention to size and form only, color being disregarded. The oldest in the flock was not more than seven months. We purchased them in the fall of the year, provided them with warm comfortable quarters, fed them well and received in return a good supply of eggs.

From this flock we raised during the next summer about three hundred chickens. The young cocks were either sent to market, or served up for our own table. We did not retain a single one of them. The old ones were also disposed of, and an entire new supply of young cocks of the best size and form we could find purchased. From the pullets we selected one hundred of the best for breeders. The same system was pursued the ensuing spring, and we thought the progeny of the second year somewhat superior in size to their progenitors. Their laying properties were certainly improved. The year following, the cocks of the previous year were disposed of, and their places filled with new ones. The two-year

old hens were also disposed of or retained for hatching. The third year we had the satisfaction of beholding great improvements—the results we had anticipated.

The chickens were not only greatly improved in size and appearance, but we received nearly double the quantity of eggs from the same number of fowls. We still pursued this plan, and cannot but commend it to the attention of others. Our fowls were at least one-third larger than the original ones, and cost us no more food or trouble than the smaller ones, and when sent to market they brought a much better price.

In winter, fowls like a warm southern aspect, where they can huddle together in the sun during the morning and middle of the day, and screened from the northern and western blasts. Provide them with such a place and plenty of food, such as corn, barley, oats, buckwheat, corn and cob-meal mixed with scalding water, and boiled potatoes, *not*, without an occasional feed of animal food and constant access to *pure* water, gravel, old mortar, oyster and clam shells and bones, all broken finely, and they will yield eggs in abundance through the winter.

Poughkeepsie, N. Y.

Treatment of Young Mares.

Are young mares injured for fast work by having colts at an early age?

I have no doubt that the powers of a mare are seriously impaired for fast work after she has had a foal. It may not stop her growth, because a filly which has been well kept up to three years old, does not usually grow much after that period. It may not greatly detract from her appearance, although it must tend, in a certain degree, to increase that very usual defect in mares, the disproportionate weight of their carcass compared with the power of their legs. But the very fact is itself a strong presumption against the expediency of the practice. I imagine that those breeders who resort to it, do so either from mistaken views of economy, or only apply it to such mares as they propose to retain for moderate work about home. Without entering at length into the physiology of the subject, it appears to me that one consideration suffices to condemn the practice. The whole art of training a horse for a race, or preparing him for the hunting field or other fast work, consists in bracing his muscular system and discarding from the frame all superfluous matter. In the breeding animal the very reverse of this is required; our preparation must then be made for the total relaxation of the system, which is requisite for the birth of the young animal. When it is considered, moreover, that this state of relaxation is continued for six months longer, or until the foal is weaned, it must be evident that the system can scarcely be expected ever fully to recover its tone after prostration so severe and relaxation so protracted. The case of heifers and ewes feeding well under similar circumstances, to which my correspondent alludes in another part of his letter, is not a parallel one. In these latitudes we do not require our horses to lay on flesh, but to work. That exceptions may occur to the rule that breeding unfits a mare for fast work, I do not doubt; but it is never safe to take exceptions for a guide.

As far as my experience goes, its result is quite in accordance with theory. I once had a mare which had bred a foal at four years old. In spite of her being well bred, powerful, with a handsome figure and fine action, she was worthless as a hunter. What made this the more remarkable was that she belonged to a family celebrated for their excellence in this respect. She had no unsoundness, she was a fine goer for a short distance, but was useless in a run, although no faults could be detected in her wind. She appeared utterly to flag after an amount of work which to an ordinary hunter would only have been exercise. She was a hearty feeder, and was capable of standing a good deal of slow work, as, for instance, in harness.

I consider, in short, that to breed from a growing filly is to run the hazard of unfitting her for fast work.—*Cor. Lon. Field.*

Col. Pratt's Dairy Farm.

The following statistics of Mr. Pratt's dairy is from the volume of the Transactions of the N. Y. State Agricultural Society for 1859 :

COL. B. P. JOHNSON—*Sir* : In the last year's report of the State Agricultural Society, you were pleased to publish the account which I submitted of my dairy farm for the years 1857 and 1858, and your courtesy at that time induces me to offer for your consideration a like account for 1858-59. Referring to my former communication, I have to give the following figures, observing now that I have employed the same help upon the farm as I did then.

BUTTER.

	1857.	1858.	1859.
Fifty cows realized, - - - lbs.,	6,500	8,050	8,300
Average number pounds to each cow,	130	161	166
My butter netted me this year, - - -	-	-	\$2,070
Hogs, weight 6,455 lbs., - - -	-	-	418
Total, - - - - -	-	-	\$2,488
From this deduct on farm investment, interest	-	\$700	
Labor on farm and repairs, - - -	-	850	
			1,550
Making the net gain for the year, - - -	-	-	\$938

My farm, stock, &c., is valued at \$10,000. Within the past year I have set out 1,400 sugar maple trees, and a few elm and beach trees.

Raised 500 bushels of corn, 700 bushels of carrots, 300 bushels of potatoes, 200 bushels of turnips, 70 tons of hay, 50 tons of cornfodder and stalks.

The subject of manures is, we all know, attracting considerable attention throughout the country, and it may not be out of place for me to state what I am doing in this matter

I have a large wagon (bark rack) of the capacity, of say, two cords; this I send, with a man and all the idle boys I find in the village, to the woods, where

they rake up from two to three loads per day; these leaves are carried to the hog-pens and the barns where they serve as bedding to the stock; and when well mixed with the other manure (throwing in occasionally a barrel of wood ashes and a load of old spent tan bark as a decomposer of the leaves,) they go to the manure heaps or on the land. I am satisfied with my experience thus far in making this kind of manure. This, with the care given to the farm, has nearly doubled its value. From three acres of land on the side hill I have cut twelve tons of clover and timothy hay the past season at one mowing.

My practice is to put on manure both spring and fall, raking it fine and level ready for the scythe. My cows are, with one exception, natives; I stable them in winter and feed them about two quarts of meal per day through the spring, with all the hay and stalks they want. I have for them in the yard a never-failing, never-freezing trough of spring water, and to which, summer and winter, they can go at pleasure, and I can't help thinking that they are all the better for this privilege.

In this connection let me add that I have raised a native heifer calf, which, for good points, can hardly be improved, not yet a year old, which weighs 750 pounds, gaining about two pounds per day, the mother of the calf weighs 860 pounds. Both the cow and calf furnished with meal occasionally, and this confirms me in the opinion I have held for a long time, that the keep will do very much to improve the breed. A recent examination of stock farms in England, and viewing the cattle in London market from nearly every country in Europe has not lessened my faith in this matter.

I am yours truly,

Z. PRATT.

A Concert by the Cows.

When, as it oftentimes happens, we hear the tinkling of a sheep-bell or a cow-bell on the hills or in the woods, we are reminded of the many pleasing allusions of the British poets to this cheerful rural sound. The bells, it is true, are not generally as musical as they might be, yet they strike a pleasant chord in the heart of every one who loves the country. It has often occurred to us, that if the manufacturers of these bells would make some of a superior quality of tone, not a few farmers would be glad to buy them for their herds. It would be a pleasant sound for the traveller to hear from a distance, as the animals wended their homeward way at night, and it would gladden the ear of the proprietor and his family. We have heard a few such bells.

Within a short time we have seen it stated that a certain English nobleman has suspended a musical bell on the neck of all his cows, each bell tuned in a different note of the scale, and the whole running through several octaves. A visitor to this farm is charmed by the music, as well as by the sleek sides of the cattle. Sometimes he hears several notes in unison, then a slight discord, then a sweet harmony, and all varied by distance, and by the rising and falling of the breeze.

For the Southern Planter.

The Cultivation and Management of Tobacco.

[*A Premium Essay.*]

Influenced by an hereditary fondness for the culture of tobacco, and desiring to contribute, though but a mite, to the success of our Union enterprize, I proceed to make some suggestions upon the culture and management of tobacco. In these observations I shall attempt as great conciseness as may be compatible with perspicuity.

I shall not pause upon the threshold of the subject to argue the question, whether we should raise tobacco at all, or not; for whether we view the subject in a moral or an economical point of view, and to whatever conclusion we may be led, there seems to be an urgent necessity, on the part of most persons, impelling them to plant tobacco; for in our climate, and on our soil, it seems to be the most uniformly safe and reliable production, on which to rely as a *money crop*; and the most elaborate argument upon that point would produce no practical results. But a malady which cannot be cured, must be governed and directed. *We will plant tobacco*; and it becomes us to consider in what way we can plant to the greatest advantage,—with least injury to our lands, and greatest profit to ourselves.

PREPARATION OF THE PLANT BED.

The first thing essential to success, in making a crop of tobacco, is an early and abundant supply of plants. With an abundance of early plants, success is always possible, without them a failure is almost certain. And in the first place, let it be remembered, that the labor of burning and preparing plant land, in the winter season, is not at all to be compared to the inconvenience and loss resulting from a failure in plants the following spring. Therefore, I say, sow as much plant land as will in a season, really favourable and propitious, furnish plants for three times as many hills as you design planting. I know of no other mode of guarding against seasons late and unpropitious. In this case, if the seasons should be favourable, you will have an abundance of large fine plants to set your crop the first season after your land is prepared, and thus gain a great advantage in securing an early and regular stand of plants, and the entire growing season for the tobacco to mature in; and also, by having an abundance of early plants ready, you secure much greater independence of the seasons for planting, since by the use of good plants and chaff, you can frequently plant with the season in the hill on first being made. And, on the other hand, if the seasons are very late and unfavourable, by reason of a larger surface to pick, you will still be enabled to plant so much the earlier, as in those seasons they generally grow with greater irregularity, and by means of the greater abundance for replanting, you still have manifest advantages in securing a stand. In either case you will enjoy the satisfaction of giving to your less fortunate neighbours, which is by no means a small matter, for I would rather give away an entire planting than to beg one plant. To make sure, I suggest that the proportion be no less than one hundred square yards, to every ten thousand hills to be planted.

The selection of plant land is a matter of great moment. It is best that several kinds be selected with reference to moisture, in order to suit any kind of a season; or if they can be located hard by a stream, this necessity may be obviated by the use of a hand-pump, or a temporary change of the branch for watering the bed, by which means, in a drought of great severity, moisture may be furnished sufficient to prevent the depredations of the fly, and keep the plants in a healthy and growing condition. An incidental advantage in such a location is, that guano may be applied, as a top-dressing to the small plants, with greater safety and benefit, as it may always be made to precede a copious watering, which greatly enhances its action.

As to the preparation of the land, the plan I have found most successful is briefly this: After the selection of a suitable spot, to burn before Christmas, or as soon thereafter as the earth may be found in a proper condition, by which I mean that it shall not be very wet, nor is it best that it be extremely dry. Let the burning be rather moderate; just so hard as may be necessary to destroy the roots and seeds of grass, without burning the mould of the soil. If the burning be early, I do not think it necessary to remove the ashes, as by being mixed with the soil, and leached for several months before the germination of the seed, they become rather advantageous than otherwise. Have the bed thoroughly prepared by chopping with both grubbing and hilling hoes, being careful not to invert the surface soil. Then sow the best Peruvian guano with regularity, at the rate of 500 lbs. $\frac{1}{2}$ acre, and chop and rake until you feel satisfied that it is perfectly incorporated with the soil to the depth of two or three inches. It is best to apply it at about that depth. It is best, also, to apply it at two sowings, and chop thoroughly and rake each time. It must be remembered, that the tobacco plant, at its earliest germination, is an extremely minute and tender growth, and it is of the utmost importance that the first springing rootlets should have a bed of soft earth, and that the plant food should be presented in the best possible mode for immediate appropriation. When the land is nicely prepared, sow seed regularly and liberally;—twice as many as you ever heard mentioned in any of the old rules,—at two sowings, having the first half of the seed raked in very lightly, with an iron tooth rake; and after they are all sowed, have the bed well tramped until the land is sufficiently close and compact. Then spread fine, well-rotted stable manure, free from seed of all kinds, to a depth of one inch, and finally cover with straight brush, or if brush is difficult to obtain, use wheat straw, as I have several times done with success. Many persons may object to my recommending thick sowing, but I have never known a man to fail, in a tobacco crop, from having too many plants, while I have known many failures from having them too thin. The young plants, of late years, have so many difficulties to contend with, that I prefer to have them very thick at first, and after the dangers of fly, frost, &c., are principally past, if they are still too thick, they may be thinned easily with an iron rake. The dressing of stable manure, which many would think unnecessary, I think of essential service. It seems to me to exert a three-

fold beneficial effect; first its positive and direct effect as a powerful manure; secondly, the peculiarly warming influence exerted by such manure hastens the germination of the seed; thirdly, by settling closely around the plant, and above many of them, it affords great protection from frost, while the plant is in a tender state. If the straw-covering has been used, suffer it to remain until the frosts of spring have ceased in a great measure, when it had better be removed by degrees, with a steel fork. This is necessary that the plants may assume a more hardy growth, previous to transplanting. And after all these efforts, if the plants are still later than would be desired, a top-dressing of manure, applied every few days, will hasten them forward with astonishing rapidity; but if these suggestions have been attended to, it is almost certain that you will have plants both early and abundant, and the young planter may judge how important I consider it to have plants, by the time I have devoted to the subject, and the minute, and I fear, tedious manner in which I have treated it. But we come now to the second division of the subject:

THE PREPARATION OF THE LAND AND CULTIVATION OF THE CROP.

If you design planting on lot land, it should be thoroughly and deeply broken, during the fall or early winter, and harrowed occasionally to keep down the grass. In the mean time the litter of the plantation should be thrown upon the land with a lavish hand, and if it be abundant, I think broad-cast the best mode of application. If the quantity is limited, and you wish to make the most of the given amount, I think it best that it should be trenched. This may be done either with a trenching plow, or with the ordinary two or three-horse plow, running twice in the same furrow, and throwing the earth each way. In the trench thus formed, let the manure be deposited and somewhat compressed, and a ridge formed on the top of it by the same plows, thus precisely reversing the series of trenches and ridges. I am clearly satisfied that this is the very best manner in which unrotted wheat-straw, or any very coarse, long manure can be applied, as well for convenience of tillage as for the benefit of the growing crop. Let it be borne in mind, that whatever can be successfully done by horse-power, is cheaper thus done. I have found tobacco to grow equally as well on ridges made by plows, as the best hills made by hand. If it is designed to cultivate a large crop to the force employed, it is best to have these ridges checked, which, if well done with a suitable implement, will very much facilitate the operation, if not, indeed, supercede the necessity of hilling. By having it checked you are enabled to bring horse-power to bear upon it in both directions, which will greatly relieve the tedious and laborious operation of hand-hoeing. In the intermediate spaces between the checks, made by the plow, let the earth be compressed by a sound pat with the hilling hoe, to designate the exact spot for the plant, and you have as good a hill as can be made. If the ridges have been thrown up with good season in the earth, and it is somewhat early in the planting season, the plants may be set in these without rain, and with every prospect of their living. This

prospect is greatly enhanced by setting them late in the evening, and covering them with a small lock of green clover, or a handful of wheat-chaff. If it has been necessary to ridge in dry weather, it is best to wait until it rains, rather than incur the risk of losing the plants, and the labor of an extra planting. On the other hand, tobacco should never be planted when the earth is so wet as to pack next to the planting peg, since the hard earth next to the young plant would be very prejudicial to an early and vigorous start. The plant should be set a little deeper than it grew in the bed, the roots all tending down, and the earth carefully but firmly compressed to the root.

Now we come to the cultivation of the crop. There seems to be no crop requiring less particularity of culture than the tobacco crop. Any conceivable mode of destroying the grass, and stirring the earth, will answer to induce vigorous growth, if the land and seasons suit. But I think it desirable that the earth should have a good, deep and thorough breaking, thus early in its cultivation, which will promote a broad, healthy and vigorous growth in the plant, and prevent the difficulty known among planters as buttoning. The soft and freshly broken earth, invites the young roots to a deeper and wider range, and the leaf will not fail to take a corresponding manner of growth. Many persons recommend the use of the coulter, but I have been in the habit of using the little turning plow, passing it both ways and bearing the earth from the plant, and running as near to it as possible, without loosening it, and if there should be moisture in the land, even that would do it no injury. This operation covers whatever of grass may have started in the middle of the row, and as will readily be seen, leaves but little for the hoes to do. It is best, however, that they pass over after the plows, scrape off the crust and grass immediately next to the plant, and draw up fresh earth. This operation if well done, leaves the young plant in fine condition for growth;—free from grass, with an abundance of soft, fresh earth next to it, and underlying it, in every direction. After two or three weeks it will be proper that this operation be renewed. Let the same plows pass through it in both directions, bearing the earth towards the plant. Here again will be found the great advantage of having the land checked, as the labor of hilling by the hoes will be reduced more than half, and it will be more thoroughly and effectually done by the plows.

By this time it will be large enough to begin to top. I think the cases very rare when it is advisable to leave more than ten leaves upon a plant. My custom is to prime to six inches, and top at ten leaves. By this means you make but little lugs and short leaf; the tobacco will be greatly more uniform in length and quality, the leaves will ripen more nearly at the same time,—will grow longer and ripen better, and it is the approved opinion of most planters, will yield more and better tobacco, than if a greater number of leaves had been left. As the season advances, the number of leaves must be diminished.

After your tobacco has received the last working, has taken entire possession of the land, and been all topped as you desire, you have but two difficulties to

contend against until it is ready to bring to the house. These are the horn-worms and the suckers. My tobacco crops have been graduated, not by the quantity we could cultivate, but by the amount we could keep the worms from destroying. They certainly constitute the most serious difficulty the planter has to encounter. And to begin at the beginning, it is certain that every possible mode of destroying the horn-blower should be adopted, and assiduously followed, as you may feel a perfect assurance that in a corresponding ratio will the worms be reduced. Many may be killed with paddles by the boys around the Jamestown blooms, white lillies and tobacco blooms. I have read of great destruction to the fly by the blowing of certain poisons into the blooms. I have never tried it myself. I have been told that if you raise a torch-light each night about where they most frequent, that great numbers of the fly would be attracted by the light, and get their wings scorched in the blaze. I have never tried this, but have no doubt upon the general principles which prevail among the insect tribe, the effect will be as described. One of the most efficient and interesting, and certainly the most profitable modes of getting the worms off the tobacco, is by means of a large flock of turkeys. If forced to remain in the tobacco for a while they will form a fondness for the amusement of catching them. By these assistants it is probable that the women and boys of the plantation will be able to keep them under, and also the suckers, while the men of the farm may be engaged about other things; and this brings us to another division of the subject, namely: *Golbalt on Jamestown we ed. See p. 231.*

THE BUILDING OF TOBACCO BARN.

Let it be distinctly understood, that if they are to be built, the interval of time between the cultivation and cutting of the tobacco is the best and most suitable. It should not by any means be deferred, for, however busy you may be, you may rest assured that you will not be less so when your fall duties begin to press upon you. If you cleared a *new-ground* (to use the old plantation phrase) the winter before, every tree which would answer for a barn-log, or a tier-pole, should have been reserved, and taken directly from the land to the location of your proposed building. By this you accomplish the double purpose of clearing your land of them, and at one handling, get them in place, at the most leisure time of the year, when teams very often have nothing else to do. And when logs are cut and in place, the barn is more than half built. Another advantage of this arrangement is, that the material will be lighter to handle; and, I think, a pine log cut in the winter, and the bark suffered to peel off, as it will do the next August, makes a harder and more enduring piece of timber than when cut in mid-summer.

But few planters have barn room enough. It is often the case that the loss on one crop of tobacco, together with the extra labor of hoisting, rehanging, &c., would more than suffice to build a barn. No planter ought to stop building barns until he has a plenty to hold his entire crop at one hanging. Twenty-five feet square is a good and convenient size to build barns, but I am satisfied that to make the yellow wrapper a smaller size—say twenty feet square—is better suited.

When I commenced farming, under press of circumstances, I was induced to build a barn, which I conceive combines the greatest possible capacity, with the least given amount of material. It consists of two twenty-five foot barns with a twenty foot passage between them, and the whole building thrown under a continuous roof—thus making two sides of two barns do double duty, or getting the entire passage room, twenty by twenty-five feet, by building two sides of it, the rear and front, which are of logs inwrought, or joined in the corners of the other two barns. This building affords enormous capacity for holding tobacco, which constitutes the only objection to it. You have too large a mass of tobacco subject to the accident of one fire. Its conveniences on the other hand are very great. The passage room being provided with a stove and a prizing screw, furnishes an excellent and comfortable place for stripping and prizing tobacco. By having large quantities down in safe order, we find stripping suitable work for extremely cold and wintry weather. I understand that the planters in Carolina and the upper counties prefer their barns built with shortened logs, or after the cabin-roof style, and I have no doubt it is more favorable to securing the extremely high heat to which the yellow wrapper has to be subjected.

But we come now to the most efficient and particular part of the management of a tobacco crop, namely:

THE CUTTING, HOUSING AND CURING OF THE CROP.

We may suppose that the leaf has ripened uniformly and well. The broad, crisp and deeply mottled leaves seem, with genuine *abandon*, to woo the flattering embraces of September's sun. The dreary haziness of the atmosphere, the deep blue clouds which anon hide the sun from view, the first faint mingling of autumn's own yellow with the green of far-spent summer, admonish the planter that he must soon enter upon the closing scenes of his year's labor. The barns are all ready. Abundance of good seasoned wood is at the door, or the charcoal securely stored away under cover, where the faithful laborers of the plantation, eager for the fray, with exulting step and glistening blades, open the ball. The pointed end of an old scythe-blade, with a handle attached, makes the best knife. And when the sturdy and trusty foreman of the crew lays resolute hold upon such an implement, the inspiration of the moment will spread among his comrades, while the deep rich cry of the opening stalk is music to the planter's ear. And here let me say, that I believe there is more tobacco lost by deferring the cutting too late, than by cutting too soon. It must be borne in mind that each day after it will answer to make good tobacco, it is unnecessarily subject to the casualties of the weather—hail, wind and frost, or that most destructive of all ailments, the spot.

This very often originates in violent wind and rain, as it did last year, by which I lost at least one-fourth the money value of my crop. The leaves are bruised by the wind,—the bruised spots, of course, when healthy development ceases, will rot, and the habit thus established, continues to affect the whole plant.

When it first makes its appearance, the best thing to be done is to cut it immediately, for you may rest assured that all improvement is at an end. The tobacco when cut may be carefully placed in wind-rows, and when it is wilted sufficiently to handle without breaking, it may be put into heaps of eight or ten plants, according to the size of the plants. A good and popular mode of hanging, is to hang on the hill. Let the stick be securely driven into the hill, hang the plants carefully with the butts of the stalks due South. A day partially cloudy is best for cutting; and sun-burning must be particularly guarded against, as there is nothing more injurious to tobacco. If it is carefully hung in this manner, and the leaves of each plant well straightened out, so that each plant will be supported by another, it will hang with safety for several days—turn off water very well in case of rain, be partially secure from frost, and owing to the obliquity of the sun's rays falling upon the plant, be quite safe from sun-burning. I have sometimes followed this plan, but generally, another, which I think a little more expeditious. We use an ox-cart, with a very-deep, long plank body, fixed to dump or slide out the load—have several sets of plank to lay in the bottom of the body as slides, or in the absence of plank, tobacco sticks may be made to answer a very good purpose. Pack the tobacco in large hands, after it has partially wilted, in the body on the sliding plank, with the stalks all turned carefully out, until the body is entirely full, and as much higher as the team can draw. Carry to the barn door, dump the body—the plank will easily slip on the floor of the body—and without a tedious second handling in unloading, you have the tobacco at the right place, and ready to hang. I am clearly satisfied, after trying every mode of hauling tobacco, that by this mode it may be hauled more expeditiously, and with less injury from bruising and breaking than by any other mode. If the object is to make plain tobacco, and the plants are not very large, you may hang as many as ten plants on a stick $4\frac{1}{2}$ feet long. The old mode was to scaffold—by so doing you saved in wood and time of firing, and may with safety hang it considerably closer on the tier-pole. My custom has been to put it directly in the house, and hoist and regulate as soon as possible. When this is done, if it be large, strong lot tobacco, suited for shipping purposes, there is but little difficulty. Let it hang until it shows a disposition to turn yellow, which will usually take place in about three days, when fires may be raised under it, keeping them quite small at first. When the tails of the tobacco begin to rattle, raise the fires gradually as high as may be done with safety, and keep them so, until the leaf and stem is perfectly cured. You will find the tobacco of a dark nutmeg, brown color, and smelling strong of smoke, which is a recommendation in shipping tobacco. But if it be grown on new land, well ripened, and suitable for manufacturing purposes, it should be cured without fire, or, at all events, without smoke. If it is determined to make a lot of sun-cured, it may be hung thin on the scaffold, as long as the weather will permit, and then removed and hung thinly in an open barn, where the remaining moisture of the plant may be taken out by the air passing through it. It is believed that in this way you may preserve all the es-

sential oils of the tobacco, the native aromatic flavor of the weed, more perfectly than in any other way. But of late years they have found out that exposure to the sun and dews will extract all the unpleasant odour of smoked tobacco; hence we hear but little said of sweet hogsheads of tobacco, as was formerly the case. But there is another class of tobacco which has attracted much attention of late, and brought enormously high prices. I allude of course to the yellow wrapper. To make this successfully requires management totally different from that just described. This tobacco grows best on a soil somewhat light and sandy, but at the same time of the requisite strength—such land as is indicated generally by chinquepin and hickory. It is extremely difficult to make it on a stiff clay soil. The tobacco should be encouraged by all possible means to yellow on the hill. A habit or tendency thus established, on the hill, will be found of essential service in the succeeding operations. It is the custom of many persons to yellow it on scaffolds, by crowding it very thick for a few days. The success of this is dependent in a great measure upon the weather. If it is warm and fair it sometimes answers very well, but I think is never so certain, as to yellow by slow fires. Let it be understood that to make this kind of tobacco, it is absolutely essential to have barns perfectly tight, from bottom to top; for with open barns it is impossible to govern the heat, with that particularity and nicety, necessary to success. You must be supplied with an abundance of good coal, or have well constructed flues—the object being to furnish a dry clean heat, without smoke. The tobacco must be hung very thinly in the barn, say seven plants on a stick, and the sticks ten or twelve inches on the tier poles. I conceive the great desideratum to be, that the yellowing and the drying process should be going on at the same time, and in corresponding degree. It is difficult to lay down any particular and definite rule, but I will mention a formula of management which in my judgment will suit as many cases, as any other single rule. When the tobacco is nicely regulated, hang a thermometer about midway the barn, and raise small fires of coal over the floor; to a twenty foot barn have nine small fires, and be governed entirely by the degree of heat as indicated on thermometer, as follows, to wit: first 24 hours at 90 degrees, 12 hours between 95 and 100, 12 between 100 and 105, 12 hours between 105 and 110, next 12 hours between 110 and 115, next 12 between 115 and 120; then rise very gradually ten degrees every four hours, until you attain 160 degrees, and keep at that until the tobacco is thoroughly cured, stalk and stem, and be sure it is thoroughly cured. It is highly important that the fires should never be suspended for a moment, for when the drying process ceases, the running begins, and you will inevitably have a red spot. And even after the tobacco is thoroughly dry, to all intents and purposes, every time it comes in order a prejudicial effect is produced upon its color, and if it is suffered to be often thus influenced by the dampness of the atmosphere, during winter, you will find in the spring, instead of the bright golden yellow which you expect, either a dingy yellow, or a positive red. This may be prevented in a great degree, by crowding it very thick into a close barn, dry it thoroughly with coal,

and afterwards, it will probably remain exempt from atmospheric influences, but in times of extreme dampness it may still be necessary to dry it off with coal. The scheme of time and heat above given, is intended for rather thin new ground tobacco; the time assigned to each degree of heat must be lengthened when applied to heavy lot tobacco. In fact, my formula, or any other one I have ever heard of, will only do as a general guide, to be varied and modified according to the particular circumstances of the case, and the skill and judgment of the operator. In assorting this kind of tobacco, unless it is all perfectly bright, which will rarely be the case, it is best that there be five divisions, long bright, short bright, long dark, short dark and lugs. It should be stripped and nicely tied up, and got into safe but pliant order, and packed straightly in boxes containing between one and five hundred, and sent to market generally about the first of June, and if everything hits exactly right, and you happen to be a lucky individual, you may expect fine prices. I may mention before I dismiss the fancy wrapper, that it is fashionable with many of the best planters, just on finishing the curing of a house, to run the mercury up very high for a short time; say to 180 or even to 200, so as to scorch the tobacco a little. It is said to develop a peculiarly rich and aromatic flavor, which is highly prized by the manufacturers.

But I must briefly recur to the common kind of tobacco. Let this be assorted into three kinds—long leaf, short leaf, and lugs; after it is stripped, have it hung in the barn so thin as to come to a regular and uniform condition through the entire house—take down in high order, and pass through the straightener, or put down in the straightening bulk, and weight heavily—suffer it to remain in this bulk only a short while—take it up and have a parcel of short dressed sticks with one end sharpened, which run through the bundle just below the tie. And hang up again by putting strong sticks across the tier poles, and these shorter sticks, to rest on them. If you use the straightener, which I have heard recommended—but have never used—this last mentioned bulk will be entirely unnecessary. Hang it thin enough to dry out perfectly, and as these operations are based upon the presumption that the tobacco is in supple order, if there should be an unusual continuance of damp weather, it would be proper to dry it out by fires. After it is once perfectly dry, you may watch out for your condition season. This will frequently occur when you little expect it—sometimes under the influence of a warm Eastern or Southern wind, it will be found to soften. Whenever it has come sufficiently in order to press in the hand without breaking the leaf, but the stem is still dry, two-thirds of the way down, your tobacco is in strictly safe prizing order, and you must make haste to secure it by bulking it in a broad bulk, the larger the better, when if weighted and wrapped with straw, it will await your convenience for prizing, whether it be one month, or twelve months. It is best that your condition bulk should be slightly elevated, and the stalks removed, so that the air can pass freely, or you may find the bottom courses affected somewhat by the dampness arising from the earth, and if it will

remain long in bulk, straw should be basted around the heads of the bundles, which will prevent any appearance of mould. I am aware that this is a point at which many planters fail, and consequently are disappointed in their expectations, and make heavy complaints against merchants, markets, &c., while the fault is with themselves. Tobacco is not an exception to the general laws of trade in this respect. A man who thrusts a horse upon the market in bad condition, or "out of order," does not expect more than half price and is not usually disappointed. And owing to the peculiar nature of tobacco, there is no commodity in the trade in which particularity of order is more essential. The buyer in bidding for a hhd. of tobacco, is governed, frequently, not by what it is worth at present, but by what it will probably be worth when he is ready to use it up, one, two, or three months hence; when, if the order was bad, it will have materially depreciated in value. The tobacco, when it comes to the hogshead, should be dry, straight, and well assorted, as to length and color; for nine times in ten, the hogshead will be sold by the most inferior break; and I have seen one bundle of inferior tobacco, injure the sale of a hogshead, one or two dollars per cwt. A safe rule in prizing, is for the planter to expect the most indifferent tobacco in the hogshead to turn out the sale sample, and he will find it a safe basis of expectation.

The hogsheads should be made of seasoned staves, to the maximum size of legal gauge, strongly and tightly coopered, and for prizing really fine tobacco, it is better that the staves be planed on the inside, and there should be a nail put in every stave at the bottom, for the convenience of stripping at the Warehouse. Fine tobacco should rather be very carefully packed and pressed, than strictly prized. Hogsheads of fine tobacco should not exceed 1000 lbs. Common tobacco and lugs should be prized heavy, say to 1600 lbs. A properly made prizing screw, seems to be the best arrangement for prizing tobacco, with which I am acquainted. There should be four very stout pieces of oak timber, say fifteen or eighteen inches squares, put together in the strongest possible manner, by mortice and tenons, and the bottom sill should be let into the ground about two feet, and a suitable hole left in the center, that the bottom of the hogshead may sit directly upon the sill. This is that the lever may not be too high for the hands to operate conveniently. The upright posts should be fourteen or sixteen feet apart, that a seven or eight foot iron lever may pass entirely around the hogshead, and should extend three feet above the cross piece, in which the screw works, in order that there may be very strong braces extending from this cross piece, near the screw, to the top of the posts. Without these efficient braces the cross piece will surely spring and give you trouble, if you attempt heavy prizing. I understand there is a newly patented screw particularly suited to prizing purposes, but have not seen one, and of course cannot speak of it. As to the braces just mentioned, it is best that there be two corresponding braces on the under side of the beam, in order to counteract the otherwise powerful tendency to press the frame apart.

As to the quantity per hand, where mixed husbandry is pursued, as is the case in most parts of Virginia, eight or ten thousand to the hand will furnish full employment; where tobacco is made the *specialty*, and small crops of grain attempted, and there is no extra preparations, or outside matters to claim attention, such as building barns, burning coal, &c., by means of the assistants, and labor saving operations mentioned in the first part of this article, I consider an able, expert hand, equal to the management of twenty thousand plants. But it is proper that I should admonish any one less experienced than myself, who attempts the last figures, that he must be certain about his running gear: he must grease well, track well, greet Aurora with impatient welcome, and hold himself in readiness to take a quick-step to the music of the Whippoor-will, particularly should there be a glut of horn worms, and no turkeys, nor yellows jackets.

But it seems to me I have said quite enough upon the cultivation of an article of as questionable utility as tobacco. Surely this will do for a man who has no earthly use for it, but to make it and to sell it, and who, if he had the only single pipe-bowl of seed in the world, would *perhaps*, indulge a newly born fancy for tobacco smoke. I am aware that I have said many things which would cause a veteran planter to smile on account of their great simplicity, but such an one may remember, that all planters are not old planters, and I have observed that there is no subject with regard to which a novice is more at a loss how to proceed; and tobacco culture has spread within the last few years over a portion of Eastern Virginia in which it was formerly unknown. I intended that my suggestions should be strictly of a practical character. I have forborne to dabble in the chemistry of tobacco culture, because I am rusty in my chemical readings, and very much doubt whether the chemical science as applied to agriculture, has attained that degree of certainty and accuracy, which well justify the expectations which many have indulged with regard to it. At any rate a man possessed of the requisite skill in analytical chemistry, to analyze the soil, and medicate it precisely according to its requirements, for a particular crop, will be apt to find more profitable employment than making tobacco. I adhere to the doctrine of our fathers, that the land, the plow, the rain-cloud, the sunshine, still have something considerable to do with a tobacco crop, and that the victory does not belong alone to the knight of the retort with his infinite array of *ides* and *ates*. Do not understand me as ridiculing true science, for no man has a higher regard for her truths, but I believe as used by the present generation of patent manure venders, her technicalities are made to answer the purposes which Talleyrand thought the object of language—to conceal truth rather than to convey it. At this day in which we live, this patent age of new inventions, when to breathe air is fogysm, and the world is mortgaged to humbug, it is really refreshing to find something tangible and certain, “something that will do to swear by,” should it be as homely, as common-place, and as old fashioned a thing as a manure bank. And this should be the principal reliance of the planter. All artificial manures should be regarded only as auxiliaries.

But I have touched upon all the points mentioned by the committee for particular discussion, and enlarged upon each one, according to my estimate of its importance, and now only pleading my motive, in partial extenuation of its many imperfections, to the worthy committee-men of the Virginia State and Central Agricultural Societies, the document is respectfully submitted.

HENRY M. FOWLKES.

Windsor Park, Chesterfield Co., Va., Oct. 20, 1860.

For the Southern Planter.

Southern Patronage to Southern Industry.

In a late number of the *Planter* is an article from "De Bow's Review," on "Southern Patronage to Southern Imports and Domestic Industry." This article is well written, and most of the sentiments advanced are worthy of being pondered over and considered at the present time. The true policy of the South, as well as every other country, is to turn the attention of its citizens to diversity of employments. No country that only produces the raw material can be as prosperous as one that combines agriculture, manufactures, and commerce. Our own country gives strong evidence of this truth. The South, with a soil and climate greatly superior, and with tide-water facilities of great advantage, has not increased in population and wealth in the same ratio as the North has. Her statesmen have hitherto discouraged the introduction of manufactures on a large scale, and now, when they see the need of them, they are unprepared to supply themselves. Some thirty years ago, or thereabouts, one of the firm of Lawrence & Co., of Boston, having heard much of the water-power of the James River, at Richmond, visited that city, proposing, if encouraged, to erect cotton factories there. He was highly pleased with the prospect and the advantages of the place, and many of the citizens gave him encouragement, but the editor of the *Richmond Enquirer* came out in an article against the proposition, as being contrary to the policy Virginia had marked out for herself. The editor, probably, saw in the introduction of a population that would naturally follow, if manufactures were largely introduced, that they could not be so easily brought under the training of politicians. However that might have been, when Lawrence saw that his proposition was to meet opposition, he quietly withdrew and turned his attention elsewhere. Let us consider for a moment what would have been the condition of Richmond if that proposition had been cordially endorsed, as it ought to have been. The erection of cotton factories would have caused machine shops to be erected, these would necessarily have employed many hands, and these, in turn, would have encouraged other factories, such as woollen, calico-printing, and the like. Few situations excel Richmond for the various manufactures of iron. Her water-power is enormous, and if this is not enough, her vicinity to her coal fields is such, that steam-power can be used to any extent. Had the enterprise of Mr. Lawrence been inaugurated at the time above referred to, the population of a

Lowell, or a Pittsburg, might have been added to her present numbers, and a stimulus have been given to the agriculture of the vicinity, which would have advanced it far beyond what it is at present.

This policy has been unfortunate, for now, when the necessity is forced upon us, we are unprepared to meet it. To propose to stop trade with the Northern States, is simply ridiculous, we are not prepared to supply ourselves, and we must get this supply as cheaply as we can. There is, however, a prejudice in the minds of many, that is an obstacle to the introduction of home-made machinery among us, and this prejudice must be removed before much success can be obtained.

Many persons seem to be of the opinion that our timber is not as good as that from the North, and that our mechanics do not understand how to put machinery together as well. The latter may, in part, be true, but that will soon correct itself in practice; and to illustrate the latter, let me give a few facts: A son of mine, in connection with a young man from western New York, is putting up machinery to make carriage-shafts, rakes, to turn fork and broom-handles, &c., and looking round to find a market for their articles, called on a dealer in shafts in Washington City, and when he found that they were to be made in Virginia, he said, "You have not got good timber there;" the reply was, that they believed their timber was very good; when he retorted, "I know Virginia, and I know the timber there is not good." Another case, a merchant in Alexandria, who keeps an agricultural machine warehouse, and a shop for their manufacture and repairs, was told by another merchant, who had a farm in the country, that he wanted a thrashing machine; "Well," said the first, "I would like to put you up one." "O," said the other, "you have not got as good timber here as they have at the North." "We think we have good timber, but if you want a Northern machine let me order one for you." "O no, I can do that myself." And so he ordered one and paid a retail price for it, when the other merchant could have bought the same machine at a wholesale price, paid himself a fair compensation, and delivered the machine to him at the same price he paid for it.

This idea, that we have not good timber in Virginia, shows a lamentable degree of ignorance of our own resources. The wagons made in the Valley of Virginia, around Winchester, have a high character for superior timber, so much so that citizens of the Ohio valley will give more for one of them than for a wagon made anywhere in that valley. There are contractors of the British Government at work in the Cheat River valley, in Western Virginia, cutting up white oak timber and shipping it, by railroad, to tide-water, and thence by sea to England, to make gun-carriages; believing it to be the best timber they can procure in any part of the world; and yet, there are men who assert, that we in Virginia have not got good timber. The ship-builders of Maine say, that the ship-timber from the shores of the Chesapeake Bay, is the best they can procure anywhere; and the hickory timber of Virginia has been taken North and returned in axe-handles, to be used in this State. This does not look as if our timber was not good.

There is, however, another and a more formidable obstacle to manufactures, and that is in the habits of our people. Home education has more to do in forming the future habits of a community than many are aware of. Many seem to suppose that by giving a young man a college education, he is thereby rendered fit for any situation in the community. This may do for him if he is to be a lawyer or a doctor, or an office holder, but if he is to be a really practical business man in other departments, it is quite a different thing. It has been the boast of writers, in this State and elsewhere, that the leisure that many young men possess, is favorable to the development of talent, and that it gives them opportunities for improvement that those who have not leisure do not possess. This is a great and often fatal mistake. Necessity will accomplish what leisure never can. Leisure will employ herself in nice distinctions, and theoretical deductions, but for investigations that require real labor and patience, they are rarely undertaken. If children are not brought up to industry, and to study economy, they are poorly qualified to perform properly the duties of life. Scrutinize the early history of those who have been the betrayers of public trust, and the defaulters in office, and in almost every case, if not in every one, we shall find that idleness and leisure, and a want of correct moral training, were the accompaniments of their early life. While, on the other hand, those who have been as way marks, and eminent in their walks through life, have been, in almost every case, subjected by stern necessity to the early discipline of industry and economy, and thus formed their characters and laid the foundation of their future usefulness. Who are our really business men, our engineers and superintendents, and officers of our railroads, superintendents in manufactories, our merchants and active business men in every department of business?—not those who were reared in the lap of leisure; the narcotic effects of which lull the energies until they are incapable of a vigorous effort in a right direction. Hence we have so many theories in politics, so many nice disquisitions on political economy, such abstract reasoning by men who have never made the practical application of political economy their study.

I like the suggestion in the article from De Bow, where the writer says, "Let our politicians and fire-eaters turn their swords (if not into plow-shares) into yard-sticks and distaffs, and enter the field of domestic industry, prepared to fight against our worst enemy—*Northern Industry and Commercial Enterprize.*" They must not only turn their swords into distaffs and yard-sticks, but they must turn them into hammers and hand-saws, and, indeed, into every kind of tool, for it was by this process that Northern industry and enterprize have become what they are. No other course will do—there is no patent road to independence; labor and energy can reach it, but leisure never.

The sentiment "that non-intercourse with the Northern States is impracticable and will not be our true policy," is evidently correct. We of the South should diversify our business, and introduce manufactures amongst us, for the encouragement of agriculture, manufactures, and commerce. This is necessary to the full

development of our country, and its full development should be the aim of every citizen. There is in reality no antagonism in these interests, and free trade between the States is better than any restriction can possibly be.

Agriculture is essentially a peaceful business, and if all would but follow the Golden Rule, each one for himself, how soon would our present distracted country be smiling in all the loveliness of peace and prosperity, and the base intrigues and criminations of politicians be buried in oblivion.

YARDLEY TAYLOR.

From the New England Farmer.

The Improvement of Old Pastures.

The improvement, within a reasonable cost, of the old run-out pastures of New England, is, to my mind, an interesting subject, and one of the most important branches of cultivation our farmers can undertake. Having had my attention directed to this subject for several years, I have been induced to try various methods for the renovation of such lands—the results of some of which have been given in former communications to the *Farmer*. Several interesting improvements of these lands are now in progress in my immediate neighborhood; and having to-day visited some of the fields either already made productive as pasture, or undergoing tillage, to bring them into that condition, it is now my purpose to give the details, in part, of what was observed. In a communication to the *Farmer*, in August or September of the year 1856, I described a tract of sixty or more acres of worn-out pasture land, then recently purchased by our Vermont Asylum, the improvement of which had become a desirable object, and one in which, from some official connection with the Institution, I took an active interest. This tract lies more or less rolling, but nowhere so steep, or uneven, as to be inconvenient, or objectionable for plowing. The improvements commenced upon it five years ago have been steadily progressing since, in pieces of ten to fifteen acres each, until some of them now have sufficient age to give them a certain character, from which conclusions can safely be drawn. I shall first speak of three fields comprised within this tract.

The first piece looked at to-day, a field of about fifteen acres, is now covered with a promising crop of potatoes. The land was the oldest kind of bound-out pasture, covered with moss, and a feeble growth of inferior grasses, interspersed with sweet fern, shrub pine, and other bushes. The largest were pulled out, root and branch, by taking a chain-hitch to them, with the oxen; and others were cut down to the ground, and the little stumps turned under by the plow. In November last, the large breaking up plow, drawn by four oxen, was started, and the land turned over about eight inches deep, in the nicest and most thorough style. In April last, it was harrowed, furrowed out in rows one way, three feet and a half apart, and a shovel full of compost, made of muck and ashes, was dropped once in every three feet in the rows. The potatoes were dropped upon the compost, and the planting finished about the 20th of April. The muck used

had lain in a large pile on dry land, for a year or more ; and last fall it was composted with unleached ashes, using about three bushels of ashes to an ox-cart load, or one-third of a cord of muck. After lying in a heap a few weeks, the compost was shoveled over, and then carted upon the plowed land, and deposited in heaps of ten to twenty loads each, at convenient places for re-loading and dropping in the hills at planting time.

The potatoes were hoed twice, using the horse and cultivator between the rows at each hoeing. The tops have made a large and healthy growth ; they stand about three feet high, and spread out laterally, so as to touch each other from row to row. The hills were examined to-day in various parts of the field, and the potatoes found to be large and sound, and promising a good yield. It is well known that of late years, our best potatoes usually come from these old pasture lands. The varieties planted are the New Jersey Peach Blow, the Davis Seedling, and the Prince Albert, or St. Helena. The New Jersey Peach Blow, a strong growing, healthy and excellent variety, bears no resemblance to the kind commonly known as Peach Blow throughout New England.

The piece of land is to be plowed again, late this fall, and harrowed smooth and fine. On a light snow in April following, it is to be liberally seeded with red and white clover, herds-grass and red top seeds, for pasture. No grain is to be sowed, as a crop of that kind would draw too much from the land, and injure it materially for pasturage. Besides, the grasses will catch better, and sooner afford a full bite of pasturage, if sown alone, than they would if shaded and encumbered with a grain crop. The old sward turned under, and rotted and subdued by cultivation, will afford nourishment to the new grasses, and thus secure a productive pasture for several years.

In November coming, some fifteen acres of adjoining land, similar to what this piece was, will be plowed up, and next season manured and planted with potatoes, and afterwards seeded down to pasture. If, however, experience should indicate that an additional stimulus to the land would, on the whole, be advisable, then future fields will be dressed with about 500 lbs. of bone dust per acre, at the time they are re-seeded to pasture.

The next field visited was a piece containing twelve acres, plowed up five years ago, this present month, and eight acres dressed with 400 pounds of bone dust per acre, two acres with 300 pounds of Peruvian guano to the acre, and two acres each with twenty bushels of unleached ashes, and the land immediately stocked down with grass for pasture, no grain crop being taken off. Having spoken fully of this field in a communication to the *Farmer* four years ago, and again two years ago this present month, I need not now go into particulars about it. Suffice it to say, that the land afforded excellent pasturage, ever since it was thus dressed and re-seeded, and the cows appear to be very fond of the herbage, for they keep it always cropped as short and smooth as a newly shaven lawn—indeed, any one acre has been more valuable for what it has produced, than have any five acres of the adjoining land not yet in like manner taken in hand for improve-

ment. The contrast between this piece and another of about equal size lying beside it, but not yet assisted by cultivation, is so strikingly favorably to the former, that I wish every reader of these remarks might have been with me to-day to observe it. It may be remarked in passing, that while each of the three fertilizers used on this field gave good results, the bone dust appears to be of the most lasting benefit to the land.

Another field of about ten acres was looked at, which two years ago bore a remarkable crop of potatoes. It was manured in the hills with muck and ashes, and planted and cultivated in a manner similar to the fifteen acres first mentioned in this article. After harvesting the potatoes, the land was plowed again, and smoothly harrowed, and the following spring, or a year ago last April, it was stocked to grass for pasture, no grain being sown. The grass came up well, and the land is now covered with a very thick sward, composed of herds-grass, red-top, and red and white clover, yielding the best of pasturage. The color of this field is of so deep a green, as to make it at once distinguishable at as great a distance as the eye can discriminate shades of color at all.

The next land visited was a field belonging to my friend, Richard Bradley, Esq. It was plowed up a year ago last November, and, in the following April, planted with potatoes, manuring them with a shovelful of compost in each hill. The compost was made of muck and ashes. Last April, the land was plowed again, 500 pounds of bone dust sown to the acre and harrowed in, then twelve quarts of herds-grass, one bushel of red-top, twelve pounds of red and four pounds of white clover seeds sown to the acre, and the field rolled. The grass has made a great growth, and a full swath might now be mowed.

Then came a smaller lot of Mr. Bradley's, completely run down by previous owners, with shallow plowing, and frequent crops of rye. The course of cropping had been to plow the land four or five inches deep, as often as it would bear five to eight or ten bushels of grain to the acre, sow it with winter rye, but omitting grass seeds, and after harvesting the rye, leaving the land to cover itself with such vegetation as it could, whenever it could. Last year at this time the land was covered mostly with moss, with here and there a few bushes and feeble grasses. Last November it was plowed a foot deep with the sod and subsoil plow, and an entirely new soil brought up to the surface, fine grained and salvee. In April last it was dressed with 500 pounds of bone dust per acre, together with 200 pounds of Peruvian guano, to give immediate action to the newly turned up soil, then harrowed fine, and sowed with one and a half bushels of orchard grass, a peck of herds-grass, a half bushel of red-top, eight pounds of red and four pounds of white clover seeds to the acre, and the surface made smooth with the roller. Here, too, is a superior catch of grass, giving the land a very different appearance from what it had a year ago, and showing that much can at once be done for the improvement of such land.

The last field examined was a tract of some six acres, which Mr. Bradley is now plowing. This land has also been much reduced by shallow plowing, and

frequent crops of rye. The sod and subsoil plow, drawn by four oxen, is turning the land ten inches deep, bringing up a different soil from the old surface one that has never before been exposed to the day. The plowing is done in capital style, no baulks or imperfections of furrow being anywhere allowed. About the first of September, a ton of bone dust to each acre is to be sown on the furrows, and also about one and a half bushel of winter wheat per acre, and the two harrowed in together. The sod and subsoil plow prepares a very level, mellow surface, and so cracked and opened withal, as to make a very superior seed-bed, in which the bone dust and seed wheat can be well covered by the harrow. Then one and a half bushel of orchard grass, a peck of herds-grass and a bushel of red-top seed are to be sown to the acre, and the land rolled. In the spring, the land is also to receive red and white clover seeds—the design being to secure a thick sward and moderately rolling surface, it is thought that winter wheat may succeed well on it. The other two fields of old pasture, on which Mr. Bradley has applied 500 pounds of bone dust to the acre, have done so well, that he is inclined to try the experiment of a very heavy dressing of bone, and see if the land will return him a good crop of wheat, as well as an increased amount of pasturage over what could be realized from an ordinary dressing, and lasting for a longer period. The idea prompting to this generous usage is, that land will pay very much in proportion to what you invest in the improvement of its soil, or that where much is given to it in the shape of fertilizers and thorough cultivation, much may be expected from it in the crops returned. The locality of this lot is withal so convenient to the barns, that it is quite desirable, on that account, to make it over into a productive pasture. Application has been made to Mr. John Johnston, of Geneva, New York, for the seed wheat. He is a very successful wheat grower, and has several valuable varieties of seed, which he has been at considerable pains to procure and perfect. This is to me an interesting experiment, the results of which I expect to have something to say about hereafter in the *Farmer*.

It may be observed that the various fields spoken of in this communication, being free from uncommon roughness, or steep declivity of surface, are tolerably well situated for plowing, and are in the immediate vicinity of a village, where pasturage commands a high price. Under such circumstances, one can well afford to improve such lands in the ways above mentioned. Other circumstances may, of course, require variations from these modes of improving pasture lands, or may, for the present, forbid attempts at improvement. Of that, each one must judge for himself; but as a general proposition, in the older settled districts of New England, investments for farming purposes made directly in the improvement of the soil itself, pay quite as well as the purchasing of more land, and adding it to the farm.

F. HOLBROOK.

Brattleboro', August 25, 1860.

If you wish to have fine stock, feed them well.

Rural China.

The following extracts from a recent letter from the correspondent of the *London Times*, who accompanied the Allied Forces in their advance upon Peking, will be read with interest :

For upward of six miles we passed through gardens, the produce of which supplied the garrison of the forts and the town of Taku. They were admirably cultivated. Little water-wheels furnished an easy means of irrigation, and the vegetables might have put a Battersea market garden to shame. Large Swede [*qu.*] turnips, excellent French beans, crisp radishes, lettuces, yams, and many other vegetables grew in profusion. The fruit was magnificent. Trellised vines, whence the ripe luscious fruit hung in mellow clusters, reminded us of Italy. Peaches, water melons, apples—very like Newtown Pippins—and pears of every description, were abundant. For six miles “dropped the heavy-blossomed bower, hung the heavy-fruited tree.”

For a mile and a half did the road wind through the streets of Ko-bu, no street exceeding eight feet in width. The open sewers were choked to repletion with offal of every description; what they were unable to contain lay scattered about the streets. The houses of mud and straw bore a strong family likeness to those of Sinho and Tangkow, and the peculiar, faint, sickly smell, so well known to all travelers in China, greeted our nostrils from every group we passed.

Four miles march brought us to another town, Kiang-kia chwang, near which we determined to halt for the night. A large Acacia at the entrance of the village shaded a strip of green by the side of some water, and there we pitched our tent.

Leaving the town, we came on an extensive plain covered as far as the eye could reach, with millet, 12 to 14 feet high. For six or seven miles we rode through this gigantic corn, now nearly ripe for the harvest. The millet answers a vast variety of purposes. Its head is ground into flour, and very good flour it makes, or distilled into shamshoo, the vilest and most deleterious of drinks. The leaves when green are eaten by the cattle; when dry they make excellent fodder. The stalks serve for fuel, for thatching, for partition walls, for fences, for mixing with mud for the walls of houses and for the embankments of the canals. It was the only grain we saw on the road. We were told that directly the millet was cut at the end of this month, wheat is sown, which is reaped at the latter end of June. The wheat when cut is replaced by the millet.

We have not had one drop of rain in three weeks. The thermometer has risen to 98° in the shade at noon, and yesterday we were treated to an Indian “hot wind,” but the nights are cool, and even cold. [This was in September.]

Forcing our way through unsavory Celestials, we find ourselves in a small square occupied by the “eel-pie” and “baked potato” men of the place. Your working man dines in the street, and this square is a favorite *al fresco restaurant*. Li, on our right, deals in meat pies. He has a small charcoal fire below his oven, and in a trice his *pate* is compounded and cooked before the public. Ho, by his

side supplies vegetable diet, turnips, onions, pumpkins, yams, cut into small slices and served in the water wherein they are boiled. Here is a man with sweetstuff, pastry and "tuck." There another with fruit—grapes, peaches, lotus fruit, water melons, apples and pears.

Mr. Parkes heard that a committee of merchants had been appointed by Sang-ko-lin-sin to furnish supplies for the whole Chinese army in the north. He sought them out, and explained that, as their office had now become a sinecure, they must transfer their allegiance to the Allies. The committee made no demur, and a tariff of prices was soon arranged. They rated the Mexican dollar at 1,000 cash, which at the present rate of exchange, gives 200 cash for 1s. The pound avoirdupoise is equal to the Tein-sin catty, by which everything is sold. Bullocks are divided into three classes. The first weigh about 500 lbs., and cost 25 dollars per head; the second, weighing about 400 lbs., are fixed at 25 dollars; the third, about 300 lbs., are 15 dollars each. Beef and mutton are sold by retail, the first at 3d., the second at 4d. per lb. Tea is 1s. 2d., sugar 4d., and flour 2½d. per lb.; onions, turnips, and pumpkins, five cash per lb.; fowls 9d., and ducks 1s. 9d. each. The finest grapes may be had in abundance at 3d. per lb.; the largest peaches at 1d. each. Water melons—most refreshing of fruits, and large enough for a dozen—cost 5d. each.

Ice in large blocks of 15 lbs., pure and clear as the finest Wenham Lake, is sold for 6d. a block. There is any quantity of forage of every description—hay, millet stalk, green grass, paddy, peas, beans and Indian corn. Coal costs ¼d. and charcoal 1d. per lb. Coolies receive 1s per day per man. Supplies of every description are abundant and excellent. The mutton is fat and well flavored, and no finer grapes and peaches are grown than those which come to Tein-tein market. A favorite fruit with the Chinaman is the classic lotus, in shape like a small melon [what can this be?]; it is full of stoneless kernels, sweet and pleasant to the palate. Often and often have I eaten them without experiencing the dreamy sensation they are said to produce.

The banks of the canal are fringed with very large willows, weeping and upright. Ascending ten miles, the aspect of the country changes. First come tops of large trees, then what may be really dignified by the name of a wood. We jump on shore and enjoy our tiffin *sub tegmine*. The timber is large and fine—walnut, willow, locust trees, and immense pear trees.

Yesterday the thermometer stood at 102° in the bell tents and under the awnings of the Granada.

Useful Hints to Planter's Wives.

Blood Stock.—As we devote a large space to the subject of raising fine stock—blood stock—we do not see, says the *Spirit of the Times* why a few words, as to the best manner to get human beings along will be objectionable. While we devote so much time to the stable and farm-yard, the nursery must not be altogether ne-

glected. The *Scalpel*, whose editor has a way of using plain language when he has anything to say, speaks as follows :

All the absolute evils of this world may be said to arise from ignorance and selfishness ; perhaps all might be included in the word selfishness, if we give to that term its full and broad signification. Even our purest affections in their manifestation seem often only a desire to please ourselves, without reference to any result beyond the present. There is, throughout the world, a lack of perception of separate individuality, and of the consequences to that other being, of any course we may pursue. Among men, the results of the acts of individuals toward each other and upon the community, have given rise to legislation and to laws.

In each separate family pater-familias (sometimes, indeed, it is *mater-familias*) constitutes himself and his various moods the law by which his household is governed ; and in many cases his daily emotions of anger or pleasure, disappointment or success, render his rule benign and considerate, or harsh and tyrannical. Many again there are, who, by a steady moral, unwavering mind, guide the household affairs and the development of those youthful minds which God has intrusted to their care. To these, and to all, we address ourselves. It is impossible to instruct and develop correctly any two children by the same course of treatment ; it is vain to make any system a Procrustean bed ; it is inconsistent with the advancement of humanity and with true individuality. While in morals there may be an absolute right and wrong, an unwavering adherence to the good and the true, the peculiar method of attainment to this rule is as varied as the minds upon earth.

The natural facilities of each child are as plain to careful observation as the sun at noon-day ; and it is only necessary to know the mental bias of a child to which his or her powers are best adapted.

Let every father, every mother, and all who hope to call themselves parents, forever bear this in mind. Watch the child at its play. Suffer it to play as it will, and note what sports attract it, and wherein lies the chief pleasure.

Away with those horrors, infant phenomena. Let nature alone, and do you, ignorant man, keep your great, coarse finger out of the delicate machinery, which, working by and through nature, will, at the proper moment, indicate the course to be pursued, the development which is sought. Permit childhood to guide you in the treatment thereof. Nature is a wise teacher.

At infancy, the healthy body, incapable of progressive motion, demands rest ; give then perfect quiet. Man's early life is a mere vegetative existence ; the brain, gently pulsating beneath the unformed bone, is not yet the seat of reason, but of instinct ; while nature then demands entire repose, or at the most, passive action, why should a barbarous nurse and ignorant mother array the little form in thick embroidery ; display it to the admiring multitude ; handle it with thumping vibration, or spin it like a boomerang in the air ? Why seek the most noisy promenade to confuse it with the uproar ? Why pound it up and down over

hundreds of miles, in the midst of smoke, effluvia, and all the rattle, noise and screams incident to railroad travel? Avoid those abominations called cradles; flee from the rocking of the crib, and all those swinging motions which cannot fail to produce, in a minor degree, those very agreeable sensations, that pleasant lethargy, which seizes upon one when he is taking his first lesson in drunkenness. What a renown would that agriculturist win for himself who should first invent a patent, portable, double action, self-rocking cradle for sucking calves; what an advantage to the bovine race.

When by pure air and its natural nourishment, [the pure milk of a cow, or a goat, is far better than that of a feeble, passionate or drunken nurse, when the mother cannot nurse her offspring,] the child has become old enough to creep about, down on the floor with it and let it go; give it a ball or something to creep after, and rest fully content that when tired, the child will cease its play.

Don't hurry the little to walk; do not encourage it to stand alone, lest bow legs and weak ankles be the penalty of your too assiduous care, of your selfish desire to see your child walk before nature has decreed it. When the proper time arrives the little hands will seek the tops of chair seats, the little body will sway to and fro, erect for the first time; soon the first step is taken, and then all is plain.

Keep your books, your illuminated alphabet, your intellectual blocks, and your abortions of toys—caricatures upon nature—toys which it is no harm to fall down and worship, since the like thereof exists neither in heaven above, nor in the earth beneath, nor in the water which is under the earth. Let the child play one, two, three; what, says some one—four years! and not know a letter! Yea, my good madam, until it reacheth the age of seven years, would we have the little mind free and unpuzzled; at liberty to observe, to desire, to construct, to play, to make out its own individuality. This is the great attribute of men—play; this divides him from the brute creation; man alone can laugh. Remember that the longer the period of youth, the period of formation, the better, the more healthful, enduring, and longer-lived the man. Of all created beings man is the most helpless at infancy.

The Blood Horse.

A few words upon the much discussed question: Which is the best breed of horses for all purposes in this country?

The points desired in every horse are freedom of action, rapidity of motion, powers of endurance and docility. Among the breeds of horses at present known, the blood horse possesses these qualities in a higher degree than any, or all others.

There are not wanting those, however, who deny the adaptability of the blood horse, for general use upon the grounds, first, of a want of docility; second, a want of the proper gaits. In support of the first of these objections, it is said that the blood horse has too much "mettle," is too high strung ever to become

quiet, gentle and safe. Reading, observation and practical experience, have convinced us that this is not the case. It is true that mettle is one of the distinguishing traits belonging to the blood horse, but we deny that he is naturally either irritable or ill-tempered. On the contrary, being more intelligent he is more readily taught; being more affectionate, is more easily managed; being braver, he is more reliable. This error has arisen from a partial experience. The system of training used to put the blood horse in that condition, best suited to the race course, which while it develops his speed renders him nervous and excitable, and from the example of race horses it has been erroneously concluded that this nervousness was a characteristic of the blood, when it was in truth, only a result of the training to which the horse had been subjected. In proof of this, we might instance the horse, be his blood what it may, that has been accustomed to be ridden in the chase; the sound of a horn arouses him, and a pack of hounds in full cry excites him beyond measure. But examples are also numerous of the present thorough-breds being broken to as quiet service either under the saddle or in harness, as the coldest blood Conestoga that snailed it in a dray. They establish the insufficiency of this objection.

In support of the second objection, it is urged that the blood horse is not adapted to harness, because he does not trot fast. Here again is an error. Action is the great headspring of all speed. Action is dependent upon the shape and strength of the animal. By long years of judicious breeding and careful attention, the blood horse has been brought to that form most conducive to freedom of action. The result has been the highest degree of speed. But all efforts with the blood horse have been directed to increasing the speed of one gait—the gallop or run. The trot is just as natural a gait as the gallop, and it is but reasonable to suppose that with the freedom of action resulting from the peculiar formation of the blood horse, if properly bred and trained the blood horse would in a short time develop a proportionate degree of speed in a trot. The facts on record all go to confirm this conclusion. *Flora Temple*, the fastest trotting animal now living, has more of the style, appearance, and so far as anything is known, the blood of the thorough-bred, than of any other breed.

For the saddle, the only remaining use to which horses are extensively put in this country, the blood horse is peculiarly adapted. His long oblique shoulder, quick, nervous, free, action, all combine to make his motions pleasant and agreeable to the rider, while his indomitable courage and sure-footedness render him eminently safe.

For heavy draught the blood horse cannot begin to compare with his elephantine brother, the Conestoga. But for all such work, we have in mules a most excellent substitute.

Having thus stated the ground and reason of the superiority of the blood horse, it seems but a short step to demonstrate it to be the true policy of the breeders of the country to secure the services of the best Blood Stallion in reach. But there are two material obstacles to this course—first, the scarcity of good

blood horses in our midst; second, the necessarily high price of these and the corresponding low price of the other Stallions. These are advantages, however, in the end, as they secure to the blood horses the very best mares of the country, and their produce will tend greatly to raise the estimation in which this class is held. On the other hand the probabilities are that the colts produced from cold-blood horses will be gelded, while those from the thorough-bred are kept for breeders. If this course shall be adopted, as the increased interest manifested of late in horses, leads us to hope, the time is not far distant when Maury county can boast the best breed of horses in the State.—*Democratic (Columbia) Herald.*

From the Farmer and Gardener.

Discrimination in the Food of Stock.

MR. EDITOR,—There are so many points in the occupation of husbandry demanding the farmer's close attention and investigation, it is not surprising that he sometimes sits down almost afraid to grapple with "the thousand and one" difficulties which present themselves. He need not, necessarily, undertake to overcome *all* these obstacles, though the subjugation of some of them at least, is indispensable.

There are certain principles which underlie every process of farming, which, in order to success, must be understood and applied. Thus, in feeding cattle, simple as the operations may appear, there are certain principles involved which cannot be overlooked or departed from without decided detriment to the animal.

Looking over a most valuable agricultural work, a few days since, my attention was forcibly drawn to an article in which the uses to which the different constituents of food are applied in the animal economy, were very fully explained. The following summary exhibits the gist of the whole article.

1. The albumen, gluten, casein, and other nitrogenous principles of food, supply the animal with the material required for the formation of *muscles* and *cartilages*; they are called, therefore, flesh-forming principles.
2. Fats or oily matters of the food are used to lay on fat, or for the purpose of sustaining respiration.
3. Starch, sugar, gum, and a few other non-nitrogenized substances, consisting of carbon, hydrogen and oxygen, supply the carbon given off in respiration, (hence their generic name—Elements of Respiration) or they are used for the production of fat.
4. Phosphates of lime and magnesia in food, principally present the animal with the materials of which the bony skeleton of its body consists.
5. Saline substances—chlorides of Sodium, and potassium, and phosphate of potash and soda, and some other mineral matters occurring in food—supply the blood, juice of the flesh, and the various animal juices with the necessary mineral constituents.

There is, in the foregoing summary, subjects for deep thought and close

investigation, on the part of the man who is engaged in feeding cattle with an eye to profit. It is a well-known fact, that "an animal in its natural state, when it has once attained its full growth—if in perfect health—never increases or diminishes in weight, when it is allowed to live uncontrolled by human power." Were such the fact, when the animal is under human control, there would be less necessity for discrimination in feed; but it is not. By a proper dispensation of the various kinds of food, great advantages in the form of fat, muscles, &c., are readily attainable. Thus we find it necessary to vary the character of the food, if we would have healthy animals. If we feed an animal on starch or sugar, we cannot hope to add much to its fat or muscle. Again: if flesh and fat-forming food is given, which does not contain the requisite amount of phosphates, the strength of the animal will decrease, because the food it receives is devoid of all bone-producing principles. For these reasons, the man who desires to produce animals, which will pay him a profit, must give his closest attention to the selection of the food with which he supplies them. He must satisfy himself that it contains all the elements which go to make up the animal economy; and moreover, that these elements are presented in due proportion—that nitrogenized, non-nitrogenized and mineral matters are so intermixed, that there will be a healthy and proportionate development of every part of the animal's frame. Thus, in young and growing animals, we require the presence of flesh-forming and bone-producing food, to meet the daily demand for the increase of muscle and bones. I can best show the necessity of a proper observance of these principles by another extract from the same author.

"We can readily conceive the necessity for the presence of starch or sugar in young and fully grown animals, as they are required largely by both for sustaining the daily waste of carbon, which is drawn off into the air, in the form of carbonic acid, during respiration; but why should any flesh-forming or bone-producing matters be required by which both muscles and bones have reached their full size? A well-known fact will furnish us with the answer to this question. It is well ascertained by physiologists, that all parts of the body constantly undergo a series of invisible changes of substance, from which results the gradual renewal of the whole body. Every movement of the animal, every action of any of its organs is accompanied by the chemical decomposition of a minute portion of its component parts. By this decomposition, which imperceptibly, but regularly affects all parts of the body, successive portions of it are altered in a manner which renders them unfit to be retained by the system. They are consequently rejected. In this manner, the muscles, skin, intestines, bones, &c., are by little and little removed, and rejected in the excretions, in a more or less perfect state of decomposition. All the different organs of the animal body would thus become emaciated, and life would soon cease, if the daily waste to which all parts of the body are subject were not replaced by the food. The body, therefore, requires constant supplies at every period of its life, of all those things of which its several parts are made up."

Proper discrimination, therefore, is required on the part of the feeder. Such articles of food are to be selected as from their nature are calculated to produce the results desired to be secured. Thus, if it is sought to add flesh and fat to the animal, a preponderance must be given to flesh and fat-forming materials. Of course there is nothing new in what I have written, but the subject is one of such importance that its repetition here can do no harm.

R. STEVENSON.

Lockwood Vale, Pa.

The Object of Agricultural Journals.

Time and again we have called the attention of the readers of the *Rural* to this matter, and for several weeks have been contemplating another article upon the subject, but the following, from a correspondent of the *Germantown Telegraph*, embraces all the facts so fully that we submit it, instead of one of our own, to the attentive perusal of every planter and farmer:

“I have greatly misconceived the design of the agricultural periodicals and papers of the day, if one of their leading objects is not to afford the practical farmers of the land an opportunity of communicating and comparing their several modes of tillage—thus embodying the opinions and experience of the reading community for the benefit of all. It is a great mistake (and one of which many of our practical farmers are guilty,) to suppose that, when an individual becomes the editor of an agricultural paper, he necessarily constitutes himself a dictator of opinion and practice to his readers. His opinions, though they may be highly enlightened and judicious, are at least but the opinions of a single individual, and are entitled to no more extra consideration than his advantageous position for the acquisition of valuable knowledge may justify. The common objection, therefore, to subscribing to an agricultural paper, that he (the objector) knows more about farming than the editor, is the clearest proof of a deplorable ignorance—ignorance of the very objects of the publication which he rejects.

“As the world waxes older and wiser, the useful arts keep pace in their improvements with the progress of society. But these improvements, which are advancing daily, are not, perhaps, in themselves, more important than the facilities afforded by the press for making them known, with almost magic celerity, to the ends of the earth. Thus, an important discovery in farming, which, without this aid, would probably be years in travelling beyond the space of twenty square miles, is taken up by our agricultural journals and is circulated throughout the country in a few weeks;—while a distant periodical repays the obligation by recording an equally valuable idea of the same character, and destined to a like extensive and rapid circulation. But if all practical farmers were, in surly silence, to keep their ideas and discoveries to themselves, how disastrously would the value of our agricultural papers be curtailed!

“And this brings to the point I had in view in adopting the caption I have placed at the head of this paper; that it is an appeal to my brother farmers for communications on various topics connected with the interests of agriculture in

our land. Let our farmers then make it, if not a matter of patriotism, at least of personal interest, to enter upon natural and unreserved comparisons of practice and opinions, which cannot fail to produce the happiest results to all.

"It was a favorite saying with Judge Buel, 'That but a small portion of our knowledge can be derived from our own experience. Among the most practical, the cheapest, and by far the largest portion of our knowledge, must be derived from information afforded by the experience of others.'

"What better conveyance for this interchange of experience can be found, than our agricultural papers?

"In these communications the drapery of highly polished composition is by no means necessary; let no one, therefore, be deterred from communicating valuable information which may be in his possession, because he may not happen to think his style of writing sufficiently classical. Send the facts to the editor, and my word for it, he can dress it up so that you will not be ashamed of it, and that too without changing the facts in the least. Try once, and you will not repent of it."—*So. Rural Gentleman.*

Power of Horses at Different Rates of Speed.

Do you know of any experiment showing the loss of effective power arising from the increase of speed of horses when drawing—that is to say, how much less time can a horse or team continue to draw or expend a given force, when driven at any rate above $2\frac{1}{2}$ miles per hour, than uniformly at that rate or thereabouts?

Horses, at a moderate walk, will accomplish more labor than when working at greater speed. This is owing to three causes: First, the animal must carry his own weight, whether walking four miles an hour or running twelve. Suppose, therefore, that when walking four, one half his strength is expended in moving his own body of 1,000lb. and the half in drawing the load of 1,000lb. Now double his speed to eight miles an hour and he does just double the work in the same space of time; or, by carrying his own body only, he moves as much matter and does as much work per hour, as before with the half ton load attached. Whatever load he may draw at the latter speed, is done by extra or excessive exertion. A second reason why he must take less load when travelling faster, is, that the load being moved more rapidly, requires a greater expenditure for the time; for example, the horse who draws 500lb. at six miles an hour, does as much work in effect, as the one drawing 1,000lb. three miles an hour. The third reason is, in addition to the foregoing that when a horse's speed is increased, it requires a quick and unaccustomed motion of the muscles, which proves very fatiguing.

In estimating the "horse power" of any engine, it is common to make each horse power equivalent to a force of 150lb. 20 miles a day; or to 33,000lb. raised one foot per minute, or 550lb. one foot in a second. This is however much more than ordinary horses accomplish. American horses do not average more

than half this amount. Experiments have been made in connection with calculation, to ascertain the effective force of horses at different velocities, on a canal, railroad, and turnpike, with the following result :

Miles.	Velocity per hour.	Duration of day's work.	Work accomplished per hour for one day, in tons, drawn one mile.		
			On Canal.	On R. R.	On turnpike.
2½		11½	520	115	14
3		8	243	92	12
3½		5 9-10ths.	153	82	10
4		4½	102	72	9
5		2 9-10ths.	52	57	7.2
6		2	30	48	6
7		1½	19	41	5.1
8		1¼	12.8	36	4.5
9		9-10ths.	9	32	4
10		¾	6.6	28.8	3.6

It will be seen from the preceding table, that a horse, when walking 2½ miles an hour, will draw more than four times as much on a canal, as on a railroad; but the resistance of the water increases as the square of the velocity, because on doubling the speed not only twice as much water must be displaced in a given time, but it must be done with twice the velocity, and thus both together require a four-fold force. When therefore the speed reaches five miles an hour, the advantages of the canal give place to those of the railroad, and at seven miles an hour, twice as great a force is required on the canal. The railroad and turnpike, being similar in character, there is about the same rate of decrease in power on each.—*Country Gentleman.*

French Method of Transplanting Trees.

In Paris, during the last revolution, the trees on the streets were cut down for barricades. The crowning glory of the boulevards, is the trees. It being desirable to have those of advanced growth when transplanted, the following successful method, so different from ours in America, is now pursued.

The deciduous tree to be removed may be ten to fifteen years old. It is dug out at any season, with as large a ball as practicable, usually six feet in surface diameter, and about three feet deep—the tap roots being cut away. It is hoisted boldly by a lifter, which forms part of the wagon. The earth-ball is bound around firmly, and the tree is placed firmly in the hole prepared for its reception in the sidewalk. So far the process is what is usual elsewhere.

When the tree is thus set, several earthen pipes are arranged and covered under ground, through which water is conveyed to the roots once or twice a week. Around the body of the tree from the ground to the first branches, say ten or twelve feet, straw is placed perpendicularly and about an inch or so in thickness. Around the whole is wound coarse wrapping cloth or bagging, ending at the upper part with a tin funnel. Not a branch is cut from the tree top; there is no

heading in at all. Till the tree is established, water is thrown into and over its top, say once or twice a week or oftener; and into the funnel which keeps the bark of the trunk in vigor. Though a tree is lost now and then, two-thirds certainly live by this method, and in the second year appear as if nothing had happened.

[The above, from a correspondent of the *Philadelphia Ledger*, has been sent to us with the request that we give it insertion. The sheathing with straw is often practised here. The results mentioned are not in the least extraordinary. The French are too skilled in Vegetable Physiology, and know too well the effects of excessive leaf evaporation, in the absence of proportionate root action, that we incline to believe that more or less pruning or shortening of the wood is practiced. Nothing is mentioned about the kind of tree, which is important. We have seen larger trees, at least older ones, removed here with perfect safety. But all experienced planters are well convinced that young healthy trees, properly planted, in properly prepared soil, will outstrip, in a few years, large transplanted ones. This does not, however, imply that small trees are invariably most suitable. Single trees of a large size, where immediate effect is desired, may occasionally be used with the happiest results, but it is an expensive operation, and cannot be recommended as a practice worthy of extensive imitation.]—*Farmer and Gardener.*

From the New England Farmer.

Hay and Root Crops—Their Comparative Value.

Hay is the chief article of food for stock during the winter season; and, generally speaking, if a sufficiency of good hay is properly fed to stock, they will thrive upon it, and increase in weight and value. But it is not always, nor even usually the case, that farmers have a sufficiency of the best quality of hay to feed to their stock, with no exceptions in the way of coarse fodder, damaged hay, straw, etc.; and in case the latter is fed, or when the usual yield of hay has been reduced by reason of drought, or other causes, root crops afford a valuable *auxiliary*, whether used in connection with the former, or as a substitute for the latter. Hence it often becomes necessary to know the comparative value of potatoes, carrots and ruta bagas, that farmers may be able to substitute, in part, these roots for hay.

It is becoming more and more the practice of our best farmers to feed out, not only their carrots, turnips, etc., but their potatoes, instead of selling them from the farm to be worked into starch, in the belief that the good of their farms demands it, and that their *purses* in the end will not be the losers thereby; and the more it is practiced, the more convinced are they of the economy and profit of such a course of feeding. Not only is the profit derived from the roots, as such, but the relative value of the hay, as well as that of the roots, is increased when fed together. And it becomes an object, the present season especially, for such farmers as have been deprived of their usual amount of fodder by the

drought, to make the best of all such means to keep and improve their stock until the return of grass.

The following table, gathered from reliable sources, shows the value of potatoes, carrots and ruta bagas, the roots usually grown for stock, compared with that of *good hay*.

200 lbs. of potatoes	are equal to	100 lbs. of hay.
275 " " carrots	" " "	" "
300 " " ruta bagas	" " "	" "

Again: by allowing 60 pounds to the bushel, of the above roots, we have the following:

67 bushels of potatoes	are equal to	a ton of hay.
92 " " carrots	" " "	" "
100 " " ruta bagas	" " "	" "

By this estimate, with the usual yield per acre, it will be seen that root culture *pays*; a fact of which many a farmer and stock-grower has been convinced by practical demonstration.

I. W. SANBORN.

Lyndon, Vt., Dec., 1860.

French Mustard.

One of the most refreshing condiments which has ever been invented is that now known as French mustard. It is equally good with fish, flesh, or fowl, and wonderfully helps bachelors' bread and cheese (Betty says they don't deserve anything better) to go down savorily. The following recipe is an excellent way to make it, and plain table-salt may be used in place of the anchovies, where there is any difficulty in procuring them. Take one pound flower of mustard, a quarter of an ounce each of the following plants in a green state, and quite fresh; parsley, tarragon, chervil, and celery, together with one or two eschalots, or garlic, and half-a-dozen pickled anchovies. Mince all these latter very fine, then rub them with the mustard. Next mix one ounce of salt, and a wine-glassful of vinegar, in a half pint of water, more or less, as you wish the consistence of the mixed mustard to be, then put the mixture into small pots, with a teaspoonful of vinegar on the top, cork well down, and as its flavor improves by age, it may be kept a month or six weeks before it is brought to the table. No less than five tons of mustard so prepared are imported every year from France into England, and a large amount is annually imported and consumed in this city. Why not make it at home?—*Scientific American*.

COTTAGE PUDDING.—One pint flour, one and a-half teacups sugar, one do. milk, one egg, two and a-half spoonfuls butter, one do. soda, one do. cream tartar. Bake in a round pan in moderate oven, when just done, ice it and let it stand in the oven with the doors open to harden, serve hot, with wine or lemon sauce.

Editor's Department.

Top-Dressings upon Wheat—Suggestions for Experiments.

The following report upon some experiments made with different top-dressings upon wheat, we condense from the Journal of the Royal Agricultural Society of England; the experiments were made on the farm of the Royal Agricultural College, by Dr. Voeleker, Professor of Chemistry :

“The field on which the experiments were tried is perfectly level, and throughout of uniform depth. Its extent is about 20 acres; the last season the whole was in wheat after seeds; 2 acres covered with a very equal growth were measured out for the experiments, and carefully divided into eight parts of equal length and breadth. Each experimental plat thus occupied the space of $\frac{1}{4}$ acre. The 2 acres under experiment were surrounded by a considerable breadth of the general wheat crop, except on one side. Although the headland, and a portion of the rest of the land, separated on that side of the experimented plats from the adjoining hedge, it was considered prudent to reject the $\frac{1}{4}$ acre next to the hedge. Seven plats of $\frac{1}{4}$ acre each in extent were then left. These plats were manured as follows :

“To Plat I. was applied 70 lbs. of Peruvian guano; or at the rate of $2\frac{1}{2}$ cwt. per acre.

“To Plat II. was applied 49 lbs. of nitrate of soda; or at the rate of $1\frac{3}{4}$ cwt. per acre.

“To Plat III. was applied 45 lbs. nitrate of soda and 42 lbs. common salt; or at the rate of $1\frac{1}{2}$ cwt. of salt, and 180 lbs. of nitrate of soda per acre.

“To Plat IV. was applied 1 cwt. of Proctor's wheat manure; or at the rate of 4 cwt. per acre.

“To Plat V. was applied $1\frac{1}{2}$ cwt. of the same manure; or at the rate 6 cwt. per acre.

“Plat VI. was left unmanured.

“To Plat VII. was applied about 1 ton of chalk-marl; or at the rate of about 4 tons per acre.

“The quantities of the different fertilizers were obtained in each case at an expense of 1£. 12s. 6d. per acre, except the larger dose of wheat-manure on Plat V., the cost of which was 2£. 8s. per acre.

“The manures were all finely sifted, (except the marl,) mixed with about 10 times their weight of fine soil, and sown broadcast on the afternoon of the 22nd of March. The land was clean, in good condition, and moist. The day on which the top-dressings were applied was calm and cloudy; a moderate rain that fell on the next day washed the various manures into the soil, and secured at once their uniform distribution. The season, on the whole, was favorable to wheat, the weather at harvest time was unusually splendid, and on none of the experimental plats was the crop laid in the slightest degree.

“Towards the end of July the crop was nearly ripe; at that time I could not notice any marked difference in the state of ripeness of the crops on the seven experimental plats.

“The wheat was reaped in the first week of August, and threshed out on the 24th; the whole of the produce of wheat and straw carefully weighed.

"The following table exhibits the yield of wheat of each experimental plat, and the produce calculated per acre:"

PLAT.		Produce in Wheat per Plat.		Produce in Wheat per Acre.	
		Lbs.	Bus.	Lbs.	Bushels.
I.	2½ cwt. guano per acre, - - -	601½	10	2406	40 1-10
II.	1¾ cwt. of nitrate of soda per acre, - - -	570	9½	2280	38
III.	180 lbs. of nit. of soda and 1½ cwt. salt per acre,	609	10	2436	40 6-10
IV.	4 cwt. of Proctor's wheat manure per acre,	595	10	2370	39 1-2
V.	6 cwt. " " " "	663	11	2662	44 1-5
VI.	Unmanured, - - - - -	405	6¾	1620	27
VII.	Marl, 4 tons per acre, - - - - -	404½	6¾	1618	27

The table showing the yield of straw, and that showing the increased produce of wheat per acre, we omit.

"In some parts of England chalk-marl is applied with considerable benefit to the wheat crop, but as the soil of the experimental field contained 18 per cent. of carbonate of lime, it could not be expected that a marl, which owes its fertilizing properties almost entirely to the carbonate of lime and to a little phosphate of lime which it contains, should produce any marked effect upon the wheat crop. Indeed, I did not expect any increase from the application of this marl. We may learn from this result that the efficiency of a manure is greatly affected by the chemical composition of the soil to which it is applied."

The chief points of interest which attach to these experiments are :

1. That nitrate of soda applied by itself materially increased the yield of both straw and wheat.
2. That the admixture of salt to nitrate of soda was found to be beneficial.
3. That guano produced as good a result as nitrate of soda.
4. That the increase in wheat and straw corresponded with the quantity of wheat-manure which was used.
5. That ammonia and nitrogenized organic matters had a most marked and decidedly beneficial effect.

"It may not be amiss to contemplate these experiments in an economical point of view, and to ascertain to what extent the different top-dressings have repaid the outlay of money. Leaving unnoticed the extra produce of straw, which in some cases was considerable, I shall only take into account the produce in wheat.

PLAT.		Money increase of Wheat.			Cost of Manure.			Clear Profit.		
		£.	s.	d.	£.	s.	d.	£.	s.	d.
I.	Guano, - - - - -	3	8	9	12	6	1	16	3	
II.	Nitrate of soda, - - - - -	2	17	9	12	6	1	5	3	
III.	Nitrate of soda and salt, - - - - -	3	11	5	12	6	1	18	11	
IV.	4 cwt. of wheat-manure, - - - - -	3	5	7	12	6	1	13	1	
V.	6 cwt. " " - - - - -	4	10	4	8	0	2	2	4	
VI.	Unmanured, - - - - -	"	"	"	"	"	"	"	"	lose.
VII.	Chalk-marl, - - - - -	none.	1	12	6	1	12	6		

“ It will be seen that, with the exception of the chalk-marl, all the top-dressings paid very well, and that the more liberal outlay for manure produced by far the best return in money.”

We present the above abstract of the experiment of Dr. Voelcker, not so much for any particular light that they may throw upon the cultivation of wheat in our country, as for the purpose of showing how experiments of this, and a kindred nature, should be conducted, if we expect to derive such results from them as may be relied on with confidence. It also affords us an occasion for making some suggestions, which we throw out, in the hope that many of our friends may be induced to undertake similar experiments on this, or some other subject of equal importance to the agricultural world.

The information conveyed to the English farmers—and to us—in these experiments is distinct, positive, and highly practical. We are informed as to the character of the soil upon which they were made; the portion of the field experimented upon was of uniform quality, and the stand of wheat was nearly or quite uniform on all the plats; one of the plats was left without manure, so that its yield, being the normal yield of the field without manure, might serve as the standard of comparison for that of all the others; the different manures were all applied at the same time, and in the same way; the exact amount applied in each case, and its cost is given; the exact yield of each of the plats is given, and consequently, the increase in the yield of each manured portion over the unmanured becomes known; and finally, the price of wheat being given, we have the clear profits per acre of each manured portion over the unmanured. Now, let us suppose that the Professor, as he proposes to do, continues these experiments for a series of years—observes the effect of these manures on the other crops in the rotation—studies the effects of season, &c., &c., upon succeeding crops of wheat when top-dressed in the same way, &c., can any one doubt the great practical value of his results?

Our system of farming is somewhat different from that of the English, and the manures at our disposal are not in all respects the same as theirs; yet it is just as important for us to know both the actual and relative value of our manures, not only for wheat, but for all of our crops, as it is for the English. That we have much to learn there can be no doubt. We remember a discussion which took place at the first meeting of the State Agricultural Society upon the use of Peruvian Guano; all who took part in the discussion were thoroughly convinced of its great value as a manure, and yet many of those who had used it extensively, were uncertain as to whether they had derived any pecuniary benefit from it—they were not sure that it paid. In other words, they were groping in the dark, on an all important subject.

But while there is much yet to be learned about Peruvian Guano, there are concentrated and expensive manures, into some of which Peruvian Guano enters as a constituent; it is important that we should know more of their practical value, as compared with Peruvian Guano, and with each other. For example, we

have the Manipulated Guanos, composed of Peruvian Guano, bone ash, and phosphatic guano, or of the first and some form of the latter; the super-phosphates; ammoniated super-phosphate; soluble phospho-Peruvian Guano; bone dust, &c. A large amount of capital is invested in these manures, and of course they are being largely purchased by farmers; it becomes a question of importance, not only to know whether any or all of these pay on particular crops, but to ascertain as nearly as possible, which of them in the long run, will yield the largest return for the money expended. Let us have Peruvian Guanos and some of these manures tried side by side on wheat, or tobacco, corn, meadow, &c.; let us learn which, if any of them, is to be relied on for securing a stand of clover after wheat; let these, and other important practical problems receive solutions by experiments similar to those of Dr. Voelcher, and then may we look for results which will be as interesting as useful.

To Our Exchanges.

We are already indebted greatly to our brethren of the Agricultural press for the kindness and courtesy which we have ever received at their hands. We shall be under renewed obligations if they will do us another favor by exchanging *two copies of their journals with us for the "Planter."*

If they can accede to this request, we shall be glad if they will direct one copy to "*Southern Planter*," *Lexington, Va.*, and send the other as at present.

We can assure our brethren, that we will with pleasure reciprocate this favor by any means in our power.

The Farmer and Gardener.

Published by A. M. Spangler at Philadelphia, is one of the best of our exchanges, and we cordially recommend it to anybody wanting an Agricultural paper.

See the Prospectus in our advertising sheet.

Fine Asparagus and Fruits.

Our friend H. J. Smith, who raises the finest Asparagus, that we ever saw, has some roots for sale. He will confer a favor on us if he will give us the history of his fine beds of large Asparagus, for the benefit of our readers. We should be pleased also to have his experience in raising *Dwarf Pears*, the *Lawton Blackberry* and *Strawberries*, all of which we happen to know have turned out well in his hands, which are very skilful in all that pertains to Horticulture, &c.

The Cincinnatus seems to be our old friend the Scientific Artizan, in a new dress, which is of the best materials and the most fashionable "cut." The paper has greatly improved in appearance and is very handsomely illustrated with

wood cuts of the latest inventions patented. The name of Dr. Warder—as one of its regular contributors—is a host of itself.

TOBACCO HOUSES.—Our correspondent who wishes information on this subject, will find full and complete directions for the entire management of the Tobacco crop, in the essay of H. M. Fowlkes, Esq., published in our present number.

The Old Spirit of the Times.

The old "*Spirit of the Times*" entered upon its Thirty-first Volume on the 9th instant, inaugurating this evidence of its long life by an entire new dress of type and four additional pages to its heretofore large and attractive form. No paper in the Country has, throughout its management, maintained a more thoroughly consistent course than this journal. Notwithstanding the vicissitudes of politics and panics, it has pursued the even tenor of its way, turning neither to the right nor the left, and the consequence is, that it maintains its popularity in every section of the Union, and this new evidence of its success we have already noticed is its just reward.

"Origination" of Manipulated Guanos.

We have from time to time noticed a controversy upon the subject which heads this paragraph, between manufacturers claiming the *origination* of something pertaining to the mixing of ammoniacal and phosphatic guanos, but giving very little attention to it, we supposed it had reference more to the *manner* of mixing, than to the *materials* mixed—and we have generally looked upon it as rather a good joke, and somewhat suspected that it was one of the "tricks of trade," to obtain great merit for what we considered a very simple matter, the better to draw public attention to the commodities offered to the farmers and planters of the country, and to give the more importance to the claims for patronage of the contending parties—but never dreamed, until we saw the announcement in the "Southern Planter," that *we* had ever laid claims to the same *honor!* Hence, we were surprised to find in a communication, upon the subject, in the January number of that paper, the following paragraph. After alluding to the claims of Mr. Kettlewell in the premises, the writer, who signs himself "James Higgins, Analytical and Consulting Chemist," remarks:

"Since Mr. Kettlewell's publication, some other individuals have claimed for themselves, or others, the credit of the origination of the mixed guanos, and amongst them are Mr. Samuel Sands, the publisher of the Rural Register in this city, and Mr. B. M. Rhodes, who is the agent for a Philadelphia manufactured Super-phosphate of Lime. Of the former, I will only state that his own paper, the American Farmer, refutes all that he says about the matter, and that now, Mr. Sands is selling a *refuted* Manipulated Guano by the aid of an analysis of Dr. Charles Bickel, who never made an analysis for him."

As before intimated, we never entertained the slightest idea that we were the *originator* of Manipulated Guano, and have no recollection of ever having uttered a sentence that could be so construed: and therefore the writer has not, we believe, the shadow of a foundation for such a remark. The concluding sentence is equally worthy of credence; a mere quibble calculated to deceive, is intended by the writer, for we never claimed that Dr. Bickell had made an analysis *for us*; but it was made by him as published for parties with whom we are connected in the manipulation; and the remark that it is a "*refuted manipulated guano*," is *entire news to us*—in fact, we have no idea what the writer means by the remark, and indeed care not.

We hesitated whether we should notice this matter at all, and loth as we are at any time to be placed in a false position, we might have permitted it to pass by in silence, did we not suppose that a duty to others possibly required us to allude to it—and yet we really begrudge the space to do so, as we suppose the main object of the parties is to "get in the papers," and keep themselves and their commodities before the public, and we feel rather disinclined to aid in so *laudable* an effort.

We have more than once expressed the opinion, that the reason why the Peruvian Agents in this country had received orders to abstain from selling Peruvian guano to manipulators, was in consequence of the beneficial effects experienced by the admixture of Peruvian and Phosphatic guanos in England, the fears entertained that it would decrease the demand for the Peruvian—and the claim so boastfully made of *originality* in the manipulation, we have ever supposed, was not particularly due to any one on this side of the water, but was derived from the agricultural journals of England. But the writer himself shows in the communication alluded to, that his attention was directed particularly to the subject, by the excellent action of some Patagonian guano, used by a farmer, which containing only half as much ammonia as did the Peruvian, yet acted very well—and many of our readers remember also, that the Ichaboe guano introduced here many years ago by Messrs. Birkhead & Pearce, was also very rich in ammonia, and much more so in phosphates than the Peruvian, and the trial of which induced farmers to commence the mixing of the Peruvian with Colombian and other guanos containing more phosphates than Peruvian but less of ammonia. Among these, if we remember aright, were James T. Earle, Esq., and others, of the Eastern Shore, and A. B. Davis, Esq., and other farmers who had been using Guano very largely in Montgomery county, and probably the writer in the Planter obtained the information from the experiments of these or other gentlemen who had been experimenting, or from English periodicals, (*from which many good things have been taken*,) upon which he claims "*originality*."

At the Guano Convention held in Washington City some years ago, a number of the most intelligent and respectable farmers from all sections of Maryland and other States were present, when this very subject was introduced, and experiments reported of the application of Peruvian and Phosphatic Guanos, and al-

though we remember that the writer in the *Planter* was present, during its sittings, neither he nor any one for him presumed to lay claim to originality in the premises, because if such a claim had then been entertained or uttered on the floor of the Convention, no doubt there were many present who would have been able to prove its fallacy. Indeed, the following resolution, offered by Col. James Piper, of Carroll Co., M., as intelligent a gentleman as this State held within her borders, was adopted, we believe without the slightest dissent, by which it will be seen, that Drs. *Booth*, of Philadelphia, and *Stewart*, of Baltimore, are particularly alluded to, as having recommended the mixture of the guanos, and no allusion is made to any of the parties now claiming the credit. Col. Piper's resolution was as follows:

“Resolved, That this Convention respectfully recommend to the farmers in the habit of using Peruvian Guano alone, to substitute a mixture of Colombian, Mexican, and other phosphatic guanos in proper proportions, as recommended by Professors Booth, of Philadelphia, and Stewart, of Baltimore, and other distinguished chemists, as the most efficient means to reduce the present high price of Peruvian Guano.”

We would prefer to have been excused from meddling with this business, and we have been dragged into it very unnecessarily—we will therefore only add for the present a quotation from the communication in the *Planter*, to show what little reliance could have been placed upon the suggestions of this writer. He says, that in 1854 he published that “*the use of Peruvian Guano*, without any mixture with other common phosphates, as it is so frequently applied, is costly and USELESS”—therefore he recommended a mixture of the Mexican and Peruvian; and yet thousands of the most successful farmers have continued to use the Peruvian alone, with eminent success, and could never be induced to substitute the mixture.

One word more, and we are done. We have advised farmers and planters to buy the Peruvian and Phosphatic guanos, and mix for themselves—they can do it cheaper than by purchasing already manipulated,—but if they are not disposed to undergo the trouble, then we, as well as several responsible manipulators, whose advertisements will be found in our paper, and a number of others in Richmond, Petersburg and elsewhere will be happy to supply their orders.

Will our respected friends of the “*Southern Planter*” do us the favor to put us right before their readers, so far as the above is in reply to the remarks relative to us in their last issue?

With great pleasure we comply with the request of the Editor of the “*Rural Register*” to put him right before our readers as to the charges made against him by Dr. Higgins of Baltimore, in a communication of his on the subject of “*Manipulated Guano*” lately published in this paper. *We should be very sorry for any one of our readers to suppose for one moment, that we endorsed the charge against our well known friend of the Rural, preferred by Dr. H., and*

to prevent any mistake, we hereby assure them, *that we had no intention of doing any such thing.*

We prefer to let Mr. Sands speak for himself, and therefore publish his remarks in response to Dr. H. in full.—EDS.

Home Embellishment,

As Affecting the Value of Property and the Habits of the People.

“Wherever I have had the honor of addressing my brother farmers,” [says the Hon. L. Chandler Ball, President of the Renssaler County Agricultural Society, N. Y., in an address delivered at Greenbush, N. Y., September, 1859,] “I have embraced the opportunity to inculcate a taste and love for the beautiful, both in nature and in art; believing that where this taste and love exist, they will be exhibited in a better system of cultivation; in more comfortable and happier modes of living; in increased means of enjoyment, and a more rational use of the blessings which God has spread on the earth,—a more pleasing personal demeanor, higher graces of speech and manner, and a more correct performance of all social and Christian duties. I beg leave to introduce the subject to *your* notice, as one of great practical importance, affecting the value of property and the habits of the people.

“Let the farmer increase the natural beauties of his farm by suitable ornamentation—let him adorn and embellish his house and grounds—let him have genial intercourse with his fellow-men, and practice in their presence the highest forms of politeness and good breeding. Let him build neat school-houses, that shall give visible expression to pure and lofty thought—let him erect beautiful churches, and incorporate into their walls and towers, and rising spires, the the spirit of piety and devotion. If this was a proper occasion, and time would permit, I could demonstrate that a small, dirty school-house, and homely, ill-constructed church edifice, instead of being what such buildings ought to be, objects of taste and beauty, and helpers in the great work of human improvement, are positive injuries to society; because they lower and degrade, and bring down to the level of animal desires and brutish instincts, the exalted idea of human intelligence, and the holy sentiment of religious hope and trust.

“It is not without a purpose that learning has been represented to us under forms of transcendent beauty, with her seats fixed in pleasant places, by the side of sparkling fountains, and amid groves garlanded with roses and amaranth. It is not without a purpose that religion has been invested with pure and shining robes, crowned with glory, and with golden harp, filling the courts of Heaven with praise. It is not without a purpose that the earth has been beautifully formed and gorgeously appareled—diversified with hill and plane, mountain and valley, forest and prairie, lake and river, and singing brook—arrayed in robes of more than royal magnificence, forever changing, yet forever new, perfumed with the spices of Araby, and jeweled with dew-drops brighter than the gems of

Golconda, and performing its majestic revolutions in company with ten thousand glorious orbs :

‘ Forever singing as they shine,
The hand that made us is divine.’

“Physical beauty is a power in the world before which the highest human intelligence bows in homage. Goodness has superior charms, virtue stronger attractions, and wisdom greater power, when moulded into forms of beauty and draped in the flowing robes of elegance and grace.

“For this reason, because it is one of the essential elements of power, let the farmer cultivate and acquire a taste and love for all the bright and beautiful things of earth. Let him build handsome dwellings, neat school-houses and beautiful churches; let him adorn and embellish the field and the road-side; let him multiply objects of grace and beauty, until the whole land glows and brightens in the light of pure and exalted taste.

“Then will the fields put on a richer vesture, and yield a more abundant harvest. Then will finer flocks and better herds feed in his pastures, and lie in the shade of his woods and in his groves. Then will blither songs and words of loftier cheer mingle with the sounds of labor. Cords of sympathy will unite in one electric circle, whose continuity will never cease, the industry, the genius, and the skill of all nations. Then the unity of the world’s great Army of Occupation will be declared, the claims of universal brotherhood recognized, and humanity achieve its last and greatest triumph.”

[*Transactions N. Y. State Agricultural Society, of 1859.*]

From the Farmer and Gardener.

Why Peter Jobson’s Farm Wouldn’t Pay.

Peter Jobson was an honest, well-meaning, hard-working farmer: one of that class who had been taught to believe that physical strength was the prime qualifications of the man who tilled the earth for a livelihood. No man in the neighborhood labored more industriously than Peter Jobson. He was at it early and late, and yet he did not appear to prosper. His crops were growing

“Small by degrees and beautifully less”

every year, until poor Peter began to despair of ever gaining an inch of headway.

It was a bright morning in September when Peter commenced plowing a field for wheat, from which, a few weeks previously, he had cut a meagre crop of oats. The prospect was not a flattering one to the honest fellow. His last crop of wheat on that field had scarcely paid expenses. The corn which followed was little more than remunerative, and the oats which he had harvested this year scarcely paid for the cutting. He had drawn the contents of his farm-yard to the field, and had spread it carefully; but the coating was too thin to give promise of a very large return. Peter felt this, and yet he knew no remedy. He had been doing “as daddy did,” all his lifetime, still he had been going behind

hand. His good wife worked hard—his children's services were brought into play as soon as they could be of the least assistance—their education was neglected, in order that they might, at an early period of life, as their father had done, "earn their salt." Peter Jobson could not understand this. He began to have doubts about the correctness of his system. His neighbors' crops were good, yet *they* worked no harder than he, and their soil was no better than his. While musing upon these things, his neighbor Jones, a well-to-do and very intelligent farmer approached the spot. Peter had a great respect for Mr. Jones, and therefore determined to make a clean breast of it. He accordingly addressed him:—

"Neighbor Jones, I do not know how it happens, but the fact is, my farm appears to be growing poorer and poorer every year; can you explain the cause to me? I plow as deep as you do; I sow the same kind of seed; I put on all the manure I raise on my farm, and yet your crops are always better than mine."

"That matter is very easily explained, friend Jobson. Let us take a seat on the fence and talk the matter over, and see whether we cannot arrive at something like a correct conclusion. You are aware of one fact, Mr. Jobson, and that is, *that all our food, and the food of the animals on our farms, is derived either directly or indirectly from the vegetable kingdom, or in other words, that it all comes from the earth*"

"Yes, that's so, Mr. Jones," replied Jobson.

"Well, then," proceeded Farmer Jones, "it follows of course, that if we return all the excrements and urine of the human beings and animals on our farms to our farms, (that is, supposing, however, that all we raise is consumed on the farm,) we would be restoring to the soil all the fertilizing ingredients which the crops have removed."

"Just so."

"But do we do this?"

"Well, not altogether, Mr. Jones," replied Jobson, musingly, "not altogether."

"Hold a moment, friend Jobson," continued farmer Jones, "and let us see how much of what is grown on our farms is returned to them in the shape of manure. Year after year you grow crops of wheat and rye, oats and corn, timothy and clover."

"Yes, that's so, Mr. Jones."

"Some of these animals you fatten and send to market."

"That's so, Mr. Jones."

"Has it ever occurred to you, how much valuable fertilizing material every one of these big steers, you sent away last spring carried away with him? Liebig says—you know Liebig is a great writer on agricultural chemistry—"

"Yes, that's so, Mr. Jones."

"Liebig says, that every pound weight of bones contains as much phosphoric acid, as a whole hundred weight of wheat. Now, if you can calculate how many pounds of bones there were in each one of those steers, you can tell pre-

easily how many hundred pounds of wheat will want that very essential element to its growth, phosphoric acid."

"Yes, that's so, Mr. Jones."

"Then you know, friend Jobson, there are the meat and the blood, the skin and the hoofs, the hide and the hair, the horns and the entrils, all first-rate fertilizers."

"Yes, that's so, Mr. Jones."

"Well, all this valuable matter goes to the butcher, and is never brought back to your farm again."

"Yes, that's so, Mr. Jones."

"You harvest your crops, and thresh them, and all that your family and stock do not require you send to the city. I remember seeing you haul considerable quantities of hay, straw, and grain to the city, last winter."

"Yes, that's so, Mr. Jones."

"I don't remember seeing you bring any manure back with you, and, of course, all that the hay, straw, and grain you sold took from the soil, was so much lost, because you did not replace it."

"Yes, that's so, Mr. Jones."

"Well, all these crops draw largely upon the mineral ingredients of the soil; don't they?"

"I should think they did, Mr. Jones."

"We feed our stock, and we feed ourselves and families from the product of our farms; don't we?"

"Why that's very certain; that's what we raise them for."

"Now, neighbor Jobson, you know as well as I do, that if you wish to keep your soil in good healthy condition, you must give back to it just as much as you take from it."

"Yes, that's so, Mr. Jones."

"All that we withhold, renders that soil just so much poorer than it was; don't it?"

"Yes, that's so, Mr. Jones."

"The atmosphere, of course, helps to fertilize the soil, but still we must depend mainly upon manures."

"Yes, that's so, Mr. Jones."

"You told me a moment since, that your family was supplied with a portion of the grain, vegetables, and meats grown on your farm."

"Yes, that's so, Mr. Jones."

"Now, you know that human excrement is richer in phosphates than that of any animal. This arises from the fact that these phosphates are contained largely in the food of which we partake." This was all Greek to Peter, still he replied,

"Yes, that's so, Mr. Jones."

"Well, what do you do with this excrement? Do you return it to the soil, or

is it permitted to go to waste? If I am not mistaken you have never used it as a manure."

"Yes, that's so, Mr. Jones," responded Jobson, submissively.

"You give your stock a portion of the hay, grain, straw, turnips, &c., grown on the farm. Then, again, neighbor Jobson, as I passed your barn-yard the other day, I saw 'a little black stream' running from it, and if my memory don't deceive me, I have observed that same little stream for ten years past."

"Yes, that's so, Mr. Jones"

"Well, now, neighbor Jobson, let's sum up all these little matters, or as the newspapers say, recapitulate."

"Yes, that's so, Mr. Jones."

"*First.* You lose all benefit from your human excrement."

"That's so, Mr. Jones."

"*Second.* You give back to your fields, all the manure you save, but you must suffer great loss from 'that little black stream,' from the exposure of your dung-heap to wind and rain, and sunshine," &c.

"Yes, that's so, Mr. Jones."

"*Third.* You lose all the fertilizing matter contained in the hair, hoofs, flesh, bones, &c., of the steers, calves, and pigs you send to market."

"Yes, that's so, Mr. Jones."

"When that fine big horse of yours died last spring, you dragged him out to the old stone-quarry, and left him there to rot, and poison the atmosphere. The worthless dogs of the neighborhood and the carrion crows were the only ones benefitted by it; were they not?"

"Yes, that's so, Mr. Jones."

"Lastly, you sell all your surplus grain and hay and straw, and do not replace it, or any other of the lost and waste material with either farm-yard or artificial manure."

"Yes, that's so, Mr. Jones."

"Now, neighbor Jobson, if you will think seriously over what I have been saying, you will have no difficulty in ascertaining why your farm is growing poorer instead of richer."

"Yes, that's so, Mr. Jones," responded poor Jobson, as he turned, with a woful countenance towards his lank-looking team, and with a "Gee up! Ball!" was about to commence plowing again, when it occurred to him that it would be well to find out, if possible, where his Neighbor Jones had learned to know so much. Drawing the lines lightly to check the forward movement his horses were about to make, and resting his arms upon the handles of his plow, he again addressed Mr. Jones.

"Neighbor! there's a good deal of truth, I think, in what you have been saying. Where did you find out all these things?"

"Why, Peter, I take the agricultural papers, and I read them carefully."

Everything I have said to you may be found in almost any one of them in the course of a year."

"You don't say!" ejaculated Peter, wonderingly.

"Don't you take the agricultural papers, Peter?"

"No! father got along very well without them, and I thought I would be able to get along too."

"But, Peter, you tell me you are going behind hand, and I have shown you that some of the causes of your failures are to be attributed to your want of knowledge of the great leading principles of agriculture."

"That's so, Mr. Jones."

"Don't you think you would be benefitted by a little agricultural reading?"

"Perhaps, I would, Mr. Jones, but I have no paper, and I don't know where to send for one—will you tell me where I can subscribe, and which one you think the best?"

"Yes, I can, Peter. Enclose a gold dollar to Mr. Spangler, of Philadelphia. He will send you in return a most excellent agricultural journal, and also a very nice book on 'Farming and Gardening' besides."

"You don't say so, Mr. Jones!" exclaimed Peter, "and all for one dollar?"

"That's the whole charge, Peter."

"I'll send that dollar just as soon as I get to the house at noon;" and Peter, with a more hopeful countenance, turned to his team again, singing out "Gee up! Ball."

Economy in the Household.

No young woman ought to feel herself qualified to become a wife until she is sure she understands how to do the most that can be done with her husband's money. The management of a household is not a thing to be properly and safely entrusted to hireling hands. A servant is a broken reed for the head of a family to lean upon. There are a thousand little ways in which money must be expended, in which real shrewdness and enterprise are requisite in order to use it to the best advantage, and there are a thousand other ways of saving money, open only to those who have studied aright the art of economy. The Turkish proverb has it, that "a prudent woman is a mine of jewels," and like many other Oriental sayings, this is beautiful for the truth it embodies. A wasteful housekeeper not only robs those for whom she undertakes to manage, of the comforts it is her duty to provide for them, but actually keeps a husband head over ears in debt, and makes the domestic life of a poor man a continual series of experiments in skinning it from one day to the next; in keeping the stomach full though the purse be empty.

REMEDY FOR CHAPPED HANDS.—Half an ounce of quince seeds boiled in a pint of water; when cool add half teacupful of brandy, rub on at night, and wear kid gloves.

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