

present, although its points of attachment are not clear.

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THE SORGHUM MIDGE

FOR many years growers of sorghum in our southern states have noted a common failure to produce a full crop of seed. This trouble is generally known as "blast." Many scattered references to this condition may be found in agricultural literature and in correspondence. Different theories as to the cause of this observed sterility have been advanced from time to time. Chief among the agencies which have been regarded as possible causes are fungi, insects and various meteorological conditions, such as excessive precipitation, high humidity, severe drouth and hot winds. Among the growers themselves, it is quite generally held that this sterility results from the washing away of the pollen by heavy rains during the blooming period.

In the spring of 1907, experiments were planned to determine the cause of sterility. The work was largely done at Baton Rouge, La., and San Antonio, Texas. In Louisiana, the writer was assisted by Professor H. R. Fulton, pathologist of the Agricultural Experiment Station, and in Texas by Mr. F. B. Headley, superintendent of the U. S. Experimental Farm at that place. Many of the data on the life history are due to the studies of Professor Fulton.

The first examination of the plants at Baton Rouge, made by the writer late in July, disclosed the presence of large numbers of a small fly on and around the heads. These insects proved to be females actively engaged in depositing eggs within the fertile spikelets. A search of the literature available in the library of the Louisiana Crop Pest Commission brought to light the publication by Coquillett¹ of a new species of Cecidomyiid, *Diplosis sorghicola*, received in sorghum heads

¹ Coquillett, D. W., "A Cecidomyiid Injurious to the Seeds of Sorghum," U. S. Dept. Agr., Div. of Entomology, Bulletin (New Series), 18: 81-82, 1898.

in 1895 and again in 1898. A comparison of the insects in hand with this description proved them identical with Coquillett's species. This identity was subsequently confirmed by Professor F. M. Webster.

Observation showed that egg-laying began as soon as the tips of the heads emerged from the boot or upper leaf sheath, and continued until the flowering period was wholly past. Heads in every stage of development, from the beginning of emergence to the close of anthesis, were protected from the midges by means of paper bags. The results of all bagging experiments were in substantial accord. Heads protected from the midge were uniformly fertile, where normal growth continued. Heads exposed during the first half of anthesis and then protected were sterile in the upper portion and well seeded below. Heads exposed until flowering was wholly completed were uniformly sterile when midges were abundant during anthesis, and partly fertile when midges were scarce. From 500 to 1,160 midges were hatched from each of several infested heads. Exposed heads examined a few days after anthesis showed living larvæ lying in close contact with the shrunken and undeveloped ovaries. The injury is due to the absorption of the juices from the young and tender ovary, thus causing development to cease. This absorption is through the body walls of the larva, the ovary being not eaten or otherwise injured though oftentimes discolored. This method of obtaining nourishment is shared also by the larvæ of the closely related wheat midge, *Diplosis tritici*, and by those of the well known Hessian fly. Numerous additional facts concerning the habits and life history of the midge will be presented in a more appropriate place.

Sterility or failure to produce seed in various sorghums is thus shown to be due to the attacks of the Cecidomyiid midge, *Diplosis sorghicola* Coquillett, for which the name, sorghum midge, is here proposed. At Baton Rouge the midge was accompanied by a Chalcid parasite, a species of *Aprostocetus*. According to Professor Webster, this parasite

is not, however, the one noted by Coquillett (*l. c.*) but an entirely new species.

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**TWELFTH ANNUAL MEETING OF THE
NATIONAL ASSOCIATION OF STATE
UNIVERSITIES**

THE twelfth annual meeting of the National Association of State Universities was held in Washington, D. C., on November 18 and 19, 1907. In this association upward of forty universities are entitled to membership and thirty-nine are active members; thirty-five universities were represented at the meeting. It was one of the most important meetings of the association ever held in point of attendance, bearing of the topics discussed, business transacted, and investigations ordered.

The president's address, "Some Problems of American Universities," gave a comprehensive view of the field of higher education in America and suggested many vital topics for possible future investigation. The question of a "National University" was again to the front and a definite scheme was endorsed for a non-degree-conferring institution that should add to research opportunities several unique practical functions. A committee of the association in conjunction with a committee of the National Educational Association is charged with the duty of presenting the plan to Congress. A committee met the trustees of the Carnegie Foundation and further discussed the claim of the state universities to the benefits of the retirement fund. At this writing the question is still open. Moreover, a committee on "standardizing" American universities was appointed. This question involves the vital and difficult problems of reorganization of higher education and the action of the association may be of far-reaching importance.

Among the many other questions discussed were "Development of Graduate Schools in State Universities" and "Preparation of High School Teachers."

The Secretary of the Interior and the Com-

missioner of Education attended part of the meetings and evinced a helpful interest in the problems before the association. A reception was given by the president and faculty of George Washington University.

The relation of state universities to the educational interests of each state, the efficiency of the organization and its representative character make the American Association of State Universities a natural leader in discussing some of the many problems of higher education which are pressing for solution.

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THE AMERICAN SOCIETY OF AGRONOMY

THE American Society of Agronomy was organized in Chicago on December 31, 1907. According to the constitution, the object of the society shall be the increase and dissemination of knowledge concerning soils and crops and the conditions affecting them.

It is expected that the membership will be composed largely of scientific workers in agronomy. A strong feeling has been prevalent for some time that an opportunity is greatly needed for college and station men to meet and discuss methods of experimentation and instruction in agronomy.

Provision has been made for including as charter members all who join the society before July 1, 1908. Arrangements were also made by which local sections may be established in any part of the country on application of three members of the society. The agricultural colleges may thus have local organizations for discussion of agronomic subjects.

By resolution the society expressed its desire to assist the Society for Promotion of Agricultural Science in bringing about affiliation of all the scientific agricultural organizations.

The officers for the present year are as follows:

President—M. A. Carleton.
First Vice-president—C. P. Bull.
Second Vice-president—J. F. Duggar.
Secretary—T. L. Lyon.
Treasurer—E. G. Montgomery.