

7. What causes the recurving of the peduncle in some varieties?
8. Is there reasonable hope of successfully growing grain sorghums drilled like small grains or millets, and harvested in the same manner?
9. Do awns and glumal hairs serve any useful purpose which will be defeated by their elimination?
10. Should selections for earliness be made at the time of heading or at the time of ripening, or both?

[Presented by Committee on Breeding Cereal Crops.]

REPORT OF COMMITTEE ON BREEDING COTTON.

D. N. SHOEMAKER, *Chairman, Washington, D. C.*

The most disturbing factor in the whole cotton-growing industry continues to be the steady advance of the Mexican boll weevil. The necessity for breeding of earlier types of long-staple upland cottons has reached an acute stage, because the region where most of this cotton is grown has been invaded, and is now infested sufficiently to make a scarcity of this type of cotton. So far the damage resulting from the weevil has been greater in this humid region than in the drier parts of Texas.

This crisis is being met in two ways: First, by the use of Columbia cotton, a variety originated by Dr. H. J. Webber, by selection from Russell's Big Boll. Columbia has attained great prominence in the long-staple region in Mississippi, since it is earlier than the varieties now grown. Second, by the introduction of a variety with long-staple which is still earlier. This variety, which has been named the Foster cotton, is yet in its infancy but it is in great demand. It is a cross between Sunflower cotton, an old-time long-staple variety, and Triumph, an early big-bolled, short-staple variety.

The Department of Agriculture is this year making a distribution of a new variety of cotton for Texas conditions, which has been called Trook. It is early, large-bolled, very productive, and with a very high percentage of lint. It is a cross of Triumph on Cook's Improved, the later variety being an eastern big-boll cotton with a high lint percentage.

Mr. O. F. Cook has a strain of Mexican cotton from the state of Durango which showed very favorable results in a number of plantings in South Texas in 1909. This cotton has lint about $1\frac{1}{4}$ inches long, and is early and productive.

The wilt-resistant varieties distributed by Mr. W. A. Orton for the eastern cotton region are giving excellent satisfaction to those regions where this disease is a serious factor in cotton production.

Since cotton is an open-fertilized plant the question of the amount of crossing becomes very important for the breeder. It is a subject which has been too much neglected in the past. The amount probably varies with localities, and with seasons, and may be different with different months of the same year, depending on the variations in the insect fauna. For this reason experiments should be planned in many places, and for more than one year.

Two papers are presented this year bearing on this subject, one on conditions in northern Georgia in 1908, and one for central Texas of the same year.

These results are not entirely comparable, but both indicate a considerable amount of crossing. It is planned to have other experiments ready for report at our next meeting.