

Plant responses What is phytochrome?	Plant responses Which form of phytochrome is active, and what converts it?
Plant responses How does active phytochrome affect transcription?	Plant responses Name three responses controlled by phytochrome.
Plant responses What is auxin (IAA) and where is it made?	Plant responses Describe the acid growth mechanism.
Plant responses How does auxin cause phototropism?	Plant responses What do gibberellins do?

Pfr. It forms from Pr in red light (660 nm) and reverts in far-red light (730 nm) or slowly in the dark.

A light-sensitive plant pigment that exists as Pr and Pfr, detecting red and far-red light.

Seed germination, stem elongation and flowering.

Pfr enters the nucleus and affects transcription factors, changing which genes are transcribed.

Auxin increases H^+ pumped into the cell wall; low pH loosens cellulose links; water enters and the cell elongates.

A plant growth substance made in the tip of the shoot that promotes cell elongation.

Stimulate stem elongation and seed germination.

It is moved to the shaded side, so cells there elongate more and the shoot bends to the light.

Plant responses

Where do gibberellins act in a germinating cereal grain?

Plant responses

In core practical 18, what shows that amylase has been made?

Plant responses

Why is a boiled embryo used as a control in core practical 18?

Plant responses

How is the area of a clear zone calculated?

A clear zone around the grain half on starch agar after flooding with iodine.

On the aleurone layer, switching on the gene for amylase.

Area = πr^2 , with r half the diameter.

Boiling denatures enzymes, so it shows that the clear zone depends on living tissue.