

PLSC 731 Paper Review

Osborn et al – Comparison of Flowering Time Genes in Brassica rapa, B. napus and Arabidopsis thaliana

1. Why are Brassicas of agronomic interest? What previous flowering time research was performed on Brassicas? What were those results? Why are they important for this paper?
2. What is the genetics of flowering time in Arabidopsis? Why is this important for studying flowering time in Brassica?
3. Describe the mapping populations and the linkage mapping experiments.
4. Provide details of the QTL mapping experiments.
5. Did the two populations exhibit normal distributions for both the non-vernalization and vernalization treatments.
6. Describe the results of mapping non-vernalization and vernalization QTL in the B. napus population.
7. Describe the results of mapping non-vernalization and vernalization QTL in the B. rapa population.
8. Is there any consistency with regards to the allelic combinations that lead to early flowering?
9. Describe the reciprocal mapping experiments with Arabidopsis. What conclusion were drawn from these experiments?
10. What rationale was used to associate a specific Arabidopsis flowering time gene with specific QTL in Brassica?