DROPS training course

Phenotyping for drought tolerance

Hotel Savoia, Bologna (4/3/2015)

9:00 – 9:10. Welcome (R. Tuberosa) and introduction (F. Tardieu).

9:10 – 10:30. Root system architecture and growth.
- Characterization of root system for water uptake (X. Draye and G. Hammer).
- Phenotyping methods (X. Draye).
- How the root system is taken into account in current models (X. Draye and G. Hammer).
- Discussion.

10:30 – 10:50. Coffee break

10:50 – 12:50. Leaf growth, leaf area, light interception, transpiration.
- Leaf area, leaf interception and transpiration (F. Tardieu).
- Phenotyping methods: platforms, field with proxies, field with UAVs. (F. Tardieu and audience).
- Computer exercise based on the APSIM excel sheet: changing the sensitivity of leaf growth to water deficit under different scenarios (B. Parent and S. Lacube).
- Discussion.

12:50 – 13:50. Lunch

13:50 – 15:50. Canopy temperature and transpiration.
- Canopy temperature as the result of energy balance. Causes of variation, spatial variability (F. Tardieu).
- Phenotyping methods (hand, UAVs). (G. Hammer and X. Draye).
- Computer exercise with different causes of variation of canopy temperature (roots and stomata). Relations with yield in both cases under contrasting scenarios (G. Hammer).
- Discussion.

15:50-16:00. Concluding remarks. F. Tardieu.