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Sugarcane Variety Census: Florida 1991 [1]

B. Glaz[2]

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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 1991-92 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 that of L. P. Hebert's in 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. Estimates of percentages of muck and sand soils are reported.

Growers reported 442,088 acres of sugarcane grown for sugar and seed for the 1991-92 crop. This figure represents an increase of 2,007 acres compared to the 1990 season. This increase compares with the 1982-91 average annual increase of 8,178 acres as calculated from the 10 most recent variety census reports.

PLANT AND RATOON CANE

Of the total 1991 acreage, 29.9 percent was plant cane and 70.1 percent was ratoon cane. In 1990, the percentage of plant cane was 30.0 and that of ratoon cane was 70.0. Of the total 1991 acreage, 28.4 percent was first ratoon, 23.2 percent was second ratoon, 10.8 percent was third ratoon, and 7.2 percent was fourth ratoon or older. These compared with 1990 percentages of 30.0, 22.3, 11.2, and 6.5 respectively.

For the 1991-92 harvest season, 33 varieties of sugarcane were grown commercially in Florida. As shown in Table 1 , varieties grown on at least one percent of the total cane area were designated as *principal varieties* . Those representing less than one percent were grouped as *all others* . Varieties in Table 1 identified by a "CL" prefix were developed by the United States Sugar Corporation of Clewiston, Florida. Varieties with a "CP" prefix were selected at Canal Point, Florida by a cooperative program of the United States Department of Agriculture's Agricultural Research Service, the University of Florida, and the Florida Sugar Cane League, Inc.

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2. B. Glaz, agronomist, USDA-ARS, Sugarcane Field Station, Canal Point, Florida Agricultural Research Stations, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

Of the 21 varieties grouped as *all others* , 4 were grown on less than 37 acres and 9 were grown as ratoon cane only. The absence of plant cane for a particular variety is an indication that its commercial use will soon discontinue. Varieties that growers planted in the past but discontinued in commercial fields this year were CL 61-5, CL 65-260, CL 72-508 and CL 72-884. CL 61-5 reached 3.4 percent of the acreage in 1982 and CL 65-260 comprised 2.6 percent of the acreage in 1980.

The most widely grown variety in Florida this year was CP 72-1210, with 20.5 percent of the total cane area (Table 1). This represents a continued decrease from the 31.8 percent of the acreage it occupied last year. This 11.3 percentage decrease from 1990 to 1991 was equivalent to 49,271 acres. Since 1987 when CP 72-1210 was grown on 61.0 percent of the acreage in Florida (Table 2), its acreage has decreased at a rate of 41,374 acres per year.

CP 70-1133, as it has been for the six previous years, was the second most widely grown variety in Florida in 1991. It occupied 14.0 percent of the crop (Table 1). This was a 0.5 percent increase compared to its 1990 acreage (Table 3). In 1983, CP 70-1133 was the most widely grown variety with 30.7 percent of the total cane crop. It declined in percent acreage for the next five years, but this marks its third consecutive year with a percentage increase (Table 2).

Also for the sixth consecutive year, CL 61-620 occupied third place in the variety census (Table 1). From 1984 through 1987, CL 61-620 comprised from 6.4 to 6.8 percent of the total sugarcane crop (Table 2). However, in 1990 it rose to 11.2 percent and this year it increased another 1.4 percent to 12.6 percent of the total area (Table 3).

Fourth place in this year's census was nearly a tie. CP 72-2086 comprised 10.74 percent and CL 73-239 comprised 10.71 percent of the total sugarcane acreage in Florida. This difference represented only 153 acres. Acreage expansion of CP 72-2086 was greater than for any other variety in 1991 (Table 3). Last year it comprised 6.4 percent of the total acreage. This year it made up 17.8 percent of the plant-cane acres in Florida, which was more than any other variety. CL 73-239 also continued its rapid expansion that started when it was first reported in 1986 (Table 2). It rose 2.6 percentage points from last year.

Sixth and seventh places also finished very close in this year's census. CP 73-1547 comprised 5.8 percent of the acreage compared to the 5.6 percent of CP 78-2114. Last year we thought that CP 73-1547 had begun to decline in acreage due to its reduced plant-cane acreage compared to 1989. However, this year its plant-cane acreage increased 1.3 percent. CP 78-2114 has been a major variety for only 3 years, and it has expanded substantially in acreage each of those years.

Eighth (CP 80-1827), ninth (CP 74-2005), and tenth (CL 59-1052) places in this year's census were separated by only 0.3 percentage points (Table 1). Of these 3 varieties, only CP 80-1827 is expanding in acreage (Table 2). Its percentage of the total crop doubled from 1.6 last year to 3.2 this year.

Completing the list of principal varieties were CL 69-886 and CP 65-357 (Table 1). This marks the 15th year that CP 65-357 has been a principal variety in Florida.

VARIETAL COMPOSITION CHANGES

Changes in varietal composition of the Florida sugarcane industry between 1990 and 1991 are described in Table 3 . The largest changes shown are those of CP 72-1210. For the fourth consecutive year, its overall acreage declined. This year, its plant-cane acreage declined by 10.8 percent and its ratoon acreage declined by 11.4 percent. Replacement of the reduced CP 72-1210 area was distributed mostly among CP 72-2086, CL 73-239, CP 80-1827, CL 61-620, CP 78-2114, and CP 73-1547. CP 74-2005 was the only other principal variety with a percentage decline in its combined plant- and ratoon cane acreage.

FALLOW VS. SUCCESSIVE PLANTING

Of the 131,995 plant-cane acres, 112,859 (85.5 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 19,133 acres. Of the 112,859 acres for which information was available, 32.7 percent were fallow planted and 67.3 percent were successively planted (Table 4). Fallow and successive planting estimates were 43.6 and 56.4 percent, respectively, in the 1990 census.

Table 4 contains the actual fallow and successive plant-cane acreages of the principal varieties and their corresponding percentages. Growers did not plant each variety at the overall fallow-successive ratio. CP 72-2086 was planted far more extensively under the successive planting system than all other varieties. CL 73-239, CP 78-2114, CL 59-1052, CL 69-886, and CP 65-357 were planted successively at a higher rate than the overall percentage. CL 61-620 was planted on more fallow land than any other variety. CP 80-1827 was the variety closest to having equal successive and fallow planted acreage.

FLORIDA SOIL TYPES

In their census reports, growers labeled 318,244 of the total 442,088 acres reported (72.0 percent) as either a muck or a sand soil. Soil type was not specified for the remaining 123,844 acres. Of these 318,244 acres, 87.4 percent were reported as muck soils and 12.6 percent were reported as sand soils (Table 5). This year's percentages were similar to those of 1990 when 87.3 percent of the soils were muck and 12.7 percent were sand. The 1991 percentages for muck and sand soils are reasonable overall estimates of these two major soil types for the Florida sugarcane industry. However, some varieties are grown predominantly 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.

FUTURE CHOICES

Currently in Florida, 47.1 percent of the sugarcane crop is comprised of three varieties, CP 72-1210, CP 70-1133, and CL 61-620 (Table 6). This percentage is at its lowest point of the past 10 years. It reflects a dramatic drop from the decade high of 79.0 percent in 1987. This change is due to the continued trend to plant less CP 72-1210. The decline in area of CP 72-1210 has largely been due to its susceptibility to sugarcane rust. 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. CP 72-1210, CP 70-1133, and CL 61-620 have held the top three positions in the Florida sugarcane industry since 1986. They may continue as the three most popular varieties for several more years, but the competition is stronger now. We expect continued diversification of major sugarcane varieties. CP 72-2086 and CL 73-239 may soon be among the three most planted varieties if their acreages continue to expand. In addition, CP 78-2114 and CP 80-1827 have been increasing steadily in acreage during the past 4 years. A recently released variety with high cane and sugar yields, and no disease problems, is CP 81-1254.

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Table 1. Percentage of the 1991 Florida sugarcane acreage planted to the principal varieties.

Variety	Total	Plant	1st	2nd	3rd	4th
CP 72-1210	20.5	12.2	20.8	22.1	24.8	41.5
CP 70-1133	14.0	12.7	13.2	13.0	15.8	24.3
CL 61-620	12.6	14.1	10.0	11.1	20.8	10.3
CP 72-2086	10.7	17.8	10.2	9.1	3.8	0.2
CL 73-239	10.7	10.7	12.2	9.7	13.1	3.5
CP 73-1547	5.8	7.8	6.0	6.2	1.8	2.5
CP 78-2114	5.6	7.1	7.3	5.8	0.6	0.0
CP 80-1827	3.2	5.5	4.3	1.5	0.1	0.0
CP 74-2005	3.0	0.3	2.9	7.3	2.2	1.1
CL 59-1052	2.9	2.1	3.7	2.2	4.2	2.1
CL 69-886	2.5	1.6	3.1	3.4	2.3	1.3
CP 65-357	1.1	0.9	0.6	0.9	0.8	5.4
All Others	7.4	7.2	5.7	7.7	9.7	7.8

Table 2. Annual percentage of acreage from 1981 through 1991 for present principal sugarcane varieties in Florida.

Variety	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
CP 72-1210	1.8	8.2	19.8	35.4	53.9	61.0	56.8	44.1	31.8	20.5
CP 70-1133	24.5	30.7	30.5	24.0	15.0	11.2	10.9	12.3	13.5	14.0
CL 61-620	4.0	5.2	6.4	6.7	6.4	6.8	7.8	9.8	11.2	12.6
CP 72-2086	---	---	---	---	0.9	1.1	2.1	4.5	6.4	10.7
CL 73-239	---	---	---	---	0.1	0.7	2.3	4.7	8.1	10.7
CP 73-1547	0.3	1.0	1.2	1.5	1.8	2.2	2.8	4.2	5.0	5.8
CP 78-2114	---	---	---	---	---	0.2	0.8	2.5	4.3	5.6
CP 80-1827	---	---	---	---	---	---	---	0.4	1.6	3.2
CP 74-2005	0.1	0.7	2.0	2.6	3.3	3.9	4.9	5.8	4.9	3.0
CL 59-1052	7.9	8.2	8.8	7.7	6.3	4.8	3.5	3.0	2.9	2.9
CL 69-886	---	---	---	0.2	0.2	0.4	0.8	1.6	2.4	2.5
CP 65-357	11.9	13.7	12.1	7.5	3.3	1.9	1.4	1.3	1.1	1.1

Table 3. Comparison of percentages of 1990 and 1991 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Alone			Ratoon Cane Alone		
	1990	1991	Change	1990	1991	Change	1990	1991	Change
CP 72-1210	31.8	20.5	-11.3	23.0	12.2	-10.8	35.5	24.1	-11.4
CP 70-1133	13.5	14.0	+0.5	12.4	12.7	+0.3	13.9	14.6	+0.7
CL 61-620	11.2	12.6	+1.4	10.1	14.1	+4.0	11.7	12.0	+0.3
CP 72-2086	6.4	10.7	+4.3	10.4	17.8	+7.4	5.5	7.8	+2.3
CL 73-239	8.1	10.7	+2.6	12.1	10.7	-1.4	6.3	10.7	+4.4
CP 73-1547	5.0	5.8	+0.8	6.5	7.8	+1.3	4.4	5.0	+0.6
CP 78-2114	4.3	5.6	+1.3	6.7	7.1	+0.4	3.3	5.0	+1.7
CP 80-1827	1.6	3.2	+1.6	4.1	5.5	+1.4	0.6	2.3	+1.7

Table 3. Comparison of percentages of 1990 and 1991 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Alone			Ratoon Cane Alone		
	1990	1991	Change	1990	1991	Change	1990	1991	Change
CP 72-1210	31.8	20.5	-11.3	23.0	12.2	-10.8	35.5	24.1	-11.4
CP 74-2005	4.9	3.0	-1.9	2.6	0.3	-2.3	5.8	4.2	-1.6
CL 59-1052	2.9	2.9	0.0	3.2	2.1	-1.1	2.8	3.2	+0.4
CL 69-886	2.4	2.5	+0.1	3.1	1.6	-1.5	2.1	2.9	+0.8
CP 65-357	1.1	1.1	0.0	0.7	0.9	+0.2	1.2	1.2	0.0

Table 4. Actual and percentage acreage of each principal variety in fallow and successive planting systems.[1]

Variety	Acres		Percent	
	Fallow	Successive	Fallow	Successive
Overall	36,911	75,947	32.7	67.3
CP 72-1210	5,632	7,015	44.5	55.5
CP 70-1133	4,909	9,637	33.7	66.3
CL 61-620	7,770	6,600	54.1	45.9
CP 72-2086	3,430	19,071	15.2	84.8
CL 73-239	2,612	8,357	23.8	76.2
CP 73-1547	3,351	6,351	34.5	65.5
CP 78-2114	1,960	7,286	21.2	78.8
CP 80-1827	2,583	2,807	47.9	52.1
CP 74-2005	178	10	94.7	5.3
CP 59-1052	514	2,195	19.0	81.0
CL 69-886	358	1,321	21.3	78.7
CP 65-357	74	756	8.9	91.1

[1] Based on 87.5 percent of total plant-cane acreage.

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

Variety	Percent of Total Acreage Specified[1]	Acres		Percent	
		Muck	Sand	Muck	Sand
Overall	72.0	278,019	40,225	87.4	12.6
CP 72-1210	87.3	69,979	9,331	88.2	11.8
CP 70-1133	72.1	28,145	16,592	62.9	37.1
CL 61-620	64.5	35,503	383	98.9	1.1
CP 72-2086	90.0	42,091	622	98.5	1.5
CL 73-239	39.4	17,417	1,247	93.3	6.7
CP 73-1547	82.9	15,778	5,632	73.7	26.3
CP 78-2114	99.4	24,266	360	98.5	1.5
CP 80-1827	98.8	13,084	906	93.5	6.5
CP 74-2005	95.2	11,308	1,501	88.3	11.7
CL 59-1052	24.1	2,965	74	97.5	2.5
CL 69-886	35.1	3,807	67	98.3	1.7
CP 65-357	96.9	2,788	2,005	58.2	41.8

Table 6. Percentage of the total sugarcane acreage of the three most widely grown varieties since 1982 in Florida.

Year	Percent	Varieties by Rank		
		First	Second	Third
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
1991	47.1	CP 72-1210	CP 70-1133	CL 61-620