



Investigating the Genetic Control of Quality Traits in Broccoli.

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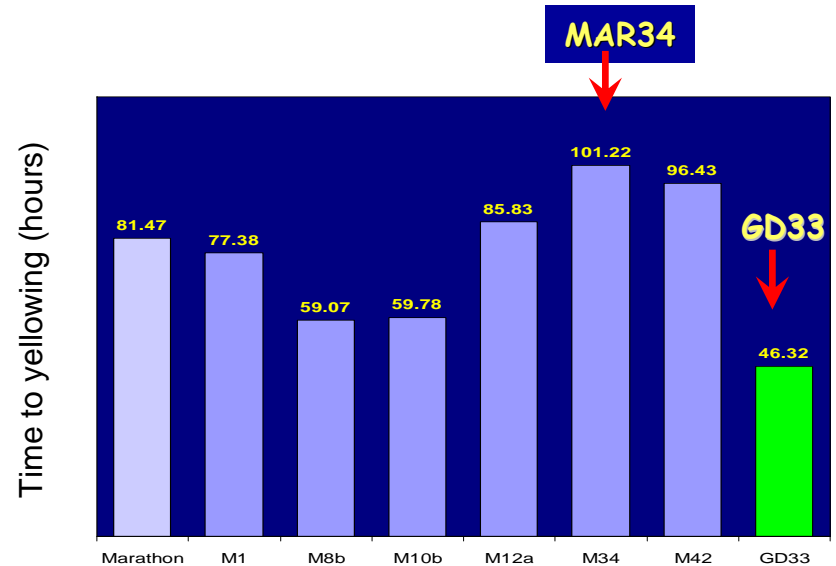


Project Aims

- 1. Identify and map QTL linked to a range of quality traits.**
 - a. Shelf Life
 - b. Nutrient Content
 - c. Stability of nutrients during storage.
 - d. Head Morphology
- 2. Analyse nutrients and potential flavour attributes**
 - a. Global metabolome analysis
 - b. Key Nutrients
- 3. Fine scale mapping of QTL for potential gene identification.**

Introduction- The Shelf Life Problem in Broccoli.

- **Short and unpredictable shelf life.**
 - Head yellowing
 - Softness and wilting
 - Unfit for retail
- **Unstable metabolite content.**
 - Reduced nutritional content during storage
 - Reduced Flavor
- **Both determined by genotype.**



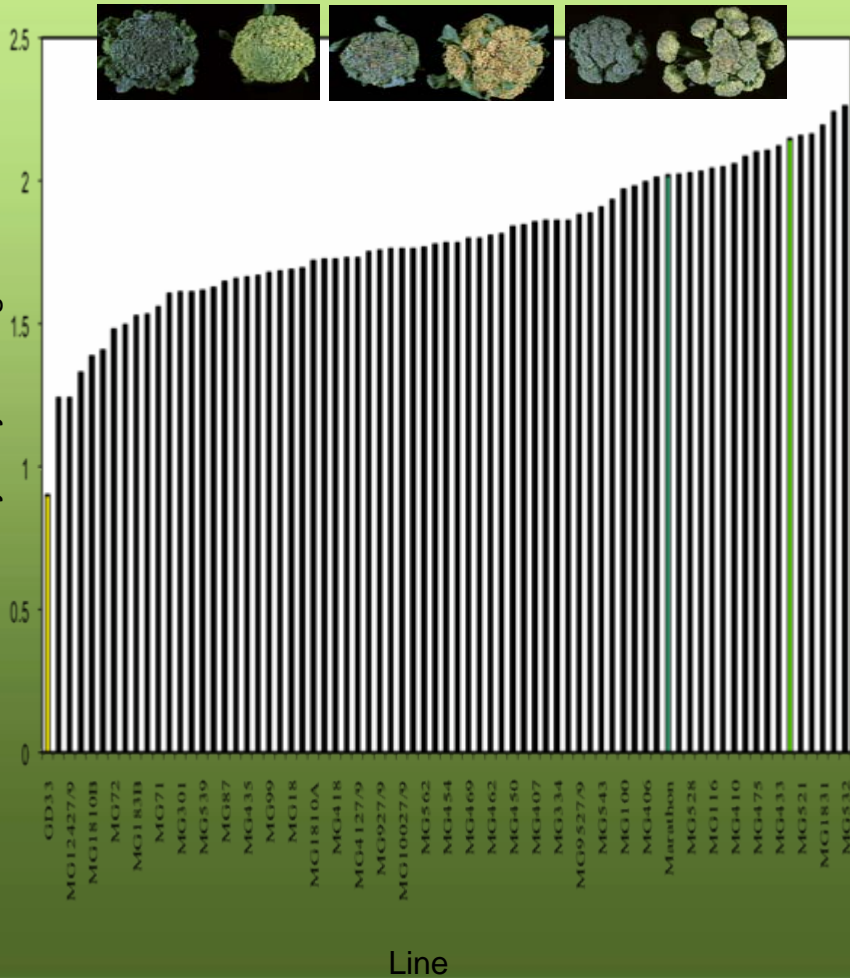
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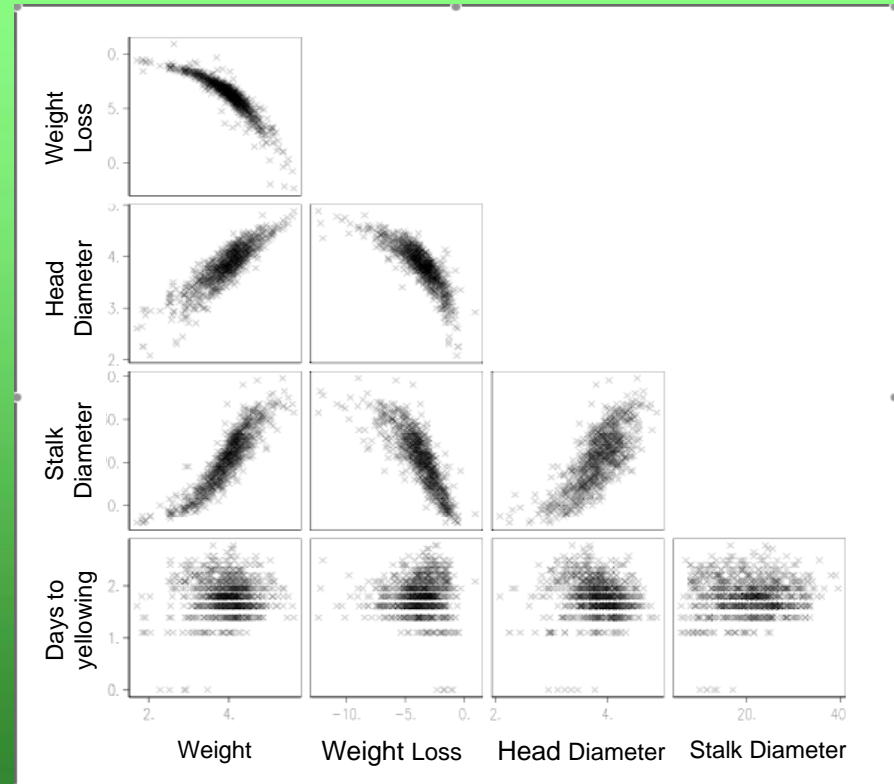
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Progress: Shelf Life Field Trial 2007

1. Distribution of head yellowing for the broccoli x broccoli DH population



2. Correlation Graph comparing 5 shelf life traits



Future Direction

- **Development of the backcross lines**
 - Microspore culture – Fix as DH lines for further analyses
- **Fine Mapping of the QTL**
 - Marker density will be increased in intervals containing significant QTLs.
 - » *Characterisation of one major QTL*
 - » *Microarrays & RT-PCR*
- **Metabolite Screening**
 - Field Trial (2008)
 - Vitamin C and Glucosinolate content after harvest and during storage
 - Mapping of metabolite QTLs

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