PELIPITA | Bananas rich in Pro-Vitamin A Carotenoids

Classification
Ploidy: 3X
Genome: ABB
Subgroup: Pelipita
Clone set: Pisang Kuri
Type: Cooking
Suspected country of origin: Philippines
ITC code: ITC0472

Status
Pelipita is a cooking banana believed to originate from the Philippines, rich in pro-Vitamin A carotenoids with at least 162 µg Retinol Activity Equivalent per 100g when raw (on fresh weight basis). This is estimated to meet 41% of the daily recommended intake of Vitamin A of children under 5 years.

It is being fast-tracked for potential adoption into the agri-food systems of Eastern Africa. It has been assessed on-station and on-farm in Burundi and Eastern Democratic Republic of Congo (DRC). On-station trials are also underway in Tanzania, and Uganda.

Description
* Pelipita has a tall stature. The underlying pseudostem has a predominantly light green colour with purple pigmentation (fig 3)
* The leaf petiole is wide with erect margins that are winged and clasping the pseudostem. The petiole base has small brown blotches (fig 4,5)
* The leaves have an intermediate habit and are dark green with both sides of the base rounded (fig 6)
* The male bud is lanceolate with bracts that have an inner red colour and an outer purple colour. The bract apex is obtuse and split (fig 7)
* The flowers have pink compound and free tepals. The style, filament and anthers are also pink (fig 8)
* The fingers are straight with pronounced ridges and a pointed apex. The fruit apex has the base of the style prominent. The fruit peel is thick and does not peel easily. The peel of mature unripe fruit is green in colour (fig 9)
* The pulp colour of a mature finger (unripe) is light yellow: RHS 9/3 7505U (fig 10)
**Agronomic Performance**

- Characteristics of Pelipita to the left are based on agronomic data from on-station trials in Burundi, North and South Kivu in Eastern DRC
- Values are *averages* of 8-10 plants evaluated from over 3 cropping cycles in each site: Burundi – 2 sites; South Kivu – 3 sites; and North Kivu – 3 sites
- Pelipita takes approximately **4.3 months** from flowering to maturity
- A bunch of Pelipita can weigh up to **24 kg**

**Pro-vitamin A carotenoid Content**

- Pelipita contains **1,734 µg/100g** pro-Vitamin A carotenoids when *raw and unripe* (on fresh weight basis)
- This yields **133 µg to 162 µg Retinol Activity Equivalent** per 100g of which can be estimated to meet 33% to 41% of the daily recommended intake of Vitamin A of children under 5 years (400 RAE µg/day) and 19% to 23% of the daily recommended intake of Vitamin A of adult women (700 RAE µg/day)
- Values are means of three individual samples on fresh weight basis of bunches obtained from North Kivu, DRC
- 100g of banana is approximately one finger.
- The pro-Vitamin A carotenoid content increases as the banana ripens
- As a plantain (cooking type banana), Pelipita can be boiled, fried, roasted, or steamed with or without the peel. It can be cooked when unripe or ripe
- Pelipita was preferred when roasted in Burundi and Eastern DRC with a mean score of 4, a rating of good using a 5 point hedonic scale

<table>
<thead>
<tr>
<th>Agronomic Traits (Average of 8-10 plants for 3 cycles)</th>
<th>Pelipita</th>
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<tbody>
<tr>
<td>Time from flowering to harvest (days)</td>
<td>130.3</td>
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<tr>
<td>Plant height at flowering (cm)</td>
<td>332.8</td>
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<tr>
<td>Pseudostem girth at base at flowering (cm)</td>
<td>82.2</td>
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<tr>
<td>Number of functional leaves at flowering</td>
<td>10.3</td>
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<tr>
<td>Bunch weight (kg)</td>
<td>14.0</td>
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<tr>
<td>Number of hands</td>
<td>5.8</td>
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<tr>
<td>Number of fingers on bunch</td>
<td>57.5</td>
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<tr>
<td>Weight of hand (kg)</td>
<td>2.7</td>
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<tr>
<td>Fruit circumference (cm)</td>
<td>10.8</td>
</tr>
<tr>
<td>Fruit length (cm)</td>
<td>19.6</td>
</tr>
</tbody>
</table>

Fig 10. Finger

**References**

4. IPGRI-INIBAP/CIRAD. 1996. Descriptors for banana (*Musa* spp.). International Plant Genetic Resources Institute, Rome Italy; International Network for the Improvement of Banana and Plantain, Montpellier, France; Centre de coopération internationale en recherche agronomique pour le développement, Montpellier, France.

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