

These questions are worth considering as they all look toward greater economy and better results.

It will be seen that provision has been made for maintaining the fertility of the orchard up to the time of its coming into bearing. What I have said also implies that the trees have not been unnecessarily stimulated by manure, or otherwise, that they have made a steady, healthy growth, and that they have come into bearing early. All this, too, has been done from the plant food already in the soil, which has been liberated by intelligent culture. Before treating of the bearing orchard I again call your attention to the danger on the one hand of over feeding, and on the other, of under feeding the orchard while it is being raised. As the heifer is simply kept growing and great care is taken not to over feed, or change the direction of her inbred tendencies while she is young, and as she is more liberally fed as soon as she begins to produce something, and as she is fed moderately liberally, or very liberally, as she responds to the food given, so in like manner should the orchard be treated.

The amount and kind of food furnished to the orchard should be studied as carefully as is the food of the dairy cow. What kind of food does the orchard want? Like other plants, it is likely to have enough of all kinds except potash, phosphoric acid and nitrogen. As the cow cannot give good returns without a full supply of albuminoids, carbohydrates and fats, so neither can the orchard respond without a full supply of digestible plant food. How shall it be secured? Would it be best to get the annual dressing of fertility wanted by purchasing commercial fertilizers, or by the purchase of cattle food and animals, and through them secure the desired elements in the form of farm manure.

If the orchard contains ten acres, it will carry one hundred sheep from May to October, provided one-fourth of their food be furnished to them in the form of bran and cotton seed or oil meal. One hundred sheep, weighing eighty pounds each, will require for one-fourth of their daily sustenance one-half pound of meal per head. In the spring they will want something less than this, in the fall something more. If these animals take ten per cent. of the manurial value from their food for their natural growth, there will still be left scattered on the land in solid and liquid droppings, 228 pounds of nitrogen, 146 pounds of potash and 90 pounds of phosphoric acid, or 22.8 ; 14.6 and 9 pounds, respectively per acre.

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