

## Sugarcane Variety Census: Florida 1990<sup>1</sup>

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The annual variety census reports for the Florida sugarcane industry were started by L. P. Herbert in 1964. In this report of the 1990-1991 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.

As have all of these reports since 1964, this census reflects Florida sugarcane growers' variety preferences. In addition, percentage use of fallow and successive planting systems is reported. The sugarcane crop is categorized as plant cane, first ratoon, second ratoon, third ratoon, and fourth ratoon and older. In the earlier reports, ratoon cane was reported as only one general category. For the third consecutive year, estimates of percentages of muck and sand soils are reported.

Growers reported 440,413 acres of sugarcane grown for sugar and seed for the 1990 crop. This figure represents an increase of 12,075 acres

compared to the 1989 season. This increase approximates the 1981-90 average annual increase of 10,393 acres as calculated from the 10 most recent variety census reports.

### PLANT AND RATOON CANE

Of the total 1990 acreage, 30.0 percent was plant cane and 70.0 percent was ratoon cane. In 1989, plant cane and ratoon cane percentages were 31.8 and 68.2, respectively. Of the total 1990 acreage, 30.0 percent was first ratoon, 22.3 percent was second ratoon, 11.2 percent was third ratoon, and 6.5 percent was fourth ratoon or older. These compared with 1989 percentages of 29.6, 22.3, 9.5, and 6.8, respectively.

For the 1990 harvest season, 36 varieties of sugarcane were grown commercially in Florida. As shown in Table 1, varieties grown on at least 1 percent of the total cane area were designated as *principal varieties*. Those representing less than 1 percent were grouped as *all others*. Varieties identified by a "CL" prefix were developed by the United States Sugar Corporation of Clewiston, Florida. Varieties with a "CP" prefix were selected at

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Of the 24 varieties grouped as *all others*, 18 were grown on at least 37 acres. However, 10 of the 24 varieties in the all others category were grown as ratoon cane only. The absence of plant cane for a particular variety is an indication that its commercial use will soon be discontinued. Two varieties that were grown in the past but discontinued in commercial fields this year were CP 63-588 and CP 69-1052. CP 63-588 was the most widely grown variety in Florida from 1975 to 1981. In 1979, CP 63-588 accounted for 39.9 percent of the total acreage.

The most widely grown variety in Florida this year was CP 72-1210, with 31.8 percent of the total cane area (Table 1). This represents a continued rapid decrease from the 61.0 percent of the acreage it occupied in 1987 (Table 2). The 12.3 percentage decrease from 1989 to 1990 was equivalent to 47,861 acres (Table 3). There was a 7.1 percent decrease in plant-cane acreage between 1989 and 1990 which indicates that CP 72-1210 acreage will continue to decline in the future (Table 3).

CP 70-1133, as it has been for the five previous years, was the second most widely grown variety in Florida in 1990. It occupied 13.5 percent of the crop (Table 1). This was a 1.2 percent increase compared to its 1989 acreage (Table 3). For the second consecutive year, CP 70-1133 registered a percentage increase in total production area (Table 2).

This year, for the fifth consecutive year, CL 61-620 occupied third place in the variety census (Table 1). CL 61-620 has rapidly increased in production area from 6.8 percent of the total Florida sugarcane crop in 1987 to 11.2 percent this year (Table 2).

The fourth most widely grown variety this year was CL 73-239 with 8.1 percent of the total crop (Table 1). CL 73-239 is newly released in Florida and is the most rapidly expanding variety. The plant-cane acreage of CL 73-239 of 12.1 percent was 4.6 percent higher than its plant-cane area of 1989 and 6.6

percent higher than in 1988. Continued expansion of this variety is expected.

CP 72-2086 occupied fifth place with 6.4 percent of the total crop (Table 1). The plant-cane acreage of CP 72-2086 of 10.4 percent was 1.8 percent higher than in 1989. Increasing production area of this variety is expected to continue.

Sixth place in this year's census was held by CP 73-1547 with 5.0 percent of the total crop (Table 1). This is a small increase in percentage of total acreage over 1989 but percent plant cane declined in 1990 indicating that expansion of CP 73-1547 will be slower in future years (Table 3).

CP 74-2005 dropped from fourth to seventh standing from 1989 to 1990 (Table 2). In this year's census, growers reported 4.9 percent of their total sugarcane acreage was CP 74-2005 (Table 1). There was a 5.6 percentage decrease in plant-cane acreage between 1989 and 1990 which indicates that CP 74-2005 acreage will continue to decline in the future (Table 3). Much of this decline may be attributed to new evidence of susceptibility to sugarcane rust.

Completing the list of principal varieties were CP 78-2114, CL 59-1052, CL 69-886, CP 80-1827, and CP 65-357 (Table 1). CL 59-1052 and CP 65-357 are older varieties which are decreasing in acreage (Table 2). CP 78-2114, CL 69-886, and CP 80-1827 are newly released varieties that are gaining in popularity and acreage (Table 2). CP 80-1827 became a principal variety for the first time this year. The large percentage increase in plant-cane area of CP 80-1827 (Table 3) indicates continued expansion.

## VARIETAL COMPOSITION CHANGES

Changes in varietal composition of the Florida sugarcane industry between 1989 and 1990 are described in Table 3. The largest changes shown are those of CP 72-1210. For the third consecutive year, its overall acreage declined. This year, its plant-cane and ratoon acreages declined by 7.1 and 15.0 percent, respectively. The overall replacement of the reduced CP 72-1210 area was distributed among most of the other principal varieties. All other principal varieties except CP 73-1547 and CP 74-2005 had percentage

increases in their plant-cane areas. CL 73-239 and CP 80-1827 had percentage increases in plant-cane area of greater than two percent.

Of the 131,927 plant-cane acres, 115,964 (87.9 percent) were reported as having been planted in either the fallow or successive planting system. Fallow or successive planting was not specified for the remaining 15,963 acres. Other figures reported in this census are derived from 100 percent of the area of sugarcane in Florida. Of the 115,961 acres for which information was available, 43.6 percent were fallow planted and 56.4 percent were successively planted (Table 4). Fallow and successive planting estimates were 39.1 and 60.9 percent, respectively, in the 1989 census.

Growers did not plant each variety at the overall fallow-successive ratio (Table 4). The varieties used most extensively in successive plantings were CL 73-239 and CP 65-357. The variety used most extensively in fallow plantings was CP 80-1827. The high percentage of fallow planting of CP 80-1827 is probably because growers are planning to use many of its fields for seed cane.

## FLORIDA SOIL TYPES

In their census reports, growers labeled 73.1% of the acres reported as either a muck or a sand soil. Soil type was not specified for the remainder of the acreage. Of these, 87.3 percent were reported as muck soils and 12.7 percent were reported as sand soils (Table 5). This is a slight shift from the 89.9 and 89.8 percent muck reported for 1988 and 1989, respectively. The 1990 percentages for muck and sand soils are reasonable overall estimations of these two major soil types for the Florida sugarcane industry. However, some varieties are predominantly grown by only a few growers. The soil preferences reported for these varieties may be misleading if one or two of those growers did not report soil type.

Currently in Florida, 56.5 percent of the sugarcane crop is comprised of three varieties, CP 72-1210, CP 70-1133, and CL 61-620 (Table 6). This percentage reflects a dramatic drop from the decade high of 79.0 percent reached only three years ago. This apparently positive change is due to the reduced planting of CP 72-1210. The decline in area of CP

72-1210 has largely been due to its increased susceptibility to sugarcane rust in recent years. This is a classic example of why it is not desirable to have a large percentage of one's crop in one variety. That variety may suffer sudden yield losses due to a disease.

The Florida sugarcane industry now has an excellent opportunity to further diversify among several varieties. CL 73-239, CP 72-2086, CP 73-1547, CP 78-2114, CL 69-886, and CP 80-1827 are relatively new varieties. Each of these comprise less than 10 percent of the total sugarcane acreage. In addition, the recently released CP 82-1172 has yielded as well as CP 72-1210 and CP 70-1133 in variety experiments. Prudent expansion of this and other new varieties could help the Florida sugarcane industry maintain an acceptable variety distribution.

**Table 1.** Percentage of the 1990 Florida sugarcane acreage planted to the principal varieties.

Variety	Total Grown	Plant Cane	1st Ratoon	2nd Ratoon	3rd Ratoon	4th Ratoon
CP 72-1210	31.8	23.0	31.0	34.0	51.6	33.3
CP 70-1133	13.5	12.4	10.6	13.7	15.6	27.2
CL 61-620	11.2	10.1	9.8	13.3	13.5	11.8
CL 73-239	8.1	12.1	7.9	7.0	3.8	1.6
CP 72-2086	6.4	10.4	8.5	5.3	0.8	0.2
CP 73-1547	5.0	6.5	6.5	3.2	1.7	3.1
CP 74-2005	4.9	2.6	7.7	6.5	1.2	2.8
CP 78-2114	4.3	6.7	5.4	2.9	0.2	0.0
CL 59-1052	2.9	3.2	1.8	3.4	3.0	5.4
CL 69-886	2.4	3.1	2.8	1.8	1.2	0.9
CP 80-1827	1.6	4.1	1.3	0.1	0.0	0.0
CP 65-357	1.1	0.7	0.6	0.5	1.5	6.0
All Others	6.8	5.1	6.1	8.3	5.9	7.7

**Table 2.** Annual percentage of acreage from 1981 through 1990 for present principal sugarcane varieties in Florida.

Variety	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
CP 72-1210	0.3	1.8	8.2	19.8	35.4	53.9	61.0	56.8	44.1	31.8
CP 70-1133	14.0	24.5	30.7	30.5	24.0	15.0	11.2	10.9	12.3	13.5
CL 61-620	1.9	4.0	5.2	6.4	6.7	6.4	6.8	7.8	9.8	11.2
CL 73-239	--	--	--	--	--	0.1	0.7	2.3	4.7	8.1
CP 72-2086	--	--	--	--	--	0.9	1.1	2.1	4.5	6.4
CP 73-1547	--	0.3	1.0	1.2	1.5	1.8	2.2	2.8	4.2	5.0
CP 74-2005	--	0.1	0.7	2.0	2.6	3.3	3.9	4.9	5.8	4.9
CP 78-2114	--	--	--	--	--	--	0.2	0.8	2.5	4.3
CL 59-1052	7.3	7.9	8.2	8.8	7.7	6.3	4.8	3.5	3.0	2.9
CL 69-886	--	--	--	--	0.2	0.2	0.4	0.8	1.6	2.4
CP 80-1827	--	--	--	--	--	--	--	--	0.4	1.6
CP 65-357	8.9	11.9	13.7	12.1	7.5	3.3	1.9	1.4	1.3	1.1

**Table 3.** Comparison of percentages of 1989 and 1990 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Alone			Ratoon Cane Alone		
	1989	1990	Change	1989	1990	Change	1989	1990	Change
CP 72-1210	44.1	31.8	-12.3	30.1	23.0	-7.1	50.5	35.5	-15.0
CP 70-1133	12.3	13.5	+1.2	11.0	12.4	+1.4	12.9	13.9	+1.0
CL 61-620	9.8	11.2	+1.4	10.0	10.1	+0.1	9.7	11.7	+2.0
CL 73-239	4.7	8.1	+3.4	7.5	12.1	+4.6	3.4	6.3	+2.9
CP 72-2086	4.5	6.4	+1.9	8.6	10.4	+1.8	2.7	5.5	+2.8
CP 73-1547	4.2	5.0	+0.8	7.3	6.5	-0.8	2.8	4.4	+1.6
CP 74-2005	5.8	4.9	-0.9	8.2	2.6	-5.6	4.7	5.8	+1.1

**Table 3.** Comparison of percentages of 1989 and 1990 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Alone			Ratoon Cane Alone		
	1989	1990	Change	1989	1990	Change	1989	1990	Change
CP 78-2114	2.5	4.3	+1.8	5.6	6.7	+1.1	1.1	3.3	+2.2
CL 59-1052	3.0	2.9	-0.1	1.9	3.2	+1.3	3.6	2.8	-0.8
CL 69-886	1.6	2.4	+0.8	2.8	3.1	+0.3	1.1	2.1	+1.0
CP 80-1827	0.4	1.6	+1.2	1.2	4.1	+2.9	0.0	0.6	+0.6

**Table 4.** Actual and percentage acreage of each principal variety in fallow and successive planting systems.<sup>1</sup>

Variety	Acres		Percent	
	Fallow	Successive	Fallow	Successive
Overall	50,551	65,411	43.6	56.4
CP 72-1210	8,941	16,124	35.7	64.3
CP 70-1133	7,953	7,099	52.8	47.2
CL 61-620	5,543	4,735	53.9	46.1
CL 73-239	2,680	11,132	19.4	80.6
CP 72-2086	5,733	7,257	44.1	55.9
CP 73-1547	4,147	4,197	49.7	50.3
CP 74-2005	2,048	1,233	62.4	37.6
CP 78-2114	5,385	3,453	60.9	39.1
CL 59-1052	1,223	2,611	31.9	68.1
CL 69-886	1,151	2,443	32.0	68.0
CP 80-1827	3,339	889	79.0	21.0
CP 65-357	35	719	4.6	95.4

<sup>1</sup> Based on 87.9 percent of total plant-cane acreage.

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

Variety	Percentage of Total Hectareage Specified <sup>1</sup>	Acres		Percent	
		Muck	Sand	Muck	Sand
Overall	73.1	280,982	40,809	87.3	12.7
CP 72-1210	92.7	116,357	13,274	89.8	10.2
CP 70-1133	68.3	26,145	14,326	64.6	35.4
CL 61-620	60.1	29,425	168	99.4	0.6
CL 73-239	26.8	8,714	798	91.6	8.4
CP 72-2086	84.5	25,011	795	96.9	3.1
CP 73-1547	84.4	13,541	5,120	72.6	27.4
CP 74-2005	90.8	17,646	1,793	90.8	9.2
CP 78-2114	98.5	18,285	378	98.0	2.0
CL 59-1052	31.6	3,996	82	98.0	2.0
CL 69-886	26.8	8,714	798	91.6	8.4
CP 80-1827	100.0	6,625	536	92.5	7.5

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

Variety	Percentage of Total Hectarage Specified <sup>1</sup>	Acres		Percent	
		Muck	Sand	Muck	Sand
CP 65-357	97.6	2,633	1,904	58.0	42.0

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

**Table 6.** Percentage of the total sugarcane acreage of the three most widely grown varieties since 1981 in Florida.

Year	Percent	Varieties by Rank		
		First	Second	Third
1981	51.0	CP 63-588	CP 70-1133	CP 56-59
1982	48.8	CP 70-1133	CP 63-588	CP 65-357
1983	56.0	CP 70-1133	CP 65-357	CP 54-378
1984	62.4	CP 70-1133	CP 72-1210	CP 65-357
1985	67.1	CP 72-1210	CP 70-1133	CL 59-1052
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	66.2	CP 72-1210	CP 70-1133	CL 61-620
1990	56.5	CP 72-1210	CP 70-1133	CL 61-620