



Expansion of the GCP Crop Ontology with Musa (Bananas and Plantains) Anatomy and Trait Ontology



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- The GCP Crop Ontology (CO) compiles validated concepts along with their inter-relationships on anatomy, structure and phenotype of crops, on trait measurement methods & scales, on germplasm with the multi-crop passport terms.
- The CO aims at standardizing the representation of crop traits and trait-attributes (definition, measurement methods, scales) across crop species and databases <http://www.cropontology-curationtool.org/>.
- The *Musa* ontology is part of CO and currently contains **173** traits on morphology, agronomy, and biotic & abiotic stress.

A. Musa Anatomy Ontology

B. Musa Trait Ontology

- New *Musa* terms submitted to the Plant Ontology (PO) (<http://www.plantontology.org/>) which describes plant anatomical and morphological structures & growth and developmental stages for all plants. The goal is to establish a semantic framework for meaningful cross-species queries across gene-expression and phenotype datasets from plant genomics and genetics research. The crop ontology contributes additional terms missing in PO.
- New *Musa* terms were presented by the PO Coordinator during the workshop on Plant Ontology in the Plant and Animal Genomic Conference XVIII (PAG), San Diego, US – 2011.

Future activity - Adding Photos, Measurement methods, Scales

Annotating morpho-taxonomic & agronomic data in the Musa Germplasm Information System (MGIS)

Global evaluation of Musa germplasm for resistance to Fusarium wilt, Mycosphaerella leaf spot diseases and nematodes
Jean Carlier, Dirk De Waele and Jean-Vincent Escalant

Accessing the recommended measurement method

Accessing the recommended measurement method

Reference

Shrestha R, Arnaud E, Mauleon R, Senger M, Davenport GF, Hancock D, Morrison N, Bruskiewich R, and McLaren G. Multifunctional crop trait ontology for breeders' data: field book, annotation, data discovery and semantic enrichment of the literature. [Aob Plants\(2010\) Vol. 2010 plq008](http://www.plants2010.org/) first published online May 27, 2010 doi:10.1093/aobpla/plq008.

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