Banana leaf

The leaf is the banana plant's main photosynthetic organ. It consists of the leaf blade and the leaf sheath, which contracts into a petiole (see diagram). The petiole becomes the midrib, which divides the blade into two lamina halves. Lamina veins run parallel to each other in a long S shape from midrib to margin. Veins do not branch, which results in leaves tearing easily.

Contents

- Leaf development
- Descriptors
- References

Leaf development

The leaf is formed by the apical meristem on the rhizome and emerges from the center of the pseudostem as a rolled cylinder, the cigar leaf. The cigar leaf is tightly coiled, whitish, and particularly fragile. The time taken to unfurl varies. Under favourable climatic conditions, it takes about seven days, but it can take up to 15 to 20 days under poor conditions. The cigar leaf slips into the petiole canal of the preceding leaf, grows and then unfolds. This process has been devided into five stages by Brun[1].

Stage A: The cigar leaf is still joined to the previous leaf.

Stage B: The cigar leaf has grown but has not yet reached its full length.

Stage C: The cigar leaf is completely free, has reached its full length and its diameter has increased.

Stage D: The left-hand side has unfurled and the apex is opening up.
Stage E: The upper part of the leaf has unfurled and the base is in an open cone shape.

Descriptors
List of the leaf-related descriptors used to characterize banana plants[2].

6.1.1 Leaf habit
1. Erect
2. Intermediate
3. Drooping
4. Other (e.g. very drooping)

6.1.2 Dwarfism*
(The leaf ratio should be measured on the third leaf, counting from the last one that emerged.)
1. Normal: leaves do not overlap and leaf ratio is superior to 2.5
2. Dwarf type: leaves strongly overlap and leaf ratio is inferior to 2.5
*Note that in the print version of Descriptors for Banana the words superior and inferior have been inverted by mistake.

6.2.7.b Sap dripping upon cutting the petiole
1. No dripping
2. Drips

6.3.1 Blotches at the petiole base
1. Sparse blotching
2. Small blotches
3. Large blotches
4. Extensive pigmentation
5. Without pigmentation

6.3.2 Blotches colour
1. Brown
2. Dark brown
3. Brown-black
4. Black-purple
5. Other

6.3.3 Petiole canal of third leaf
(Counting from the last leaf produced before flowering. Cut the petiole in the middle (halfway between the pseudostem and leaf blade) and examine the cross section.)
1. Open with margins spreading
2. Wide range with erect margins
3. Straight with erect margins
4. Margins curved inward
5. Margins overlapping

6.3.4 Petiole margins
1. Winged and undulating
2. Winged and not clasping the pseudostem
3. Winged and clasping the pseudostem
4. Not winged and clasping the pseudostem
5. Not winged and not clasping the pseudostem

6.3.5 Wing type
1. Dry
2. Not dry

6.3.6 Petiole margin colour
1. Green
2. Pink-purple to red
3. Purple to blue
4. Other

6.3.7 Edge of petiole margin
1. Colourless (without a colour line along)
2. With a colour line along

6.3.8 Petiole margin width
1. <1 cm
2. >1 cm
3. Cannot be defined

6.3.9 Leaf blade length
(measured at its maximum point)

1. <170 cm
2. 171 to 220 cm
3. 221 to 260 cm
4. >261 cm

6.3.10 Leaf blade width
(measured at its maximum point)
1. <70 cm
2. 71 to 80 cm
3. 81 to 90 cm
4. >91 cm

6.3.10.1 Leaf ratio
3. <2
5. 2.4 to 2.6
7. >3

6.3.11 Petiole length
1. <50 cm
2. 51 to 70 cm
3. >71 cm

6.3.12 Colour of leaf upper surface
1. Green-yellow
2. Medium green
3. Green
4. Dark green
5. Dark green with red purple (presence of large red-purple blotches)
6. Blue
7. Other

6.3.13 Appearance of leaf upper surface
1. Dull
2. Shiny

6.3.14 Colour of leaf lower surface
(wax removed)
1. Green-yellow
2. Medium green
3. Green
4. Dark green
5. Blue
6. Red-purple
7. Other
6.3.15 Appearance of leaf lower surface
1. Dull
2. Shiny

6.3.16 Wax on the lower surface of the leaves
1. Very little or no visible wax
2. Little wax
3. Moderately waxy
4. Very waxy

6.3.17 Insertion point of leaf blades on petiole
1. Symmetric
2. Asymmetric

6.3.18 Shape of leaf base
1. Both sides rounded
2. One side rounded, one pointed
3. Both sides pointed

6.3.19 Leaf corrugation
(presence of ridges perpendicular to the secondary ribs (veins) on the leaf upper surface)
1. Even, smooth
2. Few stripes
3. Corrugated

6.3.19.b Leaf tips
(The twisting of the tip of the leaf lamina should not be confused with the small thread-like "precursory appendage" that is always present and often twisted.)
1. Not twisted
2. Twisted

6.3.20 Colour of midrib dorsal (lower) surface
(if pigmentation is visible on the midrib, select option 4,5 or 6)
1. Yellow
2. Light green
3. Green
4. Pink-purple
5. Red-purple
6. Purple to blue
7. Other

6.3.21 Colour of midrib ventral (upper) surface
(if pigmentation is visible on the midrib, select option 4, 5 or 6)
1. Yellow
2. Light green
3. Green
4. Pink-purple
5. Red-purple
6. Purple to blue
7. Other

6.3.22 Colour of cigar leaf dorsal surface
(visible face of the cigar leaf before it unfurls and before the plant flowers)
1. Green
2. Red-purple
3. Other

References

   musicola Leach., Univ. Orsay, These, Paris, France.
2. IPGRI, INIBAP, CIRAD. 1996. Descriptors for Banana (Musa spp.). IPGRI, Rome, Italy; INIBAP, Montpellier,
   France; CIRAD, France. 55 pp.

Contributors to this page: Anne Vézina.
Page last modified on Tuesday, 02 June 2020 08:23:13 CEST by Anne Vézina.
The original document is available at http://www.promusa.org/Banana+leaf