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Sugarcane Cultivars Descriptive Fact Sheet: CP 96-1252, CP 01-1372, and CP 00-1101[1]

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Sugarcane cultivars CP 96-1252 and CP 01-1372 are among the top ten commercial sugarcane cultivars in Florida with CP 96-1252 ranked as first and CP 01-1372 as tenth based on total sugarcane acreage occupied by these cultivars in Florida (VanWeelden et al. 2021). However, CP 00-1101 was recently dropped from the list of principal sugarcane cultivars because of drop in acreage to less than 1% of total sugarcane area in Florida. These cultivars are developed through the cooperative agreement among the United States Department of Agriculture (USDA), Canal Point, the UF/IFAS Everglades Research and Education Center in Belle Glade, and the Florida Sugar Cane League. This fact sheet provides information on the cultivars' parentage, flowering, cold tolerance, yields, disease response, and major growth or yield issues. Table 1 includes information on release dates, targeted soil types, parents, flowering, cold tolerance, best features, and limiting features. Table 2 provides yield and disease information.

CP 96-1252: CP 96-1252 is the top commercial sugarcane cultivar in Florida, occupying 30.2% of total sugarcane area in the state. CP 96-1252 is cultivated on both muck and sand soils. Resistance to orange rust, an important sugarcane disease in Florida caused by *Puccinia kuehnii*, is an excellent characteristic of this cultivar. Orange rust can cause major yield losses (exceeding 50% in susceptible cultivars). The extended duration of the disease makes chemical control expensive. CP 96-1252 is susceptible to brown rust caused by *Puccinia melanocephala*, but chemical control is efficient and less expensive due to the limited duration of this disease.

Figure 1. CP 96-1252 at early growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League

Figure 2. CP 96-1252 at early growth stage in sand soil.
Credits: Wayne Davidson, Florida Sugar Cane League

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Figure 3. CP 96-1252 at late growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League

CP 01-1372: CP 01-1372 is the second most widely grown sugarcane cultivar in Florida, occupying 1.5% of the total acreage, and is primarily cultivated on muck soil (VanWeelden et al. 2021). High tonnage and late sucrose are the major positives of this cultivar. Susceptibility to orange rust and smut are major concerns. Also, lodging at harvest and brittle stalks negatively affect the seed quality of this cultivar.

Figure 4. CP 01-1372 at early growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League

CP 00-1101: CP 00-1101 was ranked in top three sugarcane cultivars in Florida for multiple years, especially due to high sucrose concentration. However, CP 00-1101 was dropped from the list of principal cultivars in 2020 due to less than 1% acreage left under this cultivar in Florida. CP 00-1101 has an erect canopy, which is good for harvesting and planting. Susceptibility to orange rust and sugarcane rust mite (*Abacarus sacchari*) are primary factors behind the recent decline in its acreage.

Figure 5. CP 01-1372 at late growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League

Figure 6. CP 01-1372 stalks with exposed internodes.
Credits: Wayne Davidson, Florida Sugar Cane League

Reference

VanWeelden, M. T., S. Swanson, W. Davidson, M. Baltazar and R. Rice. 2021. "Sugarcane variety census: Florida 2020." *Sugar Journal* 84(2): 6-15.

Figure 7. CP 01-1372 bud.
Credits: Wayne Davidson, Florida Sugar Cane League

Figure 8. CP 00-1101 at early growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League

Figure 9. CP 00-1101 at late growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League

Figure 10. CP 00-1101 internodes and buds.
Credits: Wayne Davidson, Florida Sugar Cane League

Figure 11. CP 00-1101 auricle.
Credits: Wayne Davidson, Florida Sugar Cane League

Table 1. Basic information on CP 96-1252, CP 01-1372, and CP 00-1101.

Trait	CP 96-1252	CP 01-1372	CP 00-1101
Release Date	2003	2008	2007
Soil Type	Muck and sand	Muck and sand	Muck
Parents	CP 90-1533 X CP 84-1198	CP 94-1200 X CP 89-2143	CP 89-2143 X CP 89-2143
Freeze Tolerance	Not tested	Good	Good
Flowering	Early and heavy	None to very light	None to very light
Best Features	High cane yield in both muck and sand, resistance to orange rust	Resistance to brown rust, good ratoon production with high stalk population	High sucrose level, very erect stalks
Limiting Features	Susceptible to brown rust	Very recumbent and brittle for machine-cut seed, susceptible to orange rust and smut	Susceptible to orange rust and rust mite, with lower tonnage in stubble

Table 2. Yield parameters and disease reactions of CP 96-1252, CP 01-1372, and CP 00-1101.

Trait	CP 96-1252 (yields are compared to CP 70-1133)	CP 01-1372 (yields are compared to CP 89-2143)	CP 00-1101 (yields are compared to CP 89-2143)
Tons of Cane per Acre (TCA)	+8.5% (muck), +26.5%(sand)	+35% (muck), +23% (sand)	+7% (muck), +8% (sand)
Commercially Recoverable Sucrose (CRS)	+4.5% (muck), +2.7% (sand)	+1% (muck), +3% (sand)	+2% (muck), +1% (sand)
Tons of Sugar per Acre (TSA)	+13.5% (muck), +30.2% (sand)	+35% (muck), +26% (sand)	+8% (muck), +10% (sand)
Economic Index[1]	+17.4% (muck), +38.1% (sand)	+42% (muck), +33% (sand)	+10% (muck), +14% (sand)
Fiber	9.4%	9.5%	10.2%
Brown Rust	S	R	R
Bru1[2]	-	+	+
Orange Rust	R	S	S
Leaf Scald	R	MR	R
Smut	R	S	R
SCMV[3]	R	R	R

[1] Economic index is the dollar value of crop on per acre basis. It is calculated based on sugar yield, price of raw sugar, and harvesting and milling costs.
[2] *Bru1* is the name of the gene that provides resistance against brown rust disease.
[3] SCMV stands for Sugarcane Mosaic Virus, which causes sugarcane mosaic disease.