

Key access and utilization descriptors for taro genetic resources

This list consists of an initial set of characterization and evaluation descriptors for taro utilization. This key set of strategic 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 taro accessions held in genebanks, and does not preclude the addition of further descriptors, should data subsequently become available.

Based on the comprehensive list of 'Descriptors for Taro (*Colocasia esculenta*)' (IPGRI, 1999), this minimal set, listed below with the original descriptor states, was developed in consultation with taro experts worldwide, and further refined by a Core Advisory Group (see 'Contributors') led by Dr Danny Hunter of Bioversity International.

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

The numbers in parentheses on the right-hand side are the corresponding descriptors numbers as published in the publication 'Descriptors for Taro (*Colocasia esculenta*)' (IPGRI, 1999).

Number of stolons (side shoots) (7.1.3)

- | | |
|---|-------|
| 0 | None |
| 1 | 1–5 |
| 2 | 6–10 |
| 3 | 11–20 |
| 4 | >20 |

Number of suckers (direct shoot) (7.1.4)

- | | |
|---|--------|
| 0 | Absent |
| 1 | 1–5 |
| 2 | 6–10 |
| 3 | 11–20 |
| 4 | >20 |

Leaf blade colour (7.2.4)

Observed on fully expanded and mature leaves

- | | |
|---|------------------------|
| 1 | Whitish |
| 2 | Yellow or yellow green |
| 3 | Green |
| 4 | Dark green |
| 5 | Pink |
| 6 | Red |
| 7 | Purple |

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- 8 Blackish (violet–blue)
- 99 Other (specify in the **Notes** descriptor)

Petiole junction colour (7.2.9)

Observed on the upper side

- 0 Absent
- 1 Yellow
- 2 Green
- 3 Red
- 4 Purple
- 99 Other (specify in the **Notes** descriptor)

Leaf main vein colour (7.2.11)

Observe the upper side of leaf blade, beyond junction

- 1 Whitish
- 2 Yellow
- 3 Orange
- 4 Green
- 5 Pink
- 6 Red
- 7 Brownish
- 8 Purple
- 99 Other (specify in the **Notes** descriptor)

Petiole colour (7.2.14)

Colour of top third (7.2.14.1)

- 1 Whitish
- 2 Yellow
- 3 Orange
- 4 Light green
- 5 Green
- 6 Red
- 7 Brown
- 8 Purple
- 99 Other (e.g. 'bronze', black; specify in the **Notes** descriptor)

Colour of middle third (7.2.14.2)

Same colours as for 7.2.14.1

Colour of basal third (7.2.14.3)

Same colours as for 7.2.14.1

Petiole basal-ring colour (7.2.16)

- 1 White
- 2 Green (yellow green)
- 3 Pink
- 4 Red
- 5 Purple
- 99 Other (specify in the **Notes** descriptor)

Flower formation (7.3.1)

- 0 Absent
- 1 Rarely flowering (less than 10% of plants flowering)
- 2 Flowering (more than 10%¹ of plants flowering)

Corm branching (7.5.3)

- 0 Unbranched
- 1 Branched

Corm shape (7.5.4)

- 1 Conical
- 2 Round
- 3 Cylindrical
- 4 Elliptical
- 5 Dumb-bell
- 6 Elongated
- 7 Flat and multifaced
- 8 Clustered
- 9 Hammer-shaped
- 99 Other (specify in the **Notes** descriptor)

Corm flesh colour of central part (7.5.7)

- 1 White
- 2 Yellow
- 3 Orange
- 4 Pink
- 5 Red
- 6 Red–purple
- 7 Purple
- 99 Other (e.g. if colour is not uniform—blotches of lighter or darker pigmentation—specify in **Notes** descriptor)

1 10% is considered to be the level of frequent flowering.

Dry matter content of corms [mg/100 g DM] (8.1.2)

At short storage (<1 week)

Corm acidity [mg/100 g DM] (8.1.5)

- | | | |
|---|--------------|------------|
| 1 | Very low | ≤50 mg |
| 2 | Low | 51–100 mg |
| 3 | Intermediate | 101–300 mg |
| 4 | High | >300 mg |

Palatability (8.1.7)

Taste panel test

- | | |
|---|------|
| 3 | Bad |
| 5 | Fair |
| 7 | Good |

Plant maturity (earliness) (8.3.1)

- | | |
|---|----------------------------------|
| 1 | Very early (<4 months) |
| 2 | Early (4 to 6 months) |
| 3 | Intermediate (6 to 8 months) |
| 4 | Late (8 to 10 months) |
| 5 | Very late (>10 months) |
| 6 | Undetermined growth (wild types) |

Reaction to drought (9.2)

Scored under natural conditions during day period for at least four weeks

Reaction to soil salinity (9.4)

Stress susceptibility to Taro leaf blight (*Phytophthora colocasiae*) (10.2.1)

Notes

Any additional information may be specified here, particularly that referring to the category 'Other' present in some of the descriptors above.

CONTRIBUTORS

Bioversity is grateful to all the scientists and researchers who contributed to the development of this strategic set of key access and utilization descriptors for taro genetic resources. The following Bioversity staff contributed to this exercise: Danny Hunter, who provided scientific direction, and Adriana Alercia who provided technical expertise and guided the whole production process.

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