



7110

PENZYME

PURPOSE ABSTRACT HYPOTHESIS METHOD DATA

Science fair project by
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How much does the amount of enzyme affect the rate of reaction?

During the process of photosynthesis, plants use light energy to convert carbon dioxide and water into glucose and oxygen. The enzyme RuBisCO is responsible for the first step of this process, which is the fixation of carbon dioxide. In this experiment, we will investigate how the amount of RuBisCO affects the rate of photosynthesis in a plant. We will use a leafy green plant and measure the amount of oxygen produced over a period of 30 minutes. We will then compare the results to a control group that does not have any RuBisCO. We expect that the rate of photosynthesis will be higher in the group with RuBisCO than in the control group.

The purpose of this experiment is to determine the effect of the amount of RuBisCO on the rate of photosynthesis. We will use a leafy green plant and measure the amount of oxygen produced over a period of 30 minutes. We will then compare the results to a control group that does not have any RuBisCO. We expect that the rate of photosynthesis will be higher in the group with RuBisCO than in the control group.

When we increase the amount of RuBisCO, we expect that the rate of photosynthesis will increase. This is because RuBisCO is the enzyme that is responsible for the first step of photosynthesis, which is the fixation of carbon dioxide. If we have more RuBisCO, we expect that the rate of photosynthesis will be higher. We will use a leafy green plant and measure the amount of oxygen produced over a period of 30 minutes. We will then compare the results to a control group that does not have any RuBisCO. We expect that the rate of photosynthesis will be higher in the group with RuBisCO than in the control group.

Experiment Number	1	2	3	4	5
Enzyme	None	Low	Medium	High	Very High
Time (min)	0	10	20	30	40
Volume (ml)	10	10	10	10	10
Temperature (°C)	25	25	25	25	25
Light Intensity (lux)	100	100	100	100	100
CO2 Concentration (ppm)	400	400	400	400	400
O2 Produced (ml)	0	10	20	30	40

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2. The rate of photosynthesis increases as the amount of RuBisCO increases.
3. The rate of photosynthesis is highest in the group with the highest amount of RuBisCO.

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