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Sugarcane Variety Census: Florida 1993 [1]

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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 1993-94 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 443,160 acres of sugarcane grown for sugar and seed for the 1993-94 crop. This record-high figure represents an increase of 2,474 acres compared to the 1992-93 season (Coale and Glaz, 1992). This minor increase in the 1993-94 crop compares to the 1984-93 average annual increase of 9,205 acres. Figure 1 shows the general upward trend in total sugarcane acreage in Florida since 1977.

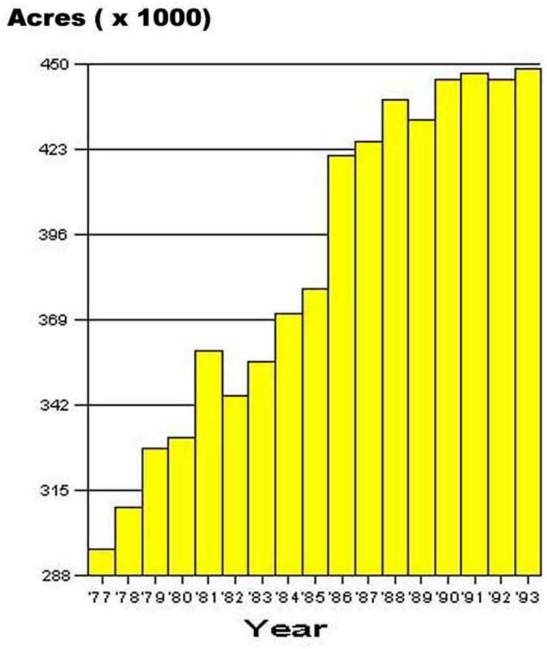

Figure 1. Total sugarcane acreage as reported in annual Florida variety censuses since 1977.

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PLANT AND RATOON CANE

Of the total 1993-94 acreage, 30.5 percent was plant cane and 69.5 percent was ratoon cane. For the 1990-91 crop, the percentage plant cane was 30.0 (Glaz and Coale, 1992). In the 1991-92 crop, plant cane dropped to 29.3 percent of the crop (Coale and Glaz, 1992). Of this year's acreage, 29.2 percent was first ratoon, 21.6 percent was second ratoon, 11.0 percent was third ratoon, and 7.7 percent was fourth ratoon or older. These compared with 1992-93 percentages of 29.0, 23.1, 10.6, and 7.8, respectively (Coale and Glaz, 1992).

For the 1993-94 harvest season, Florida growers planned to harvest 37 varieties of sugarcane. As shown in Table 1 , "principal varieties" covered at least one percent of the total cane area. Each variety in the group labeled as "all others" represented 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 Institute of Food and Agricultural Sciences of the University of Florida, and the Florida Sugarcane League, Inc. developed the varieties identified by a "CP" prefix.

Of the 26 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. This year, CL 41-191 was discontinued from commercial production.

The most widely grown variety in Florida this year was CL 61-620, with 14.8 percent of the total cane area (Table 1). This is the second consecutive year that CL 61-620 has held the number one position. Last year, it also comprised 14.8 percent of the total acreage (Coale and Glaz, 1992).

CP 72-2086, last year's third place variety, improved in ranking to the second most widely grown variety this year (Table 1). However, it remained constant both years at 13.6 percent of the total cane acreage (Table 2). Last year's fourth place variety, CP 70-1133, also moved up one position this year to third place. However, it declined in total acreage from 13.1 last year to 12.2 percent this year (Table 3).

This year's fourth place variety, CP 72-1210, dropped substantially compared to last year when it was the second most widely grown variety. It dropped a full 4 percentage points from 13.7 to 9.7 percent of the total cane acreage (Table 3). Each of this year's top four varieties either remained the same or declined compared to last year, in percent of total cane acreage. Each of these varieties also registered at least a one percentage point drop in percentage of plant-cane acreage compared to last year (Table 3). However, CP 72-2086 had more plant-cane acreage than any other variety, and CL 61-620 was the second most widely planted variety for the 1993-94 crop (Table 1).

The fifth and sixth place varieties were the most widely expanded this year compared to last year. CP 73-1547, the fifth place variety, comprised 8.7 percent of the total cane acreage, compared to 4.2 to 5.8 percent during the four previous years (Table 2). After holding a stable share of the acreage for several years, CP 73-1547 surprisingly increased in plant-cane acreage to 10.6 percent this year from 6.4 percent last year (Table 3).

CP 80-1827 expanded in acreage almost as much as CP 73-1547. In sixth place this year, CP 80-1827 comprised 8.3 percent of the total acreage, compared to 5.7 percent last year (Table 2). Its 12.8 percent of the plant-cane acreage was the third highest overall, and an increase of 3.3 percent compared to last year (Table 3).

With 8.1 percent of the total acreage, CL 73-239 was the seventh most widely grown variety (Table 1). It registered a decline of 2.7 percent of the total acreage compared to last year (Table 2). Last year it comprised 6.6 percent of the total plant-cane acreage, and this year it dropped to 1.8 percent (Table 3).

This year's eighth most widely grown variety was CP 78-2114 (Table 1). It dropped two positions from its 1992 sixth place ranking, but its percentage of the total acreage remained the same both years at 6.1 (Table 2). However, its percentage of the plant-cane acreage dropped from 8.4 in 1992 to 7.9 percent this year (Table 3).

CL 59-1052, CP 80-1743, and CL 69-886 filled in ninth, tenth, and eleventh places, respectively, on the principal variety list this year. CL 59-1052's acreage remained similar to that of last year. CP 80-1743 registered a large increase from 1.2 to 2.7 percent of the total acreage. Since 1984, the only other current principal variety to register a similar increase while its usage was just beginning was CP 78-2114 when it increased from 0.8 to 2.5 percent of the total acreage from 1988 to 1989 (Table 2). CL 69-886 registered a mild decline from 2.5 to 2.0 percent of the total acreage (Table 3). The last principal variety on this year's list was CP 81-1254 (Table 1). This is a relatively newly released variety that many growers are testing for the first time.

FALLOW VS. SUCCESSIVE PLANTING

Of the 135,210 plant-cane acres, 116,389 acres (86.1 percent) were reported as planted in either the fallow or successive planting system. Growers did not specify whether they planted the remaining 18,821 acres on fallow or successive land. Of the 116,389 acres for which information was available, 37,660 (32.3 percent) were fallow planted and 78,728 (67.6 percent) were successively planted (Table 4). Fallow and successive estimates were 30.7 and 69.3 percent, respectively, in the 1992 census (Coale and Glaz, 1992). This is the first year since the Florida census reported fallow and successive acreage that percentage fallow acreage has increased from the previous year.

Table 4 contains the actual fallow and successive plant-cane acreage of the principal varieties and their corresponding percentages of the total fallow and successive hectarages. Growers showed definite variety preferences depending upon whether their fields were fallow or successively planted. Growers showed more of a tendency to plant CL 61-620, CP 70-1133, CP 72-1210, and CP 80-1743 on fallow rather than successive land. CP 72-2086 and CP 78-2114, although widely planted in both systems, tended to be more popular in successive rather than fallow plant-cane acreage. CP 81-1254 had more successive rather than fallow plant cane. This was surprising because growers often plant new varieties on fallow land. Using seed cane from successively planted fields increases risks of varietal mixtures.

FLORIDA SOIL TYPES

In their census reports, growers labeled 282,123 of the total 443,316 acres reported (63.6 percent) as either a muck or a sand soil. Soil type was not specified for the remaining 161,192 acres. Of these 282,123 acres, 86.8 percent were reported as muck soils and 13.2 percent were reported as sand soils (Table 5). This year's percentages were similar to last year's when 87.3 percent of the soils were muck and 12.7 percent were sand. As with fallow and successive planting, growers have developed variety preferences according to soil. More than 96 percent of the acreage of CL 61-620, CP 72-2086, CP 80-1827, CL 73-239, CP 78-2114, CL 59-1052, CP 80-1743, CL 69-886, and CP 81-1254 were on muck soils. CP 70-1133, CP 72-1210, and CP 73-1547 together comprised 79.2 percent of the specified sand acreage.

VARIETY DIVERSIFICATION

From 1984 through 1990, the three most popular varieties comprised the majority of the total Florida sugarcane acreage (Table 6). The most dramatic 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 account for a lower percentage of the total Florida acreage than at any time in the past ten years. CL 61-620, CP 72-2086, and CP 70-1133 together accounted for only 40.6 percent of this year's acreage.

This trend of variety diversification is a positive trend for the Florida sugarcane industry. It was evident in this report that growers have developed preferences for variety use under fallow or successive and muck or sand soils. This strategy should help growers increase yields in normal years. In case of the arrival of new pests or the formation of new races of existing pests, increases in variety diversification should offer increases in insurance against devastating losses.

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REFERENCES

Coale, F.J. and B. Glaz. 1992. Sugar Cane variety census: Florida 1992. *Sugar y Azucar 87(11):27-33* .

Glaz, B. and F.J. Coale. 1992. Sugar Cane variety census: Florida 1991. *Sugar y Azucar 87(1):31-34* .

Table 1. Percentage of the 1993 Florida sugarcane acreage planted to the principal varieties.

Variety	Total Grown	Plant Cane	1st Ratoon	2nd Ratoon	3rd Ratoon	4th Ratoon+
CL 61-620	14.8	13.7	14.8	16.9	14.8	13.9
CP 72-2086	13.6	18.7	17.7	9.7	4.1	1.8
CP 70-1133	12.2	8.8	10.0	16.3	15.3	18.2
CP 72-1210	9.7	6.0	7.7	12.2	14.7	17.7
CP 73-1547	8.7	10.6	9.5	6.6	7.3	5.5
CP 80-1827	8.3	12.8	9.2	6.0	3.3	0.3
CL 73-239	8.1	1.8	6.1	11.7	18.8	15.5
CP 78-2114	6.1	7.9	8.6	5.5	0.4	0.1
CL 59-1052	2.9	2.7	1.8	2.5	4.7	5.8
CP 80-1743	2.7	5.1	3.1	0.9	0.4	0.0
CL 69-886	2.0	0.2	0.5	2.3	5.9	8.1
CP 81-1254	1.0	2.3	0.9	0.1	0.0	0.0
All Others	9.9	9.4	10.0	9.3	10.3	13.1

Table 2. Annual percentage of acreage from 1984 through 1993 for present principal sugarcane varieties in Florida.

Variety	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
CL 61-620	6.4	6.7	6.4	6.8	7.8	9.8	11.2	12.6	14.8	14.8
CP 72-2086	0.0	0.0	0.9	1.1	2.1	4.5	6.4	10.7	13.6	13.6
CP 70-1133	30.5	24.0	15.0	11.2	10.9	12.3	13.5	14.0	13.1	12.2
CP 72-1210	19.8	35.4	53.9	61.0	56.8	44.1	31.8	20.5	13.7	9.7
CP 73-1547	1.2	1.5	1.8	2.2	2.8	4.2	5.0	5.8	5.5	8.7
CP 80-1827	0.0	0.0	0.0	0.0	0.0	0.4	1.6	3.2	5.7	8.3
CL 73-239	0.0	0.0	0.1	0.7	2.3	4.7	8.1	10.7	10.8	8.1
CP 78-2114	0.0	0.0	0.0	0.2	0.8	2.5	4.3	5.6	6.1	6.1
CL 59-1052	8.8	7.7	6.3	4.8	3.5	3.0	2.9	2.9	2.9	2.9
CP 80-1743	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.2	2.7
CL 69-886	0.0	0.2	0.2	0.4	0.8	1.6	2.4	2.5	2.5	2.0
CP 81-1254	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	1.0

Table 3. Comparison of percentages of 1992 and 1993 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Alone			Ratoon Cane Alone		
	1992	1993	Change	1992	1993	Change	1992	1993	Change
CL 61-620	14.8	14.8	0.0	14.8	13.7	-1.1	14.7	15.3	+0.6
CP 72-2086	13.6	13.6	0.0	20.3	18.7	-1.6	10.8	11.3	+0.5
CP 70-1133	13.1	12.2	-0.9	10.7	8.8	-1.9	14.1	13.7	-0.4
CP 72-1210	13.7	9.7	-4.0	7.9	6.0	-1.9	16.1	11.3	-4.8
CP 73-1547	5.5	8.7	+2.2	6.4	10.6	+4.2	5.1	7.8	+2.7
CP 80-1827	5.7	8.3	+2.6	9.5	12.8	+3.3	4.1	6.3	+2.2
CL 73-239	10.8	8.1	-2.7	6.3	6.1	-0.5	12.7	10.9	-1.8
CP 78-2114	6.1	6.1	0.0	8.4	7.9	-0.5	5.2	5.4	+0.2

Table 3. Comparison of percentages of 1992 and 1993 acreage for principal sugarcane varieties.

Variety	Combined Plant and Ratoon Cane			Plant Cane Alone			Ratoon Cane Alone		
	1992	1993	Change	1992	1993	Change	1992	1993	Change
CL 59-1052	2.9	2.9	0.0	1.9	2.7	+1.2	2.9	2.9	0.0
CP 80-1743	1.2	2.7	+1.5	3.0	5.1	+2.1	1.2	1.6	+0.4
CL 69-886	2.5	2.0	-0.5	0.5	0.2	-0.3	2.5	2.7	+0.2
CP 81-1254	0.3	1.0	+0.7	0.9	2.3	+1.4	0.1	0.4	+0.3

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

Variety	Acres[2]		Percent	
	Fallow	Successive	Fallow	Successive
CL 61-620	6,101	8,255	16.2	10.5
CP 72-2086	5,308	17,643	14.1	22.4
CP 70-1133	4,644	6,005	12.3	7.6
CP 72-1210	3,349	3,097	8.9	3.9
CP 73-1547	3,826	9,648	10.2	12.3
CP 80-1827	4,085	9,033	10.8	11.5
CL 73-239	257	921	0.7	1.2
CP 78-2114	2,072	8,502	5.5	10.8
CL 59-1052	845	2,406	2.2	3.0
CP 80-1743	3,125	2,428	8.3	3.1
CL 69-886	25	74	0.1	0.1
CP 81-1254	425	1,978	1.1	2.5
All others	3,599	8,739	9.5	11.1
Overall	37,660	78,729	100.0	100.0

[1] Based on 86.1 percent of total plant-cane hectarage.
[2] Hectares x 2.471=Acres.

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	73.3	282,123	42,813	86.8	13.2
CL 61-620	67.9	44,430	242	99.5	0.5
CP 72-2086	90.0	53,359	766	98.6	1.4
CP 70-1133	71.9	22,630	16,334	58.1	41.9
CP 72-1210	82.6	26,261	9,258	73.9	26.1
CP 73-1547	72.9	19,733	8,319	70.3	29.7
CP 80-1827	95.8	34,037	1,156	96.7	3.3
CL 73-239	54.7	19,091	652	96.7	3.3
CP 78-2114	98.4	26,580	242	99.1	0.9
CL 59-1052	18.6	2,344	17	99.3	0.7

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
CP 80-1743	99.9	11,863	30	99.7	0.3
CL 69-886	40.5	3,483	37	98.9	1.1
CP 81-1254	99.7	4,258	64	98.5	1.5

[1] Percent of total hectarage of each principal variety for which muck or sand soil type was specified.
[2] Hectares x 2.471 = Acres.

Table 6. Percentage of the total sugarcane acreage of the three most widely grown varieties in Florida since 1984.

Year	Percent	Varieties by Rank		
		First	Second	Third
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	66.5	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