

Experimental Design

Your Question:

What Mutation rate allows for the fastest speciation?

Hypothesis: I believe that the mutation rate of 5% will be the fastest speciation.

Experimental Variable (what one setting will you be changing in your tests?):

mutation rate

Responding Variable (of the three results, which one(s) will help you answer your question?):

Average Fitness Graph

Controlled Variables (what settings will you keep consistent throughout your tests?):

Dish Size → 30 x 30 Starting organisms → @ ancestor
Pause Run at update → 2000
All foods

Settings	Control Group	Test 1	Test 2
Dish Size	30 x 30	30 x 30	30 x 30
Mutation Rate	1% Spiked at 1069 Generation	3% 1242	5%
Starting Organisms	@ancestor	@ ancestor	@ ancestor
Foods Available	NOT, NAN, AND, ORN, ORO, ANT, NOR, XOR, EQU	notose, andose, orose, nrose, equose, nanose, ornose, andnose, xorose	
Number of Updates (at least 1000)	2000	2000	2000