

salt, put on at rate of from 1 to 1 1-2 cwt. of nitrate and 2 to 3 cwt. of salt to the acre. This will force the crop along and give it a chance to grow away from its enemies, and if put on with a fine distributing machine would, by resting upon the leaves make them unpleasant to the maggots.

Very finely powdered lime would have a similar effect, and 1 bushel of lime mixed with 3 bushels of soot would be still better.

Washing the plants with paraffin oil and soft soap emulsion, made with soft water, has been also successfully used.

This is made by mixing the oil and soap together in the proportion of 1 gallon of paraffin and half a pound of soft soap to 10 gallons of water, thoroughly incorporated by means of a hand-pump or syringe. The extract of 9 to 10 lbs. of quassia may replace the paraffin oil in this solution, or from 3 to 4 quarts of carbolic acid may be used with 6 lbs. of soft soap and 100 gallons of water.

These compositions can be put on with the ordinary hop-washing engine, with a long hose attached to it; or with a horse-machine for the distribution of liquid dressings in the form of spray, or of dry substances in the form of powder, upon every part of the plants. A knapsack-machine would be found useful for applying liquids in the case of small holdings.

When the white eggs are discovered upon the leaves of mangel-wurzel plants in infested fields, it would be desirable to apply paraffin and soft soap washes at once to make the foliage unpleasant to the maggots when they are hatched, and thus prevent them from burrowing into the leaves.

Where some of the plants in mangel fields are very seriously attacked, exhibiting many blisters and blotches, they should be pulled up and destroyed, so as to prevent a second brood of flies from being hatched and spreading further mischief. Women could do this work, but they would require careful instruction and direction. It need hardly be said that the

plants pulled up must be completely destroyed either by burning or burying them.

PREVENTION.

All the leaves of mangel wurzel plants in infested fields must be carefully collected and burned after the roots have been topped and tailed. On no account should the leaves stripped from infested crops be taken into pastures for cattle during the summer, as is sometimes the custom.

As it is believed that this fly is bred and reared upon dung heaps, it is important that these should be kept turned. (1) Farm yard manure put on for mangels should be ploughed in deeply, and the land well closed by harrow and roller before the mangel is put in.

Many weeds, as some of the thistles (*Carduus*), sow-thistles (*Sonchus*), dandelion (*Taraxacum*), and "Fat Hen" or "Goosefoot" (*Chenopodium album*), upon which the eggs of this fly are frequently found, serve as harbours for this insect, and should be kept from the neighbourhood of dung heaps and mangel fields.

The common dock is also very subject to the attacks of the mangel wurzel fly, and it is therefore wise to destroy these weeds especially in the neighbourhood of mangels.

NUTS.

The Americans have appointed a commission of experts to study goods and the most economical ways of obtaining them. They are now discussing the value of various nuts which they assert approach the grains in good value and some kinds would be much cheaper than grains if attention were paid to their cultivation.

In France and Italy, chestnuts are consumed in large quantities by the masses of the population simply because they are inexpensive.

No one would suppose how large an item of commerce are nuts in the United States in 1899. Almonds to the value of \$1,222,587 were imported; \$625,789 worth

(1) To heat, and so to kill it. Ed.