4-1-1940

Weeds Are on the Spot

R. H. Porter

Iowa State College

Follow this and additional works at: http://lib.dr.iastate.edu/farmsciencereporter

Part of the Agriculture Commons

Recommended Citation


Available at: http://lib.dr.iastate.edu/farmsciencereporter/vol1/iss2/5

This Article is brought to you for free and open access by the Iowa Agricultural and Home Economics Experiment Station Publications at Iowa State University Digital Repository. It has been accepted for inclusion in Farm Science Reporter by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
IOWA AND MOST other states have a real weed problem. Canada thistle, quack grass, horse nettle and field bindweed (creeping jennie) have spread rapidly in the last 10 years in Iowa, and other new but equally serious weeds have become established.

Of these the most serious menace is bindweed which not only may develop a root system 15 to 20 feet deep, but in warm, dry seasons produces an abundance of seed, 85 percent of which has a seed coat so hard that the seed won't germinate the first year, but will lie in the soil ready to send up new plants after the farmer thinks he has the pest “licked.”

Cropping System Wins

In Iowa four significant developments either have already contributed or should contribute greatly to weed control. First is the use of a cropping system which will provide income from the land and at the same time permit adequate cultivation, or a system in which the crop will furnish enough competition with the weeds to eradicate them finally. Cultivation and cropping methods which have proved most successful are:

1. Summer fallowing in conjunction with such fall-seeded crops as wheat and rye for bindweed and all other perennials.

2. Smothering with alfalfa for the control of Canada thistle, horse nettle, perennial sow thistle, milkweed and morning glory.

3. Surface cultivation in row crops, the most successful of which are sorghum and soybeans.

4. Smothering with such annual crops as sorghum, sudan grass and millet.

Delmar Vanhorn, a Greene County farmer, had a 33-acre field with field bindweed, scattered throughout which he began eradicating in 1934. By the late summer of 1939, he could find only 10 bindweed plants on the 33 acres. During that 6 year period of eradication he obtained enough income from the land to pay the cost of operation and had left over an annual return of $8.53 an acre. His gross annual income from the field during the 6 years was nearly $15 an acre. These returns were in part from crops grown on the 33 acres and the balance from participation in the AAA program, using the 33 acres as the portion of the farm taken out of soil-depleting crops under the program.

June 1, 1934, Mr. Vanhorn plowed this field, cultivated it nine times and seeded rye that fall. In 1935 the crop of rye, seeded the previous fall, was harvested, after which the field was plowed and cultivated four times. It was resowed to rye in the fall.

The rye was pastured in the spring of 1936, plowed under in June, cultivated until Aug. 1, hand-hoed three times and seeded to sweet clover.

The field was planted to soybeans in 1937 and surface cultivated as
late as possible. The same practice was followed in 1938. In 1939 hybrid corn was grown. On Aug. 15, 1939, only 10 bindweed plants were found in the entire field. The important thing for one to note in Mr. Vanhorn's procedure is that he persistently practiced summer cultivation, either between crops or in growing crops. Many farmers have had equally successful experiences with the control of Canada thistle and horse nettle, using alfalfa or summer smother crops. If alfalfa is used it is important to prepare the land properly by liming, if necessary, and, in general, seed in August which permits summer cultivation to reduce the weed population. The following year after seeding, thistles usually appear abundantly in the first cutting of alfalfa, but after that their number should decline rapidly. Alfalfa is probably more resistant to dry conditions than either thistles or horse nettle, and because the crop may be cut two or three times each season, the weeds can neither mature seed nor make rapid growth. Unfortunately, alfalfa will not control bindweed. It may hold the weed in check temporarily, but the Nebraska Experiment Station found that in exceptionally dry seasons bindweed could withstand more drought than alfalfa.

The important principle to keep in mind in controlling perennial weeds with a plan such as that followed by Mr. Vanhorn, or in the use of alfalfa for smothering, is that the weeds cannot store food material in the root system unless they are allowed to produce considerable top growth in the summer. Any practice which checks growth above the soil from July to Sept. 15 will prevent the accumulation of food reserves in the roots and gradually lead to eradication.

A second development in weed eradication is that farmers now are anxious to know that they are not sowing Canada thistle, bindweed or some other weed with their crop seed. In the past 8 years the number of samples of seed tested in the state laboratory at Iowa State College has increased 400 percent. Not only do farmers want their seed tested so that they may know what it contains, but they also are using to an increasing degree the 50 seed-cleaning centers which have been set up in 31 counties.

A third significant development in the attack on weeds is the change in our state weed law which permits organization for weed control on a county-wide basis. County boards of supervisors may appoint one person as a county commissioner with such assistants as are needed to adequately cover the county. Since 1937 the counties with the best weed control programs have been those that have adopted the county commissioner system.

A fourth relatively recent development is definite planning for weed control on a county basis. About 40 county planning committees have appointed sub-committees to outline and recommend a program of weed control. Most of these sub-committees have completed their plans which include (1) a weed survey, (2) cooperation between the Farm Bureau, the county supervisors and the County Agricultural Conservation Committee and (3) enlistment of farm-ers' support for an educational and demonstrational program accompanied by law enforcement as necessary. The interest in this phase of a comprehensive program is encouraging.

Duck-foot, sweep cultivator shovels of this type are valuable in weed control.