

## Botany

*The white waterlily of McGregor, Iowa:* HENRY S. CONARD.

*The classification of plants:* HENRY S. CONARD.

(a) *An unusual black walnut.* (b) *An annual sweet clover.* (c) *Notes on the perennial mycelium of a few parasitic fungi:* L. H. PAMMEL. Calls attention to the perennial mycelium of *Ustilago striaeformis*, *Plasmopara Viticola*, *Urocystis Agropyri*.

*An ecological study of the weeds of some Iowa fields:* R. S. KIRBY. The relation of weight and number of weeds to soil moisture and rate of growth of crops with their weight.

*The germination of some native Iowa and exotic tree seeds:* L. H. PAMMEL AND CHARLOTTE M. KING. A continuation of the studies presented last year on the germination and juvenile conditions of some Iowa oaks. This study considers the germination and morphology of *Juglans*, *Carya*, *Fraxinus*, *Tilia*, *Acer* and *Pyrus*.

*The vegetative organs of some perennial grasses:* FLORENCE WILLEY. It is often difficult to recognize grasses when they are in their vegetative condition. This study considers the rhizomes and early leaf and culm characters of such grasses as *Spartina cynosuroides*, *Muhlenbergia mexicana*, *Phragmites communis*, *Poa compressa*, *Agrostis alba*, *Bromus inermis*, *Agropyron repens*, *Agropyron Smithii* and *Sporobolus cryptandrus*.

*Some anatomical notes on the plants of a prairie province:* ADA HAYDEN. The study includes a discussion of the comparative anatomy of plants in dry situations like *Petalostemon violaceus*, *Liatris*, *Aster laevis*, *Gentiana puberula* and in moist situations and swamps of such plants as *Scirpus fluvialis*, *S. validus*, *Sagittaria* and *Phragmites*.

*Some phenological records of spring flowering plants of Henry county:* H. E. JAKUES.

*The fern flora of northeastern Iowa:* T. J. FITZPATRICK. This paper gives an enumeration of thirty-three species of ferns and fern allies occurring in a region of Iowa which is of great botanical interest. Each species listed is accompanied by notes on occurrence, habitat, frequency, distribution, etc.

*The pollen and pistil in relation to the germination of the pollen in five varieties of apples:* JOHN N. MARTIN. This report deals with the conditions that control the germination of pollen, the structure and function of the stigma as related to the germination of the pollen, and the external factors that may hinder the efficiency of pollination.

*The structure of the seed coat and its relation to the germination of the seeds of the two common sweet clovers:* JOHN N. MARTIN. This reports the results of investigation on the structure of the seed coat with the aim of determining the difference between the structures of the seed coats of hard seeds and soft seeds and just what structure prevents the entrance of water in case of hard seeds.

*Cytological study of the abortion of the pollen in the Winesap:* JOHN N. MARTIN. This variety of apple in Iowa often fails to produce good pollen. The abortion of pollen in plants is considered indicative of hybridism. The aim of this work on the Winesap was to trace cytologically the steps in the abortion of pollen from the mother-cell stage until the flowers were mature.

*The endosperm of Utricularia:* ROBERT B. WYLIE AND ALICE YOCOM.

*A miniature Vallisneria:* ROBERT B. WYLIE.

*Notes on an introduced woodland flora:* R. I. CRATTY. An artificial grove planted in Emmett county in early days was left in such condition that an interesting woodland flora was introduced.

*A study in cereal roots:* R. O. WESTLEY AND A. L. BAKKE.

*Pioneer plants on a new levee IV:* FRANK E. A. THONE.

*Eradication of the Barberry in the spring wheat sections of the United States with special reference to Iowa:* I. E. MELHUS.

*Plants of southeastern Alaska:* J. P. ANDERSON. This gives a systematic list with notes of about 425 species of plants collected in southeastern Alaska, mostly in the vicinities of Sitka and Juneau, during the years 1914 to 1917 inclusive.  
(To be concluded)

JAMES H. LEES,  
Secretary

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