

One hundred and fifty bushels of apples—that is enough if they are good enough and too many if they are poor—contain about 8 pounds of nitrogen, 24 pounds of ash; 13 pounds of which is potash and 1 pound phosphoric acid, worth together, \$1.86.

How much the trees will require for increased growth, how many of the leaves will be blown away, how much nitrogen will escape by leaching, and how much will be restored to the soil by the clover roots, and how much of the fertility produced by feeding the bran and meal the trees will be able to readily secure, neither the theorist nor the practical men can tell.

All know that the orchard requires food, and all can easily see that this method will furnish at little or no cost the fertility required. No charge should be made the sheep for the grass, as the work they will perform in transforming the poor apples and the worms into valuable fertilizers will be a fair equivalent for it.

Summoning up the case, we have the orchard raised through skill and the unaided fertility of the soil. The draft made on the land by the production of apples and the necessary growth of wood and the losses of fertility which may occur are to be fully met by restoring to each acre yearly through feeding animals upon it, some 23 pounds of nitrogen for the 8 pounds removed by the apples; 14½ pounds of potash for the 13 removed and 9 pounds of phosphoric acid to replace the one carried off. It will be seen readily that if there is any deficiency, it is likely to be the potash, as scarcely more is returned to the soil than is removed by the fruit, so a dressing of potash is likely to not only improve the quality but the color and aroma as well.

The hundred sheep would consume in five months at pasture, 2,750 pounds of oil meal worth \$28 per ton, and the two would cost together \$82.50. The value of the plant food left on the soil computed at commercial prices would be \$43.07; but whether it is really worth that or not no one can tell.

Can a hundred lean sheep purchased in the spring be made to gain \$100.00 in value in five months of grazing and grain feeding with a half pound of meal per day per sheep, or with the feeding of three-fourths of a pound if thought advisable? I shall make no attempt to answer these questions but leave them for your thoughtful and earnest consideration. While I cannot answer them myself accurately yet I contend that the orchardist is growing too much wood, too many apple seeds, too many apples, too poor apples, too