Control of Perennial SOW THISTLE

Yellow flowers

Seeds scattered far
Miles by wind

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Patches enlarge through spread of roots. New patches may start from pieces of roots.
During the past several relatively wet seasons, sowthistle has been coming back as a serious perennial weed since it is definitely a wet weather weed. Fortunately control measures worked out at NDAC during past years are still effective.

As with other serious perennial weeds such as bindweed and leafy spurge, the most effective control measure is followed by a suitable system of crop rotation which may include grain, forage, and pasture production.

General Description of Plant

Since this weed has had less attention the past few years and is perhaps less well known than bindweed, leafy spurge and quackgrass, a brief description follows: Perennial sow thistle has yellow flower heads like those of dandelion but larger and in a branch-like cluster usually on leafy stems 3 to 6 feet tall. Leaves are somewhat like dandelion, are slightly prickly on the edges but never with prickles on the midrib.

The entire plant is filled with a milky juice. Roots are horizontal, long, numerous, somewhat irregular, not jointed, brownish yellow and brittle, many being 2 to 4 inches below the surface.

Spreads by Roots and Seeds

Perennial sow thistle is well adapted to spread over large areas because it produces enormous numbers of wind borne seeds.

These seeds resemble those of dandelion since they are provided with a tuft of hairs which enables them to float in the air.

The seeds are carried great distances by wind currents thus making control of this weed a community problem in which seed production must first of all be prevented.

According to O. A. Stevens of this station, an average flowering stalk in a heavy infestation may produce around 20 flower heads each of which may have up to 250 seeds.

Further, like so many of our serious perennial weeds, sow thistle also spreads rapidly by horizontal roots which are packed full of reserve foods.

Numerous buds on these
Control for Large Areas

Clean cultivation is the most economical control measure for large areas. Since the plant starts growth fairly late in the season, control measures can be delayed until about July.

A thorough plowing to cover all shoots is the first step and should be followed by cultivation with duckfoot or similar implement at intervals frequent enough to keep down new growth for the remainder of the season. Just before the plants blossom is probably the best time to plow.

Summerfallow with clean cultivation is effective only if followed consistently. To neglect a single cultivation will undo the entire season's work.

Crop Rotation and Field Management

Treatment the second season will depend upon the control achieved the first year.

If the infestation has been reduced sufficiently, an intertilled crop can be used. Winter rye or early maturing spring sown grain such as barley, early oats or wheat may be grown.

Early harvest and threshing of these will permit further cultivation of the field before fall to destroy plants which may still be present or new plants which may have started from seed.

Sheep and cattle like sow thistle and can be a real aid in its control. Pasturing alone will weaken the plant but cannot be counted on for complete control. Combined with a good cropping program it becomes more effective.

Because sow thistle plants do not start early in the spring when soil temperatures are still low, while winter rye starts early, rye is a very good crop to follow intensive cultivation.

The faster growing rye, if there is a reasonably full stand, will have a retarding effect in removing sow thistle plants. The rye might then be followed by a small grain crop preferably
When the sow thistle infestation is not heavy, an intertilled crop can take the place of the fallow or such a crop might follow the feed crop mentioned above with wheat or other small grain following the intertilled crop.

Control for Small Areas

Cultivation again is effective and frequent hoeing will finally kill this pest.

Chemical treatment for areas less than one-half acre in extent is practical. Sodium chlorate applied dry after about July 15 is to be recommended. Chlorate spray can be used but is no more effective than the dry treatment and is subject to fire hazards.

Apply dry chlorate in the fall at 4 pounds per square rod and re-treat surviving plants the following fall.

Observe all precaution as with chemical treatments for other perennial weeds.

Some of the new hormone chemicals now under test may make it possible to eradicate this weed in grain fields without harming the grain.