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Grande Naine and Poovan Identification Guide: A Simple Field Keys to Distinguish

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Banana (*Musa* spp.) is an important herbaceous perennial crop cultivated worldwide for its high economic and commercial value. It is considered the largest herbaceous plant, with a pseudostem generally reaching 2–8 m in height, while some wild species can grow up to 10–15 m. The extensive diversity of banana cultivars has created significant challenges in their morphological characterization and taxonomic classification. Furthermore, the use of different local and regional names for same or genetically similar cultivars has resulted in nomenclatural confusion, making accurate cultivar identification and classification difficult for taxonomists, horticulturists, and farmers (Resmi and Nair, 2024). The presence of closely related cultivars with similar morphological features complicates their identification, often leading to confusion among farmers, researchers, and field-level personnel. Therefore, there is a need to identify reliable, easily observable, and distinctive morphological characters that can support the accurate identification of banana varieties by both farmers and the general public. These diagnostic characters can be observed during both the vegetative and reproductive stages of plant growth. However, identification based solely on reproductive traits requires waiting until flowering or bunch emergence, which may delay varietal confirmation. Hence, identifying dependable morphological traits that can distinguish banana cultivars at an early vegetative stage is particularly important for rapid and practical field level identification.

Major uses of Banana

Bananas are extensively cultivated throughout tropical and subtropical regions and are consumed both as fresh fruit and in cooked forms. Bananas are also processed into a wide range of value-added products, including biscuits, chips, baby food, and other value-added products. Beyond the fruit, different parts of the banana plant, including the leaves, pseudostem and rhizome, have diverse use. The plant fresh biomass cane be used as animal fodder, while leaves are traditionally used for serving food and for various household and cultural purposes (Senthilkumar and Gurusamy, 2025). The dried biomass can also be effectively utilized for producing nutrient-rich vermicompost, adding value to banana crop residues and supporting sustainable nutrient recycling.

Types of Banana varieties

Banana (*Musa* spp.) is a member of the family *Musaceae* and genus *Musa*. The genus traditionally been classified into four sections: *Eumusa, Rhodochlamys, Australimusa,* and *Callimusa*. The *Rhodochlamys* and *Callimusa* sections mainly contain ornamental species, whereas species of *Australimusa*, particularly those found in the Pacific region, are also used as cooked vegetables. Among these groups, *Eumusa* is the largest and most geographically widespread section, comprising most of the economically important edible banana cultivars. Therefore, it constitutes the principal group associated with banana cultivation and production.

Although India possess a wide diversity of banana varieties, several important cultivars are widely cultivated and harvested across different states of India. India possesses the second-largest diversity of indigenous banana germplasm in the world. More than 300 banana germplasms have been documented in India, out of approximately 600 germplasms reported worldwide (Meghwal and Jayachandran, 2023)Therefore, having basic knowledge of banana morphology is essential for the identification and differentiation of these cultivars. This article presents the key morphological characteristics useful for identifying the following banana varieties: Grand Nain and Poovan.

Keys for Identifying Banana Varieties

Several vegetative and reproductive characteristics can be used for the reliable identification of banana varieties. These morphological traits provide useful diagnostic features for farmers and researchers to distinguish different cultivars, particularly during field-level identification. Vegetative characteristics include pseudostem colour, degree of waxiness and pubescence, leaf arrangement and orientation, leaf colour, shape and margin characteristics, wax deposition on the leaf sheath, presence or absence of petiole blotches, petiolar canal structure, petiole margin characteristics and pubescence (Karamura, 1999). Male inflorescence characteristics include bract curling behaviour, bract shape and apex morphology, outer and inner bract colour, degree of colour fading, surface waxiness, presence of bract scars on the rachis, peduncle colour, and degree of hairiness. Male floral characteristics are generally assessed based on the morphology and pigmentation of the free tepal, filament and anther colour, style and stigma colour, and ovary shape and colour (Valmayor et al., 2000)**.**

Examples of Cultivar Identification Keys for Two Banana Varieties

1. Grande Naine

Grande Naine is a semi-tall banana cultivar widely cultivated across India, although its cultivation in Tamil Nadu is restricted to a limited area. It is a high yielding cultivar characterized by large bunches, often weighing more than 30 kg. The cultivar can be easily distinguished with dark patches on the pseudostem **(Figure 1)**, which are particularly predominant near the petiole junction (**Figure 2)**. The leaves are closely arranged, with short internodal distance, giving the plant a dense and compact appearance (**Figure 3)**.



Figure 1. Black Blotches in Pseudostem.



Figure 2. Black Blotches in leaf sheath.



Figure 3. Dense arrangement of internodes



Figure 4. Banana plant with Bunch

2.Poovan

The Poovan plant is tall, hardy, and vigorous in growth. Its fruits have a mildly sub-acidic taste, and the average bunch weight ranges from 14 to 18 kg. The cultivar is resistant to *Fusarium* wilt but is highly susceptible to Banana Bract Mosaic Virus (BBrMV) and Banana Streak Virus (BSV) (Meghwal and Jayachandran, 2023). At approximately 1.5 months after planting (MAP), the pseudostem appears a pinkish-green coloration and a waxy surface (**Figure 5**). The adaxial surface of leaf midrib is also pinkish-green, while the leaf margins display a distinct pink coloration. The petiole is pink, has an open configuration. Blotches are visible on the upper surface of young leaves. Compared with Grande Naine, Poovan exhibits greater spacing between successive leaf nodes (**Figure 6**).



Figure 5. Waxy Pseudostem.



Figure 6. Long internodal spacing



Figure 7. Banana plant with Bunch.

Conclusion

Banana varieties exhibit variations in their morphological characteristics during the juvenile growth stage, which may differ considerably from those expressed at maturity. Systematic identification of key morphological traits at 1.5, 3, 5, 7, 9, and 11 MAP, extending up to harvest, facilitates the early identification of banana cultivars with greater accuracy.

References

1. Resmi, L.A.S. and Nair, A.S. (2024). Morphological diversity of South Indian banana cultivars.
2. Meghwal, M. and Jayachandran, A. (2023). Advances in production technology of banana.
3. Karamura, D. A. (1999). Numerical taxonomic studies of the East African highland bananas (Musa AAA-East Africa) in Uganda.
4. Senthilkumar, S., & Gurusamy, P. (2025). An insightful study on the export performance of bananas and the challenges faced by exporters in india **2**(03):5–20.
5. Valmayor, R. V, Jamaluddin, S. H., Silayoi, B., Kusumo, S., Danh, L. D., Pascua, O. C., and Espino, R. R. C. (2000). Banana cultivar names and synonyms in Southeast Asia. Advancing Banana and Plantain R & D in Asia and Pacific. 55.