

BRS 189 dwarf cashew clone cultivar

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ABSTRACT

The BRS 189 Dwarf Cashew Clone was developed by Embrapa Agroindústria Tropical for irrigated cultivation on the Brazilian Northeastern coast and similar localities. Both the nut and the apple are suitable for consumption. The cashew apple presents the best characteristics for *in natura* commercialization, especially color, good shape and size, firm texture and high SST and vitamin C contents that are outstanding even when compared with the control clones CCP 76 and CCP 09.

KEY WORDS: *Anacardium occidentale*, clone, cashew apple, irrigated cultivation.

INTRODUCTION

Embrapa Agroindústria Tropical is making available, especially to cashew producers, the clone known by the logo BRS 189 for commercial planting on the coastal region of the Northeast and similar localities. This clone presents special characteristics that differ from previously released clones for irrigated planting in the Northeast, meeting consumer demand for the cashew apple as a table fruit.

Cashew apple consumption as a table fruit has increased at each harvest because of the opening of new markets and the consolidation of traditional markets. This has occurred due to new planting with early dwarf cashews, which because they are of low stature, permit manual harvesting with greater use and loss reduction. Furthermore, the cashew apple, which was formerly sold only close to production areas, today reaches supermarkets in other parts of the country, some more than 4,000 km from its place of origin, and can be commercialized for up to 15 days after harvesting (Filgueiras et al., 1997) due to the development of good post harvest handling and conservation techniques (Menezes, 1992; Menezes and Alves, 1995).

PEDIGREE AND BREEDING METHODS

The first priority of the genetic breeding program of Embrapa Agroindústria Tropical is to obtain new cultivars. The success of clone selection depends on the genetic variability existing in the population base. To achieve this, besides introducing new plants, the program has used crosses among cashew clones,

resulting in segregant progeny that are assessed for selection and cloning of individual plants (Embrapa, 1991). This new clone resulted from individual phenotypic selection among progeny obtained through the cross of the early dwarf cashews CCP 1001 and CCP 76, made in 1988, followed by clonal assessment of the selected genotypes, at the Pacajus Experimental Station, CE. At the assessment stage the clone was provisionally named END 157 for testing both in experimental areas and by farmers.

PERFORMANCE

Low height, mean height of 3.16m at 3 years of age under irrigated cultivation, mean canopy diameter 5.9m, 8m x 8m recommended spacing in a rectangular system with 208 plants/ha, or 7m x 7m in a square system, with 204 plants/ha.

Nut weight 8.5 g, nut flesh weight 2.1 g and nut flesh/shell ratio 26.6%. Mean peduncle weight 155.4g, annual production 12,738 kg/ha, in the plants' third year under irrigated cultivation, light red coloring, pear shaped, total soluble solids 13.3 °Brix, total titered acid (ATT) 0.40%, vitamin C content 251.86 mg/100g pulp and 0.30% oligomeric tannin content (Moura, 1998; Paiva et al., 1998). The clone presents peduncle with good characteristics for *in natura* consumption.

OTHER CHARACTERISTICS

The BRS 189 clone peduncles present characteristics that permit *in natura* commercialization (Table 1) where color, shape and size, firm texture and high SST and

vitamin C content are outstanding, even when compared to the control clones (CCP 76 and CCP 09). Generally the tannin contents observed are below those found in the literature.

MAINTENANCE AND DISTRIBUTION OF PEDIGREE SEED

The strategy adopted by Embrapa Agroindustria Tropical to maintain and distribute the BRS 189 clone

Table 1. Total weight (nut + peduncle), shape, color, total antocianin (AT) texture, total soluble solids (SST), total soluble sugars (AST) pH, total titered acidity (ATT in malic acid), soluble solids/acidity ratio (SST/ATT), vitamin C (VC) polymeric tannins (TP) oligomeric tannins (TO) and dimeric tannins in peduncles of irrigated early dwarf cashews. Mossoró-RN 1997

Characteristics ^{1/}	CCP 76	CCP 09	BRS 189
Weight (g)	150.82A	91.72BC	155.40A
Shape	Pear shaped	Apple	Pear shaped
Color ^{2/}	Orange (-)	Orange	Red (+)
AT (mg/100g)	37.38C	17.58D	59.08AB
Texture (N)	5.83BC	7.42A	7.25A
SST (°Brix)	12.93AB	11.50ABC	13.30A
AST (%)	11.71A	9.82BC	10.12ABC
pH	4.43AB	4.10D	4.25BCD
ATT (%)	0.28B	0.38A	0.40A
SST/ATT	46.28A	29.93C	33.33BC
VC (mg/100g)	213.47B	160.34C	251.86A
TP (%)	0.23AB	0.15C	0.23AB
TO (%)	0.31AB	0.32AB	0.30ABC
TD (%)	0.28BCD	0.30BCD	0.32ABC

^{1/} different letter on the horizontal indicate significant difference among clones by the Tukey test at 5% probability; ^{2/} (+) = dark and (-) = light; Source: Paiva et al. (1998).

to producers consists of the formation of a clone garden at the Pacajus Experimental Station, located in the county of Pacajus, CE, and distribution of seedlings to nursery gardens registered with the Ministry of Agriculture to speed the multiplication and distribution of the new cashew clone.

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