



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

January 22, 2005

MEMO TO: County Extension Coordinators and Agents

SUBJECT: Irrigation Survey, 2004

Results of the 2004 Irrigation Survey are enclosed. The total irrigation system acreage of 1,493,079 acres represents an increase of 32,140 acres since 2000 (an increase of over 2%). Labor intensive systems such as portable pipe and cable tow travelers continue to have an acreage decrease. Center pivot systems accounted for about 78 percent of the irrigated acreage and the majority of the increase in system acreage.

The acres of irrigated crops was 1,546,755 acres. Corn, cotton, and peanuts account for 76 percent of the irrigated crops. Drip irrigated vegetables had the largest increase in irrigated acreage since 2000. Drip irrigated vegetable acreage increased almost 24 percent despite the fact that the number of drip irrigation systems decreased from the 2000 survey. Acreage changes in most crops were normal annual fluctuations.

Amounts of water applied in 2004 were typical of a "normal rainfall" year. Corn, cotton, and peanuts averaged 8.1 inches, 7.1 inches, and 6.8 inches respectively. Crops receiving the greatest amount of water were field nursery (23.7 inches), greenhouses (25.9 inches), and athletic field/golf courses (19.1 inches). Crops receiving the least amounts of water were soybeans (3.2 inches), grain sorghum (3.3 inches), and pasture (4.6 inches). The average irrigation amount applied over all crops was 6.3 inches.

Almost 46% of the systems were powered by diesel fuel. Electricity powered almost 49% of the systems. This marks the first time that electric powered systems have operated the majority of the irrigation in the state. 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 63% and surface water about 36% 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 119,885 acres, herbicides on 11,600 acres, fungicides on 4,158 acres, nematicides on 2,884 acres, and insecticides on 12,800 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.

Sincerely yours,

Kerry Harrison
Extension Engineer

Enclosures

Copy to: Dr. Mel Garber
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District Extension Heads

COLLEGE OF AGRICULTURAL AND ENVIRONMENTAL SCIENCES, COLLEGE OF FAMILY AND CONSUMER
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Table 1. Compilation of Georgia Irrigation Survey

For Years: 1970, 1975, 1977, 1980, 1986, 1992, 1995, 1998, 2000, 2004

	1970	1975	1977	1980	1986	1992	1995	1998	2000	2004
Acres of irrigation systems	144,629.00	307,416	592,088	988,356	1,128,584	1,286,707	1,356,726	1,430,235	1,460,235	1,493,079
Number of irrigation systems	6,572	7,038	8,343	10,599	11,886	14,159	14,584	12,833	17,428	17,017
Irrigated acreage by crop:										
Corn	30,418	76,996	250,227	410,241	341,296	290,505	143,611	216,496	195,006	185,878
Cotton	2,627	1,116	9,270	17,655	69,554	178,818	543,308	569,507	645,690	641,572
Peanuts	38,227	91,334	19,544	271,323	375,160	365,221	313,064	312,905	305,582	347,184
Tobacco	42,402	54,518	46,081	46,522	31,605	36,926	37,885	33,831	30,890	22,710
Soybeans	795	4,725	21,728	133,695	94,349	63,504	20,637	26,615	21,733	32,022
Winter & Small Grains	-	-	-	-	12,758	21,933	7,283	7,008	32,894	13,895
Vegetables - Sprinkler	20,061	26,223	39,727	49,005	97,890	123,053*	106,563	107,486	108,745	98,412
- Drip	-	-	-	-	-	9,596*	12,497	13,130	22,452	27,674
Pastures	5,440	4,613	10,668	13,991	24,216	29,617	26,172	34,820	26,267	24,919
Apples	-	152	1,100	1,378	677	365	54	225	178	114
Blueberries	-	-	-	-	1,130	2,201	2,669	3,230	4,644	5,906
Peaches	1,542	721	1,995	4,594	5,343	3,807	5,347	4,186	3,444	4,271
Pecan - Sprinkler	485	1,356	4,662	16,266	48,538	22,269*	22,774	19,823	23,172	18,254
- Drip	-	-	-	-	-	45,668*	48,213	44,696	57,181	52,777
Field Nursery	1,453	424	602	1,115	3,013	4,307	4,484	5,285	5,369	6,488
Vineyards	-	145	240	1,581	517	561	665	752	953	1,197
Turfgrass	-	1,557	1,764	2,252	5,409	11,411	15,389	34,007	32,711	38,537
All Other Crops	1,179	2,121	7,411	7,665	10,163	9,507	1,728	3,965	192	835
Golf Courses	-	-	6,069	7,638	**_	**_	**_	**_	**	**
Athletic Fields	-	-	-	614	6,966	18,795	21,015	24,649	22,951	23,723
Number of irrigation systems by type:										
Portable pipe (hand-move)	6,365	5,026	4,179	2,517	1,452	1,250	***	***	***	***
Cable-tow	69	1,090	2,585	3,825	3,618	3,135	599/32	454/37	497/31	340/30
Hose Reel (hose pull)	-	-	-	429	955	1,198	2,851/73	2,049/70	1,705/66	1052/65
Center Pivot	87	478	983	2,858	4,191	5,660	1,276/93	1,608/82	1,642/78	1415/76
Lateral Move (linear)	-	-	-	7	28	23	8,167/108	8,410/121	10059/111	11512/101
Drip-Trickle	-	-	21	159	687	1,356	21/120	19/84	27/81	38/80
Solid Set Sprinkler	32	122	135	211	288	764	1,083/67	1,167/57	2,014/37	1463/63
Golf Courses	-	291	229	250	257	-	709/37	427/68	720/43	472/57
Athletic Fields	-	120	175	256	405	766	-	-	-	-
Number of irrigation systems by type of power:										
Gasoline Engine	2,985	2,009	1,936	885	658	506	347	254	208	137
L.P. Gas Engine	1,116	1,377	1,033	822	788	876	684	738	553	431
Diesel Engine	2,292	3,434	4,180	6,794	7,485	7,769	9,366	7,779	8,076	7,956
Electric Motor	179	329	441	919	2,420	4,206	4,187	5,018	6,653	8,077
Number of systems by source of water:										
Ground water	582	1,118	1,771	3,387	4,628	7,876	8,391	8,881	10,101	10,750
Surface water	5,990	6,258	6,211	6,378	6,666	6,283	6,165	5,998	6,328	6,267
Waste water	-	-	-	-	-	11	177	140	197	154
Number of acres under chemigation:										
Fertilizer	-	-	-	-	136,618	155,749	106,164	118,725	103,842	119,885
Herbicide	-	-	-	-	31,958	15,810	16,870	13,918	10,200	11,600
Fungicide	-	-	-	-	6,617	12,026	6,975	7,385	1,764	4,185
Nematicide	-	-	-	-	1,200	1,587	1,500	2,545	402	2884
Insecticide	-	-	-	-	4,819	4,112	3,003	5,355	1,170	12,800

*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.