Key access and utilization descriptors for Banana genetic resources

This list consists of an initial set of characterization and evaluation descriptors for banana utilization. This strategic set of descriptors, together with passport data, will become the basis for the global accession level information system being developed by the Bioversity-led project, Global Information on Germplasm Accessions (GIGA). It will facilitate access to and utilization of banana accessions held in genebanks and does not preclude the addition of further descriptors, should data subsequently become available.

Based on the comprehensive 'Descriptors for Banana' published by IPGRI (now Bioversity International) CIRAD and INIBAP in 1996, the list was subsequently compared with descriptors highlighted as most important in the Global Public Goods 4.2.1.1 exercise, and those for which data were available. Results were subsequently compared with descriptors suggested in 'Global Conservation Strategy for Musa (Banana and Plantain)' (GCDT, 2006), particularly with regards to the inclusion of evaluation traits such as important pests and diseases, as well as those that were awarded funds for further research by the Global Crop Diversity Trust 2008 Evaluation Award Scheme (EAS).

This minimal set defines a first priority set of descriptors to describe, to access and utilize Musa genetic resources. A worldwide distribution of experts involved in an online survey was assured and the list was afterwards validated by a smaller group of scientists from Bioversity International, France (see Contributors).

Biotic and abiotic stresses included in the list were chosen because of their wide geographic occurrence and significant economic impact at the global level.

Numbers in parentheses on the right-hand side are the corresponding descriptor numbers listed in the 1996 descriptors.

Pseudostem height [m] (6.2.1)
1 ≤2 m
2 2.1 to 2.9 m
3 ≥3 m

Peduncle hairiness (6.4.5)
1 Hairless
2 Slightly hairy
3 Very hairy, short hairs (similar to velvet touch)
4 Very hairy, long hairs (>2 mm)

Bunch position (6.4.6)
1 Hanging vertically
2 Slightly angled
3 Hanging at angle 45°
4 Horizontal
5 Erect

Bunch shape (6.4.7)
- 1   Cylindrical with the bunch length ≥ to twice its diameter
- 2   Truncated cone shape
- 3   Asymmetric - Bunch axis is nearly straight
- 4   With a curve in the bunch axis
- 5   Spiral
- 6   Cylindrical with the bunch length <to twice its diameter

Number of fruits on second hand (6.7.2)
- 1   ≤12
- 2   13-16
- 3   ≥17

Fruit length [cm] (6.7.3)
- 1   ≤15 cm
- 2   16- 20 cm
- 3   21- 25 cm
- 4   26- 30 cm
- 5   ≥31 cm

General fruit shape (6.7.4b)
- 1   Rounded (length and breadth almost equal)
- 2   Slender (length > six times breadth)
- 3   Gourd shaped (length ≤ six times breadth)
- 99   Other (specify in descriptor Notes)

Fruit apex (6.7.6)
- 1   Pointed
- 2   Lengthily pointed
- 3   Blunt-tipped
- 4   Bottle-necked
- 5   Rounded

Remains of flower relicts at fruit apex (6.7.7)
- 1   Without any floral relicts
- 2   Persistent style
- 3   Base of the style prominent
- 4   Persistent style and staminode

Predominant taste (6.7.22)
- 1   Astringent (like cooking banana)
- 2   Mild, slightly tasty or tasteless
- 3   Sweet (like Cavendish)
- 4   Sugary (like 'Pisang Mas')
- 5   Sweet and acidic (apple like)
- 99   Other (specify in descriptor Notes)

Plant crop cycle [d] (7.4)
From planting to harvest

Bunch weight [kg] (7.9)
Bunch stalk (peduncle) is cut above the first hand at the level of the last scar and immediately below the last hand

Number of hands (7.10)

Abiotic stresses

Drought (8.2)

Biotic stresses

Black sigatoka (*Mycosphaerella fijiensis*) (9.1.2)

Fusarium wilt (*Fusarium oxysporum* f.sp. *cubense*) (9.1.3)
Specify VCG[1] group if known

Burrowing nematode (*Radopholus similis*) (9.2.1)

Weevil borer (*Cosmopolites sordidus*) (9.2.4)

Notes
Any additional information may be specified here.

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[1] Vegetative Compatibility Groups.

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