

in nutritive value, but its disposition to monopolize and retain possession of the soil, renders its destruction one of the most serious problems the farmer has to face. This weed grows from one to three feet high, from an extended, jointed rootstock, bearing spikes from three to ten inches long. Any stems which happen to get cut by a plow, harrow, or hoe, will send up a stem and leaves from any joint it may have, and produce a plant. Thus care should be taken in preventing their distribution by farm implements.

In eradicating this weed not only must the seed be prevented from maturing, but the creeping rootstock must be starved out and destroyed.

The method to be employed, will, as in the case of many other plants be determined by other circumstances. In a farm that is free from the weed, when a patch is first discovered, it should be destroyed, either by digging with a spade, and burning, or it may be smothered out by covering with straw, sawdust, or manure mulch.

Where it has become established, the method outlined by Prof. Day is recommended.

GREAT RAGWEED (*Ambrosia trifida*). A native found mostly in heavy clay land. It is a rough, coarse, annual weed which sometimes attains a height of five or six feet. Its leaves resemble in shape those of maple, and are set opposite each other on the rough, hairy stem. The flowers are of two kinds, the male or sterile flowers borne on tapering spikes about four inches in length, and the female flowers (which produce the seed) grow close to the stem in clusters of from one to three together at the bases of the spikes and leaves. Its seeds, which are about the size of a grain of wheat, are very objectionable, as it cannot be readily cleaned out of seed wheat, and renders it unsaleable. These seeds ripen in September and October, and an ordinary plant will produce about 6,000 seeds. It is distributed chiefly as an impurity in wheat, and is also frequently disseminated by freshets, as it often grows along the banks of rivers.

Ragweed cannot make much headway when clean seed is sown and a good system of rotation of crops is practiced. As the plants are conspicuous, hand-pulling should be practiced when any stray specimens are noticed.

Vitality of buried seeds, 5 years.

SQUIRREL-TAIL GRASS OR WILD BARLEY (*Hordeum jubatum*). Squirrel tail is an annual or winter-annual from six inches to two feet high, producing fibrous roots. It grows best in moist ground, is erect, and has a glistening appearance. This plant has a wonderful capacity for stooling, and a single plant often produces forty spikes, which bear from three hundred to two thousand mature seeds.

The plant is admirably adapted to be scattered by animals, also by wind and currents of water. The awns are barbed upwardly and readily cling to the fleece of animals. Water, too, helps to scatter the seed, especially freshets in the spring and autumn. Railroad cars in transit, having live stock, often carry the seed. The specimens contained in the collection were secured near the station of Milton, Ont., where there had been some straw dumped from a car containing Western cattle.

There is no question regarding its injury to meadows and pastures, but more serious than this is the injury to the stock. Dr. D. H. Johnson, of the U. S. Department, writes as follows: "The grass when found in hay and allowed to ripen, if in any quantity, is very injurious to horses' mouths. The small awns seem to work in and cause deep ulcerating sores which form under the tongue and lips. The writer has seen a great many animals affected, and made a careful examination, and found these seeds deep in the flesh, where they remained for three months or more. Have seen lips eaten completely through, and tongues eaten almost off by this grass. As to cattle, I have seen some affected, but not to such an extent, because the mucous membranes are much thicker."