Some interesting cassava cultivars:

9 – ICB 300

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Abstract

ICB 300 is an interspecific hybrid produced by crossing cassava with the wild relative *M. oligantha*. It exhibits vigorous vegetative growth apparently due to hybrid vigor. The most striking feature of this hybrids is its high protein content reaching 4.5% compared to 1.5% in cassava case of using Keldahl method. In addition, it is rich in amino acids not found in common cassava which are Arginine and Lysine. It is used for consumption as flour. Productivity of root is high, reaching 25 t/ha in moderate soil fertility.

Key words

*Manihot oligantha*, cassava, interspecific hybrid, protein content, amino acids.

Introduction

ICB 300 is a cassava cultivar used for consumption as flour. It is an interspecific hybrid of cassava with *M. oligantha* Pax & K.Hoffm (Nassar, 1977, 2008), produced in the decade 1980s (Nassar and Dorea, 1982) through an IDRC-CNPq project. This cultivar possesses high protein content reaches 4.5% (Nassar and Souza, 2007) compared to 1.5% in relation to common cassava cultivars in case of using Keldahl method. It is rich also in essential amino acids which scarce in common cassava such as Arginine and Lysine. Apparently this high protein content came from its wild parent which has protein content in root about 9%. HCN in this cultivar ranges from 90 to 110 mgm/kg.

Root productivity is high as 25 t/ha in moderate fertile soil. The only limitation of this cultivar advantages is slightly difficulty of stalk germination if propagation undertaken after rainfall season begins. This character came from the wild parent which passes through period of dormancy in months June-August in Central
Brazil. Cuttings are available with the Experimental Biological station, Universidade de Brasilia, Brasilia.

Cultivar botanical description ICB 300

This characterization follows the botanical description of *Manihot* spp. according to Rogers and Appan (1973) and Rogers and Fleming (1973). Shrub semi-erect to decumbent, ca. 1.5–2.5 m tall (Fig. 1A); 2–3 lateral stems leaving from 20–30 cm of base, diameter 2–3 (-5) cm; branches di-trichotomous and decumbent, young stems green (Fig. 1B), rare reddish in floral stems and glaucus greenish-grey in mature, with abundant latex; stems with moderate to strong petiole scars (Fig. 1D), cortex green-yellow and xylem cream. Leaves membranaceous alternates (Fig. 1B, C), strong green adaxial face and glaucous in abaxial face, glabrous in both faces; variably palmate-lobate (Fig. 1E), normally 3–6-lobate (Fig. 1B), narrowly oblanceolate to ovate-lanceolate, rare 7 lobate, all simple leaves in inflorescence base (Fig. 1C); apex acuminate; petioles cylindric (3-) 10–15 (-18) cm long, base smoothly attachment, green in young and reddish in mature, moderate decumbent, glabrous or sparsely pubescent; stipules caduceus, entire or moderate bipartite, lanceolate to attenuate, 15–25 (-30) mm long, clear green, fine pubescent; apical leaves and end branches green. Inflorescence, medium terminal panicle with 2–3 raceme leaving same basal point, 11–14 (-18) mm long; bracts and bracteoles quickly caduceus, linear-lanceolate; pistilate flowers yellow-greenish and green-yellow with reddish pigmentation on base staminate flowers. Fruit globose to semi-conical, glabrous, with small and reddish pigmented wings; peduncle cylindrical, red-greenish. Seed and caruncle not observed. Roots, long cylindrical to conical (Fig. 1F), numerous, ca. 40–60 cm long and 3–4 (-5) cm diameter, without peduncle and narrowly constrictions; dark-brown periderm; cortex and pulp white (Fig. 1G).
Table 1: Amino acid content in *Manihot esculenta* Crantz cultivar ICB300. From Nassar and Souza, Genetics and Molecular Research (2007)

References


