

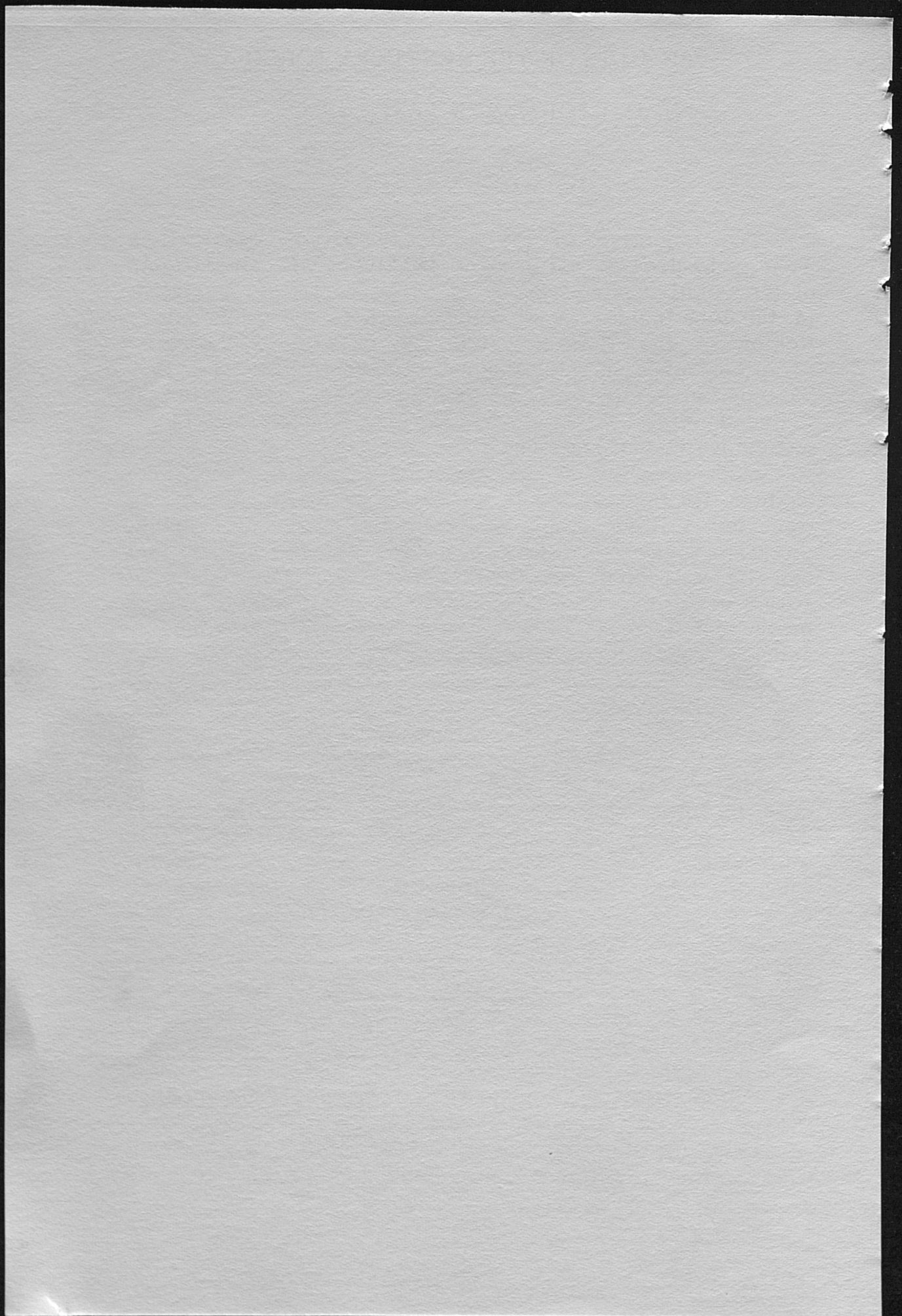
RESULTS OF THE
KENTUCKY SORGO PERFORMANCE TEST

1966

By J. F. Shane

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UNIVERSITY OF KENTUCKY
AGRICULTURAL EXPERIMENT STATION
Department of Agronomy
Lexington



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PERFORMANCE TEST - 1966

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The objective of the Kentucky Sorgo Performance Test is to provide sorgo sirup producers with an estimate of the relative performance of sorgo varieties. Varieties in the test include those being grown in the Southeastern Region of the United States and several of the more promising experimental lines developed by the U. S. Department of Agriculture at Meridian, Miss. The 1966 test included eight varieties grown in a randomized block design of five replications.

Stalk samples of all varieties tested in the Southeastern Region are sent to Meridian, Miss., or Cairo, Ga., for milling, juice analysis and sirup processing.

The sugar content of the juice and the amount that can be extracted are two important characteristics of sorgo varieties. The percentage of total soluble solids in the juice, most of which are sugar, is determined by using a sugar hydrometer. Juice extraction at Meridian and Cairo is considerably better than that obtained by small mills.

Sirup of high quality should reach a finishing temperature of 108°C (226°F) at usual altitudes in Kentucky. A standard finishing temperature of 110°C (230°F) is used in processing sirup at Meridian. Difficulty in producing an acceptable sirup might be encountered if this temperature cannot be reached. The sirup is taken off when the foam begins to roll and the temperature is more or less static. Raising the temperature higher would tend to scorch the sirup and produce a darker color. Williams and Sugar Drip failed to boil down to sirup density in 1966.

The test was heavily infected with a virus disease similar to the maize dwarf mosaic that has been reported in corn. Williams, Sugar Drip and three of the experimental lines exhibited considerable stunting, probably associated with the disease. Symptoms of the disease were found in all varieties except Wiley.

Data for the 1966 test are presented in the table which follows. Differences of less than the figure given as the L.S.D. are not significant.

Sorgo Variety Test, Robinson Substation, Quicksand, Ky. 1966

Variety	Sirup Per ^{1/} Ton Acre		Stalk Weight Total Stripped		Brix ^{2/}	Extrac- tion ^{3/} %	Lodg- ing %	Plant Height ^{4/} In.
	Ton	Gal	Tons	Tons				
Wiley	14.3	383	32.0	26.8	17.9	52.8	0	156
Sugar Drip	--	--	13.8	10.6	15.2	57.8	4	V
Williams	--	--	18.4	13.8	15.6	54.0	46	V
Mer 59-1	15.1	340	29.4	22.5	14.5	56.5	2	108
Mer 63-4	15.3	170	18.3	11.1	20.0	46.3	0	V
Mer 64-6	13.3	144	15.5	10.8	16.9	44.1	0	V
Mer 64-9	16.9	314	22.6	18.6	18.6	54.8	1	V
Mer 64-12	16.3	373	27.7	22.9	17.4	55.2	0	132
L.S.D. (odds 19:1)	--	--	6.4	5.3	1.4	2.5	--	--

^{1/} Sugar Drip and Williams failed to boil to proper density. This is probably associated with susceptibility to the mosaic disease.

^{2/} Percentage of sugars in the juice.

^{3/} The percentage of juice that was extracted from the stripped stalks.

^{4/} Variable in height, probably associated with mosaic disease.