THE COMPARATIVE DROUGHT RESISTANCE OF SORGHUMS AND CORN

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The ability of sorghums of both grain and forage types to resist drought has long been known. Cates (2) has applied the name "crop camel" to kafir (one of the grain sorghums) because the plants can stand for considerable dry periods without apparent suffering from a deficiency of moisture. The following quotation from Fields (4) presents in a forceful manner the opinion of a farmer regarding the drought resistance of kafir:

"J. B. Adams of El Dorado, Kans., who has had much to do with establishing kafir corn as a real crop in Butler County, said, 'It (1911) was a season of unusual severity, the dryest and hottest in Kansas, as it was in Oklahoma since 1901. A pitiless sun burned up the Indian corn and parched the native grass upon the prairies. Throughout this trying ordeal, our unfailing friend, the hardy and indomitable kafir, stood sentinel upon the prairies with the patient fortitude inherent in its nature, born of centuries of hardship upon the desert; it bided its time and silently waited for rain, springing triumphantly into new life with the first downpour from heavens. Our prairie hay turned out less than a third of a crop and our alfalfa only a little better than half a crop. But notwithstanding this accumulation of calamities, we pushed back the impudent face of famine, cheated the hot winds, and whipped the drought to a standstill with kafir corn.'"

The marked superiority of sorghums over corn in the dry southwestern states makes the comparison a useful one in studies of drought resistance. The corn plant is similar to sorghum in size, appearance, season, and type of growth. The two crops often are grown on the same farm and by identical methods. The grain sorghums directly compete with corn as a grain crop.

Most of the grain sorghums are grown where the climate is too dry and hot for successful corn production. The zone of transition between the predominating acreages of corn and grain sorghum in Kansas lies approximately along the line of an annual precipitation of 25 inches. Where grain sorghums are grown to a considerable extent under conditions of higher rainfall, as in southeastern Kansas and southwestern Missouri, the soil usually is shallow and incapable of holding ample moisture for a good crop of corn.

1Contribution from the Office of Cereal Crops and Diseases, Bureau of Plant Industry, U. S. Dept. of Agriculture, Washington, D. C. Received for publication July 21, 1930.
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3Holcus sorghum L.; Sorghum vulgare Pers.; Andropogon sorghum Brot.
4Reference by number is to "Literature Cited," p. 1003.