

## Manures and Fertilizers.

### THE SPECIAL NEEDS OF CROPS.

There is a kind of farming where natural fertility, however great, is inadequate to meet the special needs of the crops grown. In the growing of these, as in market gardening, the farmer should consider both yield and quality. These characteristics are only perfectly acquired by the particular crop when an abundant supply of plant food is available; a deficiency of food results both in reducing yield and quality and hence market value, while in the case of the other crops the result of a deficiency of food is found mainly in yield, the returns being measured by the size of the crop and not by its quality. Fortunately, most garden crops belong to a distinct class, which possess a low fertility value and a relatively high commercial value.

If it is remembered that the sale of crops is virtually a sale by the farmer of so many pounds of nitrogen, phosphoric acid and potash, in crops of this sort, the constituents are sold at the maximum price, and therefore the cost of the plant food applied, although the amounts used may be regarded as enormous, is but a small proportion of the value of the increased crop. Take asparagus, for example, the market value of this crop is in large part governed by the size, succulence and sweetness of the edible shoots, spindling shoots, or any bitterness or stringiness, is accompanied by a lower market price. This perfection of quality can only be attained when the plant has at its disposal an abundance of all forms of plant food during the entire period of its growth, and fertilization which sometimes amounts to one ton per acre of a high-grade mixture will bear no adequate relation to the total value of the crop from that acre. An application of \$50 worth of plant food will often prove more profitable for asparagus than an application of \$2 worth to a crop of wheat, though the conditions of growth in both cases are such as to cause an increased yield, corresponding to the applications made.

It is for crops of this character that the natural fertility of the soil, however great it may be, is not adequate; the peculiarities of the crop require that special kinds and forms of plant food be supplied. The crops are artificial rather than natural and require a forcing beyond that possible from natural stores in the soil.

Many advocate the exclusive use of barnyard manures for crops of this character, but they cannot economically meet the situation as well as the commercial fertilizer, because it is not possible to so readily adjust the supplies of plant food in them as to result in the greatest and most perfect production, besides if they are as good the supplies are inadequate and too expensive. It is here that fertilizers must be used, and in constantly increasing quantities and definite knowledge concerning their character and methods of use is especially demanded, for not only is there a larger consumption each year, but the consumers are demanding quality of product also, which can be met most surely and economically by artificial supplies of plant food. (Director E. B. Voorhees, N. J. Exp. Sta.)

### FERTILIZING THE ORCHARD.

Richness of soil in plant food is just as important in an orchard as elsewhere. Too often the orchard is neglected in this respect and no orchard can go on giving profitable returns for a long series of years without being fed. This must be done by applying manure among the trees, as it is not possible to rotate. One of the best manures for fruit trees is the manure from the horse stall. It is hardly possible to improve upon it for general fertilizing. Spread it under the trees in liberal doses in winter or early spring. If the trees are large, cover the entire ground except a foot around the trunk. Thus scattered, it encourages rootlets to fill the soil completely and add to the strength of the tree. If the poultry house is in or near the orchard and the poultry yarded therein, they will greatly increase the fertility of the soil by their droppings and perhaps keep in check the insects that sometimes play sad havoc with the crop of fruit. In this section of country a low shrubby manner of growth is desirable, as it

We supply everything in the Fertilizer line whether raw or manufactured, native or imported, which the world's markets afford. We sell Wood Ashes, Peruvian Guano, Bone and Agricultural Chemicals, as well as the best mixed Fertilizers possible to produce.

"For the Land's Sake"

## USE BOWKER'S FERTILIZERS,

They Enrich the Earth.

Write To-day for Catalogue and Prices.

**BOWKER FERTILIZER CO.,**

(Independent Company.)

43 Chatham St., BOSTON. 63 E. 4th St., NEW YORK.

shelters the trunk from the blistering rays of the mid-summer sun. For the same reason a moderately thick top should be grown. The vitality of all fruit trees must be A No 1 if they are to be of any value. The extreme changeableness of the weather renders it absolutely necessary.—[A. N. Springer, Tipton Co, Ind.]

**Care After Fertilizing**—A soil in first-class physical condition and well stored with plant food will respond more liberally to a heavy dose of fertilizers than one run down or worn out. Fertilizers in themselves cannot make a good crop when surrounding conditions are unfavorable. If the season is too wet or too dry, too cold or too hot there will be a partial or complete failure. If the land is not well worked, the plant roots are retarded in their action, and being confined to a narrow space in their search for food, growth becomes stunted and a perfect yield impossible.—[Bryan Tyson, Moore Co, N. C.]

**The Soil Is Like a Bank.** If continually drawn upon without replenishing it will soon become bankrupt, hence the wise farmer will see that he at least maintains an equilibrium by depositing annually what is drawn out. This guards against the gradual removal of plant food. After a soil has once become run down, it is a very difficult matter to build it up again. It is a far more economical plan to gradually increase the productive capacity of the land.

**Unleached Wood Ashes,** which used to constitute the chief supply of potash, are now too scarce to be had in sufficient quantity to supply the demand for potash. Ashes are one of the safest and best sources of potash for most crops and soils. The most economical source of supply for potash is now generally considered to be German potash salts, of which kainit contains about 11 per cent of potash.

**The Next Best Thing** to fertilizers and manures is to till the soil by frequent cultivation.

**The Farmers' Produce Ass'n** was recently organized at Wyoming, Del. to cover Kent Co. with A. N. Brown president and E. G. Packard of Dover as secretary. President Brown says: "We propose to ship our own produce and to have our own dealers in the markets where our produce is to be sold. We will build our own cold storage plant and our own canning factories if need be. We will eat of our own produce, and if there is no profit in selling it in the green state, we propose to manufacture it and sell the finished product. We have fixed the price at which we will grow tomatoes for the canneries at 15¢ per 4-lb basket, the standard peach basket of Del. Instead of selling them by the ton as heretofore. We have 300 members enrolled and expect to have 1000 before shipping season opens. A similar organization has been effected in Sussex Co and the organization of one in New Castle Co is under way."

## BRADLEY'S FERTILIZERS



Are unequalled for growing Grass and Grain, as they are so prepared that they furnish the right proportions of available plant food at the right time to insure a quick, vigorous start and early maturity.

## WINCHESTER

### Factory Loaded Shotgun Shells.

"LEADER" loaded with Smokeless powder and "NEW RIVAL" loaded with Black powder. Superior to all other brands for

**UNIFORMITY, RELIABILITY AND STRONG SHOOTING QUALITIES.**

Winchester Shells are for sale by all dealers. Insist upon having them when you buy and you will get the best.