

Sugarcane Cultivar Descriptive Fact Sheet: CPCL 02-0926 and CP 05-1526¹

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Sugarcane cultivars CPCL 02-0926 (Glynn et al. 2013) and CP 05-1526 (Zhao et al. 2013) were released for commercial cultivation on both muck (organic) and sandy (mineral) soils in Florida in 2011 and 2012, respectively. Due to high tonnage and moderate to high resistance against most of the local sugarcane diseases, both cultivars were quickly adopted by local sugarcane growers. According to the latest variety census (VanWeelden et al. 2018), both cultivars were among the top 12 principal varieties (varieties with >1% of total sugarcane acreage) in Florida.

Both cultivars were developed through the cooperative agreement between the United States Department of Agriculture (USDA), Canal Point, the University of Florida, Everglades Research and Education Center, Belle Glade and Florida Sugar Cane League. CPCL 02-0926 was bred at the US Sugar Corporation, Clewiston (CL) and later evaluated at different stages through the cooperative breeding and selection program based at Canal Point (CP) as indicated by the prefix 'CPCL' in its name. CP 05-1526 was crossed at Canal Point and evaluated through the cooperative breeding and selection program. The purpose of this fact sheet is to provide basic information (Table 1) and yield and disease information (Table 2) for CPCL 02-0926 and CP 05-1526 to assist growers in better selection and management of these cultivars. The intended audience is sugarcane growers, farm managers, researchers and UF/IFAS Extension agents. The yields of both cultivars are compared with reference

cultivars (CP 89-2143 for muck and CP 78-1628 for sand) planted in the same field trials.

CPCL 02-0926

CPCL 02-0926 was released in 2011 for both muck and sandy soils in Florida. CPCL 02-0926 is currently planted on 13,583 acres (3.4% of total sugarcane acreage) and ranked 6th among the top 12 principal varieties in Florida. It has *Br1* gene that provides resistance to brown rust (caused by *Puccinia melanocephala*). CPCL 02-0926 is also moderately resistant to most of the other important sugarcane diseases in Florida except orange rust (caused by *Puccinia kuehnii*), for which the growers need to monitor their crops and use the appropriate control measures as required. CPCL 02-0926 has good freeze tolerance and no to late flowering under field conditions. Good ratooning ability of this cultivar is particularly important in sandy soil, where ratoon yields are normally much lower than plant cane. Further information on CPCL 02-0926 can be found in Glynn et al. (2013).

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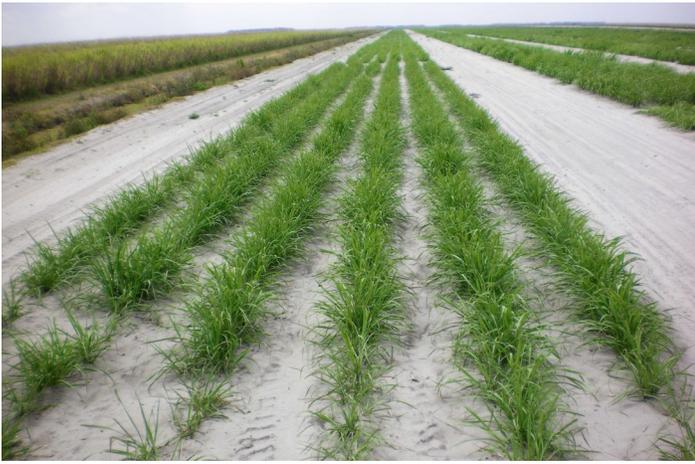


Figure 1. CPCL 02-0926 at early growth stage in sandy soil.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 2. CPCL 02-0926 at late growth stage in sandy soil.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 3. CPCL 02-0926 cane top with auricles.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 4. CPCL 02-0926 mature stalk.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 5. CPCL 02-0926 bud.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 6. CPCL 02-0926 internode cross-section (diameter compared to a quarter).
Credits: Wayne Davidson, Florida Sugar Cane League

CP 05-1526

CP 05-1526 was released in 2012 and is currently planted on 7,224 acres (1.8% of total sugarcane acreage) and ranked 12th among principal varieties. The key features of this cultivar are high tonnage in both muck and sandy soils with moderate to high resistance against most sugarcane diseases in Florida. CP 05-1526 does not have the *Bru1* gene but showed moderate resistance against brown rust in field trials. This variety does not flower in normal growing conditions in Florida. Relatively low sucrose and high recumbency at maturity may be a concern for some growers. Further information on CP 05-1526 can be found in Zhao et al. (2013).



Figure 7. CP 05-1526 in early growth stage in muck soil.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 8. CP 05-1526 in early growth stage in sandy soil.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 9. CP 05-1526 in late growth stage in sandy soil.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 10. CP 05-1526 top with auricles.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 11. CP 05-1526 mature stalk.
Credits: Wayne Davidson, Florida Sugar Cane League



Figure 12. CP 05-1526 bud.
Credits: Wayne Davidson, Florida Sugar Cane League

References

Glynn, N. C., D. Zhao, J. C. Comstock et al. 2013. "Registration of 'CPCL 02-0926' sugarcane." *J. Plant Reg.* 7: 164–171.

Zhao, D., J. C. Comstock, B. Glaz et al. 2013. "Registration of 'CP 05-1526' sugarcane." *J. Plant Reg.* 7: 305–311.

VanWeelden, M. T., S. Swanson, W. Davidson, and R. W. Rice. 2018. "Sugarcane variety census: Florida 2017." *Sugar J.* 81: 10–20.



Figure 13. CP 05-1526 internode cross-section (diameter compared with a quarter).
Credits: Wayne Davidson, Florida Sugar Cane League

Table 1. Basic information on CPCL 02-0926 and CP 05-1526.

Trait	CPCL 02-0926	CP 05-1526
Release date	2011	2012
Soil type	Muck and sand	Muck and sand
Parents	CP 80-1743 x CL 92-0046	CP 98-1029 x CP 88-1162
Freeze tolerance	Good	Moderate
Flowering	None to light beginning in mid-December	Generally none
Key features	Moderately resistant to most diseases including brown rust and smut, good ratooning	High tonnage on both muck and sand, resistant or moderately resistant to most diseases
Limiting features	Heavy growth cracks, shorter in stubble crops	Low sucrose, heavily recumbent at maturity
Other issues	Light to moderate ring spot, low levels of aphids and rust mites	Light to moderate ring spot

Table 2. Yield parameters and disease reactions of CPCL 02-0926 and CP 05-1526.

Trait	CPCL 02-0926 (yields are compared to CP 89-2143 in muck and CP 78-1628 in sand)	CP 05-1526 (yields are compared to CP 89-2143 in muck and CP 78-1628 in sand)
Tons of cane per acre (TCA)	Muck = 67.0 (+8%) Sand = 47.3 (+2%)	Muck = 70.3 (+18%), Sand = 50.1 (+25%)
Commercially recoverable sucrose (CRS) in lbs/ton of cane	Muck = 230.9 (-3%) Sand = 250.9 (+1%)	Muck = 228.9 (-4%), Sand = 228.8 (-2%)
Tons of sugar per acre (TSA)	Muck = 7.8 (+6%) Sand = 6.0 (+3%)	Muck = 8.1 (+13%), sand = 5.7 (+23%)
Economic index ¹	Muck = \$1,214 (+4%) Sand = \$979 (+3%)	Muck = \$1,240 (+10%), Sand = \$839 (+26%)
Fiber	10.4%	11.5%
Brown rust	MR	MR
<i>Bru1</i> ²	+	-
Orange rust	MS	MR
Leaf scald	MR	MR
Smut	MR	R
SCMV ³	MR	R
RSD ⁴	MR	MR
SCYLV ⁵	S	S

¹ Economic index is the dollar value of the crop per acre. It is calculated based on sugar yield, the price of raw sugar, and the harvesting and milling costs.

² *Bru1* is the gene that provides resistance against brown rust disease.

³ SCMV *sugar cane mosaic virus*, the cause of sugarcane mosaic disease.

⁴ Ratoon stunt disease.

⁵ *Sugar cane yellow leaf virus* and it causes yellow leaf disease.

Other abbreviations: R = resistant, MR = moderately resistant, S = susceptible, MS = moderately susceptible.