

Does “light” drive photosynthesis? Correction

Pigments in a spinach leave

Chlorophyl B (green/yellow) Chlorophyl A (green/blue) Xantophyl (yellow) Carotenoids (orange)

Weak migration Strong migration

What is the role of pigments in photosynthesis?

Relative absorption spectrum of chlorophyll A and action spectrum of chloroplasts superpose :

- The relative absorption spectrum of Chlorophyll A shows that it is mainly Violet/blue and Orange/Red that are absorbed by this molecule.
- The action spectrum of chloroplasts shows that the activity of chloroplasts is maximum at approximately the same wavelength.

The wavelength that are absorbed are the ones that are the ones needed for photosynthesis.

This confirms the observations of Engelmann:

The oxygen-hungry bacteria are flourishing around the regions where the light is mostly absorbed and used for photosynthesis, and therefore where the oxygen production is the highest.