Miscellanea of didactic material for the training courses on improved genotyping[1]
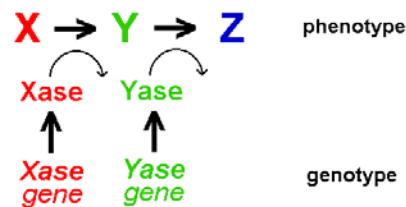
ASTRACT

The document contains a textbook with the material for improved genotyping training. The booklet is divided in several chapters, as for the Table of contents therein, and four sections. It includs futher references and link to tuorial. The four sections are: 1) Genetic background, 2) Germplasm conservation, evaluation and utilization (breeding), 3) Molecular procedures and tools, and 4) Statistics and bioinformatics.

Audiance: The material is addressed to be a reference as a general base of knowledge for young researchers and scientists with a new blend of applied and fundamental R&D skills required to (a) further improve the selection and breeding of organic crops (b) apply breeding and agronomic methodologies/approaches developed in the project to other crops and/or (c) contribute to transferring technologies developed into commercial practice. This training material will used in part as a references in the workshops developed by ECOBREED project in accord with the different needs of the workshops.

Keywords Genotyping, molecular methods, selection, transcriptome, statistics, bioinformatics

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TOPICS BY AUTHORS

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What is Genotyping?	Mario A. Pagnotta Barbara Pipan
Overview of Quantitative Genetics.	Mario A. Pagnotta
Population genetics and HW equilibrium	Mario A. Pagnotta
Genetic resources and their conservation	Mario A. Pagnotta
Comparison among methods and statistical software packages to analyze germplasm genetic diversity by means of codominant markers	Mario A. Pagnotta
Trait selection in agriculture	Barbara Pipan Vladimir Meglič
DNA extraction methods	Barbara Pipan
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Gel electrophoresis	Ljiljana Kuzmanović
Markers and Molecular Tools	Mario A. Pagnotta
HRM High-Resolution Melting	Paola Forte
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MAS for bunt resistance	Hermann Bürstmayr Magdalena Ehn
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Sequences	Aleš Sedlar
Genotyping by Sequence	Marina Ćeran
Genomic selection in R	Marina Ćeran
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Fluorescent In situ hybridization - FISH or GISH	Paola Forte
Transcriptomics and its applications	Ljiljana Kuzmanović
Transcriptomics – biological interpretation of gene expression data	Aleš Sedlar
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TASSEL 3.0 Genotyping by Sequencing (GBS) pipeline documentation	Marina Ćeran
Tassel Association	Marina Ćeran
Data science in R	Aleš Sedlar
Statistical tests (Mean, St dev, Variance, correlation, ANOVA, etc.).	Mario A. Pagnotta
What is Bioinformatics? Manage sequences	Silvia Turco
Bioinformatics resources	Aleš Sedlar