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A core collection of modified strawberry germplasm as a resource tool for fungi infection and fruit texture studies.

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Strawberry has been extensively used as a model organism for functional genomics of genes related with fungi infection (Amil-Ruiz et al, 2011) and fruit ripening, specially fruit texture (Posé et al, 2011). These studies implied the genetic transformation and subsequent characterization of a wide range of traits, resulting in a considerable number of lines being created and more or less extensively studied.

A preliminary data survey was performed previous publications, laboratory notebooks and project reports. Main categories and the relevant features (like cultivar, transgene sequence, germplasm availability, plant phenotype, experiment results, etc) were identified, establishing the appropriate relationships. The project followed the Chado schema used by the GMOD initiative <http://www.gmod.org>.

The germplasm collection currently hosts two strawberry cultivar (Camarosa and Chandler), nine transgenic lines with resistance genes against fungi infections and over a dozen for fruit texture related genes. Collected information includes in vitro and in planta leaf symptomatology and fungus spore germination, as well as gene expression for each transgene, plant production, fruit color, shape and firmness. Data on cell wall fractionation, pectin and soluble sugars quantification, FT-IR and size exclusion chromatography, AFM pectin structure characterization and Immunohistological analysis.

The intrinsic value of these studies makes necessary to preserve both the germplasm and the data generated, and to make it available to the community for further study and reuse. Community driven formats will facilitate the use of the data in new studies. The present project aims to increase the value of the transgenic strawberry plants in the collection, using standard data formats and open source tools to facilitate access to the research and breeding communities as well as to facilitate the distribution of the germplasm.