***"BRS Gema de Ovo"* – Biofortified 'table' cassava**

Main morphological characteristics

Root	**Characteristics**
Shape	Cylindrical
Skin colour	Dark brown
Flesh colour	Yellow
Cortex colour	Cream
Aerial parts	**Characteristics**
Terminal bud colour	Purplish-green
Terminal branches' colour	Green
Petiole colour	Red
Lobe shape	Lanceolate
Stem colour	Dark brown

Technical recommendations

This variety is recommended for planting under conditions such as those found in the *Recôncavo Baiano* and the *Tabuleiros Costeiros*, similar to Cruz das Almas, Bahia. These areas present an annual rainfall of around 1,200 mm, concentrated throughout April to August, an average annual temperature of 24°C and relative humidity of around 80%. The predominant soils are of the yellow *latosol* type.

The planting should take place at the beginning of the rainy season, using selected cassava cuttings of approximately 20 cm in length. The field must be kept clean for at least the first 120 days after planting.

By associating root yield data with quality, this variety is recommended for harvesting between 8 and 13 months after planting. By using irrigation and fertilization, harvesting can take place earlier, from six months of age.

"BRS Gema de Ovo"

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Introduction

The project to develop cassava germplasm for different Brazilian ecosystems and uses, led by *Embrapa Mandioca e Fruticultura* and implemented in partnership with several of the country's research and teaching institutions, has as one of its objectives the broadening of the genetic base of cassava for fresh consumption.

The first step to meet this demand was taken in 1994, with the formation of a germplasm bank of 'table' cassava, also known as sweet cassava, *macaxeira* or *aipim*, in the Experimental Area of *Embrapa Mandioca e Fruticultura*. Currently, the collection includes 130 accesses, obtained in the Brazilian Northeast or originating from the breeding program.

From 2001, research was carried out to identify and develop varieties of cassava with higher nutritional value, especially with higher levels of beta-carotene (precursor of vitamin A) in yellow-coloured roots.

The qualitative and quantitative evaluation and characterization of this material allowed for the selection of some varieties with higher levels of beta-carotene in the roots, high yield potential and quality for the fresh cassava market; from which the *BRS Gema de Ovo* (Klainasik) variety stood out.

Origin, yield and adaptation

The *BRS Gema de Ovo* variety originates from the state of Amazonas, having been initially collected and introduced into the Germplasm Bank for the Eastern Amazon in the city of Belém, Pará and, later, to the Cassava Germplasm Bank of *Embrapa Mandioca e Fruticultura*, where it received the code BGM 1153.

In experiments undertaken under the conditions of the municipality of Cruz das Almas, Bahia, in 2002 and 2003, this variety yielded 28.3 t/ha of roots and 11.4 t/ha of dry matter, at 12 months of age. The experiments were established in randomized blocks, and repeated six times. The cooking time was of 10 minutes. The cooked dough presented an intense yellow coloration, an absence of fibres and plastic consistency.

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In 2003 and 2004, the variety's growth curves were determined for the purposes of potential yield and root quality. Between the sixth and the thirteenth month after planting, the *Gema de Ovo* variety showed a varying root yield of 12 t/ha to 40 t/ha, with maximum yield at 12 months of age. The dry matter content in roots varied from 33.8 t/ha at 6 months and 41.6 t/ha at 13 months. The beta-carotene content in roots, determined by the HPLC method, were of around 3.38 μg/gram, at 8 and 10 months, based on fresh matter.

With respect to its qualitative characteristics, this variety presented between 40 to 50 ppm of HCN in the raw roots and a cooking time of 10 to 20 minutes in roots 6 to 13 months old. The lowest cooking time (10 minutes) was observed in roots of 12 months. The cooked dough presented intense yellow coloration, characteristic flavour, absence of fibres, fine texture and plastic consistency.

This variety is recommended for use in the production of fine yellow cassava flour or *copioba* flour, without the need to use dyes, which are normally used to give a yellow colour to the product.