



The University of Georgia
College of Agricultural and
Environmental Sciences
Cooperative Extension Service, Tifton, Georgia 31793

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SUBJECT: 2008 Irrigation Survey

Results of the 2008 Irrigation Survey are enclosed. The total irrigation system acreage of 1,446,754 acres represents a decrease of 46,325 acres since 2004 (a decrease of 3.1%). The distribution of the types of irrigation systems was: Center pivot systems - 81% of the irrigated acreage; cable tow and hose pull travelers - 8.5% of the irrigated acreage; drip irrigation systems - 6.6% of the irrigated acreage; solid set type irrigation systems - 2% of the irrigated acreage; Golf course and athletic fields - 1.3% of the irrigated acreage; and portable pipe systems - 0.6% of the irrigated acreage. Labor intensive irrigation systems (portable pipe and travelers) continue to be replaced by more efficient, less labor intensive systems (center pivots).

The acres of irrigated crops was 1,548,772 acres. Corn, cotton, and peanuts account for 67 percent of the irrigated crops. Soybeans and winter grain crops had the largest increase in irrigated row crop acreage since 2004. Irrigated soybean acreage increased almost 200 percent and irrigated winter crops increased 460 percent. The increase in soybeans can be attributed to the decrease in irrigated cotton acreage. The increase in winter crop irrigation can be attributed to the unusually dry weather at the end of 2007 and early 2008. Normally, these winter crops can be produced without the need for irrigation and these acres would not be as significant in the survey. Irrigated corn acreage also experienced an increase (30%) probably due to biofuel markets. Blueberries (alternative specialty crop) also experienced a substantial growth in irrigated acreage (86%). Acreage changes in most other crops were normal annual fluctuations.

Amounts of water applied in 2008 were typical of a "dry" year. Corn, cotton, and peanuts averaged 13.9 inches, 10.0 inches, and 10.1 inches respectively. Crops receiving the greatest amount of water were field nursery (32.4 inches), greenhouses (33.0 inches), and athletic field/golf courses (25.8 inches). Crops receiving the least amounts of water were soybeans (6.7 inches), grain sorghum (5.8 inches), and pasture (8.1 inches). The average irrigation amount applied over all crops was 8.9 inches. The "normal" year average application has been 5"-6".

Almost 42% of the systems were powered by diesel fuel. Electricity powered almost 56% of the systems. This marks a continued growth in electric powered systems. Most of the reason for this shift is due to changing/increasing diesel prices. However, the fact that many of the added irrigation systems have been small in size and therefore easily powered by electricity could also explain some of the change. Water sources for irrigation continued on about the same trend as in the past with ground water supplying about 64% and surface water about 35% of the water in the state. The remaining 1% was supplied by wastewater sources.

Acres treated by chemigation are included in the survey. Fertilizer was applied on 155,809 acres, herbicides on 5,981 acres, fungicides on 8,148 acres, nematicides on 4,576 acres, and insecticides on 19,632 acres. It is important to remember that this was acreage that was treated at least one time. In many instances, more than one application of a material may have occurred which would increase the chemigation acreage if taken into account.

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Table 1. Compilation of Georgia Irrigation Survey

For Years: 1970, 1975, 1977, 1980, 1986, 1992, 1995, 2000, 2004, 2008

	1970	1975	1977	1980	1986	1992	1995	2000	2004	2008
Acres of irrigation systems	144,629	307,416	592,088	988,356	1,128,584	1,286,707	1,356,726	1,460,235	1,493,079	1,446,754
Number of irrigation systems	6,572	7,038	8,343	10,599	11,886	14,159	14,584	17,428	17,017	18,066
Irrigated acreage by crop:										
Corn	30,418	76,996	250,227	410,241	341,296	290,505	143,611	195,006	185,878	242,271
Cotton	2,627	1,116	9,270	17,655	69,554	178,818	543,308	645,690	641,572	451,204
Peanuts	38,227	91,334	19,544	271,323	375,160	365,221	313,064	305,582	347,184	335,239
Tobacco	42,402	54,518	46,081	46,522	31,605	36,926	37,885	30,890	22,710	11,915
Soybeans	795	4,725	21,728	133,695	94,349	63,504	20,637	21,733	32,022	99,552
Winter & Small Grains	-	-	-	-	12,758	21,933	7,283	32,894	13,895	79,570
Vegetables - Sprinkler	20,061	26,223	39,727	49,005	97,890	123,053*	106,563	108,745	98,412	95,603
- Drip	-	-	-	-	-	9,596*	12,497	22,452	27,674	28,937
Pastures	5,440	4,613	10,668	13,991	24,216	29,617	26,172	26,267	24,919	33,335
Apples	-	152	1,100	1,378	677	365	54	178	114	218
Blueberries	-	-	-	-	1,130	2,201	2,669	4,644	5,906	10,982
Peaches	1,542	721	1,995	4,594	5,343	3,807	5,347	3,444	4,271	6,896
Pecan - Sprinkler	485	1,356	4,662	16,266	48,538	22,269*	22,774	23,172	18,254	19,446
- Drip	-	-	-	-	-	45,668*	48,213	57,181	52,777	63,306
Field Nursery	1,453	424	602	1,115	3,013	4,307	4,484	5,369	6,488	7,374
Vineyards	-	145	240	1,581	517	561	665	953	1,197	1,307
Turfgrass	-	1,557	1,764	2,252	5,409	11,411	15,389	32,711	38,537	42,972
All Other Crops	1,179	2,121	7,411	7,665	10,163	9,507	1,728	192	835	0
Golf Courses	-	-	6,069	7,638	**	**	**	**	**	**
Athletic Fields	-	-	-	614	6,966	18,795	21,015	22,951	23,723	18,194
Number of irrigation systems by type:										
Portable pipe (hand-move)	6,365	5,026	4,179	2,517	1,452	1,250	599/32	497/31	340/30	243/24
Cable-tow	69	1,090	2,585	3,825	3,618	3,135	2,851/73	1,705/66	1052/65	882/56
Hose Reel (hose pull)	-	-	-	429	955	1,198	1,276/93	1,642/78	1415/76	1193/62
Center Pivot	87	478	983	2,858	4,191	5,660	8,167/108	10059/111	11512/101	13006/90
Lateral Move (linear)	-	-	-	7	28	23	21/120	27/81	28/80	31/92
Drip-Trickle	-	-	21	159	687	1,356	1,083/67	1214/37	1463/63	1630/56
Solid Set Sprinkler	32	122	135	211	288	764	709/37	720/43	472/57	642/45
Golf Courses	-	291	229	250	257	-	-	-	-	-
Athletic Fields	-	120	175	256	405	766	579/37	748/33	705/34	429/44
Number of irrigation systems by type of power:										
Gasoline Engine	2,985	2,009	1,936	885	658	506	347	208	137	54
L.P. Gas Engine	1,116	1,377	1,033	822	788	876	684	553	431	351
Diesel Engine	2,292	3,434	4,180	6,794	7,485	7,769	9,366	8,076	7,956	7,366
Electric Motor	179	329	441	919	2,420	4,206	4,187	6,653	8,077	9,835
Number of systems by source of water:										
Ground water	582	1,118	1,771	3,387	4,628	7,876	8,391	10,101	10,750	11,479
Surface water	5,990	6,258	6,211	6,378	6,666	6,283	6,165	6,328	6,267	6,298
Waste water	-	-	-	-	-	11	177	197	154	203
Number of acres under chemigation:										
Fertilizer	-	-	-	-	136,618	155,749	106,164	103,842	119,885	155,809
Herbicide	-	-	-	-	31,958	15,810	16,870	10,200	11,600	5,981
Fungicide	-	-	-	-	6,617	12,026	6,975	1,764	4,185	8,148
Nematicide	-	-	-	-	1,200	1,587	1,500	402	2884	4576
Insecticide	-	-	-	-	4,819	4,112	3,003	1,170	12,800	19,632

*Drip and Sprinkler acreage separated beginning 1992.

**Golf courses and athletic fields combined for these years.

***Number of systems/average, system size in acres rounded to nearest acre.

This information was compiled from estimates supplied by county Extension agents for educational purposes only.