

Registration of Crop Varieties

A Unique Purple Castor (*Racinnus communis* L.) Variety: Hiruy

Getinet Alemaw¹, Girma Tegegne¹ and Eyasu Abraha²

Melkassa Agriculture Research center and Tigray

Agriculture Research Institute, Mekele

Castor (*Ricinus communis* L.) is an industrial oilseed crop native to East Africa probably Ethiopia. It shows maximum genetic variability and distribution in Ethiopia than elsewhere. Castor can be as short as annuals in the low lands and as large as small tree perennial in the highlands. The genetic variability of castor in terms of plant height, branching, leaf color, leaf size, leaf waxiness, leaf indentation, stem thickness, branching, inflorescence height, femaleness, stem color, seed color, seed size and oil content is tremendous. Castor is also cross pollinating species suited to hybrid variety development. Castor is fairly tolerant to inbreeding depression and heterosis for seed yield is low, but hybrid varieties are uniform and early. Most of the castor produced in Russia, USA, Israel, Brazil, China and India comes from hybrid varieties.

In 1999 a unique purple castor population was noticed during a field trip at Adullala near Melkassa. One killo gram of seed was abstained from the farmer, and mass selection for uniformity, top branching and short plant height was initiated immediately. The mass selection continued during 1999 and 2000 designated as GK-Sel-1. GK-Sel-1 was included in the Castor National Variety Test at Arsi Negelle, Melkassa and Mekelle. In 2003, a Verification Test consisting of the standard variety Abaro, local check and GK-Sel-1 was conducted at Arsi Negelle, Melkassa and Mekelle. The new unique purple genotype was released as Castor Variety Hiruy. The morphological and agronomic traits of Hiruy are shown on Table 1.

Table 1. Main Morphological characters of Castor Variety Hiruy.

Characteristics	Value
Cotyledon color	Purple
Leaf Color	Red
Stem color	Light Brown
Leaf lasci	Shallow
Leaf waxiness	Present
Bloom Color	Purple
Plant height in cm	160-180
Leaf shape	Shallow Cub
Stem type of internodes	Elongated
Primary raceme length in cm	35 cm
Branching pattern	Convergent
Spike shape	Conical and very compact
Seed shape	Oval
Capsule color and nature	Brown
Seed cruncle	Conspicuous
Seed Color	Brown
Mottling on the seed	Less Mottling
1000 seed weight in g	450
Days to 50% flowering	35
Days to 50% Maturity	125
Resistant to	
Wilt	Resistant
Rust	Tolerant
Cercospora leaf spot	Tolerant
Seed Yield quintal/ha	15-20
Oil Content % of dry seed	48
Ricinoleic acid content of the Oil	91