

PLSC 731: Paper Reviews

Li et al. – Genetic structure and diversity of cultivated soybean (*Glycine max* (L.) Merr.) landraces in China

1. Describe the origin and beginning of soybean cultivation. (858)
2. What are landraces? What are they useful for crop improvement. (858)
3. Describe the Chinese soybean gene bank. What is a difficulty in maintaining the collection? (858)
4. Describe the use of germplasm evaluation studies. What did previous studies learn about the organization of soybean diversity? (858)
5. How can a population for a divergence study be organized? (859)
6. Describe several features of the STRUCTURE software. (859)
7. Why are SSRs used for diversity studies? (859)
8. What is a prerequisite for association mapping? (859)
9. What factors affect linkage disequilibrium (LD)? (859)
10. Describe the results of previous LD studies in soybean? (859)
11. What are the objectives of this study? (859)
12. How was a subset of the Chinese soybean genebank selected? (859)
13. Why were modern cultivars excluded from this study? Is this a good choice? (859)
14. Is this a diverse population? (859-860)
15. Describe the selection process for the SSRs used in this study. Was this a good choice of markers? (860)
16. What are the assumptions of the STRUCTURE software analysis? (860)
17. Describe the allelic variation and distribution of rare alleles. (863)
18. Why was $k=7$ decided upon as the subpopulation number? (863)
19. What does F_{st} measure? What is the overall distribution of F_{st} in this population? (864)

20. Is there a relationship between the STRUCTURE and neighbor joining results. (865)
21. Why was a subset of genotypes selected to compare F_{st} ? (865)
22. What was the degree of LD within population clusters? (866)
23. Why was LD measured within a linkage group? (866)
24. What can the degree of rare alleles imply about genetic variation within this population? (867)
25. What result supports the concept of conservation of landraces within a genebank? (868)
26. Why did the authors conclude that the Yellow River Valley is the center of origin of soybean? (869)