

Consider an experiment on chlorophyll inheritance in maize. A genetic model predicts the ratio of green to yellow to be 3:1. In a sample of $n = 1103$ seedlings, $n_1 = 854$ were green, and $n_2 = 249$ were yellow.

1.

- (a) Compute the statistic G^2 for testing the proposed model.
- (b) Compute the p-value for the test of the proposed model.
- (c) Provide an interpretation of your result, stated in the context of the problem.
- (d) What are the shortcomings to using a p-value as a measure of evidence?

(e) Compute the Bayes Factor B_{01} for medium, wide, and ultrawide prior distributions. According to the Bayes Factors, which model is supported by the data?