

QUESTION DRAWER.

*Reply by Prof. H. L. Hutt, O. A. C.,
Guelph.*

Coal ashes are of little or no value as a fertilizer. The elements of greatest value in wood ashes are potash and phosphoric acid, the percentage of which varies greatly according to the kind of wood from which the ash is taken. Analyses made in the Chemical Department here last year, of the ash taken from different trees, showed that cedar ash contained only 3.30% of potash and .98% phosphoric acid, while elm ash contained 35.37% of potash and .45% of phosphoric acid. If you can get plenty of good wood ashes you will have no necessity for buying phosphoric acid or nitrate of soda. The principal element of fertility in the hair and fleshings would be nitrogen, which, however, would be largely liberated and lost if mixed with much lime. The best way to use such material would be to compost it with a large amount of earthy matter, which would retain the ammonia as liberated by the action of the lime. Apply the compost as a top dressing for some field or garden crop.

To Destroy Ants.

948. SIR,—What is the best method of preventing young ants going up young plum trees, and what will drive them entirely out of the ground? I find them very destructive to the young trees. I have tried using a rag about the trees, soaking it with coal tar, but that soon dries up.

THOS NORRIS, *Paris.*

*Reply by Dr. Jas. Fletcher, of the Central
Experimental Farm, Ottawa, Ont.*

I shall be interested to hear from Mr. Norris, how he thinks that young ants injure his young plum trees, I have never in my experience seen any injury to trees by ants, and I am much more inclined to think that their presence on Mr. Norris's plum trees merely indicates that his trees are infested by plant lice or scale insects. It is just possible that

ants may sometimes do harm by making their nests under the roots of trees, but I am not sure even of this, although I receive very many reports from fruit growers to this effect. The relations between ants and the aphidæ or plant lice are well known and have been most delightfully described by Sir John Lubbock in his book "Ants, Bees and Wasps." The plant lice are actually kept on trees and bushes by ants, so that they may feed on the honey-dew which is secreted by the plant lice, in fact they serve them as cows and have been called "Ants' cows." Some species of ants collect root-feeding plant lice and carry them into their nests, and not only do they protect them in this way, but they actually collect their eggs in the autumn and take care of them carefully in their nests during the winter. Many other insects are also domesticated by ants, and Sir John Lubbock says "It is not going too far to say that ants have domesticated more animals than we have." I would advise Mr. Norris at once to examine his trees and see if they are not infested with scale insects, or whether he does not find upon the twigs the small black eggs of plant lice. If he does find either of these the trees should be at once sprayed with kerosene emulsion.

A Scale Insect of the Maple Tree.

949. SIR,—I enclose you a twig of a Maple tree covered with a scale insect, for identification. W.

*Reply by Dr. Jas. Fletcher, of the Central
Experimental Farm, Ottawa, Ont.*

Dr. Howard first described this insect as *Lecanium persicæ*, but he has since decided that it is a new species, *Lecanium patelliforme*. It can be destroyed by spraying the trees, once before the buds burst, with kerosene emulsion.