

BIO150Y Worksheet

Expt. 1: Do cheats always do better than suckers?

Objective

Conduct simulations of a population initially composed of an equal mix of cheats (ALLD) and suckers (ALLC) to determine whether evolution occurs and, if so, which strategy predominates over the other.

Methods

To look for patterns or generalizations in the results run several replicates. Complete Table 1 for each of five time intervals for one of the strategies. Then, based on your results, answer the questions below.

Table 1. The number of ALLC individuals present in the population through time.

Replicate	Time (generations)					
	Start (0)	1	2	5	10	End (20)
1	15					
2	15					
3	15					
4	15					
5	15					

Questions

Answers to these questions are available within the online exercise.

1. If the population was initially composed of 15 ALLC individuals and 15 ALLD individuals, what was the starting *frequency* of the sucker strategy in the population?
2. In your simulations of the population composed of ALLD and ALLC individuals what evidence, if any, was there for evolution?
3. In general, what is the expected long-term outcome for a population composed of cheats and suckers?