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IRRIGATION IN NORTHEASTERN MISSISSIPPI

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The phenomenal increase in the use of water for agriculture, industry, and public water supply in the past few years has been an important factor in bringing about the current accelerated inventory and appraisal of the water resources of Mississippi. As a result of severe droughts during the past several years, and of the favorable results of experiments, the water resources of northeastern Mississippi today are rapidly being developed for irrigation. Records have shown that even during years of normal rainfall the distribution of the rain usually is such that supplementary irrigation can be profitably practiced on almost any crop. Although in northeastern Mississippi the annual precipitation generally is enough to support crops and pasture, short periods of drought are common. Supplemental irrigation protects against the periods of drought during the growing season and increases the yield and quality of crops.

As a result of rainfall deficiencies during the growing season for the past several years, many farmers have installed irrigation systems for watering their crops. Even though the number of systems installed in

northeastern Mississippi has been small in comparison to that in some other areas, the Delta for example, the amount of water used in 1956 and the previous few years indicates that the demand for water will continue to increase in the future.

In order that the water resources of Mississippi may be utilized most efficiently, it is necessary first that information be available concerning the quantities of water used for various purposes. Outside the Delta, where the U. S. Geological Survey has made a detailed inventory of the irrigation systems, little has been known about the extent of use of water for irrigation. At the request of the Tennessee Valley Authority for information concerning irrigation-water use in the Tennessee River basin in northeastern Mississippi, the Geological Survey in cooperation with the Mississippi Board of Water Commissioners made an inventory of the irrigation systems in use in 1956 in Alcorn, Itawamba, Prentiss, and Tishomingo Counties. The purpose of the inventory was to determine the number and location of the irrigation systems, the source of water pumped, the acreage irrigated, and the results. Information was obtained also on the number of years the systems had been in operation.

The investigation showed that in the four-county area there were about 46 irrigation systems in 1956. The owners of 14 of the systems applied water with sprinklers. Of the systems, 38 used surface water and 8 used ground water. The surface-water supplies were derived from rivers and creeks and artificially built lakes and ponds. Because several of the systems consist simply of furrows in which water flows by gravity, it was impossible to estimate the total capacity of the systems. The total number

of acres irrigated in the area investigated was reported to be 566. In Monroe County, adjoining the four-county area on the south, more than 2,000 acres were irrigated with about 25 systems, 15 of which were supplied by wells.

Because most of the systems are used to supplement rainfall during the growing season, reliable figures concerning the quantity of water applied were difficult to obtain. However, the use of water for supplemental irrigation in the area can be expected to vary greatly during each season and from season to season, depending on the rainfall.

Table 1 lists the number and kind of irrigation systems operating in the four counties in northeastern Mississippi.

Table 2 lists the more detailed information relating to irrigation systems operating in Tishomingo County, Miss. during the summer of 1956.

Data for the tables were compiled from information supplied by county agricultural agents and representatives of the Soil Conservation Service, and from personal observation.

Table 1

Number and kind of irrigation systems in four northeastern counties of Mississippi in 1956

<u>County</u>	<u>Surface-water systems</u>	<u>Ground-water systems</u>	<u>Acres irrigated</u>
Alcorn	1	0	18
Itawamba	3	1	67
Prentiss	3	1	91
Tishomingo	11	1	290
Miscellaneous small systems (data incomplete)	20	5	100
	38	8	566

Table 2.- Irrigation systems operating in Hishomingo County, Miss., during summer of 1956

Owner and location	Source	Type of system	Crop and acreage		Results	Remarks
L. P. Allen, Jr. 7 miles west of Belmont	Mackys Creek and tributaries	Sprinkler, gas engine, 200-gpm pump	Cotton Corn Silage	} 50 acres	Excellent	Third year in use.
Grady O. Taylor 3 miles NE of Belmont	Springs on a tributary of Bear Creek, collected in reservoir	Sprinkler, electric motor	Cotton Corn	- 51 acres - 14 acres	Excellent	First year. System sponsored by TVA. Experimental project by Miss. State College and TVA.
J. C. Deaton 3 miles west of Paden	Mackys Creek and tributaries	Portable sprinkler, gas engine	Corn	- 15 acres	Good to excellent	Third year in use.
Desmond Deaton 3 miles west of Paden	do	do	Corn	- 20 acres	do	do
R. C. Martin 1 mile NW of Paden	Tributary of Mackys Creek	do	Corn	- 30 acres	Excellent	Second year in use.
Frank Loveless 1 mile NW of Paden	do	Gravity from dam in creek	Corn	- 8 acres	Excellent	
W. J. Brinkley $\frac{1}{2}$ mile north of Iuka	Indian Creek	Sprinkler, electric motor	Corn	- 28 acres	Excellent	Second year in use. Produced 118 bu. per acre in 1955 and 144 bu. per acre in 1956.
Sam Kimberly $2\frac{1}{2}$ miles east of Iuka	Mill Creek	Sprinkler, propane gas engine	Pasture Oats	} 20 acres	Excellent	First year. Will irrigate 22 acres corn and 20 acres pasture in 1957.
Abe Scharff 10 miles north of Iuka	Reservoir backwater on Indian Creek	Sprinkler, gas engine	Pasture Silage	- 20 acres - 5 acres	Excellent	System cost about \$10,000.
J. A. Coker 8 miles NW of Iuka	Yellow Creek	Sprinkler, electric motor	Corn Truck	- -	Fair	TVA experimental equipment used, 1949-55. No irrigation in 1956; equip- ment moved.
Harold D. Wade 2 miles NW of Holcut	Pond	Furrow, gravity	Corn	- 4 acres	Unknown	4-H Club project.
Talmadge Sanders $1\frac{1}{2}$ miles east of Iuka	Tributary, Little Bear Creek	Sprinkler	Corn Soybeans	- 15 acres - 10 acres	Excellent	First year. Reported three times normal yields.

Several other operators are known to be using irrigation on very small plots. No information available.