

## Sugarcane Variety Census: Florida 1996 <sup>1</sup>

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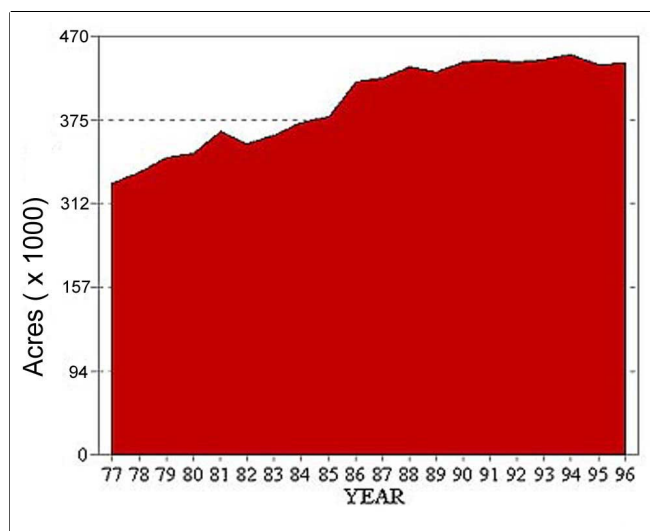
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The annual variety census reports for the Florida sugarcane industry were started by L. P. Hebert in 1964. In this report of the 1996-97 harvest season, mill managers and independent growers displayed exemplary cooperation in supplying the requested 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 reports percentages of muck and sand soils used for sugarcane.

Growers reported 438,167 acres of sugarcane grown for sugar and seed for the 1996-97 crop. This figure represents a decrease of 7,434 acres compared to the figure reported for the 1995-96 season (Glaz, 1995). However, during the data collection this year,

it was discovered that last year's census reported an excess of 8,280 acres. Therefore, the area comprised by the Florida sugarcane industry increased by 846 acres from 1995 to 1996. 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, with most of the growth occurring by 1990.



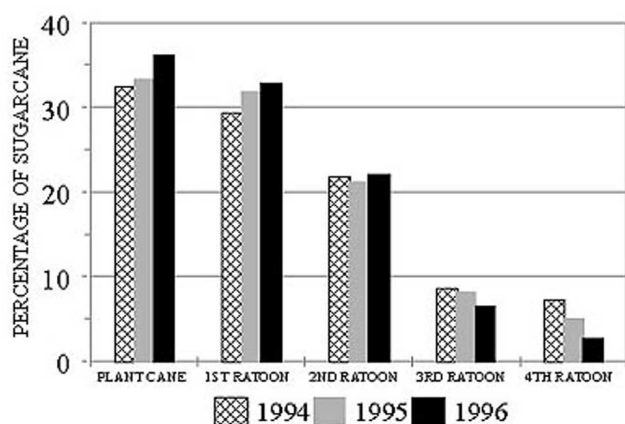
**Figure 1.** Total sugarcane acreage reported in annual Florida variety census reports since 1977.

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Of the total 1996-97 acreage, 36.1 percent was plant cane and 63.9 percent was ratoon cane. The percentage of the crop in plant cane has increased moderately since 1994 ( Figure 2 ). Of this year's acreage, 32.8 percent was first ratoon, 22.0 percent was second ratoon, 6.5 percent was third ratoon, and 2.6 percent was fourth ratoon or older. These compared with 1995 percentages of 31.8, 21.2, 8.2, and 5.0, respectively (Glaz, 1995). Figure 2 shows that the trend from 1994 to 1996 has been to have more sugarcane in the younger crops, plant cane and first ratoon; and less in the older crops, third ratoon and older.



**Figure 2.** Percentage sugarcane acreage as plant cane, first ratoon, second ratoon, third ratoon, and fourth ratoon and older from 1994 through 1996.

For the 1996-97 harvest season, Florida growers planned to harvest 40 varieties of sugarcane. As shown in Table 1, 12 "principal varieties" each covered at least one percent of the total cane area. The group labelled as "all others" represented varieties that each made up less than one percent of the total acreage. 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.

The most widely grown variety in Florida this year was CP 80-1827, with 18.2 percent of the total cane area ( Table 1 ). This is the second consecutive year that CP 80-1827 was the most extensively grown

variety in Florida. Since 1989 when it comprised 0.4 percent of the acreage, the use of CP 80-1827 increased steadily. Its largest percentage increases were from 1993 to 1994 and 1994 to 1995 ( Table 2 ).

CP 72-2086, the most popular variety two years ago, maintained its second-place ranking for the second consecutive year. However, it nearly overtook CP 80-1827 and with 21.5 percent of the plant-cane acreage, CP 72-2086 was the most widely planted variety this year ( Table 1 ). Sugarcane mosaic was discovered in several commercial fields of CP 72-2086 in the summer of 1996. Sugarcane mosaic has generally not infected commercial sugarcane in Florida. Therefore, growers will probably reduce their use of CP 72-2086 for the next few years to reduce the risks of spread of sugarcane mosaic in Florida.

Last year's third most popular variety, CL 61-620, maintained its third-place ranking this year. However, CL 61-620 dropped from 13.0 to 11.1 percent of the total sugarcane area and has dropped 3.9 percentage points since 1994 ( Table 2 ). Further reduction is expected next year because its plant-cane percentage of 7.5 percent this year is a decline of 3.1 percent from last year, and 4.5 percent from 1994 ( Table 3 and Glaz, 1995). In 1992 and 1993, CL 61-620 was the most widely grown variety in Florida (Glaz, 1994).

This year's fourth place variety, CP 80-1743, rose from sixth place last year. The use of CP 80-1743 has continued to rise rapidly since it registered 0.3 percent of the acreage in 1991 ( Table 2 ). Last year, it was expected that the rapid increase of CP 80-1743 had ended because its plant-cane acreage declined 0.4 percent from 1994 to 1995. However, its plant-cane acreage increase of 4.6 percent from last year, more than that of any other variety ( Table 3 ), suggests that use of CP 80-1743 may continue to increase. A complicating factor in predicting future use of CP 80-1743 is that its leaf-scald incidence has steadily increased during the past several years.

CP 73-1547, last year's fourth place variety, ranked fifth this year ( Table 1 ). A decline in use of CP 73-1547 was predicted last year because its plant-cane acreage decreased from 9.8 to 6.5 percent (Glaz, 1995). A decline of 0.9 percent occurred, but surprisingly, the plant-cane acreage of CP 73-1547

rebounded with a 2.1 percent increase this year ( Table 3 ). CP 70-1133 dropped from fifth place last year to sixth place this year ( Table 1 ). This drop also included an overall decline in acreage of 1.7 percent ( Table 3 ). The 0.9 percent decrease in plant-cane acreage of CP 70-1133 suggests that its use will continue to moderately decline as it has for 5 consecutive years ( Table 2 and Table 3 ).

CP 78-1628 was the seventh most widely grown variety this year with 2.6 percent of the total acreage ( Table 1 ). Due to incorrectly assigning some acreage to CP 78-1628 instead of CP 78-2114 last year, it was reported that CP 78-1628 was grown on 3.5 percent of the acreage (Glaz, 1995). The correct figure for CP 78-1628 in 1995 was 1.9 percent. CP 72-1210 was in eighth place with only 86 fewer acres than CP 78-1628. This is the eighth consecutive year of reduced acreage for CP 72-1210, the leading variety in Florida from 1985-1991. Last year, its plant-cane acreage increased by 0.2 percentage points, suggesting that the recent annual declines in hectareage of CP 72-1210 would moderate. However, this year, its plant-cane acreage declined by 0.8 percent ( Table 3 ), indicating that continued decreases in acreage can be expected for CP 72-1210.

The ninth through twelfth place varieties in this year's census were CL 69-886, CL 72-321, CP 78-2114, and CP 81-1254, respectively ( Table 1 ). The percentage use for these four varieties remained very similar to that of 1995 except for CP 78-2114 (Glaz, 1995). The same error that caused the reporting of too many acres for CP 78-1628 caused too few acres to be assigned to CP 78-2114 last year. The correct figures in Table 2 and Table 3 of this year's report show that the 1995 drop in acreage for CP 78-2114 was 1.7 percent, not the 4.0 percent previously reported (Glaz, 1995), and that it declined by 1.7 percent again this year ( Table 3 ).

Of the 28 varieties grouped as "all others," six were grown as ratoon cane only. The absence of plant cane for a variety indicates that its commercial use will soon stop. CP 57-603 had no plant cane and less than 2.5 acres of ratoon cane. No acreage was reported this year for CL 68-575 and CL 54-378. Both of these varieties were previously principal varieties in Florida. CL 54-378 peaked at 11.6 percent of the

hectareage in 1983 and CL 68-575 peaked at 1.4 percent in 1982 (Glaz and Donovan, 1984).

Of the 158,090 plant-cane acres, 139,048 acres (87.9 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 land remaining fallow for long periods because growers may plant at least one annual crop, such as sweet corn, rice, or radishes, between the sugarcane crops. Of the 139,048 acres for which information was available, 40.9 percent were fallow planted and 59.1 percent were successively planted ( Table 4 ). Fallow and successive estimates were 38.8 and 61.2 percent, respectively, in the 1995 census (Glaz, 1995). Percentage fallow hectareage has now increased for four consecutive years.

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. Five varieties, CP 73-1547, CP 70-1133, CP 78-1628, CP 72-1210, and CL 72-321 were planted on more fallow than successive land. CP 80-1827, CL 69-886, CP 78-2114, and CP 81-1254 were planted successively much more than the overall average of 59.1 percent. Two varieties of interest in Table 4 were CL 72-321 because it was planted almost exclusively on fallow land, and CP 78-2114 because it was planted almost exclusively on successive land.

Growers classified 99.4 percent of their land as either having muck or sand soil. Of these 435,760 acres, 85.3 percent were reported as muck soils and 14.7 percent were reported as sand soils ( Table 5 ). This year's percentage for muck soils rose substantially from last year's 79.6 percent, and conversely, the percentage of sand soils decreased by 5.7 percent from last year (Glaz, 1995). A possible explanation for this fluctuation is the difficulty in classifying transitional soils. To officially classify a soil with a mixture of muck and sand, one would determine the percentage organic matter by weight. A

soil with at least 20 percent organic matter would be a muck and one with less than 20 percent organic matter would be a sand. Rather than request official determinations for transitional soils, this report relies on individual growers to use their own criteria to classify their soils.

As with fallow and successive planting, growers have variety preferences according to soil. The two most widely grown varieties, CP 80-1827 and CP 72-2086 were grown on about 93 percent muck soils and 7 percent sand soils. CL 61-620, CP 80-1743, CL 69-886, CL 72-321, CP 78-2114, and CP 81-1254 were grown almost exclusively on muck soils. Only CP 70-1133 was grown on more sand than muck acres, but CP 73-1547 and CP 78-1628 also had substantial portions of their acreage on sand soils. Using the information in Table 4 and Table 5 suggests that several varieties were used more in either the fallow or successive system not so much based on variety preference for planting system as for variety preference for muck or sand soil.

From 1987 through 1990, the three most popular varieties comprised the majority of the 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 47.3 percent of the total Florida acreage. This was the sixth consecutive year that Florida's three most widely grown varieties comprised between 40 and 50 percent of the acreage, and the third consecutive year that this percentage increased.

## ACKNOWLEDGEMENTS

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**Table 1.** Percentage of the 1996 Florida Sugarcane acreage planted to the principle varieties.

Variety	Total Cane Grown	Plant Cane	First Ratoon Cane	Second Ratoon Cane	Third Ratoon Cane	Fourth Ratoon Cane & Older
CP 80-1827	18.2	19.1	21.2	14.2	14.4	11.2
CP 72-2086	18.0	21.5	18.7	16.0	8.5	1.8
CL 61-620	11.1	7.5	10.3	15.5	17.9	7.9
CP 80-1743	10.7	12.9	8.3	11.1	12.1	5.4
CP 73-1547	7.8	8.0	5.9	10.0	8.8	6.2
CP 70-1133	6.4	5.1	5.9	7.4	11.4	0.2
CP 78-1628	2.6	2.6	3.1	2.4	1.7	1.9
CP 72-1210	2.6	1.3	2.1	2.5	7.6	5.6
CL 69-886	2.0	2.0	1.7	2.6	0.5	4.1
CL 72-321	1.9	1.2	3.1	2.1	0.2	0.0
CP 78-2114	1.8	2.6	2.4	0.3	0.0	0.1
CP 81-1254	1.4	1.1	2.0	1.2	1.7	0.2
All Others	15.3	15.1	15.4	14.6	15.1	5.4

**Table 2.** Annual Percentage of acreage from 1987 through 1996 for present principal sugarcane varieties in Florida.

Variety	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
CP 80-1827	0.0	0.0	0.4	1.6	3.2	5.7	8.3	13.1	16.1	18.2
CP 72-2086	1.1	2.1	4.5	6.4	10.7	13.6	13.6	15.5	15.5	18.0
CL 61-620	6.8	7.8	9.8	11.2	12.6	14.8	14.8	15.0	13.0	11.1
CP 80-1743	0.0	0.0	0.0	0.0	0.3	1.2	2.7	5.2	7.1	10.7
CP 73-1547	2.2	2.8	4.2	5.0	5.8	5.5	8.7	9.8	8.9	7.8
CP 70-1133	11.2	10.9	12.3	13.5	14.0	13.1	12.2	9.9	7.8	6.4
CP 78-1628	0.0	0.0	0.0	0.0	0.2	0.4	0.7	1.0	1.9	2.6
CP 72-1210	61.0	56.8	44.1	31.8	20.5	13.7	9.7	6.1	3.8	2.6
CL 69-886	0.4	0.8	1.6	2.4	2.5	2.5	2.0	2.0	1.9	2.0
CL 72-321	0.0	0.0	0.0	0.0	0.5	0.4	0.6	1.2	2.1	1.9
CP 78-2114	0.2	0.8	2.5	4.3	5.6	6.1	6.1	5.2	3.5	1.8
CP 81-1254	0.0	0.0	0.0	0.0	0.0	0.3	1.0	1.3	1.5	1.4

**Table 3.** Comparison of percentages of 1995 and 1996 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Only			Ratoon Cane Only		
	1995	1996	Net Change	1995	1996	Net Change	1995	1996	Net Change
CP 80-1827	16.4	18.2	+1.8	20.5	19.1	-1.4	14.3	17.7	+3.4
CP 72-2086	15.9	18.0	+2.1	17.4	21.5	+3.1	15.2	16.1	+0.9
CL 61-620	13.5	11.1	-2.4	10.6	7.5	-3.1	14.9	13.2	-1.7
CP 80-1743	7.3	10.7	+3.4	8.3	12.9	+4.6	6.8	9.5	+2.7
CP 73-1547	8.7	7.8	-0.9	5.9	8.0	+2.1	10.1	7.6	-2.5
CP 70-1133	8.1	6.4	-1.7	6.0	5.1	-0.9	9.2	7.1	-2.1

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Variety	Combined Plant and Ratoon Cane			Plant Cane Only			Ratoon Cane Only		
	1995	1996	Net Change	1995	1996	Net Change	1995	1996	Net Change
CP 78-1628	1.9	2.6	+0.7	2.9	2.6	-0.3	1.4	2.6	+1.2
CP 72-1210	4.1	2.6	-1.5	2.1	1.3	-0.8	5.1	3.3	-1.8
CL 69-886	2.0	2.0	0.0	1.8	2.0	+0.2	2.1	2.0	-0.1
CL 72-321	2.0	1.9	-0.1	3.7	1.2	-2.5	1.1	2.3	+1.2
CP 78-2114	3.5	1.8	-1.7	3.5	2.6	-0.9	3.6	1.4	-2.2
CP 81-1254	1.6	1.4	-0.2	2.2	1.1	-1.1	1.2	1.6	+0.4

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

Variety	Fallow		Successive	
	Acres	Percent	Acres	Percent
CP 80-1827	6,345	11.2	19,143	23.3
CP 72-2086	10,828	19.1	18,807	22.9
CL 61-620	4,500	7.9	4,703	5.7
CP 80-1743	6,713	11.8	10,322	12.6
CP 73-1547	6,284	11.1	5,649	6.9
CP 70-1133	4,856	8.5	2,502	3.0
CP 78-1628	911	3.8	1,601	1.9
CP 72-1210	771	1.4	336	0.4
CL 69-886	934	1.6	2,127	2.6
CL 72-321	1,850	3.3	104	0.1
CP 78-2114	133	0.2	3,930	4.8
CP 81-1254	417	0.7	1,230	1.5
All others	11,036	19.4	11,787	14.3
Total	56,815	100.0	82,234	100.0

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

Variety	Muck Acres	Sand Acres	Muck %	Sand %
CP 80-1827	75,253	4,473	20.2	7.0
CP 72-2086	72,292	6,718	19.4	10.5
CL 61-620	47,533	1,195	12.8	1.9
CP 80-1743	46,041	1,065	12.4	1.7
CP 73-1547	17,769	16,122	4.8	25.2
CP 70-1133	11,965	13,938	3.2	21.8
CP 78-1628	6,318	5,249	1.7	8.2
CP 72-1210	8,598	2,739	2.3	4.3
CL 69-886	8,586	178	2.3	0.3
CL 72-321	8,383	52	2.3	0.1
CP 78-2114	7,852	0	2.1	0.0
CP 81-1254	6,061	225	1.6	0.4
All others	55,175	11,997	14.8	18.8

**Table 6.** Actual and percentage acreage of each principal variety grown on muck and sand soils.

<b>Year</b>	<b>Percent</b>	<b>First</b>	<b>Second</b>	<b>Third</b>
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
1996	47.3	CP 80-1827	CP 72-2086	CL 61-620