

## Sugarcane Variety Census: Florida 1995<sup>1</sup>

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The annual variety census reports for the Florida sugarcane industry were started by L. P. Hebert in 1964. In this report of the 1995-96 harvest season, mill managers and independent growers displayed exemplary cooperation in supplying the requested data. As a result of this cooperation, much useful information is contained in this census.

The census reflects Florida sugarcane growers' variety preferences. In addition, the census reports comparative usage of the successive and fallow planting systems. The sugarcane crop is categorized as plant cane, first ratoon, second ratoon, third ratoon, and fourth ratoon and older. Also, the census estimates percentages of muck and sand soils used for sugarcane.

Growers reported 437,763 acres of sugarcane grown for sugar and seed for the 1995-96 crop. This figure represents a decrease of 26,589 acres compared to the figure reported for the 1994-95 season (Glaz, 1995). However, during the data collection this year, it was discovered that last year's census was in error and reported an excess of 6,500 hectares. Therefore, the Florida sugarcane industry declined by only about

9,880 acres from 1994 to 1995. The adjustment for last year's census was made in Figure 1 which shows the general upward trend in total sugarcane acreage in Florida since 1977.

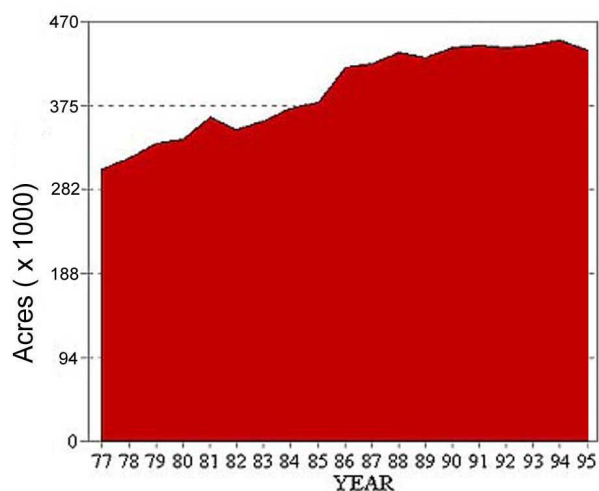
Of the total 1995-96 acreage, 33.3 percent was plant cane and 66.7 percent was ratoon cane. The percentage of the crop in plant cane has risen from its 1992 level of 29.3 percent (Coale and Glaz, 1992) and last year's level of 32.4 percent of the crop (Glaz, 1995). Of this year's acreage, 31.8 percent was first ratoon, 21.2 percent was second ratoon, 8.2 percent was third ratoon, and 5.0 percent was fourth ratoon or older. These compared with 1994 percentages of 29.3, 21.8, 8.6, and 7.3, respectively (Glaz, 1995). Figure 2 shows that the trend from 1993 to 1995 has been to have slightly more sugarcane in the younger crops, plant cane and first ratoon; and slightly less in the older crops, third ratoon and older.

For the 1995-96 harvest season, Florida growers planned to harvest 41 varieties of sugarcane. As shown in Table 1, each of 13 principal varieties covered at least one percent of the total cane area. The

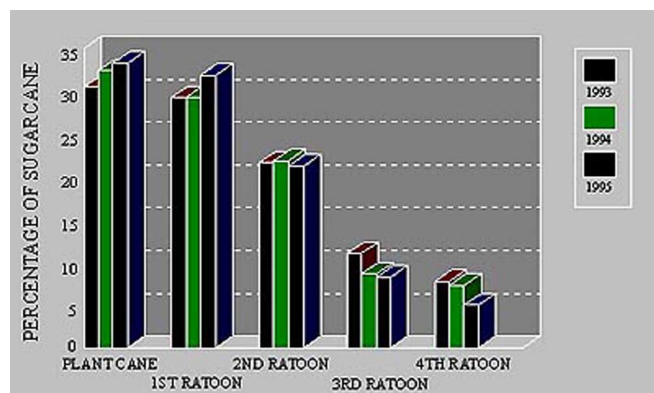
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**Figure 1.** Total sugarcane acreage as reported in annual Florida variety census reports since 1977.



**Figure 2.** Percentage sugarcane acreage as plant cane, first ratoon, second ratoon, third ratoon, and fourth ratoon and older from 1993 through 1995.

group labeled as "all others" represented varieties that each made up less than one percent of the total hectareage. The United States Sugar Corporation of Clewiston, Florida, developed the varieties identified by a "CL" prefix. A cooperative program, based at Canal Point, Florida, of the United States Department of Agriculture's Agricultural Research Service, the Florida Sugar Cane League, Inc. and the Institute of Food and Agricultural Sciences of the University of Florida, developed the varieties identified by a "CP" prefix. Of the 28 varieties grouped as "all others," eight were grown as ratoon cane only. The absence of plant cane for a variety indicates that its commercial use will soon stop. Five varieties with no plant cane and less than 6 hectares of ratoon cane were CP 57-603, CL 54-378, CL 68-575, CP 78-1247, and CP 84-1714. CP 75-1082, a variety characterized by high cane tonnage but low sugar concentration, was

released in 1984 (Glaz et al. 1986). This year was the first year since its release that it was not grown in Florida.

The most widely grown variety in Florida this year was CP 80-1827, with 16.1 percent of the total cane area (Table 1). This is the first year that CP 80-1827 has been the most extensively grown variety in Florida. After its release in the fall of 1987 (Glaz, et al. 1990), the use of CP 80-1827 began slowly and then increased steadily. Its largest percentage increases were from 1993 to 1994 and 1994 to 1995 (Table 2).

CP 72-2086, last year's most popular variety, dropped in ranking to second place this year (Table 1). However, it remained stable in use with 15.5 percent of the total sugarcane area both in the 1994 and 1995 census reports (Table 2). Last year's second most popular variety, CL 61-620 dropped to third place this year. CL 61-620 dropped in percentage use from 15.0 to 13.0 percent (Table 1). Another indication that CL 61-620 may be declining in popularity is that its percentage of the plant-cane acreage dropped 1.8 percentage points from 12.0 to 10.2 (Table 3). In 1993, CL 61-620 was the most widely grown variety in Florida (Glaz, 1994).

This year's fourth place variety, CP 73-1547, rose from fifth place last year, even though it dropped 0.9 percentage points from 9.8 to 8.9 percent of the total cane acreage (Table 3). Its large drop from 9.8 to 6.5 percent of the plant-cane acreage is an indication that, after several years of mostly slowly increasing acreage, use of CP 73-1547 has begun to decline (Table 2 and Table 3). This decline in plant-cane acreage also follows a modest decline in plant-cane acreage of 0.8 percent from 1993 to 1994 (Glaz, 1995).

CP 70-1133 ranked fifth this year (Table 1). The total use of CP 70-1133 declined by 2.1 percent compared to last year (Table 3). This was the fourth consecutive year that CP 70-1133 has dropped in percent acreage, after its modest increase in popularity from 1989 to 1991 (Table 2). CP 80-1743 moved from eighth place last year (Glaz, 1995) to sixth place this year (Table 1). The overall use of CP 80-1743 rose by 1.9 percent (Table 3). However, its rapid expansion from 0.3 percent in 1991 to 7.1

percent this year (Table 2) may have peaked because the plant-cane acreage of CP 80-1743 dropped from 8.5 percent last year to 8.1 percent this year (Table 3). By contrast, last year CP 80-1743 recorded the second greatest net increase, 3.4 percent, in percentage of plant-cane acreage (Glaz, 1995).

The most widely grown variety each year from 1985 through 1991, CP 72-1210, declined substantially in acreage for the seventh consecutive year (Table 2). A surprising statistic for CP 72-1210 this year was that its plant-cane acreage increased to 2.3 percent from 2.1 percent last year (Table 3). This is an indication that CP 72-1210 may continue to be a preferred variety for select environments in Florida.

The use of CP 80-1827 grew more rapidly than did that of any other variety from 1994 to 1995. The variety with the second highest increase rate, 2.5 percent, was the eighth place variety, CP 78-1628. An even stronger indication of the increased popularity of CP 78-1628 was that its plant-cane acreage increased by 3.5 percent from 1994 to 1995. This was the greatest percentage increase in plant-cane acreage for any variety. The next highest percentage increase in plant-cane acreage was for CP 80-1827 and its increase was only 2.3 percent (Table 3). Last year, CP 78-1628 was in fourteenth place (Glaz, 1995).

CL 72-321, this year's ninth place variety, elevated its rate of increase this year with its 0.9 percent increase compared to its 1994 acreage (Table 2). Last year, CL 72-321 finished in thirteenth place (Glaz, 1995). An indication that expansion of CL 72-321 acreage will continue was its increase of 1.8 percent in plant cane from 1994 to 1995. This was the third largest percentage increase in plant-cane acreage (Table 3).

The tenth through thirteenth varieties this year were CL 69-886, CP 81-1254, CP 78-2114, and CL 73-239 (Table 1). Only CP 81-1254 did not decline in acreage among these four, and the increase for CP 81-1254 was only 0.2 percent (Table 3). CP 78-2114 had the largest drop among all principal varieties and will probably continue to drop based on its decline of 4.8 percent in plant-cane acreage (Table 3). An interesting statistic of CL 69-886 is that although it comprised only 1.9 percent of the total acreage, it had 12.2 percent of the acreage in fourth ratoon or older (Table 1).

Of the 148,561 plant-cane acres, 125,950 acres (84.8 percent) were reported as planted in either the fallow or successive planting system (Table 4). In the successive planting system, growers plant sugarcane soon after a final-ratoon sugarcane harvest. In the fallow system, growers do not plant sugarcane after a final ratoon harvest until the following planting season. However, this system often does not result in fallow land, because growers may often plant at least one annual crop, such as sweet corn, rice, and radishes, between the sugarcane crops. Growers did not specify whether they planted the remaining 22,611 acres on fallow or successive land. Of the 125,950 acres for which information was available, 38.8 percent were fallow planted and 61.2 percent were successively planted (Table 4). Fallow and successive estimates were 36.5 and 63.5 percent, respectively, in the 1994 census (Glaz, 1995). This is the third consecutive year that percentage fallow acreage has increased.

Table 4 contains the actual and percentages of fallow and successive plant-cane acreage of the principal varieties. Growers showed variety preferences depending on whether their fields were fallow or successively planted. Like last year, growers showed more of a tendency to plant CL 61-620 and CP 70-1133 on fallow rather than successive land. CP 80-1827 and CP 72-2086 comprised 42.4 percent of the successive plant-cane acreage compared to 29.1 percent of the fallow plant-cane acreage.

In their census reports last year, growers labeled 354,183 of the total 464,353 acres reported (76.3 percent) as either a muck or a sand soil (Glaz, 1995). This year, the percentage increased dramatically as growers labeled 437,837 of their total 445,728 acres (98.2 percent) as either having muck or sand soil. Of these 177,262 hectares, 79.6 percent were reported as muck soils and 20.4 percent were reported as sand soils (Table 5). This year's percentage for muck soils declined substantially from last year's 88.9 percent, and conversely, the percentage of sand soils increased by 9.3 percent from last year (Glaz, 1995). The nearly complete data set this year substantially changes the perception of the percentages of muck and sand soils in Florida sugarcane summarized in previous census reports.

As with fallow and successive planting, growers have variety preferences according to soil. The three most widely grown varieties, CP 80-1827, CP 72-2086, and CL 61-620 were grown on about 90 percent muck soils and 10 percent sand soils. CP 80-1743, CL 72-321, CP 78-2114, CP 81-1254, and CL 73-239 were grown almost exclusively on muck soils. CP 73-1547 and CP 70-1133 were planted on more sand than muck hectares. CP 72-1210 and CP 78-1628 had muck and sand ratios similar to the overall ratio.

From 1986 through 1990, the three most popular varieties comprised the majority of the total Florida sugarcane acreage (Table 6). The most extreme example of lack of variety diversification was in 1987 when the three most widely grown varieties accounted for 79.0 percent of the total acreage. This year, the three most widely grown varieties accounted for 44.6 percent of the total Florida acreage. This was the fifth consecutive year that Florida's three most widely grown varieties comprised between 40 and 50 percent of the acreage.

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**Table 1.** Percentage of the 1995 Florida sugarcane acreage planted to the principal varieties.

Variety	Total Cane Grown	Plant Cane	First Ratoon Cane	Second Ratoon Cane	Third Ratoon Cane	Fourth Ratoon Cane & Older
CP 80-1827	16.1	20.8	18.6	13.2	11.1	4.1
CP 72-2086	15.5	18.1	17.7	18.3	7.2	3.0
CL 61-620	13.0	10.2	11.6	9.7	23.5	17.5
CP 73-1547	8.9	6.5	10.3	12.2	10.8	6.1
CP 70-1133	7.8	6.0	6.6	11.4	11.1	14.5
CP 80-1743	7.1	8.1	8.3	7.5	6.5	0.4
CP 72-1210	3.8	2.3	2.2	6.7	6.0	14.3
CP 78-1628	1.9	5.0	4.8	1.2	0.4	1.7
CL 72-321	2.1	3.8	2.0	0.8	0.6	0.4
CL 69-886	1.9	1.8	1.8	0.3	1.4	12.2
CP 81-1254	1.5	2.2	1.5	1.4	0.3	0.1
CP 78-2114	3.5	0.3	1.6	3.0	0.5	0.1
CL 73-239	1.0	0.3	0.2	1.8	2.7	5.7
All Others	16.6	14.6	12.8	12.5	17.9	19.9

**Table 2.** Percentage of the 1995 Florida sugarcane acreage planted to the principal varieties.

Variety	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
CP 80-1827	0.0	0.0	0.0	0.4	1.6	3.2	5.7	8.3	13.1	16.1
CP 72-2086	0.9	1.1	2.1	4.5	6.4	10.7	13.6	13.6	15.5	15.5
CL 61-620	6.4	6.8	7.8	9.8	11.2	12.6	14.8	14.8	15.0	13.0
CP 73-1547	1.8	2.2	2.8	4.2	5.0	5.8	5.5	8.7	9.8	8.9
CP 70-1133	15.0	11.2	10.9	12.3	13.5	14.0	13.1	12.2	9.9	7.8
CP 80-1743	0.0	0.0	0.0	0.0	0.0	0.3	1.2	2.7	5.2	7.1
CP 72-1210	53.9	61.0	56.8	44.1	31.8	20.5	13.7	9.7	6.1	3.8
CP 78-1628	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.7	1.0	1.9
CL 72-321	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.6	1.2	2.1
CL 69-886	0.2	0.4	0.8	1.6	2.4	2.5	2.5	2.0	2.0	1.9
CP 81-1254	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0	1.3	1.5
CP 78-2114	0.0	0.2	0.8	2.5	4.3	5.6	6.1	6.1	5.2	3.5
CL 73-239	0.1	0.7	2.3	4.7	8.1	10.7	10.8	8.1	3.6	1.0

**Table 3.** Comparison of percentages of 1994 and 1995 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Only			Ratoon Cane Only		
	1994	1995	Net Change	1994	1995	Net Change	1994	1995	Net Change
CP 80-1827	13.1	16.1	+3.0	18.5	20.8	+2.3	10.4	14.5	+4.1
CP 72-2086	15.5	15.5	0.0	17.6	18.1	+0.5	14.3	14.9	+0.6
CL 61-620	15.0	13.0	-2.0	12.0	10.2	-1.8	16.2	15.0	-1.2
CP 73-1547	9.8	8.9	-0.9	9.8	6.5	-3.3	9.6	10.5	+0.9
CP 70-1133	9.9	7.8	-2.1	7.1	6.0	-1.1	11.1	9.0	-2.1

**Table 3.** Comparison of percentages of 1994 and 1995 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Only			Ratoon Cane Only		
	1994	1995	Net Change	1994	1995	Net Change	1994	1995	Net Change
CP 80-1743	5.2	7.1	+1.9	8.5	8.1	-0.4	3.5	7.0	+3.5
CP 72-1210	6.1	3.8	-2.3	2.1	2.3	+0.2	7.9	4.8	-3.1
CP 78-1628	1.0	3.5	+2.5	1.5	5.0	+3.5	0.8	2.9	+2.1
CL 72-321	1.2	2.1	+0.9	2.0	3.8	+1.8	1.0	1.3	+0.2
CL 69-886	2.0	1.9	-0.1	1.9	1.8	-0.1	2.0	2.0	0.0
CP 81-1254	1.3	1.5	+0.2	1.7	2.2	+0.5	1.1	1.2	+0.1
CP 78-2114	5.2	1.2	-4.0	5.1	0.3	-4.8	5.2	1.7	-3.5
CL 73-239	3.6	1.0	-2.6	0.3	0.3	0.0	5.1	1.5	-3.6

**Table 4.** Actual and percentage acreage of each principal variety in fallow and successive planting systems.

Variety	Acres		Percent	
	Fallow	Successive	Fallow	Successive
CP 80-1827	6,931	19,338	14.2	23.3
CP 72-2086	7,274	14,716	14.9	19.1
CL 61-620	9,346	3,295	19.1	4.3
CP 73-1547	3,446	4,661	7.1	6.0
CP 70-1133	3,972	3,095	8.1	4.0
CP 80-1743	2,934	6,622	6.0	8.6
CP 72-1210	1,371	894	2.8	1.2
CP 78-1628	1,736	4,913	3.6	6.4
CL 72-321	2,771	2,584	5.7	3.4
CL 69-886	366	2,092	0.7	2.7
CP 78-2114	1,116	741	2.3	1.0
CP 81-1254	1,089	1,223	2.2	1.6
CL 73-239	274	20	0.6	0.0
All others	6,207	14,259	12.7	18.5
Total	48,834	77,116	100.0	100.0

**Table 5.** Actual and percentage acreage of each principal variety grown on muck and sand soils.

Variety	Acreage Specified (%) <sup>1</sup>	Muck Acres	Sand Acres	Muck %	Sand %
CP 80-1827	98.8	66,604	6,187	19.1	6.9
CP 72-2086	97.9	61,639	6,639	17.7	7.4
CL 61-620	99.2	52,137	7,351	15.0	8.2
CP 73-1547	97.2	18,999	20,523	5.5	22.9
CP 70-1133	98.1	13,933	21,427	4.0	23.9
CP 80-1743	100.0	31,211	719	9.0	0.8
CP 72-1210	100.0	13,410	4,896	3.8	5.5
CP 78-1628	96.7	12,123	3,544	3.5	4.0
CL 72-321	100.0	8,465	237	2.4	0.3

**Table 5.** Actual and percentage acreage of each principal variety grown on muck and sand soils.

Variety	Acreage Specified (%) <sup>1</sup>	Muck Acres	Sand Acres	Muck %	Sand %
CL 69-886	100.0	8,055	580	2.3	0.6
CP 78-2114	100.0	7,341	220	2.1	0.2
CP 81-1254	94.7	6,355	158	1.8	0.2
CL 73-239	92.5	4,288	133	1.2	0.2
All others		43,796	16,870	12.6	18.9
Total	98.2	348,352	89,486	100.0	100.0

<sup>1</sup> Percent of acreage of each principal variety for which muck or sand soil type was specified.

**Table 6.** Percentage of the total sugarcane acreage of the three most widely grown varieties in Florida since 1986.

Year	Percent	First	Second	Third
1986	75.3	CP 72-1210	CP 70-1133	CL 61-620
1987	79.0	CP 72-1210	CP 70-1133	CL 61-620
1988	75.5	CP 72-1210	CP 70-1133	CL 61-620
1989	66.5	CP 72-1210	CP 70-1133	CL 61-620
1990	56.5	CP 72-1210	CP 70-1133	CL 61-620
1991	47.1	CP 72-1210	CP 70-1133	CL 61-620
1992	42.1	CL 61-620	CP 72-1210	CP 72-2086
1993	40.6	CL 61-620	CP 72-2086	CP 70-1133
1994	43.6	CP 72-2086	CL 61-620	CP 80-1827
1995	44.6	CP 80-1827	CP 72-2086	CL 61-620