

tion of chimeras, the reduction division is strikingly abnormal and the product of pollen is largely sterile. It seems reasonable to suggest in this connection that the internal variation of chromosomal equipment in cells of the same organism where it is present is the result of previous crossing of species. Into this connection should be brought, according to the present writer's investigations, as yet largely unpublished, the clonal or bud variations of types like the Boston fern. On account of the large number of very small chromosomes in the Boston fern, it has been impossible to correlate its innumerable variations with any chromosomal basis; but if there is a reliable foundation to the chromosomal hypothesis of heredity, the very numerous abnormalities appearing as bud sports in the Boston fern must have a heterochromosomal basis.

It is suggested in accordance with this brief summary of conditions in the case of forms which show a high degree of internal variability that heterozygosis or crossing affords a reasonable explanation, as it obviously does in the case of species which vary individually, that is, produce a wide series of different types from the sowing of seeds.

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#### DISTRIBUTION OF LEAFY SPURGE (*EUPHORBIA VIRGATA*) IN THE UNITED STATES

LEAFY spurge is a perennial weed that is proving to be one of the most difficult weeds to eradicate. Recent correspondence with botanists and agronomists in agricultural experiment stations and with curators of herbaria has led to the assembling of some important facts that will be of interest to plant workers throughout the country. It is important to locate primary infestations of this weed so that eradication or control measures may be taken at once.

Leafy spurge is listed in the manuals and weed bulletins as *Euphorbia esula* L. According to recent identifications and correspondence received from Herbert Groh, botanist, Department of Agriculture, Ottawa, Canada; P. C. Standley, Field Museum, Chicago; P. Aellen, Basel, Switzerland, and C. V. Morton, Smithsonian Institution, Washington, D. C., it appears that the correct name is *Euphorbia virgata* Waldst and Kit. instead of *E. esula*. C. V. Morton wrote that he was preparing for *Rhodora* a taxonomic note which will give reasons for the change in name.

The present distribution of leafy spurge, so far as the writer has been able to ascertain, is shown on the map (Fig. 1). Each dot represents one or more localities in which the weed has been found. In some cases the infestation may cover many acres, in other cases the weed may be rare. The earliest record found was

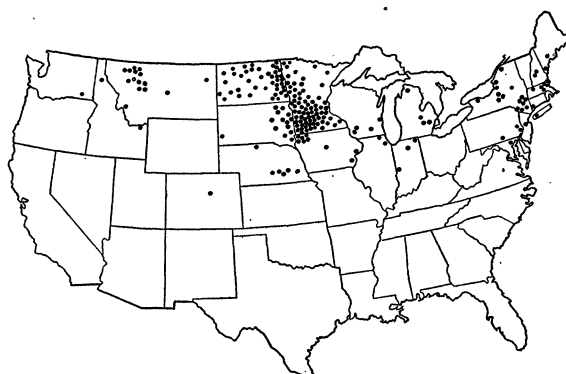


FIG. 1. Map of the United States showing present distribution of leafy spurge. Each dot indicates one or several neighboring infestations.

an herbarium specimen bearing as part of the label, "Essex Co., Mass., 1842, Wm. Oakes." The states in which infestations appear to be most serious at present are Minnesota, North and South Dakota and New York. It appears to have only recently invaded the states of Wisconsin, Iowa, Illinois, Nebraska, Colorado, Montana, Idaho and Washington. So far, there appears to be no record of its presence in Oregon, Utah, Wyoming, Kansas, Missouri, Kentucky, Ohio, Virginia, Delaware, Rhode Island, Vermont, or in other states south of those now showing infestations.

Undoubtedly, leafy spurge has a wider distribution than indicated on the map. In the state of Washington it is known that it is more wide-spread than shown by the single dot, but definite records do not seem to be available now for other localities. In West Virginia it appears that it was collected there last summer, but definite information is not yet available.

It is to be expected that leafy spurge will appear sooner or later in Middle Western and Western states adjoining the states that now show infestations. Judging from present indications it appears possible that leafy spurge will become a serious weed over a wide area extending from New York to the state of Washington and as far south so as to include Oregon, Utah, Kansas, Missouri and Kentucky.

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#### THE TYPE OF THE GENUS *LECANIUM*

IN SCIENCE for August 9, 1929 (p. 150), I discussed the type of this important genus of scale insects, and referred to Kirkaldy's indication of *L. hesperidum* (L.), 1906, as being earlier than the designation of *L. persicae* (Fab.) by Sanders in 1909. I had quite forgotten that I myself explicitly designated *L. hesperidum* as the type in *Entomologist*, 1901 (p. 91).

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