

What is photosynthesis about? - Correction

About light and gases

1. Independent variable: Presence/absence of light ; Presence/absence of CO₂
2. Dependent variable: Concentration in O₂
3. What is/are the independent variable(s)?
4. What is/are the dependent variable(s)?
5. When doing photosynthesis, a plant produces oxygen gas. To do so, it needs both light and carbon dioxide:
 - When there is only light, the amount of oxygen gas present in the environment of the plant decreases.
 - When CO₂ has been injected, in the presence of light, the graph shows a production of oxygen gas.
 - When the light is turned off, even if there is still carbon dioxide present, the amount of oxygen gas present in the environment of the plant decreases again.

About the origin of organic carbon

6. Document 1 shows that molecules containing carbon produced by the chlorella algae during photosynthesis all contain marked carbon. The origin of this marked carbon having been identified as the injected carbon dioxide, this shows that the carbon atoms found in the organic molecules produced by plants come from carbon dioxide.
7. The investigation shown in document 2 shows that the production of organic matter is normal only if both N, P AND K are present simultaneously. Whenever at least one of these

About the origin of photosynthetic oxygen

8. The results of the experiment show that there is a correlation in the ¹⁸O content in water and the O₂ produced: 0.85% for both in experiment 1, and 0.20% for both in experiment 2. Therefore, it can be deduced that the oxygen gas produced during photosynthesis originates from the water.