

Sugarcane Cultivar CP 89-2143 Descriptive Fact Sheet¹

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The selection of a sugarcane cultivar that eventually becomes a production success is probably due in equal parts to the cultivar's attributes, word of mouth, gut feeling, and luck. This fact sheet provides many of the attributes cultivar identification is based upon. Some of these you will use as the basis for cultivar selection.

Since each farm has a unique set of environmental conditions and cultural constraints under which management must operate, a successful cultivar for one grower may perform poorly at another location. Therefore, watch new introductions as they are evaluated, monitor new plantings on your own farm or your neighbor's farm, and expand acreage of newer cultivars when you feel comfortable with their performance.

Sugarcane Cultivar CP 89-2143

Descriptive terms that apply to sugarcane cultivar CP 89-2143 are presented in Table 1.

This medium-stalk, high-tillering cultivar produces better than average tonnage with high sugar. Its good tonnage and high sugar make it one of the most productive cultivars in the inventory. It also holds up well after a freeze. CP 89-2143 remained one of top cultivars in Florida for several years with its cultivation on 31% of total sugarcane area in Florida in 2008 (Rice et al. 2014). The acreage under CP 89-2143 started declining after 2008 due to its orange rust

susceptibility, and reduced to only 1.1% of total sugarcane acreage in 2016.

Due to increasing concerns of orange rust and sugarcane rust mite problems on this cultivar (along with poor growth in recent years in Florida), CP 89-2143 is phased out from Florida and it is not a principal cultivar (cultivar with >1% of total acreage) anymore (VanWeelden et al. 2022). However, CP 89-2143 is well adapted to sugarcane growing conditions in Texas that resulted in its rapid expansion to large acreage in last few years and became the top variety with high acreage of total sugarcane area in Texas. CP 89-2143 is also expanding in some Central American countries where orange rust is not major problem.

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Figure 1. CP 89-2143 auricle.
Credit: UF/IFAS



Figure 3. CP 89-2143 stalk.
Credit: UF/IFAS



Figure 2. CP 89-2143 bud.
Credit: UF/IFAS



Figure 4. CP 89-2143 stool.
Credit: UF/IFAS

Glossary of Terms Used in Table 1

Cultivar Name: The first two letters in the cultivar name represent the source of the cultivar. CP stands for Canal Point, a town in Florida where the cooperative sugarcane cultivar development program takes place. The participants are USDA-ARS, University of Florida Institute of Food and Agricultural Sciences (UF/IFAS), and the Florida Sugar

Cane League, Inc. The next two numbers represent the year the first clonal crop of a given cross was planted. The numbers after the hyphen represent the accession number of that cultivar in the year it was named.

Soil Preference: Describes soils where the best performance of this cultivar can be expected. Under Florida conditions, this refers to either sand, organic (muck), both, or transitional soils. Transitional soils are organic soils that contain a large percentage of sand, or sand soils that contain a percentage of organic matter.

Sugar Content: This is an estimate based on comparisons with other commercial cultivars made at the UF/IFAS Everglades Research and Education Center. Because a range of values makes up a rating category, cultivars with the same rating are not necessarily equal. Ratings change as the harvest season progresses and are one of the determining factors of preferred harvest season. Rated as low, medium, or high.

Tonnage: Based on harvesting experiences over several years. This is a relative term and is influenced by soil type, location, harvest season, and ratoon being harvested. Rated as low, medium, or high.

Leaf Width: Measuring the widest part of the leaf at the fourth node from the top. Expressed as wide, medium, or narrow.

Sheath Pubescence: Using young sheaths at the top of the plant, rated as none, sparse, or dense.

Leaf Retention: Dead leaves may be tightly retained giving a trashy appearance, may be held on but easily shaken off, or may be self-stripping. Rated as attached, loosely attached, or self-stripping.

Canopy Characteristics: Canopy characteristics vary from compact to open, which influence sunlight penetration and sucker growth. Canopy growth habit can be classified as erect, erect with drooping tips, high arch, medium arch, or wide arch.

Canopy Closure: Speed of canopy closure influences weed and sucker growth. Rated as slow, intermediate, or fast.

Tillering: The number of shoots from a stool strongly influences potential yield. Number of tillers rated as low, medium, or heavy.

Stalk Size: Diameter relates to cane weight and susceptibility to lodging or bending. Rated as small, medium, or large.

Exposed Stalk Color: Rated as yellow, green, wine, red, purple, brown, or a described color.

Stubbling Ability: This is the ability of a cultivar to regrow after harvest. It may be strongly influenced by the height of the cutter blade above the soil line. Rated as poor, fair, or good.

Harvest Season: Harvest begins in late October and concludes in late March to early April. Some cultivars produce high sugar early which declines with bloom, some reach their peak later in the season, while others maintain a relatively high sugar content for an extended period. A narrow window of optimum harvest limits the flexibility needed for an orderly harvest operation and could be considered a disadvantage. If a cultivar's optimum harvest season is limited, but it fills an industry need for a cultivar during that time frame, it would be considered an advantage. However, it would be a disadvantage if a late maturing cultivar was also freeze susceptible. Rated as early (10/15–12/1), mid (12/1–1/25), or late (1/25–3/15).

Harvestability: Some cultivars grow very erect while others are prone to fall over (lodge). The erectness and degree of lodging influences the ability of mechanical harvesters to cleanly harvest a field in a timely manner. Often a cultivar will lodge uniformly in one direction and can be successfully “peeled” away from the adjoining row during harvest if it does not break. Rated as easy, moderate, or difficult. (Peel: To harvest a field from the direction from which the wind blew the cane down. If the cane is lying to the south, harvest the field from the north, working across the field to the south.)

Cold Tolerance: This has to do with the length of time a variety can maintain economic quality after a freeze. Rated as poor, medium, or good.

Frost Tolerance: This has to do with the ability of young cane to withstand or regrow after exposure to one or more frosts. Rated as poor, medium, or good.

Mechanically Cut Seed: Ease with which a cultivar can be harvested with a whole stalk harvester. The stalks are laid in furrows either by hand or machine and then cut into billets by hand. The other mechanical planting option is a billet planter, which chops the cane as it is harvested, creating more cuts and eye damage than the whole stalk harvester.

Rating here is for the whole stalk method unless otherwise stated. Rated as poor, medium, or good.

Disease Concerns: After release, cultivars are considered to have adequate disease resistance to all the important diseases recognized by the industry at that time. Therefore, disease concerns listed are the result of new strains of common diseases, or new diseases that have become important.

Advantages: A reason to plant this cultivar (e.g., high water table tolerance).

Disadvantages: A reason to plan carefully when considering this cultivar for planting (e.g., frost susceptibility).

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Table 1. Description for sugarcane cultivar CP 89-2143.

Soil Preference	Organic
Sugar Content	High
Tonnage	Medium to high
Leaf Width	Narrow
Sheath Pubescence	None
Leaf Retention	Attached
Canopy Characteristics	Erect
Canopy Closure	Intermediate
Tillering	Heavy
Stalk Size	Small to medium
Exposed Stalk Color	Yellow with reddish blush
Stubbling Ability	Good
Harvest Season	Early to late
Harvestability	Good
Cold Tolerance	Medium to good
Frost Tolerance	Good
Mechanically Cut Seed	Good
Disease Concerns	Orange rust
Advantages	Heavy tillering. Blooms mid to late.
Disadvantages	High susceptibility to orange rust and sugarcane rust mite.