🛪 Question Drawer. 🖌

## Muck and other Fertilizers.

**582.** SIF, —I think I wrote you some months ago, that I had a large quantity of swamp muck close to my orchard. I am now drawing it into my barnyard, to put the winter's make of manure on it, and as I have thousands of loads of it, I would like to haul it direct from the swamp to the orchard (which is much nearer than to the barn), and as I cannot compost it all, I want to put a quantity on my thirty acre orchard this fall and winter. Will the muck give off its nitrogen and other plant food in time, and nothing be lost, by putting it direct on the land, and nothing else for a year or more ?.

I am going to compost a hundred or more loads of muck with unleached wood ashes and ground bones, which I can get here. Are the ground as good as dissolved bones? In putting the muck direct on the land, I put one load to four trees, and a part of it I will put about two bushels of unleached wood ashes to the load of muck, and one hundred pounds of ground bones to the acre, broadcast, as far as the limbs extend: As the muck is spread as it is hanled, I then run a cultivator or drag it over at once. I cannot put ashes and bones this fall on all that I haul into my orchard, but I can in the spring, at least on the most of it. Will the bones give me the same benefit next year if they are not put on the land before spring, as they would if put on this fall? Yours truly,

J. K. FULLER.

## Reply by Prof. Craig, of the Central Experimental Farm, Ottawa.

1. Muck is chiefly valuable for its nitrogen contained in the organic matter, or elements of semi-decomposed plants. Under favorable circumstances, this nitrogen is available as food for farm crops; but in addition to its value as a nitrogenous food, its mechanical effect is beneficial to most soils, by improving their tilth and texture. A soil which is too heavy may be made light and more porous by an application of muck. Muck without fermentation does not readily give up its nitrogen to growing plants, and if applied to a soil without fermenting, the immediate result will not be very apparent or marked. Nothing will be lost by applying it direct to the soil without composting, but, as already stated, the returns will be much slower than if the elements of plant food in it have been freed by the chemical action which takes place during the process of fermentation Very small results might be expected the first year from an application of muck which had been unfermented or uncomposted.

2. The difference between ground bones and dissolved bones is simply that the elements of fertility in dissolved bones are more immediately available to plants; whereas, in ground bones they only become available by the process of decay and fermentation, and, therefore, results come much more slowly. As in the case of muck, little result might be expected the same year from an application of ground bones, this fertilizer not being readily soluble. A compost made of unleached wood ashes, ground bones and muck would be a most valuable fertilizer, and one from which immediate and desirable results might be expected. The whole question is, whether the fertilizer is desired for immediate use or not. Ground bone undissolved, like muck, is slow in giving up its fertilizing constituents. Dissolved in sulphuric acid, or acted upon by ferments,