Ontologies for Agronomic Traits
8-9th December 2011 Cambridge, UK
UK Network for Arabidopsis and wider plant community

• Ensure the community remains competitive and productive
• Help researchers make the best use of available funds
• Act as an information hub
• Provide a contact point for researchers and funding agencies
  • http://www.garnetcommunity.org.uk/
• UK Plant Sciences Federation
  • http://www.plantsci.org.uk
• Ever-increasing amount of sequence data being generated has resulted in a gap between the physical genome information and the quantitative information regarding phenotypes and traits.

• Application of quantitative genetic information by researchers and breeders is limited by a lack of standardisation in the nomenclature used to describe both crop development and agronomic traits.

• Hard to compare QTL and association studies for systematic transfer of knowledge between genotype and phenotypes.
Workshop Deliverables

• Illustrate a number of key uses cases utilising ontologies

• Consider the establishment of a UK Crop Ontology Network

• Promote interactions across current international projects
Cambridge Workshop 2011

- Around 30 attendees from across the globe
- Scientists, breeders, ontology experts
- 14 talks - http://transplantdb.eu/node/68
- Capabilities and limits of current ontologies
- Future developments and areas of need
Outcomes / Actions

- **Improve current ontologies for UK/EU crops**
  - Growth stages for wheat and OSR need to be added into current ontologies
  - Cereal anatomy ontologies need extending for barley and wheat
  - Hold a workshop in Oregon with the PO team

- **Improve community uptake and use**
  - Build up examples of use cases - ongoing
  - Create working groups for wheat, barley, OSR and leafy veg - ongoing

- **Widen participation and involvement**
  - Presentations at UK meetings ‘to spread the word’
  - Involve crop modellers, environmentalist scientists and soil scientists
  - Future UK/EU workshop
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Outcomes/Actions

• **Make best use of funding and resources**
  - Build upon expertise at PO and GCP
  - Promote collaboration across large projects e.g. EPPN, transPlant

• **Areas for future development**
  - Plant Pathology and Disease
  - Metabolic Pathways and Metabolism
  - Study Design & Metadata - Essential for reproducibility and comparison of experiments
  - Environmental Ontologies – Need to get an agreed minimal set of information such as time of day, duration of experiment, geographical location, light intensity, light quality, rooting medium, nutrients etc etc