

ture in May, with a weight of twelve hundred pounds. In September, she weighed sixteen hundred pounds, gaining, in four months, four hundred pounds. If thorough-bred cattle will do this, would it not be of benefit to every farmer to get some of the blood into his stock?

Cases similar to those which I have given can be found in every State in the Union, and more or less of their results are attainable by any one who will invest the necessary capital, and give the matter the requisite attention and care. A few hundred dollars is all that is required for a commencement, and the rest will slowly, but surely, follow. All cannot start with thorough-bred stock upon both sides, for that would cost too much; but this is not necessary, for, with thorough-bred blood on the side of the bull, and a careful selection of the cows, the work is easy.

WILL BETTER FARMING PAY?

BY JOHN I. CARTER, *Chatham, Chester County, Pa.*

[Read at Lancaster Meeting.]

Naturally, the answer to this question will be an affirmative one. Yet there are many farmers, who, if asked to do better farming, would assure you with much sincerity that they now labor all they are able, and that they now employ all the capital they can spare or command, without apparently dangerous risks. And when we consider the comparatively high price of farm labor and the low price of farm products—when we figure the cost and selling price of our main crops, we cannot wonder at this caution on the part of the prudent farmer.

It is natural that he should hesitate, when the praises of high farming, blooded stock, and improved machinery are sung in his ears. These all mean the employment of more capital, more labor, and more experience, and very properly should be introduced slowly, and with adequate caution. Anything like a radical change in a system of farming, or much of an innovation, like the wholesale introduction of blooded stock, or unusual applications of commercial fertilizers, or large purchases of new machinery, are all doubtful betterments, unless directed by sound judgment and thorough experience—more, perhaps, than the average farmer usually possesses.

But the farming of a community can be greatly bettered, in a way, too, that is entirely safe, by a closer attention to many of the minor details of farming that are too frequently overlooked or neglected, and although each neglect may be small in itself, yet their reform will aggregate a wonderful change in the appearance and wealth of a farming neighborhood.

Take, for instance, the improvements of our waste lands, (and probably three per cent. of the farming districts of Chester and Lancaster counties might be termed waste lands,) and quite a field for improvement will be presented. On the average farm will be found the unreclaimed swamp, the thicket of bushes, or the sparse and unprofitable piece of timber-land.

We pay taxes and interest on this unproductive land. It must be fenced, and receive more or less attention of some sort. It makes a harbor for vermin and a hot-bed for noxious weeds. It is an eye-

sore to the traveler, and a waste of property. Often a little ditching will reclaim such a swamp, and make a valuable meadow of an impassable marsh. The grubbing-hoe and the briar-scythe, and a little fertilizer judiciously applied, will soon make the thicket a garden of productiveness.

It is wonderful how soon a little persistent cutting will kill out bushes and weeds that before had an apparent life-lease on the land.

How much comfort, how much neatness, and how much good grass, can be added to our farms by a thorough mowing of our fence rows two or three times a year! It is surprising to see how quickly the grass takes entire possession, and the after-labor of keeping them clean is comparatively light.

The fall mowing of weedy pastures and stubble fields is a profitable work. If the weeds are cut before the seeds ripen, we lessen future trouble with the weeds, and give the young clover and other grasses a chance of light and room, and enable them to make a vigorous fall growth.

The timber-lands on many farms can be greatly improved with trifling expense. A judicious pruning-out of worthless timber, and of trees and saplings that will never be valuable, and supplying their places with such timber-trees as the locust, the black walnut, bass-wood, or lindens, or some of our oaks, chestnuts, and pines. Most of these grow readily from the seed, and some of them are easily transplanted. The yellow locust is a rapid grower, and a valuable tree. Twenty years will make a remunerative crop of posts. It renews itself from snickers and root sprouts.

The black walnut is easily grown from the seed; is a good grower, and its timber increasingly valuable.

The oaks, chestnuts, and lindens are not less easily grown, but slower of growth.

If the timber-lot can be protected, and the young trees somewhat cared for, it is better to plant the seed where the trees are to stand. In this way many of our timber-lots can be made to carry twice the amount of timber they now do, and the trees be straighter, fairer, and more valuable.

Rocky knolls and steep hillsides that are hard to cultivate should be made to bear their crop of trees—not only yielding the farmer a better revenue for the land, but serving as wind-breaks, and hindrances to the fearful cyclones that are becoming too common for comfort. As important conservators of rainfall, and a source of safety against floods, and droughts, and the shrinkage of our water powers, the timber-lands of our country are yet too much undervalued. Every farmer should see that the spring-heads in his meadows are sheltered and protected by a garden of maples, cypress, or sweet gum, and he will find it a bit of better farming that will pay.

There is another source of frequent loss to the farmer that might be bettered. More care in putting in their seeds. We see farmers plow, and harrow, and fertilize with much care and patience, and then, with hoe and drill, and unwonted haste, perform the most important operation of all. If the seed is badly sown, with vacant spaces and unseeded spots, no after-cultivation can fully make amends. Many a corn-field has five to ten per cent. of missed hills, and at the end of the season, a proportionate reduction of the crop. If it is the grass seeding that is defective, the loss is still greater, for the crop extends over several years. Few farming operations pay better for

persistent care than careful grass-seeding. If there is no grass, then you have weeds. "Nature abhors a vacuum." Worse than useless trash will mar the fields, deteriorate the quality of the rest of the crop, and make future trouble by a new batch of weed seeds. To sum up, a single way to farm better, and at the same time make it pay, is to give greater care to the smaller details of the business.

To gather up the "small ends," and to "make by saving," is a safe and sure way for the average farmer to farm better and make it pay.

AGRICULTURE AND FARM MANAGEMENT.

By Dr. WM. S. ROLAND, *Member from York.*

[Read at the Conneautville meeting.]

Agriculture is the art of cultivating the soil in such a manner as to cause it to produce in greater abundance and perfection, the vegetables and fruits necessary to sustain animal life. Although, on all parts of the earth, where climatic extremes do not make it absolutely impossible, the soil possesses a certain degree of fertility, so as to produce, in more or less abundance, plants suitable for the subsistence of man and beast; yet, without care and cultivation, that natural product, in many sections of the world, is meager in quantity, and often almost destitute of the nutritious qualities which only can be imparted to it by careful and intelligent cultivation.

In ancient times, the nomadic habits of the people led them from one portion of the country, of which they were possessed, to another, in order that their flocks and herds might subsist on the natural products of the soil; and, although agriculture was one of the first occupations of man, but little attention was given to that industry, and that of the most primitive and unsatisfactory order. So it has been among the savages of our own day and country; millions of acres, which, when under their control, produced but little that was life-sustaining, but, when cultivated by industry and intelligence, return to the agriculturist most abundant crops of cereals, vegetables, and fruits.

Wherever the plow, guided by the hand of intelligent industry, has broken and cultivated the soil, it annually returns a rich reward for acquired scientific knowledge, practically applied by patient physical labor. Yet, here in our rich agricultural districts, and most productive portions of our country, we too frequently see men engaged in the cultivation of the soil they own, or which they farm for others, totally ignorant of the most simple rules, which should govern all who desire to thrive by this old and honorable occupation. They apparently know but little about the formation and nature of the soil of the farm on which they expect to spend years of toil, in order that they may thereby gain a living. They buy large tracts of worn-out and neglected land, from the acreage of which they blindly trust to be able to win enough by poor husbandry to not only make a comfortable living, but to amass a competency for their descendants. They have no clearly fixed ideas of the rules that should govern their system of cultivation, in order to more speedily and effectually assist nature in