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## Paspalum in Iowa

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## PASPALUM IN IOWA

MARGARET MURLEY

A single entity in the genus *Paspalum* is known to be native to Iowa. With one exception, the Iowa specimens in the herbaria of Iowa State College and the University of Iowa are from the eastern half of the state. The material is from the following ten counties: Allamakee, Clayton, Clinton, Johnson, Muscatine, Louisa, Lee, Davis, Monroe and Harrison ( Fig. 1). These collections have been made at varying intervals from 1875 to 1943.

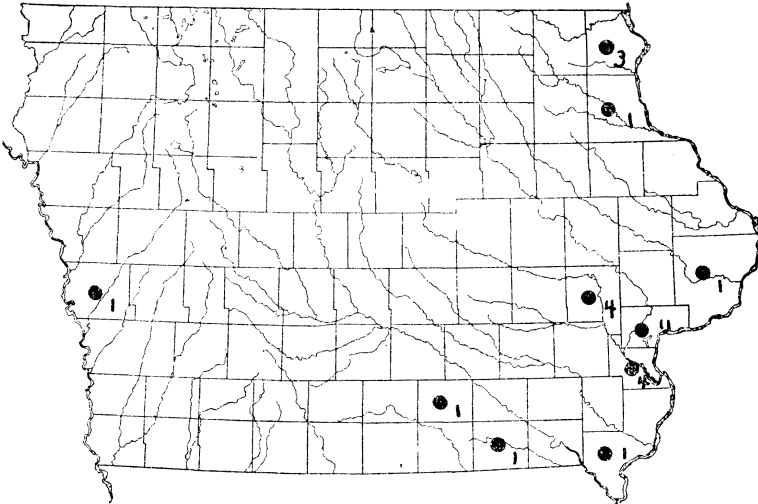


Figure 1. Distribution of *Paspalum ciliatifolium* Michx. var. *stramineum* (Nash) Fern.

From the descriptive labels such as "a sandy river terrace," "Big Sand Mound, Muscatine Island," "sandy fields," the habitat is one of dry sandy situations. Future collecting may reveal a wider distribution for the state, as is suggested by the specimen from Harrison County and the presence of the species in the surrounding states. Specimens from Nebraska, Missouri, Illinois and Wisconsin are in the Iowa State College herbarium.

The specimens of *Paspalum* from Iowa in the two herbaria have been examined and all are referable to what has commonly been called *Paspalum stramineum* Nash.

In 1934, Fernald (1934), reduced *P. stramineum* to varietal rank under *Paspalum ciliatifolium* Michx. The complex dealt with, namely, *P. stramineum*, *P. ciliatifolium* and *Paspalum pubescens* Muhl. was recognized as made up of geographic varieties. Fernald stated "I should add *P. stramineum* to the series, as an inland variety showing

a common response to semi-arid to arid inland conditions, a development of minute pubescence." Hitchcock, in 1935, (1935) retained it as a species. It is necessary, therefore, to decide whether the Iowa plant is a variety or a species.

In studying specimens of *P. stramineum*, *P. ciliatifolium*, and *P. pubescens* in the herbarium at Iowa State College, all three variants can be distinguished. The characters separating them are the length and position of the trichomes on the leaf blades. However, trichome characters certainly do not constitute strong differences, therefore, the writer agrees with Professor Fernald's treatment of the three phases as varieties.

Following is a summary of the differentiating characters of these three varieties. The long trichomes mentioned below average 1.5 mm. to 2.5 mm.

PASPALUM CILIATIFOLIUM Michx. "typical" variety.

1. Long trichomes limited mostly to the edge of the leaf. These trichomes are on the average shorter, fewer, stiffer and more evenly spaced than on the variety *stramineum*.
2. Upper surface, no long trichomes, glassy excrescences.
3. Lower surface, scattered long trichomes especially along the midrib.
4. A cartilaginous edge to the blade.

PASPALUM CILIATIFOLIUM Michx., var. STRAMINEUM (Nash) Fern.

1. Long trichomes scattered over the upper surface of the leaf, but more abundant along the edge of the blade.
2. Upper surface, in addition to the long trichomes, has a fairly dense pubescence.
3. Lower surface, scattered long trichomes along the midrib, pubescence obscure or lacking.
4. Absence of a cartilaginous edge to the blade.

PASPALUM CILIATIFOLIUM Michx., var. MUHLENBERGII (Nash) Fern.

*Paspalum pubescens* Muhl. of Cratty's list (Cratty, 1933) as to name but not as to plant, and of many manuals.

1. Long trichomes villous and abundant.
2. and 3. Upper and lower surfaces similar, no pubescence.
4. Absence of a cartilaginous edge to blade.

The most recent specimens have longer trichomes, greater number of ciliations, and more readily visible pubescence.

The range for *P. stramineum* as given by Hitchcock (1935) is Indiana to Minnesota through Iowa, Texas, Arizona and northwestern Mexico. A more southern and eastern range, Iowa not being included, is given for *P. ciliatifolium* and *P. pubescens* (*P. ciliatifolium* var. *Muhlenbergii*).

Cratty's list of Iowa plants (Cratty, 1933) includes two species, *P. stramineum* and *P. pubescens*. The one specimen labelled *P. pubescens* proves to be the variety *stramineum*.

PASPALUM CILIATIFOLIUM VAR. STRAMEUM is the only *Paspalum* known to occur in Iowa. The writer is in agreement with Professor Fernald in considering it a variety. This grass occurs on sandy soils in the area shown on the accompanying map.

The writer wishes to thank Dr. G. J. Goodman who suggested the problem and who has given critical comments.

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