



CULTIVAR RELEASE

RB928064 - Sugarcane cultivar

Márcio Henrique Pereira Barbosa^{1*}, Luís Cláudio Inácio de Silveira¹, Vicente de Freitas Martins de Souza¹, and Sebastião Nilson Niquini Ribeiro¹

Received 8 July 2004

Accepted 21 September 2004

ABSTRACT - *RB928064 is a cultivar of intermediate maturation recommended for cutting in the mid-harvest period. There is no flowering under the conditions of the latitudes of central-southern Brazil. It presents optimum ratoon productivity in soils of good natural fertility and moisture retention. It is tolerant to the main diseases of economical importance for the crop.*

Key words: *Saccharum* spp., clone, selection, improvement.

INTRODUCTION

RB928064 is a sugarcane (*Saccharum* spp.) cultivar developed by the Genetic Sugarcane Improvement Program at the Universidade Federal de Viçosa (www.ufv.br/dft/cana/sugarcane.htm). Its maturation is intermediate and it is recommended for cultivation in more fertile soils with good moisture retention for cutting in the mid-harvest period in central-southern Brazil. In more restrictive production environments the performance of this cultivar leaves much to be desired. Besides not flowering, its profile for mechanical harvest is ideal due to its upright growth, clump vigor, optimum sprouting under straw, and high specific stalk density. Cultivar RB928064 was registered and protected by the Serviço Nacional de Proteção de Cultivares do Ministério da Agricultura, Pecuária e Abastecimento (National Cultivar Protection Service of the Ministry of Agriculture, Animal husbandry, and Supply).

IMPROVEMENT METHODS

Seeds were obtained in 1992 from the crossing of cultivar SP70-1143 with pollen of an unknown genotype (Figure 1). The crossing was realized at the Estação de Floração e Cruzamentos da Serra do Ouro (Station of Flowering and Crossing, Serra do Ouro) (9° 13' lat S, 35° 50' long W and altitude 450 m asl) in Murici, State of Alagoas, which belongs to the Universidade Federal de Alagoas. Two years after the crossing, cultivar RB928064 was selected at the Centro de Pesquisa e Melhoramento da Cana-de-Açúcar - CECA (Center for Research and Improvement of Sugarcane) of the Universidade Federal de Viçosa, in Oratórios, State of Minas Gerais (20° 25' lat S, 42° 48' long W and altitude 494 m asl). In 1994, the first clone generation of cultivar RB928064 participated in an experiment planted at CECA. At the time, seven stalks were distributed onto a five-meter furrow plot. Cultivar RB72454 was included in that experiment as control besides hundreds of selected clones.

¹Departamento de Fitotecnia, Universidade Federal de Viçosa, 36570-000, Viçosa, MG, Brasil. *E-mail: barbosa@ufv.br

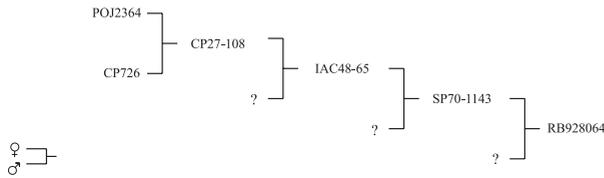


Figure 1. Genealogy of ‘RB928064’

The experiment was evaluated in 1995 and 1996, according to the methodology described by Barbosa (2000). Due to its excellent performance, ‘RB928064’ was selected in that experiment, multiplied, and later introduced in mills and distilleries in 1998 and 1999. From 2000 on, experiments were planted and harvested on the grounds of the mills and distilleries in the States of Minas Gerais and São Paulo. The randomized complete block design with plots of five 10 m furrows in four replications was used for this purpose. The experiments included harvests of three consecutive years. From 2002 on, areas of over 10 hectares were planted in the mills and distilleries to observe ‘RB928064’ under different management conditions, including a mechanical harvest system. In December 2002, ‘RB928064’ was officially released as cultivar by the Universidade Federal de Viçosa.

PERFORMANCE

The obtained results based on the experiments and field studies installed in the mills and distilleries showed that the

best performance of ‘RB928064’ was obtained in soils of high natural fertility and with good moisture retention. ‘RB928064’ had a higher productivity than ‘RB72454’ in the stages of later cuttings given by the environments with lower environmental indices, defined according to Finlay and Wilkinson (1963) (Figure 2b). On the other hand, ‘RB928064’ was inferior to ‘RB72454’ in plant cane productivity throughout (Figure 2a). Figure 3 shows the maturation curve of ‘RB928064’ in different production environments compared to some very commonly used cultivars by the mills and distilleries of the center-south of Brazil. The curve of maturation is given by the accumulation of saccharose throughout the harvest. The PCC - Pol in juice represents an apparent percentage of saccharose in a sugar solution and is determined by saccharimetric methods according to those presented by Fernandes (2003). ‘RB928064’ is not a cultivar of early maturation as ‘SP80-1842’ and others. It is considered a cultivar of intermediate or late maturation. However, the management of the cutting towards the end of the harvest, that is, October or November, can affect the productivity of the following year owing to the slow initial development of ‘RB928064’. The indicated management for this cultivar would therefore be the planting of one and a half-year sugarcane with cuttings in the months July, August, and September. The cultivation of ‘RB928064’ in areas under vinasse and ripener application could also be an excellent alternative for management. ‘RB928064’ is tolerant to rust, smut, mosaic, ratoon stunting disease, and leaf scald (Pin 1988).

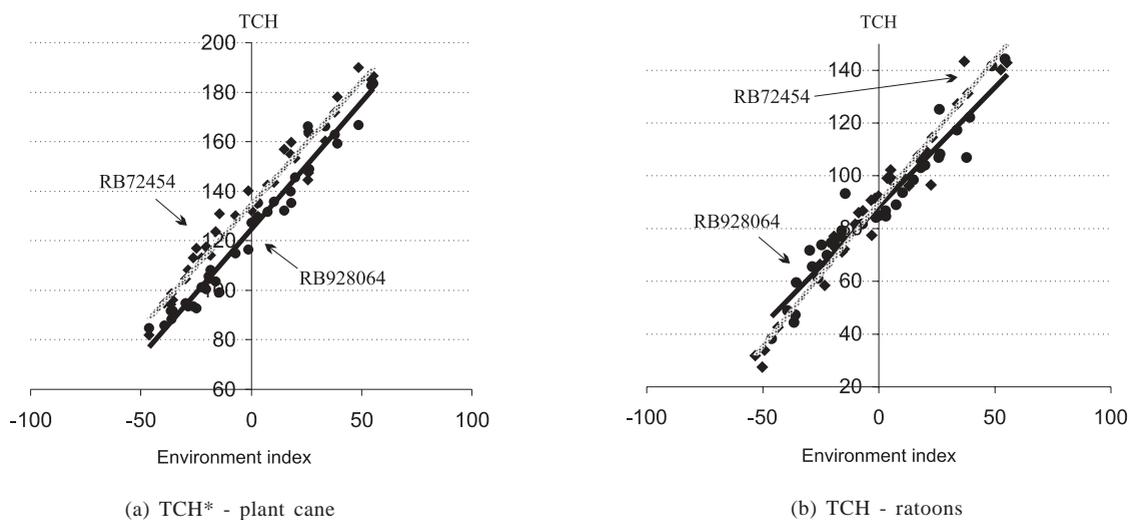


Figure 2. Performance of cultivars RB928064 and RB72454 in 36 and 35 environments of production in plant cane and ratoons, respectively, in central-southern Brazil. *TCH - Tons of stalks per hectare

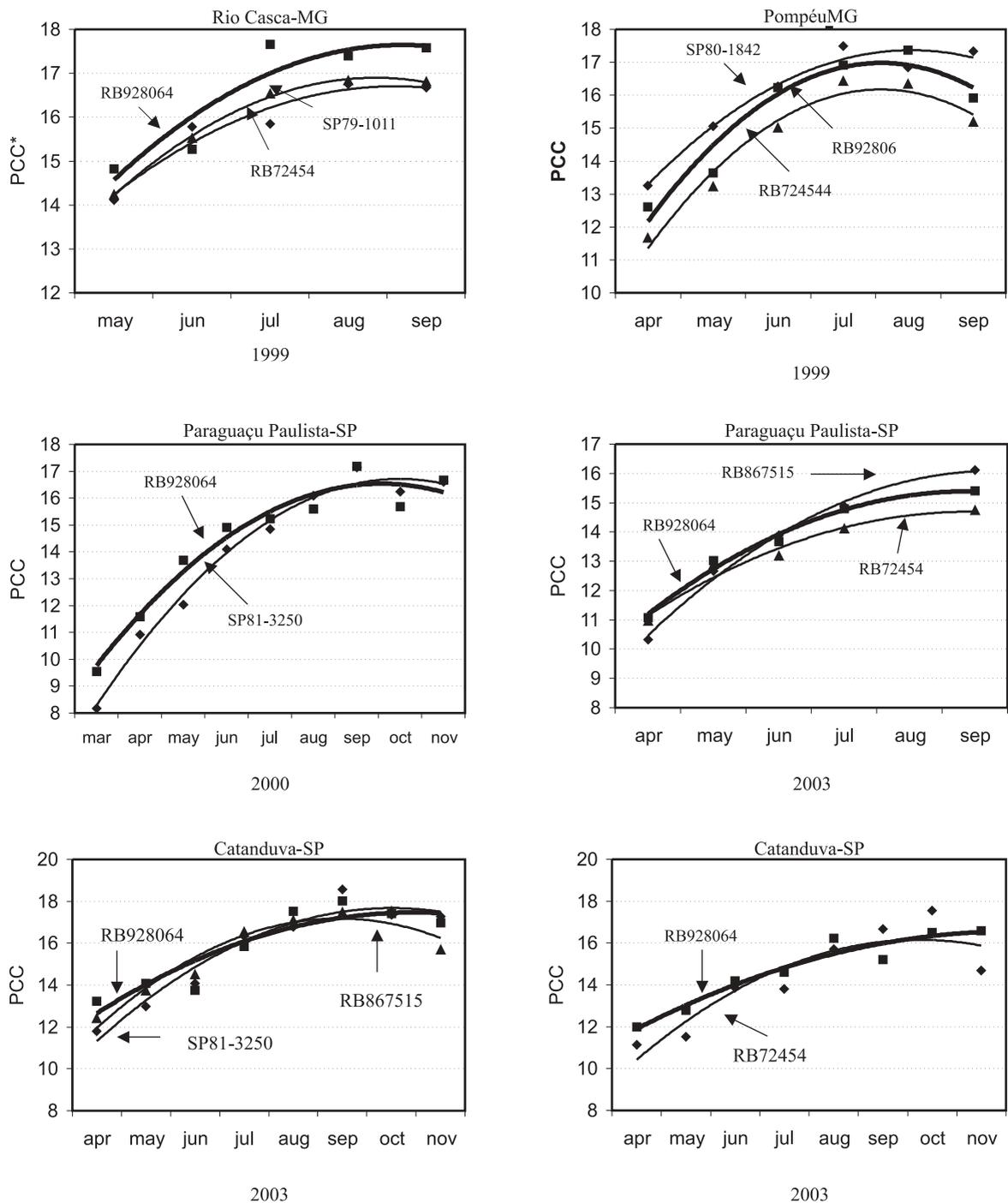


Figure 3. Curves of maturation of ‘RB928064’ and other important cultivars of sugarcane used in the production of sugar and alcohol in Brazil. *PCC - Pol in juice (apparent percentage of saccharose)

OTHER CHARACTERISTICS

'RB928064' has an upright growth habit, the initial development is slow, and tillering is intense with uniform stalks of mean diameter. The internodes are cylindrical with yellowish-green color when exposed to the sun and green when protected by the straw. The internodes are grooved with plenty of wax and a slightly zigzagged stalk. The growth ring is broad, little prominent, and of yellowish-green color. The root zone above the straw is of mean size without aerial rooting. The buds are little prominent at the node, of the ellipsoidal type, and always surpass the growth ring. The position of the germ pore in the bud is of the apical type. The leaf blade is of mean width with few hairs along the edges and has a bent tip. The ligule is half-moon-shaped and the auricle lanceolate. The auricle size is mean and their distribution unilateral. The dewlaps are lanceolate-shaped and their color yellowish-green. The clearing type is mean. The leaf sheath is regularly haired on the underside. The stalk top is short (shorter than 50 cm) of green color and regular presence of wax.

SEEDLING MAINTENANCE AND DISTRIBUTION

'RB928064' seedlings are produced and distributed by the Department of Plant Science of the Universidade Federal de Viçosa, 36570-000, Viçosa, MG, Brazil.

REFERENCES

- Barbosa MHP (2000) Perspectivas para o melhoramento da cana-de-açúcar. In: Raposo FV, Lambert ES, Alves GF, Mendonça HA, Faria MV and Gomes MS (eds.) **IV Simpósio de Atualização em Genética e Melhoramento de Plantas. Genética e Melhoramento de Espécies de Propagação Vegetativa**. UFLA, Lavras, p. 1-17.
- Fernandes AC (2003) **Cálculos na agroindústria da cana-de-açúcar**. 2th ed., EME, Piracicaba, 240p.
- Finlay KW and Wilkinson GN (1963) The analysis of adaptation in a plant breeding programme. **Australian Journal of Agriculture Research** **14**: 742-754.
- Pin LH (1988) **Chave ilustrada para identificação de doenças e anomalias nos canaviais do Brasil**. IAA/PLANALSUCAR, Piracicaba, 48p.