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UPON
AGRICULTURE,
AND OTHER
Suggestions upon the same Subject:
BY
CHAS. K. LANDIS, ESQ.

VINELAND, N. J.
PRINTED AT THE OFFICE OF THE VINELAND WEEKLY.
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LECTURE,

DELIVERED BEFORE "THE VINELAND AGRICULTURAL AND HORTICULTURAL SOCIETY," MARCH 3D, 1865.

I HAVE taken what is the most interesting subject to us, that of Agriculture. I am not going to tell you what Hesiod, the elder Cato, Virgil, or George Washington have said upon the subject, as that has been done to death by the eloquence of young lawyers and others, who usually try to edify the minds of farmers at State Fairs, or at least soothe them to a gentle slumber. For this you have, no doubt, been often enough under obligations. I am going to take you upon entirely a new course, trusting that what I say will be at least practically instructive, if not very magniloquent.

It has formerly been a popular opinion that farmers require no sense. Some of the old style farmers of the present day even scoff at what they call book-learning, and which probably first gave rise to this strange idea. The worthy and sleepy old subjects, to enjoy the delusions of a prejudice, would place themselves upon a level with the beasts. So strong was this prejudice that until within a recent period boys of bright parts were always reserved for the professions or trades, and the stupid were placed upon farms. The public school system, in opening the mind of youth, has enabled it to recognize the Creator's law of progression in all the products of the farm and orchard, as well as in the arts and sciences. This general education has refined the natural instincts of the present generation to such a degree that they have at length come to the conclusion that Agriculture is not only susceptible of improvements, but that the mind of the farmer is as well entitled to the enjoyment of a refined intellectual culture as that of the lawyer or clergyman.

How marvellous is the influence of education; how far it extends the intellectual vision; how it strengthens the human

mind, and awakens an inner knowledge of its forces. It brings to life new aspirations, that must be gratified—a sense of the useful and the beautiful; it transforms a block of marble into an Apollo; it chains the lightning to its car of triumph. Without education man is as a little child. His wants are few, his mind is capable of no combinations, he has no aspirations after knowledge, the unknown, or the beautiful. With the morning comes labor, with the night comes sleep, and death leaves no mark of his former existence. Such a mind as this will naturally misunderstand principles of improvement and despise them; such a mind is satisfied with the Dead Sea of stationary life; such a mind is worthy of that isolated and dreary existence of the farmer's life, such as we see it in many parts of the land. An unimproving country is as agreeable to him as any other. A hog-pen or dung-hill in the front of his door is more pleasant to his eye than a rose. But when you wave over the slumbering soul, the magic wand of education, it awakens to another state of existence, which will not be satisfied with the last named condition. The genius of ambition, a taste for the creative power, a longing after the unknown, and knowledge, are aroused; and this energy must find an outlet—a gratification, or its power may be destructive, and lead to bad results instead of good.

To meet this new condition of mind, produced in the present generation by the influence of education, we must have a new state of surroundings; agriculture must go hand in hand with science and art. The profits and beauties of horticulture must be combined with it. The whole conducted upon principles of taste which will make the humblest farm not only a place of livelihood, but a home of beauty, with its garden of flowers, made musical by the songs of birds, upon spacious roads shaded by the verdure of trees, and that lead directly to the academy, to the mart, to halls of intellectual entertainment, or parks of rustic pleasure. A country must be created where an improved system of agriculture and horticulture will be followed; where a public system of adornment will spread a pervading beauty over the land; where the green and flowering hedge will take the place of the skeleton fence; where institutions of learning and art will be founded equal to the wants of refinement, and

where there will be a never-ceasing competition for excellence. A country where the selfishness of man has not been allowed to take up large tracts of land, to the isolation of his neighbors, but where the farms are small and redolent with cultivation; where the manufacturer stands alongside of the agriculturalist; where wealth may rapidly be created to answer the demands of a more refined taste; where the religious and moral atmosphere, without being bigoted, is pure; where liberal sentiments and human brotherhood and sisterhood will take the place of that savage and heartless nature that lurks in the dark recesses of ignorance.

Is this a fancy picture, the imaginings of the "mind diseased," or is it practical? Are the principles I have mentioned untrue? or do you at once recognize the expectation of your own hearts—your work of every day.

In the founding of this colony, I have pursued a system demanded by an educated class of minds. The physical face of the country has been laid out with this view, and a policy adopted which, with your co-operation, is bringing it about with a rapidity never before experienced; proving conclusively, that it is no picture of fancy but a glorious reality. It answers a new want in the world, and in three or four short years, to say nothing of the present, you will become a mark of interest and attraction wherein these features will be fully recognized. That the time may not appear short, let me call to your minds that three short years ago, this was an unbroken wilderness, without a house.—You now number five thousand people, with the proportion of increase enlarging every week. You have churches erected, societies of art, of music, and numerous schools. The buildings, in completeness and beauty, surpass older places; your 100 miles of roads are becoming lined with shade trees; having done away with fences, you are adopting hedges. Already the place has become one of wonder and remark for its surpassing beauty; what will it be in a few years hence? Every day, new combinations and enterprises are being started. Stores, Factories, Academies, Societies—not less than 500 vineyards and orchards have been planted. In fact, I am safe in saying, that more fruit has been set out in Vineland, than in any part of the United States upon the same area of land. How sweet and

fragrant will be the air with these gardens and orchards. Even the present year their produce will add to the wealth of the country, and their beauty will adorn it. My previous remarks are pertinent to the subject, as Agriculture will be peculiarly effected by the character of our people and the influence of this peculiar improvement in Vineland.

Since the great progress made in the Science of Agriculture, within the past fifty years, it has become a recognized principle that the more produce that is raised, in proportion to the amount of land worked, the greater are the profits; that is, if you can, by more thorough culture, raise as much from 40 acres as by ordinary culture from 100 acres, it has been found that the profit upon actual outlay of expense, though much greater to the single acre, upon the aggregate is from 50 to 100 per cent. more. The whole thing is explained in the fact, that you always find a prosperous, money-making farmer with well-cultivated fields and a large pile of manure.

Twenty-five years ago, Agriculture in England was in about the same condition as in this country at the present day. Societies of experiment and investigation were then organized by some of the most scientific men and largest landholders in the country. The result has been that the production of crops has been doubled. Where they formerly obtained from 15 to 20 bushels of wheat to the acre, they now average from 40 to 50. Where they formerly cut from 1 to 2 tons of hay to the acre, they now cut from 3 to 5. The increase of all other crops has been in proportion. Farming has been reduced to a crop-producing, money-making Science, and with such a degree of success that the renters of farms have become enormously rich. They pay from \$25 to \$75 per acre rents each year, and become in a short time worth fortunes of a half million of dollars, and yet the price of produce in the London market is about the same as in Philadelphia or New-York. The tenants always work and improve their lands better than the actual owners. When you see a farm loaded with its rich crop of grain or grass, you may at once know that the farmer is a tenant. If you see a place a little below par, you may be satisfied it is occupied by the owner of the soil. Why is this? Because the tenant must make his money out of increased production, in order to pay his

rent and find his profit. The owner is not under so great a necessity. In the United States the reverse is the case. The ignorant tenant, who thinks himself a farmer, endeavors to make his money by skinning the land, robbing the soil, and selling his manure, and in nine cases out of ten you will find his poverty to equal his ignorance and cupidity. How has this great change been brought about in England? By the following practice :

1st. Deep plowing and thorough harrowing.

2d. Root crops for stock.

3d. Soiling stock.

4th. Liquid manure.

5th. Under draining.

It has been laid down as a principle, and ascertained by the regular course of results in nature, that a plant will grow and thrive in proportion as its roots can ramify and penetrate the earth, and in proportion to the extent of surface of the roots that are in contact with the fine particles of the soil. You people who plow shallow and cut and cover, or who plant grape-vines too closely together at the instigation of designing nurserymen, bear this in mind. The atmosphere in England is much more moist or humid than in this country, and deep plowing is not so much required as in any part of the United States, yet they go twelve inches deep, and where they plant root-crops they run the sub-soil plow through besides, and afterwards harrow the land three or four times for the sake of pulverization. This enables the roots to ramify and penetrate the soil, and brings the largest amount of root-surface in contact with the particles of the earth and protects it from the drouth by facilitating capillary attraction. Our own past experience during the drouth of last summer confirms this theory. Where the land has been well plowed, the crops were invariably good. But in too many instances, especially upon new land, I noticed that it was plowed scarcely three inches deep, and some of it not touched. I think the Lord must have mercy upon the ignorance of many people, and do their farming, otherwise they would raise nothing as they appear to violate the palpable laws of nature. Deep plowing and thorough pulverization will enable any person to get a large crop, drouth or no drouth, or whether the land is new or old. I have repeatedly produced large crops upon perfectly new land by

this process imperfectly carried out; and I now stake my judgment and veracity that by this system the new land at its first breaking up will produce a crop of Irish or Sweet Potatoes which will pay a hundred dollars per acre profit, over and above all expenses. In England some good farmers have contended that all land required was deep plowing, thorough pulverization and harrowing to produce, without the use of fertilizers. When you hire a team to plow your land, do not bargain as to the quantity of land to be run over, but the way it is to be done.

The next question was how to increase the meat producing capacity of the country without encroaching upon the land reserved for crops. This became of vital importance, as it was found that the price of meat increased with population, the same as we now experience, until it was beyond the reach of the poor. They took to raising root crops—turnips, carrots, and field beets. The farmers at once experience a change. Their purses began to grow heavy, their manure piles large, and yet their stock increased to that extent that prices fell one half. After years of experience, it was found that the same amount of land in root crops would support six times the amount of stock, providing they were soiled, than the same amount of land in pasture. Is this not startling? And yet, outside of Vineland, how few soil their cattle, or raise root crops. Anybody can keep a cow, who will well cultivate a half acre of root crops. They make better milk, and what is not to be despised, their manure is twice as fertilizing as that from hay. That great composteer, the Pig, how he enjoys these things! He gives a more grateful grunt and his tail a double twist, whenever he gets them. It will be found profitable to steam or boil all roots fed to stock and better for fattening and health. It keeps stock in the finest condition. Every out of the way spot, every corner, every particle of your land, not otherwise occupied, should be in root crops. Turnips in the fall. Turnips last fall were sown in the roads, over the corn fields, around the buildings, and even in the stump holes.—They brought hundreds of dollars into the place, and now every day settlers feel the benefit of this piece of advice, which I marked in a number of *Tribunes*, and sent down here last summer, whilst on a trip to the mountains. Our thanks to the *Tribune*. Only second to this in advantage, it was found more profitable to soil

stock, instead of exposing them to the wind and weather of the open air. It is estimated that either in hay or root crops they can be supported for one-half the cost, whilst their manure is saved.—The value of the manure from one cow fed upon root crops, for one year at a moderate sum, is \$25 ; if you attempt to buy it, \$50. It also improves the stock in size and weight, and affords mercy to our teeth----it makes it tender. Oh, what horribly tough beef we get. Would to providence that our Jersey neighbors would adopt this most profitable change, that they might no longer sell our honest dealers their dreadfully tough beef. The milk is better, and cows will yield from one-third to one-half as much more.

In Vineland the sale of milk is so profitable, that any one can afford to buy feed, where they house their cattle, until they raise their own produce. Several years ago, the largest farmer in the State informed me that he cut his grass and fed it to his cattle in their stables on account of this great economy and improvement. In Bavaria and Saxony, the land is divided into small ownerships of from three to five, and sometimes ten acres. Upon this population largely increased, and it became necessary to double the amount of produce. How was this to be done? They used deep plowing; they soiled their cattle, and when it was necessary they underdrained. As it was, the country was a perfect garden. They tried the application of liquid manure, and solved the problem. They increased the productiveness of their soil a hundred per cent., and improved their vegetation without increasing the cost or labor. An easy method is to have a hogshead or barrel with a hole at the bottom. Throw in the manure from the pig-pen or stable-yard, and then pour in water and let it run through the manure into a bucket or other receptacle. Water costs nothing. It is only necessary to run it through the manure and you have all the rich and fine particles, and when you apply it, the roots of the plant are at once reached in a form whereby they absorb the nourishment.—The solid part remaining can be applied to the land. This liquid manure can be used from an ordinary can, or you can mount a barrel on wheels, and by an ordinary apparatus, which you can have applied, you can throw it over the ground as it is drawn between the rows. This was soon introduced in England and applied upon root crops with wonderful success. It was then

applied upon grass crops and found to double the effect of an ordinary dressing of manure. Remember, water costs nothing. And the difference between applying the manure, one way or the other, out of a cart or a barrel, is almost nothing. People have frequently been astonished at the size of some of the vegetables they have seen at Agricultural Fairs. They see that they surpass the ordinary laws of vegetation, and they are unable to account for it. A mammoth pumpkin, or water-melon, or cabbage, may well open the eyes of gaping ignorance. The secret is in the use of liquid manure; and another secret is in the method of its application. It should not be poured around the main stalk of the plant, but over the surface of the earth in its vicinity. The main stalk only sends out feeders that take up the nourishment. By examining the ground you will find these tender fibres shooting out fifteen feet from a large watermelon or pumpkin vine, and eight feet from a corn stalk. In short, the roots and fibres ramify as far as the surface vine. This also teaches a lesson as to what a poor chance a plant stands on poorly plowed land. Some large prizes are now offered by our Agricultural Society for certain productions. I will venture to say that every prize will be taken by those who use liquid manure.

Through certain districts of country in the midst of farming communities were large tracts of bog land, peat land or swamp—these were covered by an entangling mat of briars and wood, attesting the richness of the deposit, frequently consisting of humus from one to five feet deep. Farmers would secure some of its virtues by carting it into the barn-yard, but for years no other measures were taken to secure its wealth; until, during the course of this agricultural progress made in England, they tested the virtues of under-draining. By cleaning out the water-courses, and setting drains thirty feet apart and two feet below the surface of the soil, these swampy places were dried up, and their almost boundless fertility was at the hand of the enterprising farmer. It was found to produce vast results. From a careful calculation of these results, I can safely estimate the value of one acre of swamp land, well drained, at \$500 in gold. So large were the results that the Government of England took the matter in hand, and loaned its money to farmers to be expended in under-draining. It more

than doubled the wealth of the farmers, after paying back to the government the loan. It was soon found out that the chemical action of the atmosphere upon the soil was so beneficial to plant life, that it would pay to under-drain heavy clay lands. From England the improvement has extended to this country. I hope in a few years to see every acre of low land about Vineland surrendering its wealth to the proprietors by this cheap and expeditious process.

In order to be happy and prosperous, to obey the influences of education upon your own natures and that of your children, you must improve as you live, make agriculture a mental as well as a manual labor, and cultivate it as a science. You could not have soil better suited to raising the most profitable products in this market. There is no climate in the Union where can be produced a greater variety of fruit and vegetables. There is no market in the Union where they will command a higher price. This wonderful aggregation of talent and experience here in Vineland, is every man's advantage. He who cannot trim a vine or fruit tree, can learn from his next door neighbor, and then he can trim a hundred thousand. You might settle in many places and not have a neighbor within a hundred miles of you whose knowledge would go much beyond hog and corn. People who are educated must make money. They must have corresponding surroundings and enjoyments. This you are accomplishing every day. It is with this view that I have provided a general system of public adornment or beauty; and that we are bringing here the best schools and developing the highest elements of a refined civilization; and now, while we are upon the subject of reform and improvement, let us not forget the part that women is to play in agriculture. Why should she not throw the magic of her sympathy, her co-operation and elegance around this as well as any other subject? Women are entitled to reform as well as men. If they do not leave off thin shoes, and take more exercise in the open air, they will all die out and leave us by ourselves. We run the risk of losing another rib, and the Lord in reforming the trouble, may give man another help-mate, who, instead of being the weaker, will be the stronger sex, and who may despoil you of your sovereign unmentionables, and set you to washing dishes and darning old stockings. Every mar-

ried man with a sorrowful wail declares that something ought to be done—he don't know what; while I have heard some incorrigible bachelors declare, with a want of taste and tenderness horrible to think of, that they would get married if they could find a woman. I am none of that class; my excuse is personal homeliness and a want of time. I have always defended woman against the complaints of husbands and vile old bachelors. I admire their beauty, their follies, their weaknesses, their virtues, their tenderness to the sick, and often their sublime submission to misfortune and the tyranny of man, and am willing to take to their welfare my oath of eternal allegiance. I consider it every woman's duty to make herself look beautiful whether it is by false hair, false teeth, or that taste in dress which is so exquisite, as well as the arts therein which go so far to make up for the deficiencies of nature. Why should we not feel grateful to her for pleasing the eye, notwithstanding the growlings of those unnatural monsters,—their husbands,—who expect their wives to be angels, whilst they are—hardly as good as they ought to be. If I have anything to propose to the ladies in the way of beautifying their forms, heightening their complexions, and increasing their vitality, that is a private matter between myself and them, and should be nobody's objection as long as it does good. I do know an art of beauty that is infallible. It will take the place of rouge, and give a rosy complexion, and that is working—pardon me—exercising out in the garden, with the hoe, the rake, the pruning-shears; doing those most valuable and indispensable things that will fill the purse with money and add more to the health than any medicine, and perform more miraculous cures than any male or female doctors. Let this become fashionable in Vineland, and the ladies will all continue to be beautiful. Bachelors will try to get married and husbands will be satisfied. They will cease to growl at the ailments and want of beauty in their wives. Oh, that I had the power to persuade the ladies to do this thing! Let them throw prejudice, as well as “physic to the dogs.” Why should they not in Vineland practice common sense and good taste, and do as they please? This ought to be one of woman's rights. Let them all adopt it, and it will become one of the greatest reforms of the place. Why should they not equal the most aristocratic ladies in England? They do it for their health

and beauty. They can often be seen in their gardens working away with the rake and hoe, whilst the American seamstress with her thin shoes and attenuated form would blush to be seen at such an occupation. I have often been amazed to see the number of ladies, in Philadelphia and New York, nursing poodle dogs—large poodles, small poodles, some without any hair, and all sorts of dogs, and on one occasion even an immense rat. They are generally married ladies. Being a bachelor, I could not account for such a progeny, but some how or other I have thought that thin shoes, bad air, and no work, have had something to do with it. No wonder! Why should God trust to their health the raising of beautiful children? If any lady in Vineland lacks the moral courage to do her duty in this reform, let her join the Floral Society. The most aristocratic waiting-maid in the country feels flattered with the suspicion that she cultivates flowers. Then why cannot a lady have a rose-bush near a row of cabbages, and when anybody comes along hoe the rose-bush, and when they turn their backs hoe the cabbages—who will know the difference?

Aside from this, the Floral Society is now organized. For success it depends exclusively upon the ladies, and I sincerely hope that they will all show their good taste and public spirit by joining it. You will no doubt appreciate the liberality of one feature I have recommended, and that is that no gentleman shall belong to it but myself.

In following out the principles of our place, there is one feature about the most important of all, so far as ornament and profit are concerned. Every five and ten acre lot, and every other for that matter, should have connected with it a convenient and well-constructed hot-house. This will enable you to have the earliest and the latest of produce for the market. Also, to raise fine Hamburg grapes, which will sell for two dollars a pound. You can then propagate your own plants, and need buy nothing of this kind in the spring. The entire work can be done by ladies, and might well be termed Winter-farming. At the cost of three or four hundred dollars, every house can have one. And you can readily sell out of it several thousand dollars worth of produce a year, after paying all expenses. There is a field for skill and industry, at a time when there is a suspension of other occupations, added to summer

work, which would make every family wealthy. At my suggestion, it was followed, in several instances at Hammonton, with all the success anticipated. These persons have become well-off. Let it be done here thoroughly and extensively—here, where we will soon have a well organized system of converting all produce into cash within a few hours. I look upon this as a most important feature. It should be a subject for the attention of the Agricultural Society.

You all have a noble object before you. You are seeking independence in the only certain and truly philosophical way—in the repose and quiet of a self-supporting and beautiful home. Whether we are worth hundreds or millions, we can obtain nothing more than this ; and no matter what our wealth,—actual brow-sweating, or brain labor is essential to our happiness. Never let us think that independence or wealth, because there is a great difference, are the privilege of idleness. This is unworthy of our manhood or duty, and incompatible with our happiness. The proprietor of five acres, who makes his living upon it and adorns it, possesses all that an Astor can obtain, and I have no doubt is a happier man. To meet with success in this pursuit, wherein a man is his own master, is subject to one unvarying law and condition, and that is systematic and intelligent labor. I mean by this that a man must work for himself as long and as perseveringly as he will work for another. He can soon ascertain whether he has within himself the sovereign principle of self-control or not. Let him lay down for himself, from one week to another, a certain and defined amount of daily labor. If he does it he is a true sovereign. His place will soon be cleared and smile with beauty under the hand of industry. He will raise large crops ; he will have fine fruit ; he will grow in wealth and prosperity ten times as fast as if he had worked for another, because it will be all his own. But if he finds he cannot do this ; that he must have at his back the spur of another man's authority to enable him to get through with a day's work, then let him sell his place and hire his services to another, as it is not the land that is difficult to clear, nor the soil to produce, but it is a fatal defect in his own nature, or education, which marks him for life as a dependent. We often find people who do well for others, whilst they can do nothing for themselves ; and those

who can do for themselves that which they cannot do well for others. It is a law of nature. Both classes are to be respected. But man must learn himself.

Standard Facts for Farming:

USEFUL TO BEGINNERS.

A small farm should be laid out with a view to have a certain proportion of the same in garden and fruit culture. There should be a variety of fruit, in order that the picking and marketing can be going on the entire season. The same principle should be applied to the garden.

It is preferable that fruit should not be planted too closely together, but far enough apart to admit of a row of vegetables being cultivated between. This ensures the culture and manuring of land where fruit is planted.

As a rule, three-fourths of a ten or twenty acre farm should be set to fruit in the following order: 1st, strawberries; 2d, raspberries; 3d, blackberries; 4th, peaches, nectarines, and apricots; 5th, apples and pears; 6th, grapes. These come in regular rotation throughout the season. Amongst these trees ordinary crops of potatoes, tomatoes, cabbages, carrots, parsnips, and others, can be set out. Fruit trees must be regularly wormed and pruned, and the small fruit thinned out before ripening, otherwise they will not thrive. Grain or grass should never be allowed to grow amongst them. The profit of vegetable culture depends upon the articles raised. Those that pay the best profit in Vineland are asparagus, tomatoes, sweet potatoes, cabbages, lima beans, and early turnips. Others are also profitable, but those mentioned are the easiest cultivated and to the greatest degree profitable. The most important considerations in their culture, is in having them the earliest and the latest; for this reason every farm should have its forcing-bed under glass.

Success in farming depends upon thorough culture and the economical management of the farm. Under the first head is embraced the cultivating and manuring of the crops.

Land for gardening and fruit purposes should be plowed very deep, from 12 to 18 inches, and between the rows a sub-soil plow should be run ; this loosens the earth and the roots, prevents drouth, and affords the plants the greatest degree of nourishment. The harrow and rake should then be constantly used for the entire season in keeping the surface perfectly loose, more especially in dry weather. A good harrowing may be pronounced equal to a rain in its influence upon plants. Everything should be planted in straight rows, to afford the freest use of the plow and harrow. Land should be well manured, as manuring affords returns to the full extent that it is found profitable without labor. The best farmers make it a rule to manure as far as they find it will pay.

No manure need be bought, and every place can have a full supply of the best in the world by observing the following rules : 1st, have a sink or large water-tight box under the privy, and into this throw dirt, muck, charcoal bottoms, or any kind of absorbent ; have running into it a conducting pipe or gutter from the kitchen, that all the waste water, chamber-ley, and soap-suds, may be run into this sink, saturating the dirt and muck completely, and disseminating amongst it the privy manure ; then empty it out once or twice a week. If a portable box is made for the sink upon wheels, it will be found to add much to convenience and save handling. It should be large enough to hold two cart loads. This process makes the best manure in the world, and the cheapest. Any ordinary family can make 75 or 150 loads of this manure per annum by attending to this simple process. The gardeners around New York and Philadelphia have found privy manure by far the best ; in some instances spreading it over the surface of the ground from buckets, for which they buy thousands of loads. The writer of this article has composted hundreds of loads of manure by the above process, and has always found that it produces the largest vegetables, and the greatest growth for plants. An ordinary family and the waste from an ordinary house, can make as much manure under this process as can be made by five horses. To get a great growth of plants, watering with liquid manure produces the

greatest results. In order to obtain this conveniently, bore holes in the sides of a barrel, and set it in the corner of your sink, or have a drain from one corner of your sink into a barrel. This use of liquid manuring has been found the most profitable method; near the large cities it is done extensively; they use a barrel upon wheels, from which they have a spout in the bottom, and wheel it between the rows. Solid manure is reserved more particularly for the grain crop. This system has been adopted in Saxony and Belgium, where farming and gardening has become an advanced science. This is the way to produce mammoth vegetables for the fairs, and, in short, a mammoth crop of any kind. 2d, buy a cow: a good one of the best stock. If your place is new, it will pay well to buy the feed of a cow for the sale of the milk, which will readily sell, and the manure she makes. It also ensures the profitable consumption of many things upon a place which are unmarketable. 3d, buy two pigs that will breed, of the best Chester County, Pennsylvania, or Burlington County, New Jersey, stock. During the growing season they will consume any refuse offal, and make an immense quantity of manure; for this they should be supplied with ample quantity of leaves, muck, dirt,—which they root over and thoroughly compost; muck is better when attainable. They should be well supplied with litter and dirt, and have a well-arranged pen in which they will find some protection from bad weather.

The economical management of a farm consists in following that great principle of nature to allow nothing to go to waste. That which is not saleable should make manure. Every leaf, stalk, cob, or decaying vegetable, should be thus preserved. Weeds should never be allowed to grow, as they deprive the plant of the strength of the land. Killing out the weeds is a benefit to the crop, also, in cultivating the land.

Tools should be of the best kind, and always kept in good condition.

The next great principle in the management of a farm, as in other things, is to realize upon what you raise. Gather everything in season, and assort the articles, in a manner to present the best appearance, and sell them. Fruits should be neatly assorted in boxes adapted to the purpose. The owner always bear-

ing in mind that appearance in such thing is one-half the battle.

Buying your trees—in this, there are many hidden roads of danger; make it a rule to buy of no nursery agents, but get your articles at the nursery, and select your trees. There is more swindling by nursery agents than any other class of people, except the manufacturers of patent manures. There are a few difficulties in buying of agents which we will mention.

1st. Their charges are enormous; three times the legitimate price, under the plea that it is cheaper for you to buy a good article than a poor one.

2. Often being persons who have no connections with any nursery, in order to fill their fall orders, they buy the refuse stock of old nurseries for a mere trifle, and put these upon you at their exorbitant figures, and unless you are versed in trees, you will take them. In place of straight, strong trees, clean in the bark and healthful, you will be served with spindling, crooked trees and miserable roots that had better be thrown upon the brush-heap and burned than planted.

3d. The varieties are not what you order; they profess to have all varieties, and then will serve you with anything.

4. They always profess to have some new and extraordinary variety of tree, vine, or berry, which they sell at an immense price under some new name. Thousands of dollars have been made by such humbugs. Have nothing to do with them. Buy nothing but old and established varieties. In making these remarks about agents, we wish to be understood that we do not say all nursery agents are swindlers. Some are responsible people. But when you buy your trees, buy them of some person or some place that you can make responsible if they are not what you bargained for, and not nursery foot-pads running about the country, and who afterwards can never be found.

BUYING MANURE.—The safest manure to buy is lime, marl, ashes, stable or privy manure, when obtainable. Some phosphates and bone dust are excellent, and for this you have to depend upon the testimony of those that have used it to know which you should buy. A good plan would be for a number of persons to form a club, and send a member to Philadelphia to purchase a large quantity of privy-manure and plaster. Old hogsheds and barrels

can be bought, and by mixing one-half privy-manure and one-half plaster, it will bear transportation. The manure, in a pure state, costs about one dollar and a half a load, and one load of it is equal to a ton of phosphate, or anything you will buy. This is a practical way to get a quality of manure, which, in its returns, will pay five hundred per cent. upon its cost.

1. Where you intend to follow farming instead of gardening and fruit-raising, let it be your first care to seed your farm down to timothy and clover until the roots rot out. Be careful to use the coarse northern clover, as it is best for this purpose. New land has to be seeded much more thickly than old land. Whilst the ground is in clover, you can raise stock until the grubs rot out. Under this process, after the ground has been in clover two years, the third year it will plow up a rich, mellow loam, and will be suitable for anything. When you first take a new place, grub an acre of land upon which to raise all your vegetables for family use, and also to plant fruit-trees.

2. In cultivating your land, divide it into four or five fields, so that as you plant corn or potatoes, you can always turn down a clover sod in rotation. These crops requiring no other manure; and whenever you sow wheat, rye, or buckwheat, seed the lots to grass. It is a good plan, and practised by many, to sow clover and timothy amongst the corn, at the last harrowing. Pay particular attention to raising a large number of carrots for stock, and for sale. In Philadelphia, they bring a high price. Carrot seed should be soaked twenty-four hours before using, and sowed thickly; they should afterward be thinned to six inches apart.

3. Every farmer should make arrangements to plant at least one acre of strawberries, an acre of grapes, a half acre of blackberries, a half acre of raspberries, and a half acre of dwarf pear trees, together with other fruits. These will pay a large profit. The profit upon an acre of grapes has been estimated to be \$500. Until these fruits bear, the land is cultivated to root crops.

The best way to start a peach orchard, is to plant the stones in the open field; in the fall, have the ground well cleared, and mark them with stakes; plant them among good top-soil and earthy loam. This saves the danger of transplanting; and they are less subject to disease. They will grow remarkably fast. Wheat, rye,

or grass should never be sown amongst peach-trees, as it destroys them; but the ground must be cultivated in root crops.

BROOM-CORN. Every settler should raise at least one acre of broom-corn. It pays a very large profit to sell, and affords employment to many families during the winter season.

HOUSES. Build nothing to begin with that you will have to tear down, as it is bad economy. Make it either your house, or what will serve as an addition; and do not commence anything larger than what you can thoroughly complete, and finish up with three coats of paint. By this means, your improvement will be no discredit to yourself or the place. Small lattice-work before the door and around the windows, for creeping vines, add much to value and beauty. A neat pleasant-looking place is also saleable at all times, should such be the desire.

THE SIZE OF YOUR FARM. Let it be of such a size only, as you can most thoroughly cultivate. A small farm, well cultivated, pays better than a large place neglected. If, by placing the same expense upon ten acres, you can raise the same amount of produce, you will make forty per cent. more profit, and have about one-half the trouble.

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