

PLSC 731 – Paper Review

Meyer RS, Purugganan MD. (2013) Evolution of crop species: domestication and diversification. *Nature Reviews Genetics* 14: 810.

1. What is the relationship between evolution and domestication? (840)
2. Why is the process of crop domestication of interest to humans? (840)
3. What genetic approaches have been used to study domestication? (840)
4. What are the stages of crop domestication and diversification? (842)
5. What happens during pre-domestication, domestication, diversification, and improvement? (842-843)
6. Why is it difficult to definitively state that a gene is a domestication related gene? (843)
7. How do Meyer/Purugganan propose to define a domestication gene? (843)
8. What was the first domestication gene identified? Describe the features of the alternate alleles. (843)
9. Provide examples of domestication, diversification, adaptation, and traits. (846)
10. What are the functions of the two largest classes of domestication genes? (847)
11. What are the natures of the mutations for domestication genes? (847)
12. What types of mutations have the largest phenotypic effect? Why? (847)
13. What is a selective sweep? What is the difference between a hard and soft sweep? (847-848)
14. Describe parallelism within and between species as it relates to domestication. (849)
15. Provide examples of parallelism. Can these provide evidence for multiple domestications/diversifications? How might these parallel events be related to local adaptation? (849)
16. Discuss gene flow and the movement of domestication alleles between populations. How can gene flow be detected? (850)