

Since then it has developed into a noxious grainfield weed throughout the grain-producing areas of the northwest.

A number of specimens of this plant were received on June 8, 1923, from L. M. Busche, of Decatur, Adams County, Indiana, where the species is apparently established as a grainfield weed.

**Miscellaneous.**—Among new species found in Indiana that are not known to be noxious in other parts of the United States may be mentioned yellow alfalfa, *Medicago hybrida* (Pourr.) Traut., common along fence rows on the Purdue Farm in West Lafayette, and *Navarretia pubescens*, Hook. and Arn., a number of flowering specimens of which were found in a clover field in Randolph County on August 29, 1923. *Radicula palustris* (L) Moench, of common occurrence on moist land throughout Indiana but not ordinarily considered as a noxious weed, was found to be exceedingly troublesome near Veedersburg.

The Division of Botany of the Purdue University Agricultural Experiment Station will appreciate data regarding the occurrence of new plants in Indiana that are apt to prove troublesome as weeds. Information of this character is particularly valuable when the infested area is small, since an attempt is being made to eradicate potentially troublesome plants before they have had an opportunity to become widespread.

---

## A WEED SURVEY OF INDIANA.<sup>1</sup>

ALBERT A. HANSEN, Purdue University.

A regional flora, such as Coulter's "Flora of Indiana", records the occurrence of plants but gives little information regarding the degree to which weedy species are troublesome.

In order to secure data of this type a weed survey of Indiana is being undertaken by the Extension Division of the Botanical Department of the Purdue University Agricultural Experiment Station. Three sources of information are being used, (1) the county agent, (2) field observations and (3) the experience of individual farmers, secured from correspondence and by the questionnaire method.

The first step in securing this information was taken during the winter of 1922 when a questionnaire was sent to the county agents in 84 counties of the state. Each agent was asked to give the names of the five worst weeds in his county, and 71 replies were secured. Since the county agent, by the very nature of his occupation, is usually best qualified to give information concerning agricultural matters in his county, it is felt that reliable information was secured by this method. The results are not only of general interest, but have a practical value. They may also be of ecologic interest in present and future studies of the weed problem in Indiana.

The reports from the different counties are shown graphically in figure 1. The county numbers on the map each represent a species

<sup>1</sup>Contribution from the Botanical Department (Extension Division) of the Purdue University Agricultural Experiment Station.



Name	No. times reported	No. times reported as first in importance
1. Canada thistle ( <i>Cirsium arvense</i> ).....	38	26
2. White top ( <i>Erigeron annuus</i> and <i>ramosus</i> )....	32	4
3. Wild garlic ( <i>Allium vineale</i> ).....	21	16
4. Buckhorn ( <i>Plantago lanceolata</i> ).....	29	3
5. Wild morning glory ( <i>Convolvulus sepium</i> )....	18	5
6. Red sorrel ( <i>Rumex acetosella</i> ).....	17	3
7. Horse or Bull nettle ( <i>Solanum carolinense</i> )....	15	1
8. Wild carrot ( <i>Daucus carota</i> ).....	15	1
9. Cocklebur ( <i>Xanthium canadense</i> and <i>commune</i> ) .	11	1
10. Ragweed ( <i>Ambrosia artemisiifolia</i> ).....	11	1
11. Quack grass ( <i>Agropyron repens</i> ).....	11	0
12. Dodder ( <i>Cuscuta epithimum</i> and <i>arvensis</i> )....	11	0
13. Wild mustard ( <i>Brassica</i> spp. and <i>Barbarea vulgaris</i> ) .....	9	1
14. Foxtail ( <i>Setaria glauca</i> and <i>viridis</i> ).....	9	0
15. Wild Lettuce ( <i>Lactuca scariola</i> ).....	6	2
16. Ox-eye daisy ( <i>Chrysanthemum leucanthemum</i> )	5	2
17. Cockle ( <i>Agrostemma githago</i> ).....	5	0
18. Smartweed ( <i>Polygonum</i> spp.) .....	5	0
19. Crab grass ( <i>Digitaria sanguinalis</i> ).....	5	0
20. Bindweed ( <i>Convolvulus arvensis</i> ) .....	5	0
21. Sandbur ( <i>Cenchrus pauciflorus</i> ).....	5	0
22. Narrow leaf dock ( <i>Rumex acetosella</i> ).....	5	0
23. Wild Sweet Potato ( <i>Ipomoea pandurata</i> ).....	4	1
24. Flower-of-an-hour ( <i>Hibiscus trionum</i> ).....	4	0
25. Bracted plantain ( <i>Plantago aristata</i> ).....	4	0
26. Cheat ( <i>Bromus secalinus</i> ).....	3	0
27. Trumpet creeper ( <i>Tecoma radicans</i> ).....	3	0
28. Wild onion ( <i>Allium canadense</i> ).....	3	0
29. Wild parsnip ( <i>Pastinaca sativa</i> ).....	3	0
30. Common plantain ( <i>Plantago rugelii</i> ).....	3	0
31. Peavine ( <i>Vicia</i> spp.).....	3	0
32. Johnson grass ( <i>Holcus halepensis</i> ).....	3	0
33. Butter-print weed ( <i>Abrutilon theophrasti</i> ).....	3	0
34. Pigweed ( <i>Amaranthus retroflexus</i> ).....	3	0
35. Ironweed ( <i>Vernonia fasciculata</i> and <i>noveboracensis</i> ) .....	2	1

The following species were each reported twice, although in no case as first in importance: 36, white snakeroot (*Eupatorium urticaefolium*); 37, wild cucumber (*Echinocystis lobata*); 38, Russian thistle (*Salsola kali*, var. *tenuifolia*); 39, burdock (*Arcetium minus*); 40, broom sedge (*Andropogon virginicus*); 41, chickweed (*Stellaria media*).

The following were each reported once and in no case as first in importance: 42, chicory (*Cichorium intybus*); 43, horseweed (*Erigeron canadensis*); 44, water hemlock (*Cicuta maculata*); 45, jimson weed (*Datura stramonium*); 46, fall aster (*Aster ericoides*); 47, cedar weed

(?); 48, wild artichoke (*Helianthus tuberosus*); 49, wild pepper (?); 50, sour beet (?); 51, wild corn (*Andropogon sorghum drummondii*).

The specific identity of the weeds listed is doubtful in some cases. The common name wild mustard probably includes not only the true wild mustards in the genus *Brassica* but also *Barbarea vulgaris*, which has become exceedingly abundant in Indiana during recent years. In some cases in which two common names are given for what is obviously the same plant (such as narrow-leaf plantain and buckhorn, woodbine and trumpet creeper) only one common name is used in the above compilation. The technical names were supplied by the writer.

The results of the survey indicate that Canada thistle is the worst weed in northern Indiana, wild garlic is the worst weed in southern Indiana and white top, buckhorn, wild morning glory and red sorrel are the leading weeds that are prevalent in all parts of the state.

