Key access and utilization descriptors for wheat genetic resources

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

Based on the comprehensive 'Revised Descriptor List for Wheat (*Triticum* spp.)' (IBPGR, 1985), this set, listed below with the original descriptor states, was developed in consultation with a Core Advisory Group (see 'Contributors') led by Michael Mackay 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 'Revised Descriptor List for Wheat (*Triticum* spp.)' (IBPGR, 1985).

Growth class (seasonality) (4.1.1)

1 Winter
2 Facultative (intermediate)
3 Spring

Plant height [cm] (4.1.2)

Height of plant at maturity, measured in cm from ground to top of spike, excluding awns

Days to flower (4.2.1)

Counted as days from sowing to 50% of plants in flower. However, when planting in dry soils in dryland areas it is counted from the first day of rainfall or irrigation which is sufficient for germination.

Spike density (4.2.2)

A visual measure of the density of a spike measured on a 1–9 scale
(N.B. spike density is not the same as spike shape.)

1 Very lax
3 Lax
5 Intermediate
7 Dense
9 Very dense

Awnedness (4.2.3)

0 Awnless
3 Awnletted (short awns)
7 Awned (conspicuous awns)

Glume colour (4.2.4)

Observed on the outer glume

1 White
2 Red to brown
3 Purple to black

Glume hairiness (4.2.5)

Measured on outer side of sterile glume

0 Absent
3 Low
7 High

Seed colour[1] (4.3.1)

1 White
2 Red
3 Purple

Tolerance to drought (7.4)

Coded on a 1–9 scale, where:

3 Low susceptibility
5 Medium susceptibility
9 High susceptibility

Tolerance to salinity (7.7)

Coded on a 1–9 scale, where:

3 Low susceptibility
5 Medium susceptibility
9 High susceptibility

1 If this is difficult to decide then the sodium hydroxide test can be used. Place grains in a petri-dish and add 25 ml of a 5% solution of NaOH for 60–90 minutes. Original red grains will be dark brownish orange, and white grains will be straw yellow

Susceptibility to stem rust (*Puccinia graminis*) (8.2.2)

Coded on a 1–9 scale, where:

3 Low susceptibility
5 Medium susceptibility
9 High susceptibility

Notes

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

CONTRIBUTORS

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