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C. R. Owen

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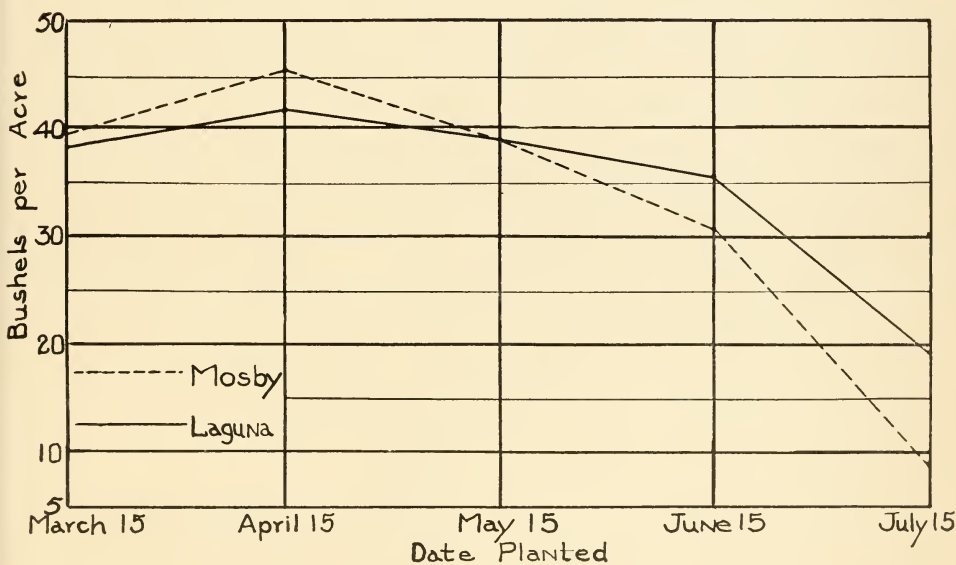
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# Corn Varieties In Mississippi

By

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Mississippi

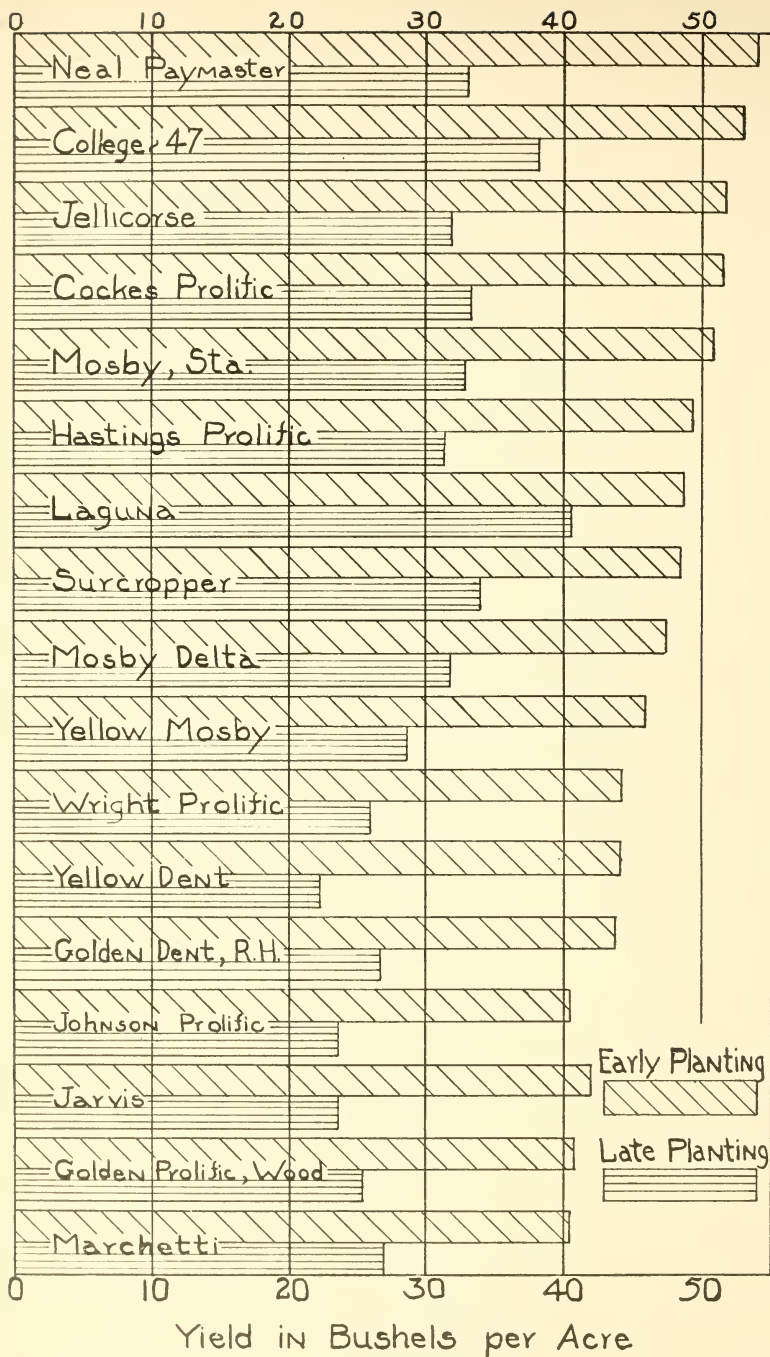


FIGURE 1—COMMONLY GROWN CORN VARIETIES IN MISSISSIPPI—EARLY AND LATE PLANTING

# CORN VARIETIES IN MISSISSIPPI

By C. R. OWEN, Assistant Agronomist

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Corn ranks second only to cotton in importance in Mississippi. The average acreage planted annually during the past ten years was nearly two and one-half million acres. The average acre yield during the same period was only slightly less than 15 bushels. Because of this low yield, at the present price or at the average price of corn, there is but a slight margin between the cost of production and the value of the harvested product. Under the circumstances and under the prevailing agricultural situation, steps should be taken to improve the acre yield in corn production.

There is no crop that gives better response to improved conditions than corn. If rainfall distribution were more certain and the fertility level of the soils were at the proper state, there would be no serious corn production problems present. However, with a serious limitation upon soil fertility and with uncertain rainfall distribution it remains that amends to the fertility is a speculative investment. Probably the clearest avenue of approach to improving the situation is to plant the corn acres to seed of varieties which have been tested and found to be able to make the most of the unfavorable conditions and at the same time be able to give compensating yields whenever seasons are more favorable.

Publications of the results of corn experiments have been issued by this Station from time to time. These include Bulletin 170, 1915; Bulletin 197, 1921; Circular 47, 1923; and Bulletin 236, 1926. It is proper at this time to quote the statement from Bulletin 197, now out of print: "In 1919 the average yield was 15 bushels and in 1918, 17 bushels.

Yields of more than a hundred bushels per acre have been made in the state in a number of instances. The average should be raised, and could be by the use of better adapted varieties, better tillage, and especially by improving the fertility of the soil." The same recommendations are offered today; and since the acre yield in 1938 was only 16.0 bushels, it appears that either they may not hold true or they have been put into practice only to a very limited extent.

In a survey made by Mr. E. L. Langford for the Bureau of Agricultural Economics, U. S. Department of Agriculture, of the quantity of food and feed needed for consumption on the farms of Mississippi, it is estimated that 914,295 additional acres of corn are needed for an adequate supply.

It is therefore clear then that overproduction of corn is not a problem in this state. If this shortage should be overcome only by increasing the acreage planted, chances are the situation would not be improved. The cost of land preparation, planting and cultivating an acre producing 15 bushels or less is practically the same as that on an acre producing 30 bushels or more.

During the past few years it has been the practice of this Station to publish the results of the year's experiments in "Information Sheets." Here an effort is made to combine this information for a period of 10 years.

### Methods of Conducting Tests

Seed of from 20 to 25 varieties which are prominent in the South have been procured from year to year and planted to uniform tests at the Central Station and at each of the branch experiment stations in the state. The date of planting, width

of row, space within rows, and fertilization have been that thought to be best suited to the particular area in which the station is located, but uniform at each station for all varieties. The test plats have been single rows, about 125 feet in length, with from four to eight replications. Each plat was harvested separately, the corn shelled, and the yield per acre in bushels of grain calculated from the average of each variety.

The yields for each year are presented in tabular form for each station. Since not all varieties are present over the entire period, some adjustment is necessary in order to show them on a comparable basis. This is attempted by rating each variety on a percentage rating basis. The check value is the average of all varieties on test every year. To arrive at the percentage rating, the actual average of each variety was divided by the average of the checks each year that that variety was on test. The comparative yield is the product of the 10-year average for all checks and the percentage rating. For example, if a variety were on test three years during which the yields were high, the percentage rating would give a comparison of it with the standard varieties grown the same seasons. Whereas, an actual

average obtained by summing the yields for each year it was on test and dividing by the number of years, would tend to emphasize the years' yield during which it was on test and give no basis of comparing it with other varieties grown during other seasons. Some varieties were tried during the test and dropped because of their definite inferiority to the others. Others were dropped because orders for the seed failed to be filled. As those were discarded for the various reasons, it was necessary to make additions to the test with new varieties.

#### Experimental Error Present

There may be a tendency on the part of many readers to emphasize small differences, say one bushel, as a real difference. This tendency is an honest one, but it should not be practiced. Tests conducted at this and other stations indicate that as high as from 3, 5, or even more bushels per acre may be safely allowed for errors in experimentation. Hence if two varieties differ only 3 bushels per acre, there may be actually no difference between them in yielding ability. Many precautions have been taken to keep the error to a minimum in these experiments.

## 10 Year Results of Corn Variety Tests at State College, Holly Springs, Stoneville, Raymond, Natchez, Poplarville

State College is located in Oktibbeha County on the limestone area of the northeastern part of the state. The soils on which the corn variety test was planted is known as Ocklocknee silt loam.

It has been the practice at State College during the past 10 years to make an early and late planting with the varieties to be planted. The early planting has been made as near April 1 as was practical. The late planting was made during the first part of June. The results of both plantings are given in tables 1-a and 1-b. Only the early test will be considered here but a comparison of the two plant-

ings will be taken up later.

In table 1-a there is a difference of more than 20 bushels per acre between the highest and lowest yielding varieties. Neal's Paymaster, Jellicorse, Cockes Prolific, Mosby Station, and Hastings Prolific are the high ranking varieties. College Hybrid 47 ranks well among these. Highest yielding among yellow varieties, but under the yields of the foregoing white varieties, are Yellow Mosby, and Russell-Heckle's Golden Dent. Ferguson's Yellow Dent gives equally as good yields but is not resistant to the grain rots. The amount of unsound corn present in this

TABLE 1-A—THE AVERAGE OF EARLY TEST OF CORN VARIETIES AT STATE COLLEGE

	Yield in Bushels per Acre											Av.	% Rating*	Comp. Yield
	1928	1929	1930	1932	1933	1934	1935	1936	1937	1938				
Neal's Paymaster	46.2	62.9	51.0	64.2	39.6	58.3	51.5	50.2	51.4	64.7	54.0	109.8	54.0	
College Hybrid 47	44.3	59.4	47.9	69.8	48.7	59.4	46.5	47.4	50.0	56.4	53.0	107.7	53.0	
Jellicorse	.....	.....	46.6	71.4	48.3	59.2	48.9	46.7	44.8	53.7	52.4	105.9	52.1	
Cockes Pro. Sta.	45.8	61.5	47.5	69.6	44.6	56.7	44.6	44.2	46.7	57.2	51.8	105.3	51.8	
Mosby, Station	45.3	57.3	40.9	69.1	45.3	55.9	45.5	43.4	50.1	55.7	50.8	103.3	50.8	
Hastings Prolific	42.3	60.4	31.4	68.4	51.2	60.6	43.0	41.7	42.5	51.8	49.3	100.2	49.3	
Laguna	40.6	53.1	40.6	62.6	44.2	56.0	44.1	50.1	45.3	50.2	48.7	99.0	48.7	
Surcropper	.....	.....	.....	.....	.....	.....	48.3	47.3	40.0	51.5	46.8	98.5	48.5	
Mosby, Delta	30.9	56.8	35.1	69.0	44.0	57.5	47.9	41.9	40.7	48.0	47.2	95.9	47.2	
Mosby, Woodruff	.....	.....	.....	63.3	41.8	54.4	40.5	.....	.....	.....	50.0	95.1	46.8	
Yellow Mosby	.....	.....	.....	.....	.....	.....	.....	45.9	38.5	49.2	44.5	93.1	45.8	
Wright's Prolific	.....	.....	.....	.....	.....	.....	44.1	39.5	40.7	45.9	42.5	89.5	44.0	
Ferguson's Y. D.	32.1	41.3	41.7	51.8	38.9	54.0	49.9	42.6	35.7	52.3	44.0	89.4	44.0	
Russell-Heckle's	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Golden Dent	39.7	43.8	40.7	50.9	38.6	48.6	43.5	42.1	40.1	48.8	43.7	88.8	43.7	
Whatley's Prolific	.....	.....	.....	.....	.....	.....	.....	.....	.....	47.5	47.5	88.1	43.3	
Yellow Surcropper	.....	.....	.....	.....	.....	.....	.....	.....	.....	46.8	46.8	86.8	42.7	
Thompson's Pro.	.....	.....	.....	.....	.....	.....	.....	35.3	40.9	.....	38.1	85.0	41.8	
Jarvis	.....	.....	35.6	50.6	33.5	44.6	44.2	35.5	37.6	46.2	41.0	82.8	40.7	
Wood's Gol. Pro.	.....	.....	.....	52.5	33.7	51.2	43.7	35.3	35.7	38.6	41.5	82.0	40.3	
Johnson's Prolific	.....	.....	.....	.....	.....	.....	.....	39.1	32.0	39.6	.....	86.9	81.5	
Wood's Cockes Pro.	.....	.....	.....	55.1	33.0	44.2	.....	.....	.....	.....	.....	44.1	80.6	
Marchetti	.....	.....	.....	.....	33.7	40.3	38.2	35.0	35.0	39.5	37.0	76.6	37.7	
Piggot's Red Cob	.....	.....	.....	.....	.....	.....	.....	.....	32.8	37.0	34.9	70.6	34.7	
Yellow Creole	.....	.....	.....	.....	.....	.....	40.1	25.0	.....	.....	.....	32.5	63.4	
Average for 9 check variety	40.8	55.2	41.9	63.9	43.9	56.3	46.3	44.8	44.8	53.9	49.2	.....	.....	

The check varieties are: Neal's Paymaster, College Hybrid 47, Cockes Prolific, Mosby Station, Hastings Prolific, Laguna, Mosby Delta, Ferguson's Yellow Dent, Russell-Heckle's Golden Dent.

TABLE 1-B—THE AVERAGE FOR THE LATE TEST OF CORN VARIETIES AT STATE COLLEGE

	Yield in Bushels Per Acre										Ave.	% Rating*	Comp. Yield
	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937			
Laguna	48.0	11.4	32.5	53.9	36.1	37.8	50.0	35.7	48.1	50.5	40.4	125.5	40.4
College Hybrid 47	44.5	7.8	30.2	56.9	39.7	23.3	49.9	32.4	48.9	46.9	38.0	118.0	38.0
Surcropper	.....	.....	.....	.....	.....	.....	.....	34.9	46.8	35.2	39.0	105.4	33.9
Cockes Pro. Sta.	43.9	4.2	22.9	50.9	28.5	24.5	45.5	27.8	42.0	42.2	33.2	103.1	33.2
Neal's Paymaster	39.9	3.1	18.8	55.3	27.0	24.1	43.9	29.2	45.7	42.9	33.0	102.5	33.0
Mosby Station	49.7	1.8	23.4	47.2	27.4	23.2	41.9	24.7	41.2	48.0	32.8	101.9	32.8
Jellicorse	.....	.....	22.4	47.0	26.7	21.5	44.3	27.8	44.5	37.3	33.9	98.3	31.7
Mosby Delta	.....	2.9	22.9	46.6	27.4	25.3	41.7	30.5	39.7	36.7	30.4	97.7	31.5
Hastings Pro.	48.2	2.4	25.6	50.9	21.9	20.1	46.2	20.6	39.0	37.2	31.2	96.9	31.2
Yellow Mosby	.....	.....	.....	.....	.....	.....	.....	.....	40.6	34.2	37.4	88.2	28.4
Wood's Cockes Pro.	.....	.....	.....	45.8	24.2	20.7	32.7	.....	.....	.....	30.8	86.8	27.9
Wood's Gol. Pro.	.....	.....	.....	.....	23.7	20.2	35.0	20.0	40.5	31.9	28.5	83.6	26.9
Russell-Heckle G.D.	31.7	1.0	14.9	42.4	20.2	20.8	33.2	21.5	47.0	32.6	26.5	82.3	26.5
Wright's Pro.	.....	.....	.....	.....	.....	.....	.....	16.0	38.5	34.9	29.8	80.5	25.9
Marchetti	.....	.....	.....	.....	.....	21.7	29.1	21.1	38.8	31.4	28.4	80.0	25.8
Jarvis	.....	.....	16.7	39.4	17.7	18.8	31.7	22.9	40.5	29.0	27.1	78.6	25.3
Johnson's Pro.	.....	.....	.....	.....	.....	.....	.....	17.7	31.1	32.6	27.1	73.2	23.6
Thompson's Pro.	.....	.....	.....	.....	.....	.....	.....	.....	33.6	28.0	30.8	72.6	23.4
Ferguson's Y. D.	26.8	1.8	14.9	29.8	14.6	15.1	34.8	17.5	40.1	25.6	22.1	68.6	22.1
Mosby Woodruff	.....	.....	.....	.....	19.1	12.4	33.6	15.0	.....	.....	20.0	66.7	21.5
Yellow Creole	.....	.....	.....	.....	.....	.....	.....	31.4	13.1	.....	.....	22.2	64.0
Average of 8 check varieties	41.6	4.2	22.9	48.4	26.9	23.6	43.2	26.2	44.0	40.7	32.2	.....	.....

The check varieties are: Laguna, College Hybrid 47, Cockes Prolific, Neal's Paymaster, Mosby Station, Hastings Prolific, Ferguson's Yellow Dent, Russell-Heckle's Golden Dent.

\*The percentage rating is arrived at by dividing the actual averages by the average for all checks during the years in which that variety was grown. This method is used in all yield tables.

variety is usually higher than any mentioned. Surcropper has the same weakness; it is a white variety.

### Holly Springs

The Holly Springs Branch Station is located in north Mississippi in the brown loam area. The variety test was planted on the valley soils. The results are shown in table 2. The test was planted continuously except in 1930 when uncertainty of existing conditions made it necessary to dispense with test work during that year.

The average of all varieties on test each year is used as the basis for comparison. This average was 51.2 bushels per acre. The varieties rated as compared to this average range from 114% to 63% or a range in yield per acre from 58.4 bushels to 32.5 bushels. Paymaster and Jellicorse are the high ranking varieties, with Cockes Prolific, Mosby Station, and Hastings Prolific following closely behind. It is to be expected that Paymaster and Jellicorse

would rank high at this Station since it is very near their origin in Tennessee. Those named are all white. The better yellow varieties are Golden Dent, Jarvis, and Wood's Golden Prolific. It is worth mentioning that no yellow variety ranked with the leading white varieties in yield in this test. It is felt, however, by some experienced agronomists that the earlier maturing varieties have considerable merit on thinner, less productive soils in this area.

### Stoneville

The results of tests with corn varieties at the Delta Branch Station are given in table 3. The alluvial soils of the Mississippi Delta, probably the most consistently high producing cotton soils in the world, show very low yields of corn. This is, of course, due to the different growth habits of the two crops and to the fact that the environment favors cotton. Along with this, however, there is a marked difference in varietal response

TABLE 2—AVERAGE FOR THE TEST OF CORN VARIETIES AT HOLLY SPRINGS BRANCH STATION

	Yield in Bushels Per Acre										Av.	% Rating	Comp. Yield	
	1928	1929	1931	1932	1933	1934	1935	1936	1937	1938				
Neal's Paymaster	65.6	71.7	62.1	41.7	32.1	65.2	48.5	60.5	66.3	70.0	58.4	114.1	58.4	
Jellicorse.....			65.8	31.6	35.7	70.1	50.0	58.6	65.4	61.6	54.8	112.8	57.9	
Cockes Pro. Sta.	70.6	70.0	67.5	39.0	29.9	59.1	39.7	48.2	65.1	62.2	55.1	107.6	55.1	
Mosby, Station....	68.3	60.8	62.9	34.8	32.1	47.4	40.9	48.2	75.8	65.5	53.7	104.9	53.7	
College Hybrid 47	67.0	61.2	60.1	44.6	30.4	58.7	38.5	47.8	66.4	61.7	53.6	104.7	53.6	
Hastings Prolific	60.3	82.4	84.2	30.9	29.9	45.4	30.3	43.4	60.5	54.4	52.2	102.0	52.2	
Yellow Mosby.....								51.1	57.3	57.2	55.2	99.0	50.7	
Mosby, Delta.....	64.9	63.4	63.7	36.9	30.6	53.6	37.2	44.8	56.5	47.0	49.9	97.5	49.9	
Laguna.....	58.4	53.2	48.7	44.6	30.8	59.4	34.8	48.1	63.3	55.4	49.7	97.1	49.7	
Thompson's Pro.....								48.8	54.6		51.7	94.3	48.3	
Wright's Pro.....							32.8	50.0	56.3	53.6	48.2	93.6	47.9	
Russell-Heckles GD	59.1	37.8	44.8	34.0	28.6	59.0	39.9	55.3	51.2	60.3	47.0	91.8	47.0	
Jarvis.....			43.4	33.8	28.9	48.1	37.0	52.4	58.5	52.8	44.4	91.4	46.8	
Wood's Gol. Pro.....				34.3	25.1	50.6	37.0	47.3	55.6	43.5	41.9	88.8	45.5	
Wood's Cockes Pro.			48.8	32.4	25.4	50.0					39.2	86.0	44.0	
Marchetti.....					27.6	43.1	36.3	49.9	47.1	47.6	41.9	85.9	44.0	
Whatley's Prolific										49.3	49.3	85.3	43.7	
Surcropper.....							42.1	52.1	33.7	45.9	43.4	84.3	43.2	
Ferguson's Y.D....	54.0	38.6	27.6	30.6	29.8	61.6	38.1	48.9	35.2	43.9	40.8	79.7	40.8	
Mosby Woodruff....				20.3	28.1	43.0	32.7				31.0	76.0	38.9	
Pigott's Red Cob										42.6		42.6	71.0	36.4
Johnson's Prolific							25.9	33.5	51.0		36.8	74.5	38.1	
Yellow Creole.....						40.4	23.9				32.1	67.4	34.5	
Yellow Surcropper											36.7	63.4	32.5	
Average of 9 check varieties....	63.1	59.9	58.0	37.5	30.5	56.6	38.7	49.5	60.0	57.8	51.2			

The check varieties are: Neal's Paymaster, Cockes Prolific, Mosby Station, College Hybrid 47, Hastings Prolific, Mosby Delta, Laguna, Golden Dent, R. H., and Ferguson's Yellow Dent.

## PAYMASTER—A HIGH PRODUCING SOFT CORN SUITABLE FOR NORTH THIRD OF STATE

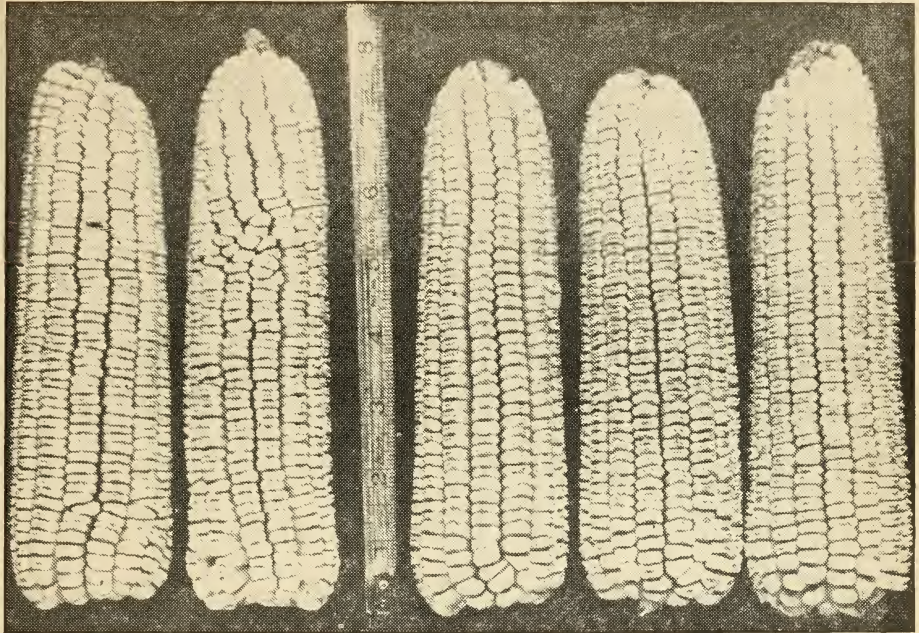


TABLE 3—THE AVERAGE FOR THE CORN VARIETY TEST AT STONEVILLE BRANCH STATION

	Yield in Bushels per Acre											Ave	%	Comp.
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	Rating*			
College Hybrid 47	49.9	20.9	58.1	24.5	20.0	31.4	30.5	42.2	14.7	31.1	32.3	110.6	32.3	
Cockes Pro., Sta.	48.8	12.7	63.5	24.3	21.6	29.1	22.8	47.1	12.2	30.1	31.2	106.8	31.2	
Laguna.....	48.2	19.8	58.4	26.1	22.2	22.1	23.2	49.0	14.7	26.8	31.1	106.5	31.1	
Mosby, Delta.....	50.0	16.4	53.0	21.8	22.1	27.7	25.5	53.3	15.6	20.9	30.6	104.8	30.6	
Jellicorse.....	.....	16.0	58.3	27.6	24.4	23.7	24.0	40.7	15.4	26.3	28.5	104.4	30.5	
Mosby, Station....	43.4	13.5	53.4	25.1	23.2	24.9	22.6	53.2	16.0	20.4	29.6	101.4	29.6	
Neal's Paymaster	46.0	22.2	54.6	20.0	20.8	29.4	22.4	41.4	12.7	24.4	29.4	100.7	29.4	
Hastings Prolific	48.2	10.1	61.9	20.2	19.6	19.6	18.3	48.6	13.4	24.9	28.5	97.6	28.5	
Yellow Mosby.....	.....	.....	.....	.....	.....	.....	.....	36.6	16.4	24.5	25.8	94.5	27.6	
Wood's Cockes Pro.	.....	.....	51.3	15.2	20.3	25.0	.....	.....	.....	.....	28.0	90.3	26.4	
Woodruff's Mosby	.....	.....	.....	21.4	19.6	25.4	15.4	.....	.....	.....	20.5	89.1	26.0	
Ferguson's Y.D.	39.0	19.4	41.5	19.5	21.3	26.5	22.7	33.3	13.6	17.6	25.4	87.0	25.4	
Wright's Prolific....	.....	.....	.....	.....	.....	.....	18.8	34.0	12.4	25.5	22.7	87.0	25.4	
Surcropper.....	.....	.....	.....	.....	.....	.....	21.5	35.1	16.8	17.6	22.7	87.0	25.4	
Whitley's Prolific	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.7	20.7	87.0	25.4	
Russell-Heckle GD	40.5	18.5	47.1	14.7	16.6	29.3	16.6	31.9	10.7	17.6	24.3	83.2	24.3	
Wood's Gol. Pro.	.....	.....	41.1	12.2	16.1	26.1	17.8	33.0	13.7	16.3	22.0	76.9	22.5	
Jarvis.....	.....	16.4	39.5	13.9	15.5	27.2	14.7	33.5	10.6	14.9	20.7	75.8	22.1	
Marchetti.....	.....	.....	.....	.....	14.2	22.5	16.6	31.1	13.6	13.2	18.5	73.1	21.3	
Thompson's Pro....	.....	.....	.....	.....	.....	.....	.....	32.3	10.1	.....	21.2	72.1	21.3	
Johnson's Prolific	.....	.....	.....	.....	.....	.....	10.8	31.9	10.2	.....	17.6	65.4	19.1	
Yellow Surcopper	.....	.....	.....	.....	.....	.....	.....	19.1	13.5	20.6	17.7	64.8	18.9	
Figott's Red Cob	.....	.....	.....	.....	.....	.....	.....	.....	8.2	15.2	11.7	62.6	18.3	
Yellow Creole.....	.....	6.4	.....	.....	.....	.....	.....	.....	.....	.....	6.4	37.4	10.9	
Average of 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
check varieties....	46.0	17.1	54.6	21.8	20.8	26.7	22.7	44.4	13.7	23.8	29.2	.....	.....	

The check varieties are: College Hybrid 47, Cockes Prolific, Laguna, Mosby Delta, Mosby Station, Neal's Paymaster, Hastings Prolific, Ferguson's Yellow Dent, and Russell-Heckle's Golden Dent.

\*The percentage rating is arrived at by dividing the actual average by the average for all checks during the years in which that variety was grown. This method is used in all yield tables.



which is evidence of varying ability of varieties to make the most of the conditions. Here again there are several varieties from which to choose. Of the varieties, Station Cokes Prolific leads by a slight margin. College Hybrid 47 leads in production although it probably not significantly better than the next five or six down the list. It is considered well here to mention that College Hybrid 47 is the result of hybridizing Cokes Prolific and Laguna, the varieties ranking second and third in comparison with it.

Further study of the yield data of these three from year to year is interesting. It is during the adverse seasons when yields are exceptionally low that this cross builds its average above either of the parents.

Delta Mosby, Jelicorse, Mosby Station, and Paymaster are next, ranking in the order named. Yellow Mosby, a product of crossing Mosby and Yellow Creole is the outstanding yellow variety. It is in line also to mention that Yellow Mosby is a variety and is not to be confused as a cross, such as College Hybrid 47; the latter is a first generation cross between

two varieties and seed should not be saved from it. Yellow Mosby originated from a similar cross, but was selected in for several generations for the Mosby type with yellow kernels and should be considered as a variety rather than a cross or hybrid. Seed may be saved from it as from any other variety.

### Raymond

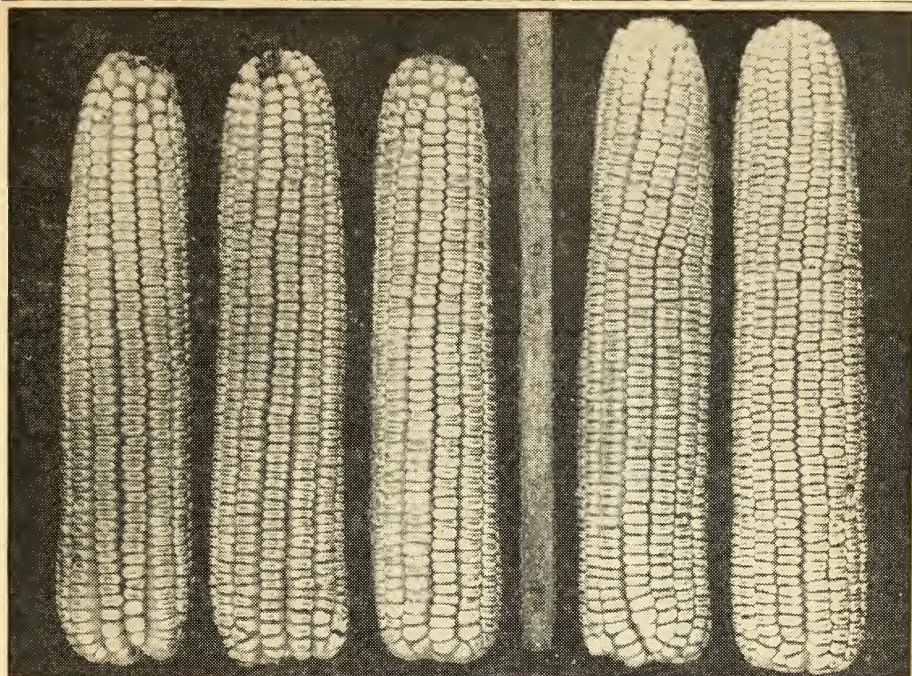
The Raymond Branch Station, located in Hinds County, is in the lighter phase of the brown loam soils. The corn variety test was conducted in the fertile valleys as was the case at Holly Springs.

The leading varieties for this area are very much the same as for other stations. Of the varieties, Laguna leads, with Neal's Paymaster, Jellicorse, Surcropper, Cokes Prolific, and Mosby Station following closely. The yield of Laguna is 50.4 and Mosby 46.7 bushels per acre. The difference between the highest and lowest yielding variety is 13.0 bushels or 27.2 percent. The better yellow varieties are Yellow Mosby, Golden Dent, and Golden Prolific.

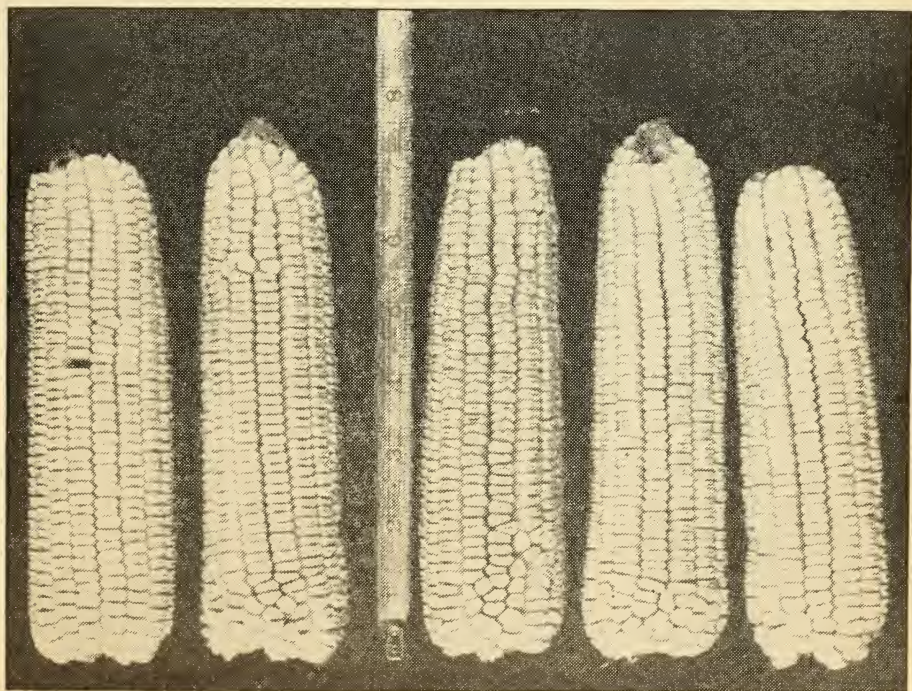
TABLE 4—THE AVERAGE FOR THE TEST OF CORN VARIETIES AT RAYMOND BRANCH STATION

	Yield in Bushels per Acre										% Rating	Comp. Yield	
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938			
College Hybrid 47	81.8	39.4	62.3	29.3	56.8	26.7	48.5	51.5	67.9	54.2	51.8	108.6	51.8
Laguna	78.9	32.1	57.7	30.8	57.8	24.2	49.9	56.4	65.6	50.3	50.4	105.7	50.4
Neal's Paymaster	72.2	37.0	60.7	19.4	59.1	28.5	48.6	57.6	63.8	51.5	49.8	104.4	49.8
Jellicorse	.....	33.5	54.7	23.9	56.1	29.8	51.3	53.5	63.1	48.0	46.0	103.1	49.2
Surcropper	.....	.....	.....	.....	.....	.....	55.1	55.2	.....	41.5	50.6	102.8	49.0
Cokes Pro. Sta.	75.4	31.6	61.5	18.4	56.4	25.9	44.7	52.3	66.1	51.7	48.4	101.5	48.4
Mosby, Station	71.5	25.7	53.6	23.5	54.9	23.0	39.0	55.9	68.3	51.5	46.7	97.9	46.7
Mosby, Delta	77.3	27.7	55.3	21.2	55.8	26.5	39.3	53.2	.....	39.1	43.9	95.4	45.5
Hastings Prolific	76.5	31.1	53.5	21.0	51.2	20.8	38.8	54.0	53.8	40.1	44.1	92.4	44.1
Yellow Mosby	.....	.....	.....	.....	.....	.....	.....	50.8	.....	42.7	46.7	90.3	43.1
Russell-Heckle's	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Golden Dent	69.3	29.1	44.2	16.7	52.7	25.1	39.0	51.1	52.2	45.9	42.5	89.1	42.5
Ferguson's Y. D.	74.5	33.2	39.8	12.3	46.8	26.6	45.7	52.3	.....	37.5	41.0	89.1	42.5
Wood's Gol. Pro.	.....	.....	.....	.....	49.5	20.8	38.7	52.5	.....	41.5	40.6	89.0	42.5
Johnson's Pro.	.....	.....	.....	.....	.....	.....	32.7	53.5	.....	.....	43.1	87.8	41.8
Wright's Pro.	.....	.....	.....	.....	.....	.....	33.3	54.7	.....	41.4	43.1	87.8	41.8
Jarvis	.....	31.8	42.7	17.5	48.0	28.6	38.9	52.3	54.6	36.3	39.0	87.4	41.7
Marchetti	.....	.....	.....	.....	.....	.....	38.2	50.3	.....	38.5	42.3	86.0	41.0
Whatley's Prolific	.....	.....	.....	.....	.....	.....	.....	.....	.....	40.3	40.3	81.7	39.0
Yellow Surcropper	.....	.....	.....	.....	.....	.....	.....	.....	.....	38.7	38.7	78.5	37.4
Average for 7 check varieties	75.1	32.3	56.2	22.7	55.6	24.9	44.1	54.1	62.5	49.3	47.7	.....	.....

Check varieties are: College Hybrid 47, Laguna, Neal's Paymaster, Cokes Prolific, Mosby Station, Mosby Delta, and Hastings Prolific.



MOSBY—A VERY POPULAR GENERAL PURPOSE CORN



WHATLEY—PROLIFIC, HIGH PRODUCER, SMALL EARED; NOT WIDELY DISTRIBUTED

### Natchez

The Branch Station at Natchez is located on the deep phase of the Brown loam area, a soil type known as Memphis Silt Loam. Only seven years data are available for this Station because it was established just prior to 1930 and consequently that was the first year a test was conducted. There was no test during the year of 1932, and the very poor stand made the test of no value in 1938.

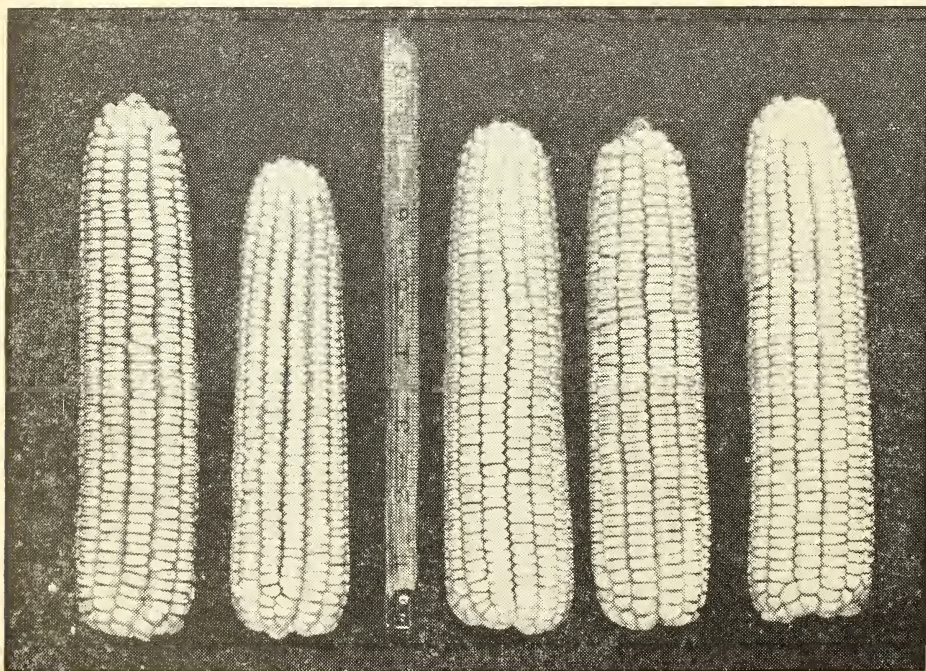
The varieties outstanding in this area are Delta Mosby, Hastings Prolific, Mosby Station, Jellicorse, Laguna, and Cockes Prolific. College Hybrid 47 ranks well among these. Yellow Mosby is the outstanding yellow variety. It is, however, 5.5 bushels lower than the best white variety.

### Poplarville

This Branch Station is located in Pearl

River County in south Mississippi. The soil is of the coastal plain type and not very fertile. The variety test has usually been fertilized before planting with 400 to 600 pounds of a complete fertilizer and side-dressed with nitrate of soda later in the growth period.

Despite the low yield, which was 26.1 bushels per acre for the average of the check varieties, there is a difference of 10.8 bushels between the high and low yielding variety or a difference of more than 30 percent. The leading varieties are: Jellicorse, Hastings Prolific, Neal's Paymaster, and Laguna for white varieties, and Russell-Heckle's Golden Dent for yellow. College Hybrid 47 leads in production. It is not included in the discussion of varieties because it is a cross between two varieties and should not be designated as a variety.



HASTINGS—PROLIFIC, HIGH PRODUCER, SMALL EARED, WIDELY GROWN

TABLE 5—THE AVERAGE FOR THE TEST OF CORN VARIETIES AT NATCHEZ BRANCH STATION

	Yield in Bushels per Acre										% Rating	Comp. Yield
	1930	1931	1933	1934	1935	1936	1937	Av.				
Mosby, Delta.....	34.2	46.1	51.6	14.7	38.3	51.1	42.0	39.7	114.1	39.7		
Hastings Prolific.....	27.3	52.8	47.8	17.0	41.1	56.1	32.1	39.2	112.6	39.2		
College Hybrid 47.....	31.0	43.5	38.0	13.9	41.2	50.9	49.9	38.3	110.1	38.3		
Mosby, Station.....	30.1	36.8	40.8	12.7	37.2	50.2	45.6	36.2	104.0	36.2		
Jellicorse.....	28.0	47.4	34.3	13.5	38.4	50.9	40.5	36.1	103.7	36.1		
Laguna.....	29.5	45.8	40.9	14.4	32.9	49.5	37.3	35.8	102.9	35.8		
Cokes Prolific, Station.....	28.7	46.0	45.1	14.6	37.2	50.2	22.9	35.0	100.6	35.0		
Yellow Mosby.....	.....	.....	.....	.....	.....	40.9	40.6	40.7	98.3	34.2		
Johnson's Prolific.....	.....	.....	.....	.....	34.8	45.1	34.4	38.1	96.0	33.4		
Neal's Paymaster.....	28.9	42.2	40.4	11.8	36.9	38.7	25.7	32.1	92.2	32.1		
Wright's Prolific.....	.....	.....	.....	.....	31.5	38.8	34.2	34.8	87.7	30.5		
Surcropper.....	.....	.....	.....	.....	28.2	42.1	33.8	34.7	87.4	30.4		
Ferguson's Yellow Dent.....	28.3	30.6	36.4	10.1	31.0	29.5	38.8	29.2	83.9	29.2		
Wood's Cokes Prolific.....	.....	33.1	34.0	9.4	.....	.....	.....	25.5	80.2	27.9		
Wood's Golden Prolific.....	.....	.....	34.9	12.7	27.7	32.4	30.7	27.7	80.3	27.9		
Jarvis Golden Prolific.....	27.8	35.9	32.6	11.4	25.4	31.4	28.5	27.6	79.3	27.6		
Russell-Heckle's Golden Dent.....	24.8	29.4	29.7	6.4	29.5	30.1	36.3	26.6	76.4	26.6		
Marchetti.....	.....	.....	28.8	12.0	27.0	33.7	29.9	26.3	76.2	26.5		
Thompson's Prolific.....	.....	.....	.....	.....	.....	15.4	26.8	21.1	51.0	17.7		
Average of 10 check varieties.....	29.1	42.1	40.5	12.9	36.4	45.7	37.1	34.8	.....	.....		

Check varieties are: Mosby Delta, Hastings Prolific, College Hybrid 47, Mosby Station, Laguna, Cokes Prolific, Neal's Paymaster, Ferguson's Yellow Dent, Jarvis, and Russell-Heckle's Golden Dent.

TABLE 6—THE AVERAGE FOR THE TEST OF CORN VARIETIES AT POPLARVILLE BRANCH STATION

	Yield in Bushels per Acre										% Rating	Comp. Yield	
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938			Ave
College Hybrid 47	37.0	11.2	32.5	23.8	35.2	27.6	43.6	13.5	31.2	28.5	28.4	108.8	28.4
Jellicorse.....	.....	.....	32.5	23.1	37.0	29.8	39.5	17.4	25.0	19.6	28.0	104.5	28.0
Hastings Pro.....	35.5	10.0	31.9	23.0	36.4	34.4	42.3	16.5	26.8	22.3	27.9	106.9	27.9
Neal's Paymaster	35.5	14.3	28.9	17.5	32.5	26.3	44.5	14.7	27.6	25.0	26.7	102.3	26.7
Laguna.....	37.0	11.9	30.2	26.6	29.0	28.0	37.8	16.9	24.2	25.9	26.7	102.3	26.7
Russell-Heckle's Golden Dent.....	32.0	16.6	27.4	.....	40.2	26.4	40.2	15.1	20.5	22.3	26.7	100.8	26.3
Mosby Delta.....	36.5	8.8	32.2	28.6	28.3	31.2	35.7	10.2	25.0	21.4	25.8	98.9	25.8
Cokes Pro. Sta.....	34.5	10.0	32.1	19.6	23.5	32.5	40.6	12.5	27.6	23.2	25.6	98.1	25.6
Wood's Gol. Pro.....	.....	.....	.....	.....	33.0	25.4	37.1	15.6	24.2	22.3	26.3	97.8	25.5
Yellow Mosby.....	.....	.....	.....	.....	.....	.....	.....	17.4	19.4	25.0	20.6	96.7	25.7
Jarvis Gol, Pro.....	.....	.....	29.3	22.7	34.3	25.9	34.5	17.8	23.2	19.6	25.9	96.6	25.2
Marchetti.....	.....	.....	.....	.....	32.1	29.8	31.9	15.1	24.2	23.2	26.0	96.7	25.2
Wright's Prolific	.....	.....	.....	.....	.....	.....	34.4	15.6	22.0	25.0	24.2	94.9	24.8
Whatley's Prolific	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.4	21.4	93.0	24.3
Yellow Surcropper	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.4	21.4	93.0	24.3
Mosby Station.....	41.0	9.0	31.6	16.6	21.7	27.2	35.7	13.5	28.5	18.7	24.3	93.1	24.3
Ferguson's Y. D.	27.5	13.3	30.0	19.2	28.1	24.5	23.6	17.8	25.0	19.6	22.9	87.7	22.9
Johnson's Pro.....	.....	.....	.....	.....	.....	.....	36.7	12.0	15.1	.....	21.3	81.0	21.1
Thompson's Pro.....	.....	.....	.....	.....	.....	.....	.....	15.5	16.0	.....	15.7	77.0	20.1
Surcropper.....	.....	.....	.....	.....	.....	.....	24.7	16.5	16.0	19.6	19.2	75.3	19.6
Average for 8 check varieties....	35.2	11.7	30.8	22.4	30.5	28.7	38.2	14.5	26.3	23.0	26.1	.....	.....

Checks were: College Hybrid 47, Hastings Prolific, Neal's Paymaster, Russell-Heckle's Golden Dent, Laguna, Cokes Prolific, Mosby Delta, Mosby Station, and Ferguson's Yellow Dent.

## Effect of Early and Late Planting Upon the Yield of Corn Varieties at State College

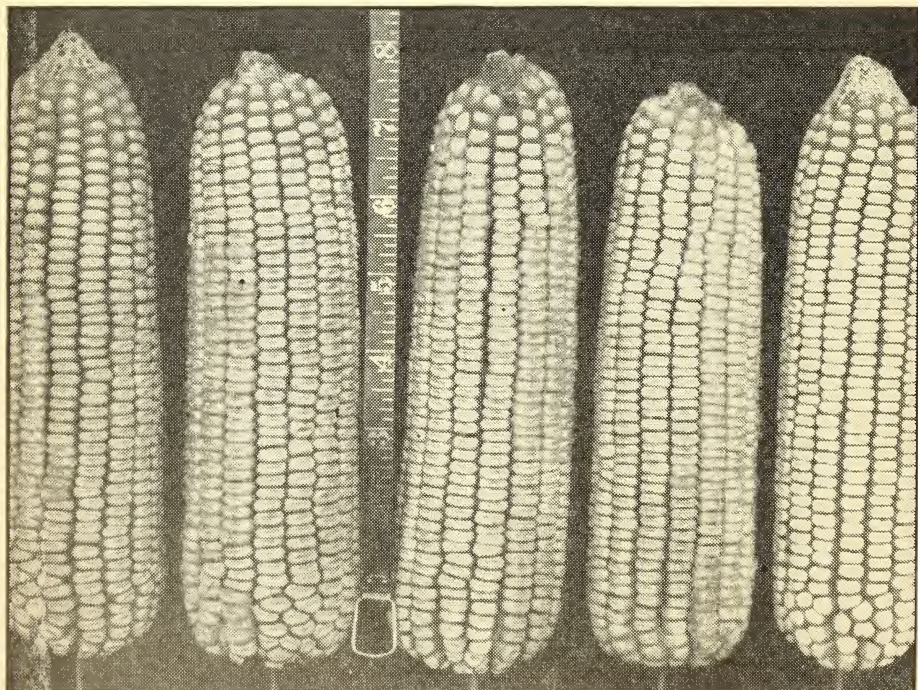
Tables 1-a and 1-b show the yields of varieties planted early, about April 1, and late, June 1. The results show plainly enough that early planting is better than that as late as June 1. It often happens that varieties planted at the early date are able to mature the crop before the usual very hot dry weather begins. Since it is not always possible to plant at the optimum date, it is helpful to know which variety or varieties do best when planted later than April or May.

The results of the two plantings over a ten-year period are shown in figure 1. It will be noted that Laguna, while not a top producer in the early planting, is far in the lead for the June planting. Laguna is of the Mexican June type and doubtless has the ability of this related variety to stand up under the excessive

heat and drought to which corn is usually subjected when planted as late as June.

Further tests were conducted in order to determine the relative performance of a variety doing best in the early test with the performance of Laguna. The figure shows the comparative yields of Mosby and Laguna, when planted each month from March to July. Both corn varieties do better when planted in April than in March. Laguna is distinctly superior when planted later than May. However, neither of the corn varieties yield as well when planted late as when planted in time for the normal growing season.

The value of a corn variety is manifested in the yield of sound grain it produces. Yield depends upon the ability of the corn plant to make the best use of the favorable growing season. The favorable



LAGUNA—AN EXCELLENT CORN FOR PLANTING AFTER THE MIDDLE OF MAY

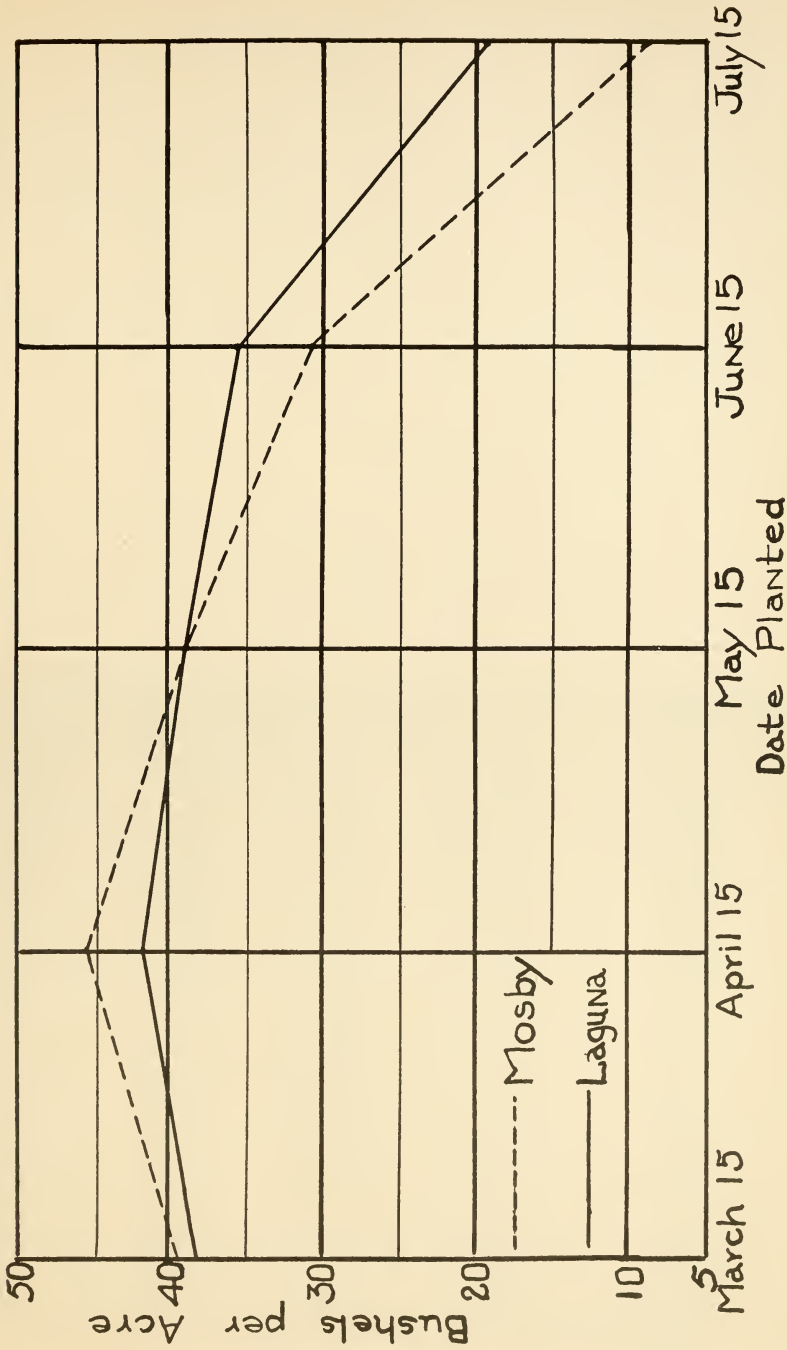


FIGURE 2. EARLY PLANTING VS. LATE PLANTING OF TWO CORN VARIETIES AT STATE COLLEGE

growing season is cut short in Mississippi by the droughts occurring in late summer. It must be borne in mind that the yield of corn in Mississippi is largely dependent upon the weather conditions during the last 30 or 35 days of its growth, or from about the time it begins to prepare to tassel and silk until well past roasting ear stage.

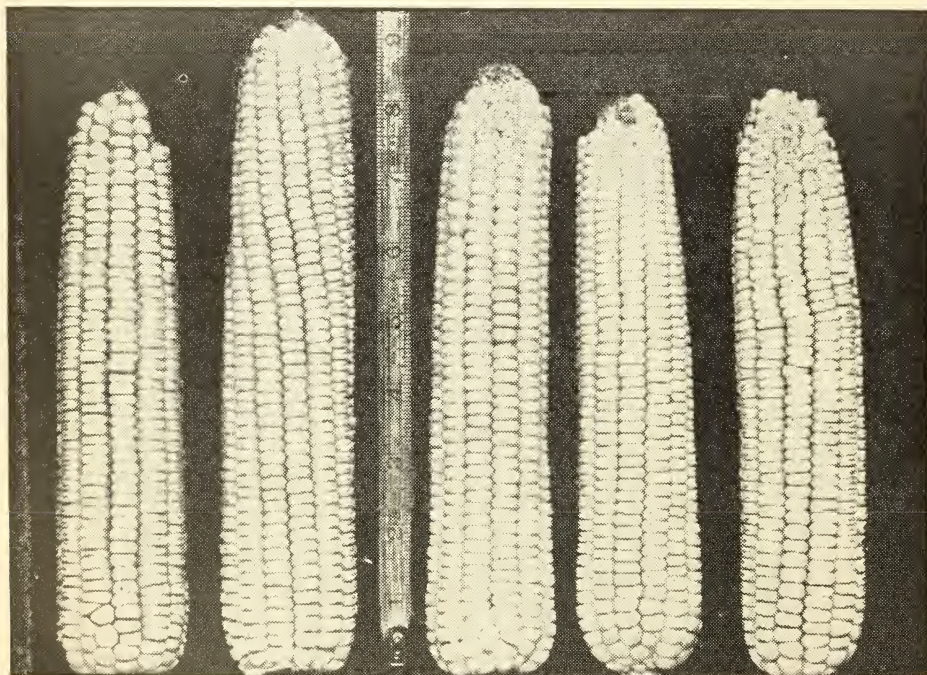
The ranking of varieties in the early tests is given in the discussion of varieties at State College. Laguna is outstanding in the late test with a yield of 40.4 bushels per acre. The lowest yielding variety produces only 22.1 bushels. The

variety ranking second to Laguna yields 33.9 bushels or a difference of 9.3 bushels per acre. This is illustrative of varietal difference in ability to withstand hot dry weather. The season during the critical stage of growth of corn planted as late as June is frequently very hot and dry. Laguna has the ability to stand up better under these circumstances than any variety on test. If more favorable weather prevailed, the yields of other varieties would more closely approach that of Laguna. This characteristic makes Laguna a valuable variety for Mississippi farmers.

### Regional Adaptation Characteristics Of Certain Varieties; Hybrid Corn

It is not expected that all corn varieties will prove to be equally adapted to all regions in the state. For this reason an effort is made to present all standard varieties in such manner that an in-

tersectional comparison may be made. Table 7 gives the yield for 19 varieties and College Hybrid 47 at each station and the state-wide average for each variety at all locations.



COCKES—A BIT IRREGULAR IN TYPE, BUT A HIGH PRODUCER

TABLE 7—REGIONAL ADAPTATION OF CORN VARIETIES

	State College		Holly Springs		Stoneville		Raymond		Natchez		Poplarville		
	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank	Yield	Rank	
College Hybrid 47.....	53.0	.....	53.6	.....	32.3	.....	51.8	.....	38.3	.....	28.4	.....	42.9
Jellicorse.....	52.1	2	57.9	2	30.5	4	49.2	4	36.1	3	28.0	1	42.3
Neal's Paymaster.....	54.0	1	58.4	1	29.4	6	49.8	2	32.1	9	26.7	3	41.7
Cockes Pro. Sta.....	51.8	3	55.1	3	31.2	1	48.4	6	35.0	6	25.6	6	41.2
Laguna.....	48.7	6	49.7	8	31.1	2	50.4	1	35.8	5	26.7	4	40.4
Mosby, Station.....	50.8	4	53.7	4	29.6	5	46.7	7	36.2	4	24.3	13	40.2
Hastings Prolific.....	49.3	.....	52.2	5	28.5	7	44.1	9	39.2	2	27.9	2	40.2
Mosby, Delta.....	47.2	8	49.9	7	30.6	3	45.5	8	39.7	1	25.8	7	39.8
Yellow Mosby.....	45.8	9	50.7	6	27.6	8	43.1	10	34.2	7	25.7	8	37.9
Surcropper.....	48.5	7	43.2	16	25.4	9	49.0	5	30.4	11	19.6	19	36.0
Wright's Prolific.....	44.0	10	47.9	10	25.4	10	41.9	14	30.5	10	24.8	12	35.8
Russell-Heckle GD	43.7	12	47.0	11	24.3	13	42.5	11	26.6	15	26.3	5	35.1
Whately's Prolific	43.3	13	43.7	15	25.4	11	39.0	18	.....	.....	24.3	14	35.1
Ferguson's Y. D.....	44.0	11	40.8	17	25.4	12	42.5	12	29.2	12	22.9	15	34.1
Wood's Gol. Pro.....	40.3	16	25.5	13	22.5	14	42.5	13	27.9	13	25.5	9	34.0
Jarvis.....	40.7	15	46.8	12	22.1	15	41.7	17	27.6	14	25.2	10	24.0
Thompson's Pro.....	41.8	14	48.3	9	21.3	16	49.5	3	17.7	17	20.1	18	33.1
Marchetti.....	37.7	18	44.0	14	21.3	17	41.0	16	26.5	16	25.2	11	32.6
Johnson's Prolific...	40.1	17	38.1	18	19.1	18	41.8	15	33.4	8	21.1	16	32.3
Pigott's Red Cob....	34.7	19	36.4	19	18.3	19	.....	.....	.....	.....	20.3	17	27.4

In order to obtain full benefit from such study, it is best to look further into the table than merely observe the average for the entire group. College Hybrid 47 would be considered as widely adapted over the state because of its rating near the top at all stations. Of the varieties, Jellicorse, Neal's Paymaster, and Cockes Prolific are the three highest in average for each station. Paymaster ranks in the upper three in four locations, or at all stations except Stoneville and Natchez; Jellicorse places similarly at all stations except Stoneville and Raymond; Cockes Prolific is slightly better in north Mississippi than in the south. Hastings ranks higher at the stations in the southern part of the state. Golden Dent also does best comparatively in the southern part of the state.

Figure 3 shows the six high yielding varieties at each station. (This number is arbitrarily selected and does not mean the third to ninth could not just as well be considered.) These varieties are listed numerically as to yield at each station. The list is exclusive of College Hybrid 47. Jellicorse and Cockes Prolific are listed in each section, but their rating varies at the different points. Paymaster is listed in all except Natchez, Laguna in all

except Holly Springs, and Mosby and Hastings Prolific are present four out of the six locations.

From the foregoing study it may be concluded that a number of the better varieties have a wide range of adaptation over the state. None of the very inferior ones are outstanding at any point.

#### Characteristics of Varieties

Each corn variety is identified by certain definite characteristics or combination of characteristics not common to others. In many cases differences are not well defined and it is only by thorough knowledge of such examples that their identity may be determined. Not nearly all the numerous varieties grown in Mississippi could be included in the study. Twenty varieties, the majority of which are well known over the state, have been grown at State College and studied for a number of ear characteristics. The results are tabulated in table 8. They include a number of characteristics and kernels, and the relative length of the growing season. The ear samples were taken from the early variety test.

**Kernel color.** This merely shows in a general way whether a variety may be classed as white or yellow. It is well known that considerable variation is



present in shades of color in each class.

**Volume weight.** Volume weight as used in this case refers to the relative weights per volume of a sample of kernels as compared to an equal volume of water. This is an effort to measure the density or relative hardness of kernels. A 100 gram sample of shelled corn of each variety was separately immersed in a vessel filled with water and the water displaced measured. A cubic centimeter of water is taken to weigh 1 gram. Then the weight of the sample of corn divided by the number of cubic centimeters of water displaced gives the term listed under volume weight.

**Percent weevil damage.** A weighed sample of grain from each variety was poured into containers made of one-fourth inch mesh hardware cloth. These were put in a screened compartment with a large number of insects known to damage corn in the crib. After 4 to 6 months the corn was reweighed and cleaned with a small commercial type grain cleaner. It was then weighed again and the loss taken as due to weevil and moth damage. The difference in weevil damage is not great enough to be considered as real.

The data in this and the preceding column should not be taken as final. They are presented as preliminary and only for the consideration of the reader.

Since the denser kernels appear to be attacked no less than the softer ones, it would indicate that hardness of kernels may not be so important a factor in resisting insect damage. The insects have had free access to all varieties in this case.

The length and diameter of ear, number of rows of kernels are self-explanatory. There is no great difference between any varieties measured.

**Number of days from planting to silking.** This is the accepted method of measuring the relative earliness or lateness of a variety. There is a difference of 9 days between the earliest—Jarvis, Ferguson's Yellow Dent, and other yellow varieties—and Hastings Prolific. This is sufficient difference to permit success or failure of a corn crop where rainfall is the limiting factor, and is important to the extent that moisture deficiency occurs during the crucial fruiting season. The length of growing season taken at State College with the planting date around the

TABLE 8—MEASUREMENTS OF SOME CHARACTERISTICS OF WELL-KNOWN CORN VARIETIES

				Length	Dia. of	No. Rows	No. Days
	Kernel	Volume	% Weevil	Ear—	Ear—	of	From
	Color	Weight	Damage	inches	inches	Kernels	Planting
							To Silking
Mosby Station.....	White.....	1.20	15.9	8.0	1.9	14	88
Mosby Delta.....	White.....	1.27	15.2	7.3	1.9	16	89
Cockes Prolific.....	White.....	1.24	16.5	7.8	1.9	14	89
Hastings Prolific.....	White.....	1.22	16.8	6.7	1.7	14	92
Jellicorse.....	White.....	1.21	16.2	7.2	2.0	14	86
College Hybrid 47.....	White.....	1.21	16.3	8.0	2.0	14	89
Laguna.....	White.....	1.27	14.5	7.9	2.0	14	89
Johnson's Prolific.....	White.....	1.23	14.6	7.0	1.9	14	....
Wright's Prolific.....	White.....	1.22	16.2	7.0	2.0	14	86
Surcropper.....	D. White.....	1.16	15.2	7.4	2.2	14	84
Paymaster.....	White.....	1.17	16.9	6.8	2.1	14	84
Thompson's Prolific.....	White.....	1.20	15.6	6.7	1.9	....	....
Ferguson's Yellow Dent.....	Yellow.....	1.18	16.3	7.6	2.1	14	83
Jarvis.....	Yellow.....	1.28	15.6	7.0	1.7	12	83
Wood's Golden Prolific.....	Yellow.....	1.25	14.1	7.4	2.0	14	83
Russell-Heckle Golden Dent.....	Yellow.....	1.20	15.7	7.9	2.1	16	86
Marchetti.....	Yellow.....	1.24	14.7	6.9	1.9	14	84
Yellow Mosby.....	Yellow.....	1.23	15.3	8.0	1.9	14	86
Pigott's Red Cob.....	White.....	1.26	5.7	5.3	2.0	18	85
Whitley's Prolific.....	White.....	.....	.....	.....	1.9	14	90

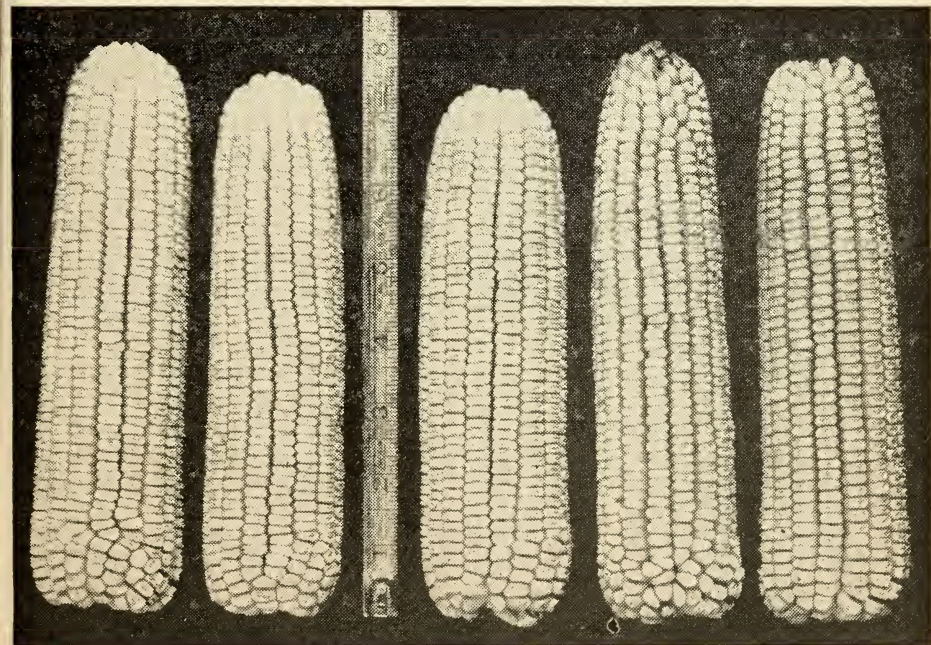
first of April must not be too broadly accepted since the actual season would vary as to date of planting and location. Later planted corn would give a shorter growing season. The author of Texas Bulletin No. 397 shows that, on the average, 10 days delay in planting shortens the time between planting and silking 5 days. For example, if a variety planted April 1 silked in 90 days, the same variety planted June 1 would silk in approximately 60 days. There would be a difference of one month in the length of growing season of that variety, due to the difference in planting dates. The April planting would silk about July 1 and the June planting August 1. This is entirely in line with observations made at this Station.

#### Hybrid Corn

With the widespread planting of hybrid corn in the Corn Belt, it is only natural to expect considerable interest to be developed in the South. As breeding methods develop, and when further ac-

complishments are made toward developing material suitable for southern conditions, it is not unlikely that profitable yields may be made from hybrids on the better corn land in Mississippi. One must not, however, expect miracles from such. Hybrids are as dependent upon favorable growing conditions as are our ordinary varieties. It is their ability to perform more efficiently under favorable conditions that gives them the edge over common varieties.

To farmers anticipating planting seed of hybrids, a word of caution is offered. This Experiment Station system is putting forth an effort to determine the value of some of the numerous hybrids offered for sale by conducting yield tests over the state. The results will be available to anyone interested. It would be somewhat risky to plant any hybrid that has not been tried out under southern conditions. If a hybrid is not considerably better than the better varieties, it would not be worth-



JOHNSON'S PROLIFIC—UNIFORM IN TYPE: A MEDIUM PRODUCER

while to pay the increased price asked for the seed. No northern hybrids tried have

shown to be superior to varieties commonly recommended.

## Description and Origin of Some Well Known Corn Varieties in Mississippi

**Cockes Prolific:**—Named for General Cocke of Bremono Farm in the James River Valley of Virginia and recognized before the Civil War. J. B. Allen of Port Gibson, Mississippi, made selections from it. Dr. H. B. Brown obtained seed from Mr. Allen in 1915 and did further work with it at the Mississippi Experiment Stations.

Cockes Prolific is a white variety usually producing two or more ears per stalk. Ears are a little larger than Hastings, but considerably smaller than Mosby. Ears slightly tapering,  $7\frac{1}{2}$  to  $8\frac{1}{2}$  inches in length,  $1\frac{1}{2}$  to 2 inches in diameter, and bear 12 to 14 rows of kernels. Kernels of medium length, broad, plump, and grayish white in color with very slight indentations. Cob small and white. Matures in 120 to 125 days.

**College 47:**—First produced at the Mississippi Experiment Station by the hybridization of two well known varieties, Cockes Prolific and Laguna. Like Laguna it has considerable ability to withstand adverse weather conditions. Ears medium to large and tapering, 8 to 9 inches in length and 2 to  $2\frac{1}{2}$  inches in diameter. Cob white, medium large, and bears 14 to 16 rows of kernels. Kernels are pearly white, medium length, wide, and plump with smooth creased indentation. Ear tips seldom filled well, butts flat. Matures in 120 to 125 days.

Since this is a cross between two varieties, it must be treated as a hybrid and new seed obtained each year for planting. It is a varietal cross; and therefore not a hybrid between inbred lines.

**Golden Dent:**—A good yielding yellow variety, ears large and slightly tapering 8 to 9 inches long and 2 to  $2\frac{1}{2}$  inches in diameter, bears 16 rows of kernels. Ker-

nels medium length, wide, plump, and golden yellow in color; smooth dimpled to rough creased indentation. Matures in 115 to 120 days.

**Hastings:**—The exact origin of this corn is not known. H. G. Hastings and Company, Atlanta, Georgia, obtained seed first from a Georgian whose father had grown the corn before the Civil War. The seed having first been obtained from a covered wagon transit passing through Georgia from the Carolinas. The Hastings firm has selected, developed and grown this corn since before 1900.

Hastings is a true prolific characterized by small ears  $6\frac{1}{2}$  to  $7\frac{1}{2}$  inches in length and  $1\frac{1}{2}$  inches in diameter. Cob is small and white bearing 12 to 16 rows of kernels, usually two to four ears per stalk. Kernels of medium length, hard, slightly indented, and grayish white in color. Matures in 125 to 130 days.

**Jarvis:**—Developed by J. M. Jarvis, Winston-Salem, North Carolina. Mr. Jarvis followed the system of field selection from stalks which produced two good ears. Other points were probably kept in mind, but the chief consideration was given to yield. Jarvis also seems to have an advantage in soil adaptability.

It is a true prolific yellow variety easily distinguished by its white cob and other ear and plant characters. It has a medium low stalk, with low set ears 7 to 8 inches in length and  $1\frac{1}{2}$  to 2 inches in diameter. Twelve to 14 rows of kernels, slightly tapering, and golden yellow in color. Kernel of medium length, broad, full, hard, and very slightly indented. Butts flat, tips fair. Matures in 115 to 120 days.

**Jellicorse:**—A white variety of corn developed by Reggie Jellicorse, Elmwood,

Tennessee. Selections were made by Mr. Jellicorse for yield and quality of grain. The grain is of excellent quality. Ears are  $6\frac{1}{2}$  to  $7\frac{1}{2}$  inches in length and approximately 2 inches in diameter. Cob white and bears 12 to 16 rows of kernels. Matures in 120 to 125 days.

Jellicorse has proven to be a high yielding variety in the northern one-third of the state, but may be questionable in the central and southern portions.

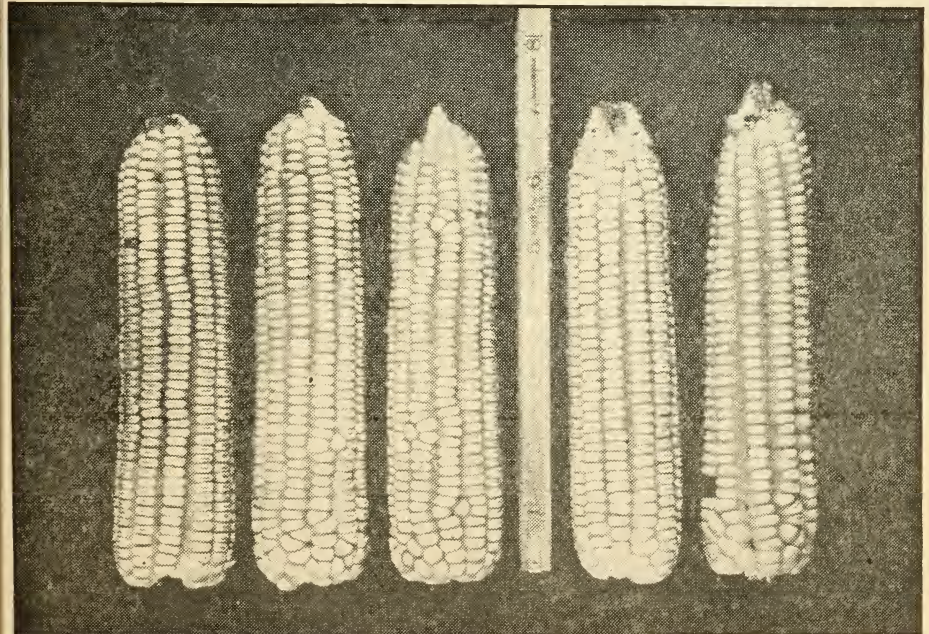
**Johnson's Prolific:**—A white variety resembling Mosby except the ears are a little shorter. Ears  $6\frac{1}{2}$  to  $7\frac{1}{2}$  inches in length,  $1\frac{1}{2}$  to 2 inches in diameter. Cob white and bears 14 rows of kernels. Developed by J. W. Johnson, Quitman, Miss.

**Laguna:**—for a number of years Laguna has been kept in a high state of production by the Mississippi Experiment Station. Apparently this is one of the best varieties known for late planting in this state. Although the time required for the maturing of Laguna is approxi-

mately the same as for Mosby and other varieties, it seems to stand the adverse weather conditions that usually occur during the latter part of the growing season, and like Mexican June will build its yield above other varieties planted under these conditions.

Laguna is a white variety with medium size stalks and medium ear height. Ears  $7\frac{1}{2}$  to  $8\frac{1}{2}$  inches in length and 2 inches in diameter. Kernels broad, medium length, and plump with a characteristic white cap. Indentation smooth creased to dimpled. Cob white, medium size, and bears 14 rows of kernels. Tips of ear seldom well filled, butts flat. Matures in 120 to 125 days.

**Marchetti:**—A yellow dent variety developed by J. W. Marchetti, Hazelhurst, Mississippi. Relatively small ears  $6\frac{1}{2}$  to 7 inches long and  $1\frac{1}{2}$  to 2 inches in diameter, usually very irregular in length. Cob dull red and bears 14 rows of kernels. Kernels of medium length and plump with smooth to rough indentations. Matures in 115 to 120 days.



JARVIS—A VERY POPULAR YELLOW CORN

**Mosby:**—Developed by J. K. Mosby, Lockhart, Mississippi, in the late 90's. Later strains including Delta Mosby, Woodruff's Mosby, Suttle Mosby, and others have been developed by the experiment stations and individual breeders.

Mosby is a white semi-prolific variety, normally producing one large ear and a nubbin to two medium sized ears per stalk. Ears 8 to 9 inches long, slightly tapering, and approximately 2 inches in diameter. Cob is white and bears 14 rows of kernels. Kernels are of medium length, wide, wedge shape, and roughly indented. Tip of ear usually not so well filled. Matures in 120 to 125 days.

**Neals Paymaster:**—Developed by W. H. Neal of Lebanon, Tennessee. Mr. Neal began some 25 years ago with a mixed variety and has persistently selected for yield and a red cob. He made his selections in the field from plants that produced two good-sized ears to the stalk.

Paymaster is a white variety with a medium sized stalk and medium ear height. Ears are 7 to 8 inches in length and 2 to 2½ inches in diameter, slightly tapering, and bear 14 to 16 rows of kernels. Grain is long, wide, flat, and ivory or straw white in color. Cob is small and light red. Matures in 115 to 120 days.

This variety is probably one of the best that can be grown in the northern one-third of the state, but like Jellicorse may be questionable in the central and southern portions.

**Pigotts Red Cob:**—Originated and developed by B. W. Pigott & Son, Tyler-town, Mississippi.

This variety is sometimes called shoe peg corn. It has long pointed kernels and a very small cob. Ears 5 to 6 inches long, 1½ to 2 inches in diameter. Cob

very small, deep red, and bears 16 to 20 rows of kernels. Kernels are ivory or straw white in color, extremely long, narrow, and almost round with very rough or beaked indentation. Matures in 120 to 130 days.

**Surcopper:**—This variety was originated and developed in Texas. The grain is creamy white and very susceptible to ear rot. Ears 7 to 8 inches in length and approximately 2 inches in diameter. Cob white and bears 14 rows of kernels. Indentation smooth to rough creased. Matures in 115 to 120 days.

**Whatley Prolific:**—Originated and developed by Whatley Brothers, Helena, Georgia. It is a white variety with a red cob, resembling Paymaster to some degree but can be identified quite well from it. Ears 6½ to 7 inches in length and 1½ to 2 inches in diameter. Cob dull red and bears 12 to 14 rows of kernels, indentation rough to beaked, ears slightly tapering, grain pearly white. Matures in 120 to 130 days.

#### Acknowledgment

The writer is greatly indebted to previous investigators with corn at State College and the Branch Stations for the collected data included. Credit is due the writer only for the assembling of these data and the attempt at their interpretation.

To Mr. J. F. O'Kelly, Agronomist, credit is due for planning the experiments for all stations and leading the varietal investigation at State College. At Holly Springs credit is due to Mr. E. B. Ferris, Superintendent, and the late Mr. C. T. Ames for carrying out the work there; at Stoneville, Mr. H. A. York; Raymond, Mr. H. F. Wallace; Natchez, Mr. S. J. Greer; and Poplarville, Dr. J. C. Robert. It is through their efforts that this information is made possible.