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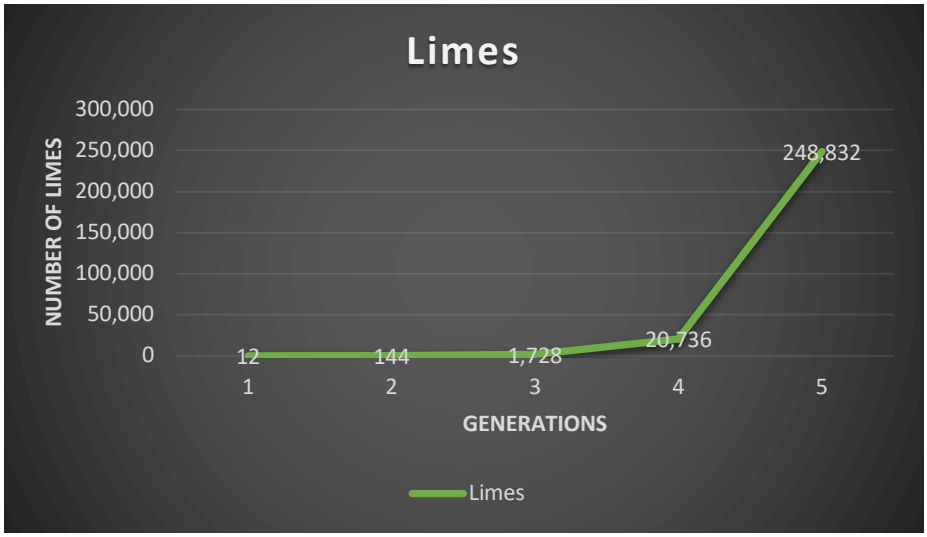
Population Growth



1. My initial lime had 12 seeds.
2. After only 5 generations, I had 248,832 limes.
3. This graph is a classic exponential growth chart with a J-shaped curve. It represents the sum of the number of limes produced per lime in each generation, for a period of 5 generations. I started with a single lime which contained 12 seed. Therefore, the formula for the first generation was 1 lime x 12 seeds = 12 limes, and I continued multiplying the number of limes in a generation by 12 seeds to arrive at the total lime population of each generation. The assumptions I made were that each seed would be viable, each seed would produce only a single lime, and that each lime would always have 12 seeds.
4. Some environmental factors that might limit natural or wild populations include:
    1) Water (flood or drought)
    2) Soil conditions
    3) Weather or climate
    4) Disease or blight
    5) Space
5. If a population were subjected to some of the environmental factors for a considerable length of time, I would expect to see changes in the rate of growth of the population.
    1) If a region where limes grow experienced a decade of drought, I would expect that there would not be enough water to sustain such a large lime population, thereby causing the population to shrink, and I would expect to observe a selecting for hardier, drought

resistant lime varieties. Conversely, if too much water were to come to an area I might expect to observe plant drownings, soil erosion, or other such phenomena.

2) If soil pH were not in balance for the limes, I would expect the lime population to shrink or die out. If soil were quickly eroded away by flash floods or other waterflow in the region, I would expect many lime plants to die. If the soil were mineral poor, or if the soil were too salty, I would expect the lime population to be curbed.
3) If weather, especially extreme weather such as hurricanes, tornadoes, tsunamis, or volcanism, were to strike an area supporting a lime population, I would expect many plant deaths. If the climate were to change (ice age, warming) from the conditions ideal for lime growth, then I would expect the lime population to suffer losses.
4) If diseases or blights (insect, fungal, et cetera) were introduced into the lime population, I would expect to observe plant deaths.
5) If the area ideal for lime growth were restricted geographically (island, valley surrounded by mountains, et cetera), then only as many plants as fit within that area would survive. If more plants than are sustainable try to grow, many plants might shade each other out, or seeds may never germinate because conditions for germination are not met, or the soil would become poor and overused after a certain amount of time.