***Virtual Population Lab!***

1. Make a hypothesis about how you think the two species of *Paramecium* will grow alone and how they will grow when they are grown together.
2. On what day did the *Paramecium caudatum* population reach the carrying capacity of the environment when it was grown alone? How do you know?
3. On what day did the *Paramecium aurelia* population reach the carrying capacity of the environment? How do you know?
4. Explain the differences in the population growth patterns of the two Paramecium species. What does this tell you about how *Paramecium aurelia* uses available resources?
5. Describe what happened when the Paramecium populations were mixed in the same test tube. Do the results support the **Gause’s** **principle of competitive exclusion**? You may need to quickly read about this principle: <http://en.wikipedia.org/wiki/Competitive_exclusion_principle>
6. Explain how this experiment demonstrates that no two species can occupy the same niche.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data Table | | | | |
|  | *P. aurelia* grown alone, cells/mL | *P. caudatum* grown alone, cells/mL | *P. aurelia* grown in mixed culture, cells/ mL | *P caudatum* grown in mixed culture, cells/mL |
| Day O |  |  |  |  |
| Day 2 |  |  |  |  |
| Day 4 |  |  |  |  |
| Day 6 |  |  |  |  |
| Day 8 |  |  |  |  |
| Day 10 |  |  |  |  |
| Day 12 |  |  |  |  |
| Day 14 |  |  |  |  |
| Day 16 |  |  |  |  |
| Journal | | | | |