

soon as the seeds have had time to sprout, cultivate thoroughly and rib up with a double mould-board plow, the last thing in the fall. Put in a hoed crop (rape) the following spring, and cultivate thoroughly. Continue cultivation after the crops have been taken off, and rib up before the frost. Sow a crop of grain the following year and seed with clover.

Bluestone Treatment. Spray with a 2 per cent. solution of bluestone (blue vitriol or copper sulphate) which is made by dissolving one pound in five gallons of water, or nine pounds in forty-five gallons. It is necessary to spray the plants just when they are coming into bloom, and on a fine, bright day, in order to obtain the best results.

Vitality of buried seeds, 25 years.

***WILD OAT (*Avena fatua*).** The wild oat is an annual weed, with erect and smooth stems. It bears considerable resemblance to the common oat, but there are some distinctive points of difference. In the wild oat the chaff scales which adhere to the stem are thick and hairy, while in the cultivated varieties they are not so thick, and are hairless. The wild oat has a long, stiff awn, usually twisted near the base; in the cultivated varieties this is entirely wanting. It is also taller than the cultivated oat, and sheds its seeds before the latter is ripe. It seeds from July to August, and an average plant produces about 800 seeds. This seed is brought into new center, chiefly through the medium of cereal grains, but it also comes down at time of high water from infested fields to lower levels.

As to modes of combating the wild oat the following have been found effective. Cereal crops should be dropped out of rotation as far as possible for a time. If, however, it is necessary to introduce a cereal crop, barley is the most desirable. Some quick maturing variety should be secured which would ripen before the oat and should be cut before the oats have had time to mature.

Method practised at the O.A.C. as outlined by Prof. Day, is recommended for this weed.

Vitality of buried seeds, 4 years.

***CORN COCKLE OR PURPLE COCKLE (*Lychnis Githago*).** This is one of the weeds that infest our wheat crops. Its solitary purple flower makes it easily recognizable. It is an annual, flowering from June to August, and seeding from July to September. An average plant produces about 500 seeds, which are dispersed by birds, in manure, and as an impurity in seed grain, chiefly wheat.

The seeds are poisonous to young fowls.

It obtains a foothold in the land by being first sown as an impurity in wheat. It remains in the ground by seeding itself, for it ripens before many varieties of wheat, especially those sown in spring time, when the seeds tumble out of the large, ball-shaped pods, and thus seed the land.

To exterminate, the land should be cultivated so as to induce the germination of such scattered seeds as are lying in the ground, when the young seedlings which develop may be easily destroyed. As the weed is conspicuous, hand-pulling is one of the best methods of removing the cockle from the grain when it is not very thick. Care should be exercised in the selection of pure, clean, seed wheat, as this seed is easily distinguished, and this weed only remains because of carelessness and the neglect of reasonable precautions to remove it.

Vitality of buried seeds, 5 years.

***Cow COCKLE (*Saponaria vaccaria*).** This weed has not yet become common throughout Ontario, though it has become established in a few localities, and the writer found several specimens in the vicinity of Guelph during the past summer, which were introduced through the medium of the railways and seed

*Specified in Seed Control Act.