

them, but there is one little fellow that bores through the fruit right and left, which we cannot reach by spraying. I allude to the apple maggot. The only way with this is to destroy the fallen apples as soon as they drop. How are we to do it? If we pick them up, that is expensive, and pigs are too sleepy. Here the apple grower has no better assistants than sheep. How to use the sheep to the best advantage is what we want to know. There is no use of putting twenty-five sheep into a ten acre orchard, expecting them to eat all the weeds, all the sprouts and all the fallen apples. They could not do it if they would. Put in not less than one hundred sheep. Put in at least twice as many as the lot will pasture, and then coax them to work for you. Sheep require a large variety of food, and if you want the sheep to eat the grass and fallen apples, etc., all of which are very carbonaceous, you must hire them to do it by giving such food as will balance the ration; feed them plenty of nitrogenous food and they will work for you faithfully and keep your orchard in the best possible condition.

What shall we feed them? It costs \$3 a week to hire pasture for one hundred sheep. Put one hundred sheep in a ten acre orchard, and with the \$3 buy two hundred and fifty pounds of bran, and in addition, one hundred pounds of new process linseed meal. Feed the one hundred sheep fifty pounds of this each day, which is about one hundred quarts—a very liberal feed for them, and they will thrive wonderfully and do all I have said.

By this means I accomplish these three objects. Those sheep are the best insecticides I ever had as against the codling moth and the apple maggot. They eat every sprout, every weed and every fallen apple, and eat the grass down like a road-side, and do all that at a price less than that at which I could hire pasture for them, and they add greatly to its fertility. Let us see what I am doing in the way of fertilizing. Two hundred and fifty pounds of bran, according to the experiment stations, contain of nitrogen, potash and phosphoric acid, about \$1.63 worth; one hundred pounds of new process linseed meal contains of those three elements a little over \$1.00 worth, so that I am getting in my orchard, value in manure that is equivalent to \$2.63. But you say, that costs money; but it would cost me \$3.00 to get the sheep pastured, so I am here getting the equivalent keeping for 37 cents, or, I am getting this amount of fertility for nothing. Now if I should put just enough sheep in my orchard to keep it eaten down, and so that the orchard would support them and keep them thriving, do you not see that I would not add any fertility to the ground?

I want to enrich my ground and crowd in those sheep and feed them as I have said. It costs 37 cents a week for what the sheep do for me in the way of putting my orchard in the best bearing condition. Look at what I am doing for the season.

Two hundred and fifty pounds of bran per week for twenty weeks make 5,000 pounds, or two and a-half tons; one hundred pounds new process linseed meal for twenty weeks make one ton, and at the figures I have given you, that two and a-half tons of bran contains one hundred and eighteen pounds of nitrogen, one hundred and fifty pounds of phosphoric acid and eighty pounds of potash; the ton of new process linseed meal contains one hundred and eight pounds of nitrogen, thirty-seven pounds of phosphoric acid and thirty-seven pounds of potash, making an aggregate of two hundred and twenty-six pounds of nitrogen, one hundred and eighty-seven pounds phosphoric acid, and one hundred and sixteen pounds potash, worth in the market \$54.57. If I counted the pasturage of the sheep the same as I would have to pay for it, \$60.00, at the expense of \$5.43, I get all that manure value in addition to the work done by the sheep.

I have said that one hundred barrels of apples contain thirteen pounds of nitrogen. Here we have nitrogen enough for thirty-seven hundred barrels; one hundred barrels contain seven pounds of phosphoric acid; here we have enough for twenty-eight hundred barrels. One hundred barrels contain about seventeen pounds of potash; here we have potash enough for six hundred barrels, and all this at the expense of only \$5.43. And all this beyond having all the assistance from the sheep I have indicated.

I have an orchard that has not been plowed for seventeen years, which is remarkably healthy, and it makes an average annual growth of full fifteen inches on the limbs. The leaves are dark green and thick—in short, it is the picture of health, and I attribute its good appearance, health and productiveness to my manner of over-stocking it with sheep.