

Farming for Boys.

BY THE AUTHOR OF TEN ACRES ENOUGH.

CHAPTER VIII.

Never kill the Birds.—Pets of all Kinds.—What Underdraining means.—More Horseradish.—Encouraging the Boys.

From this point of observation they moved off to the garden, where they found everything in such nice order that it amazed and delighted Uncle Benny, who did not fail to point out to his pupils all the strong features of its management, comparing them with the miserably neglected condition of their own garden. Every fruit-tree had an old crook-necked squash hung upon it, far out of harm's way, pierced with a hole for a bird's nest. Mr. Allen evidently had a pride in this abundant supply of accommodation for the birds, for, addressing himself to the Spanglers, he called their especial attention to the subject. "Do you see, boys," said he, "how the birds are building in all these squashes? They are my journeymen insect-eaters. Do you know that these birds destroy millions of worms and bugs and millers, which prey on the fruits and flowers of the farm and garden? I could not do without them, as, if I had no birds I should have no fruit. I have tried it for myself, and it has been tried more extensively in European countries, where they attend to small matters of this kind much more attentively than we do here. Why, Tony, you know what the wire-worm is. Well, in a single department in France that worm has been known to destroy three successive harvests, each worth nearly a million of dollars. In portions of Germany, other insects have destroyed immense forests of large trees. One of the kings of Prussia once ordered all the sparrows killed because they ate his cherries; but two years afterwards he found his cherries and other fruits devoured by caterpillars. It was the same thing in Hungary, when the sparrows were generally destroyed; the insects, having no enemies, multiplied so fast that they consumed so much of the crops that laws were made forbidding the destruction of the birds. We shall have the same ruin here if we allow our small birds to be killed as everybody is now killing them. If we are to do without birds, we must make up our minds to go without fruit. This is the reason why every tree in my garden has its bird's nest. My boys never shoot a bird, not even an owl, for an owl is one of the farmer's best friends—better than a dozen cats about the barn. He is the sharpest mouse-trap that can be set, because he goes about after the mice, while the trap holds still until the mouse thinks proper to walk in. Even the common buzzard, that every fool shoots when he can, will eat up six thousand field mice annually—and how much grain would that number consume, or how many apple-trees would they nibble to death? No, no, boys, never kill the birds. Don't even drive them away, but coax them about you in flocks. It costs more to do without them than to have them."

On coming out of the garden, Mr. Allen led them into the open yard in front of his carriage-house and corn cribs. There was a great flock of pigeons picking up the remains of the noonday feeding which had been thrown to them. The Spanglers were delighted, and examined the pigeons attentively, but could not discover that they were any better than their own. The proprietorship of pigs and pigeons had already produced the good effects of making them observant and critical, thus teaching them to compare one thing with another.

"Now," said Mr. Allen to Uncle Benny, "these all belong to my boys. They began with only two pairs of birds, and you see to what they have grown."

"How many of them do you sell every year?" inquired Tony of the Allens, in a tone too low for the others to hear.

"Thirty dollars' worth of squabs," he answered, "and some seasons a good many pairs of old birds besides what we eat up ourselves."

"But who finds the corn?" inquired Tony, bearing in mind the bargain which Spangler had imposed upon them when consenting to his boys procuring pigeons.

"O," said he, "father finds it, but I'll show directly how we pay for it."

In addition to the pigeons there was a large collection of fine poultry, with a dozen broods of different ages, some just hatched out, the little fellows running round the coops in which the mothers were confined. There was also a flock of turkeys moving slowly about, with all the gravity peculiar to that bird. Uncle Benny made up his

mind he had never seen a more inviting dinner-party than those would very soon make.

From the poultry yard they wandered all over the farm. Everything was kept in the nicest order. No unsightly hedgerow of weeds and briars fringed fences, nor was a broken post or rail to be seen. The fencing had been made in the best manner in the first place, and would therefore last a lifetime. The winter grain stood up thick and rank, showing that the ground was in good heart. The corn had been planted, and in fact all the urgent spring work had been done. Mr. Allen having so managed it as to be ahead with whatever he had undertaken. Great piles of manure, with marl intermixed, were scattered about several fields, ready to be used on crops that would be put in at a later day. The springing grass on the mowing ground showed that it had been top-dressed with manure the preceding fall, and that the grass roots had been all winter drinking up the rich juices which the rain and melting snow had extracted and carried down directly into their ever open mouths. Everything about the farm showed marks of its being in the hands of a thorough man, who, in addition to understanding his business, had an eye to neatness, taste and economy.

Uncle Benny was impressed with the completeness of all that he saw. He called the attention of his pupils to the remarkable difference between the practice of Mr. Allen and Mr. Spangler, stopping repeatedly to explain, and enter into minute particulars. The results were so manifestly superior to any they had witnessed at home, that they did not fail to appreciate them. The old man's effort was to make them understand why it was that results should differ so widely. He told them the soil of the two farms was exactly similar, one farm, naturally, being as good as the other. The difference was altogether in the mode of management. Mr. Allen manufactured all the manure he could, and bought quantities of fertilizers. He sold some hay, because he produced more than he could use, but his straw was all worked up on the farm. He was quite as likely to set fire to his dwelling-house as to burn a pile of corn-stalks. On the other hand, Mr. Spangler took no pains to accumulate manure, neither did he purchase any; but even what he did collect was spoilt by the deluge of rains that carried off all its stimulating juices into the highway. As to selling hay he had scarcely enough for his own use, while more than once he burnt up a whole crop of corn stalks. Thus, while one farm was growing richer every year the other was growing poorer.

Presently they came to a beautiful meadow of at least ten acres, through the centre of which ran a wide ditch, with a lively stream of water in the bottom. After they came up to the bank the Spanglers observed an earthen pipe projecting from the opposite bank, and sprouting forth a strong jet of water. Proceeding farther they noticed another, and then another still. In fact they saw them sticking out all along the course of the ditch, about thirty feet apart. Every one of them was discharging more or less water. As they had never seen such things before, Tony inquired what they were.

"These are underdrains," replied Uncle Benny. "You know I showed the other day what surface drains were—now you see what underdraining is. Those pipes are called tiles."

"But where does all the water come from that we see pouring out of them?" inquired Joe.

"Come from? Why, it comes from everywhere—above, below and around the drains," replied Uncle Benny. "When a rain falls it soaks its way down through the earth, that is all that the earth don't require, and finds its way into the underdrains, and then runs off as you see. Then the water which rises from the springs under this meadow finds its way also into the drains, and is carried off like the surplus rain-water. If it were not for these drains the land would be so waterlogged that nothing but wild grasses and aquatic plants would grow on it; but now you see it is yielding the very finest kind of grass. If your father's meadow now filled with ferns and skunk-root, were drained as this is, it would be quite as productive."

"Quite as good," added Mr. Allen. "This meadow was as foul and worthless as Mr. Spangler's when I began to underdrain. I never spent any money that paid me half as well as the money I have laid out in underdraining. It cost me about three hundred dollars to do this work, but the land is a thousand dollars the better for it—in fact it was good for nothing as it lay a few years ago. All the water you see pouring out of these drains was formerly retained in the ground. It is just as

much more than the land required. Now it has exactly enough, and it is the difference between enough and too much that converts a meadow into bog, or bog into a meadow."

He then led them to the upper end of the meadow, where the ground was higher and drier, though it had also been underdrained. Here were three acres set with horseradish. The harrow had just been run over the field between the rows, and the green tops were peeping here and there above the surface. Uncle Benny had travelled all the world over, and, as he was sometimes disposed to think, had seen everything there was in it. But he admitted that here was a thing new even to him; he had never stumbled on a three-acre field of horseradish until now. It was a great novelty to the boys, who knew nothing more of the cultivation of the plant than seeing a few roots growing on the edge of the dirty gutter at home, while they were utterly ignorant of its marketable capabilities.

The boys wandered some few paces away, and the Spanglers were examining the three acres with close attention, when one of the Allens exclaimed, "That's our acre—we take care of that—that's the way we pay father for our corn."

This piece of information was very satisfactory to the Spanglers. They had been wanting to know how the Allens contrived to feed their pigeons, whether out of their own crib or their father's.

Just then Mr. Allen and Uncle Benny came up, and the former said, "now this outside acre belongs to my boys and their sister. They take the whole care of it except harrowing the ground, but doing the hoeing, weeding and harvesting, their sister helping them to wash it and get it ready for market. I think it right to give them a chance to do something for themselves. I remember when I was a poor boy, that a very mean one was afforded to me, though I wanted so much to make some kind of a beginning. All the money this acre produces belongs to them. They keep regular account of what is done on it, charging themselves with the plowing, cultivating, and also with what we estimate their pigeons will consume. All the money produced from these two sources, after deducting expenses, belongs to them, and I put the most of it out for them as an investment, where it increases a little every year, and will be a snug capital for them to begin life with. I think it is the best investment, next to underdraining, I have ever made."

[To be continued.]

How Man is Constructed.

The average weight of an adult man is 140 pounds 6 ounces.

The average weight of a skeleton is about 14 pounds.

Number of bones, 240.

The skeleton measures 1 inch less than the living man.

The average weight of the brain of a man is 8 pounds 8 ounces; of a woman, 2 pounds 11 ounces.

The brain of a man exceeds twice that of any other animal.

The average height of an Englishman is 5 feet 9 inches; of a Belgian, 5 feet 6½ inches.

The average weight of an Englishman is 150 pounds; of a Frenchman, 136 pounds; a Belgian, 130 pounds.

The average number of teeth is 32.

A man breathes about 20 times in a minute, or 1,200 times an hour.

A man breathes about 18 pints of air in a minute, or upwards of 7 hogsheads in a day.

A man gives off 4.08 per cent. carbonic gas of the air he respire; respire 19,666 cubic feet of carbonic acid gas in 24 hours, equal to 125 cubic inches common air.

A man annually contributes to vegetation 124 pounds of carbon.

The average of the pulse in infancy is 120 per minute; in manhood, 80; at 60 years, 60. The pulse of females is more frequent than that of males.

A Pennsylvania correspondent of *Farm and Fireside* reports a neighbor as having kept "seven cows and calves" the whole season on two acres of land by the soiling system. "He sowed rye on rich soil adjoining his barnyard, early last autumn, mowed rye till the clover was ready, and he has corn drilled ready for use when the clover is too old for soiling."