

Photosynthesis & Glucose Production

The Conversion of Light Energy into Chemical Energy



CARBON DIOXIDE WATER ENERGY GLUCOSE OXYGEN

Required Inputs

- **Carbon Dioxide:** Absorbed from the atmosphere via stomata.
- **Water:** Absorbed by roots and transported via xylem.
- **Light:** Solar energy captured by chlorophyll.

Primary Outputs

- **Glucose:** Simple sugar used for cellular respiration and growth.
- **Oxygen:** Released as a byproduct into the atmosphere.
- **Water:** Re-released through transpiration.

Glucose Utilization in Plants

- **Immediate Energy:** Burned during respiration for cellular function.
- **Storage:** Converted into starch for later use (roots/tubers).
- **Structure:** Converted into cellulose for building cell walls.
- **Fruit Production:** Converted into sucrose and fructose.