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Further Studies of Non-Nuclear Structures in the Basidium

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THE MICROFOSSILS OF TWO EOCENE COAL DEPOSITS IN WYOMING

L. R. WILSON

Samples of coal were secured at six inch intervals through two brown coal deposits near Wamsutter, Wyoming. These were macerated and studied microscopically. The coal is of Green River age and contains an abundance of pollens, spores and invertebrate fragments. The plant fossils were studied statistically and stratigraphically and a high degree of correlation between the spectra of the two deposits is evident. Species of the Cycadaceae, Coniferae, Gnetaceae, Myricaceae, Betulaceae, and Tiliaceae have been recognized in the material.

COE COLLEGE,

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SOME CYTOLOGICAL DETAILS OF CERESAN POIS- ONING IN SEEDLINGS

J. E. SASS

Heavy overdoses of Ceresan induces the formation of giant cells in seedlings of corn and small grains. Cell division is inhibited. Nuclear division occurs, with more or less normal pro-phases. Anaphase separation of halves of split chromosomes fails to take place, accompanied by apparent failure of the sprindle mechanism. Cell wall formation may be initiated, but the evidence suggests subsequent dissolution of partial cell walls.

DEPARTMENT OF BOTANY,

IOWA STATE COLLEGE,

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FURTHER STUDIES OF NON-NUCLEAR STRUCTURES IN THE BASIDIUM

J. E. SASS

Pursuing a further analysis of the so-called Golgi apparatus in the basidium, tests were made with some accepted chondriosome techniques. Typical chondriosomes were found to be present, quite unlike the bodies associated with the Golgi apparatus. It is suggested that the Nebenkern and Golgi material are discrete cell

bodies, apart from nucleus, chondriosomes and centrosomal mechanism.

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SOIL MOISTURE RELATIONSHIP OF THE EUROPEAN BINDWEED (*CONVOLVULUS ARVENSIS* L.)

A. L. BAKKE

The European bindweed (*Convolvulus arvensis* L.) has an extensive root system. A large number of feeding roots are located in the upper two feet but the main tap root often extends to a depth of twenty feet. Soil samples taken at one and two foot depths in 1933, 1934 and 1935, at Hawarden, Iowa, from corn ground, heavily infested with bindweed, and free from bindweed, showed very little difference in soil moisture content. As the soil moisture content was often below the wilting coefficient, it was found that the bindweed developed readily while the corn grew very little. European bindweed is able to complete successfully with corn because of its deeply penetrating root system.

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FOREST AND SOIL STUDIES IN SOUTHERN IOWA

J. A. LARSON AND RICHARD J. DILLWORTH

This paper deals with the present forest lands in southern Iowa counties, giving their relations to topography, soils and settlement; setting forth their local distribution, variations and condition; the depletion due to intensive culling and grazing and the responses of the trees in form and growth to slope, aspect and soil characters. Laboratory analyses have been made of different soil types which support the native trees and efforts will be made to correlate soil depth and quality with form and rate of growth of the trees. The report includes data on age classes and stand densities in that region.

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