RECENT INDIANA WEEDS.[1]

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New weeds appear practically every year in Indiana, usually through the medium of impure seed. Occasionally the newcomers flourish for a while, then practically disappear. Some species, however, make themselves thoroughly at home and frequently become so aggressive that they are a source of considerable loss and annoyance to the farmer. The great majority of our troublesome weeds are introduced species; for instance, only two of the nineteen species designated as noxious in the Indiana seed law are native plants.

The species considered in this paper include, (1) plants that are known to be troublesome elsewhere but have not been previously recorded as occurring in Indiana by authorities on the distribution of plants, (2) plants that have not been previously reported as troublesome weeds. This report covers the period from October 1, 1921, to October 1, 1922.

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Perennial sow thistle (*Sonchus arvensis* L.). Found growing luxuriantly on the farm of Harry Warr, Brook, Indiana. Mr. Warr considers it a "very bad weed with roots that go down three feet."

The discovery of perennial sow thistle in Indiana is of importance since this species is one of the most troublesome weeds in America, particularly in the Red River Valley of Minnesota and North Dakota and in adjacent Canada. The plant causes greatest damage where a one-crop system of grain farming is practiced, consequently it is not thought that the species can become as troublesome in Indiana on account of the diversified farming practices that prevail. Nevertheless it is a noxious weed that should be guarded against.

Spotted knapweed (*Centaurea maculosa* Lam.). A well-established patch of spotted knapweed was found on the Lofland farm near Romney, Tippecanoe County. The occurrence of this species in Indiana is noteworthy since it is a close relative of the black knapweed, *Centaurea nigra*, considered a serious grassland weed in Europe and recently troublesome in New York.

Perennial peppergrass or hoary cress. (*Lepidium draba* L.) Found in LaGrange County. During recent years this species has become extremely troublesome in Utah, California, Colorado and other western states. The following statement is quoted from Bulletin 264 of the Colorado Agricultural Experiment Station.

"Recently the perennial peppergrass has become of such frequent occurrence in Colorado that unless prompt action be taken for its

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control it is almost certain to spread itself over most of the cultivated areas of the state. During the past season this station has received numerous urgent appeals for some definite advice concerning methods for controlling this pest."

Mexican clover. (*Richardia scabra* L.) A new weed that is appearing in abundance in fields in the northeastern part of Henry County. It is a very common weed in the southern states, particularly in the gulf states, although it rarely becomes very troublesome. The common name is misleading since the plant is not a clover but is a member of the Rubiaceae.

Lawn pennywort. (*Hydrocotyle rotundifolia* Roxb.) Recently reported as a new lawn weed in America in Department of Agriculture, Circular 165. Its distribution was reported as the District of Columbia, locally in Pennsylvania, and near Louisville, Kentucky. The species was discovered as a serious lawn pest in Evansville, Indiana, where it presents a difficult lawn problem. It is a native of southern Asia.

Welted thistle. (*Carduus crispus* L.) Occurs locally in the eastern states. The species was found established in Union County, Indiana. It is a perennial and a native of Europe and Asia.

Western brome grass. (*Bromus carinatus* Hook and Arn.) A native western perennial that is common on the Pacific Coast, was found on the farm of Smith Brothers, Middlebury, Indiana. Since immediate measures were taken for the destruction of the several patches found it is not likely that the species will persist.

Phacelia. (*Phacelia purshii* Buckl.) A native annual that is causing much damage to oats, clover and wheat in Rush and Wayne Counties. In one part of Rush County about 500 acres of clover and wheat were seriously infested during the spring of 1922. The plant seems to choke out the crop, causing an uneven stand. No record can be found of this species causing damage as a field weed in other sections of the United States.

Bermuda grass. (*Capriola dactylon* (L.) Kuntze.) Bermuda grass, ordinarily considered to be a weed in the southern states only, is locally troublesome throughout Indiana, where it is frequently mistaken for quack grass. Although one of the worst weeds in the south, the species is at the same time a valuable lawn and pasture plant in the southeastern states. Shallow fall plowing followed by a good shade crop should kill Bermuda grass.

Johnson grass. (*Holcus halepensis* L.) The statement is frequently heard that Johnson grass cannot persist north of the Ohio River. The plant has been established in Indiana for a number of years and is known to be troublesome as far north as Vigo County, particularly in the vicinity of Terre Haute where it covers about five hundred acres of land. The farmers contend that it is one of the worst weeds in the county. It is said to have been introduced into Vigo County by means of western hay. Johnson grass is also troublesome in Scott County.

Gum Plant. (*Grindelia robusta* Nutt.) A native western species that occurs principally along the California coast, has been reported

as growing in sandy land near Ontario, LaGrange County. Specimens have been collected by C. C. Deam.

Wild Corn. (*Andropogon sorghum*, var. *drummondii* Hack.) A serious problem in corn fields on overflow land along the Ohio and Wabash Rivers in the southwestern part of the state, particularly in Vanderburg and Posey Counties.

CONCLUSION.

The Purdue Agricultural Experiment Station desires to keep in touch with new plants in Indiana that are apt to prove troublesome. Specimens of strange plants that exhibit weedy tendencies will be welcomed. It is thought that a great deal of trouble and expense can be saved to the farmers of the state if prompt action is taken as soon as new weeds are noted.

WILD CORN, A SERIOUS WEED IN INDIANA.[1]

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Wild corn is a member of the sorghum tribe that causes heavy losses on overflow land along the Ohio and Wabash Rivers in Posey and Vanderburgh counties, Indiana, and along the Ohio River in Henderson County, Kentucky.

The problem presented is very unusual. The seeds, which are produced in large numbers, are carried by the flood water. When the water subsides, the seeds are left on the soil, ready to germinate with the corn crop. The young wild corn plants resemble corn seedlings so closely that recognition is difficult and they become large plants before they can be identified. The damage done is so heavy that in some cases infested corn crops have been left unharvested. The seriousness of the situation is indicated by the fact that a request for assistance in controlling this weed was recently received from forty-six farmers residing in Kentucky and Indiana. They represented a total of 21,186 acres of corn land 25.9 per cent or 5,487 acres of which was damaged by wild corn during 1921. During a weed survey recently conducted by the Agricultural Extension Department of Purdue University, wild corn was reported as the second worst weed in Posey County by County Agent W. E. Shrode.

Wild corn has been identified as *Andropogon sorghum drummondii* Hack, a wild variety of common sorghum. The plant is said to have been introduced from Africa by the early slave traders. It spread in the southern coastal states, particularly in Louisiana and Mississippi, but it was rarely found further north. In its southern range the plant was commonly called chicken corn. Although classed as a weed, it was sometimes used as a source of wild hay and for fall pasture. The seeds were also gathered occasionally for chicken feed. With the introduction

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