Controlling Field Bindweed by Grazing With Sheep

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EFFECTIVE tillage practices or combinations of tillage and cropping practices for the control of field bindweed, Convolvulus arvensis L., have been developed during the past 10 years. Many large-scale, statewide bindweed control programs now under way are based largely upon tillage and selective cropping. Long periods of intensive cultivation are necessary to reduce the reserve food storage of the bindweed root system and lower the vigor of the plant to the point where crops can successfully compete with it. This is the chief disadvantage of the method.

An alternative practice is the use of chemical weed killers, particularly sodium chlorate. Although these herbicides are effective and widely used, their cost is prohibitive on large areas, they often make the soil unproductive and their application often is unpleasant or dangerous.

The destruction of bindweed by grazing is nearly self-supporting and is not injurious to soil. It has long been known that sheep graze bindweed readily and many farmers have tried to kill the weed by heavy pasturing. This is difficult because bindweed has a low-carrying capacity in pure stands, and it is impossible to maintain sheep in good condition while the bindweed is being closely grazed. Bindweed is difficult to kill by grazing where it is growing in a bluegrass pasture because the denser growing grass partly protects the weeds by preventing the very close grazing of the leaves and stems which is necessary to kill the plants.

Investigations were started in 1938 at the Lamberton, Minn., Bindweed Experiment Station to determine the feasibility of controlling bindweed by grazing sheep on mixtures of bindweed and plants other than bluegrass.

MATERIAL AND METHODS

Fall-sown rye and wheat were chosen to accompany bindweed for spring grazing because these crops make rapid fall and early spring growth, furnish abundant spring pasturage, and continue growth until the latter part of June if not grazed too closely. The rye and wheat were not grazed in the fall. Unlike bluegrass, drilled stands of rye and wheat are not dense enough to protect the bindweed plants from selective grazing by sheep.

Sudan grass was used for summer pasture because it grows rapidly in midsummer after the rye and wheat pastures are exhausted. Sudan grass germinates and develops under conditions of low soil moisture, withstands grazing well, and is palatable to sheep. No prussic acid poisoning occurred on the Sudan grass grazed in these investigations.

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