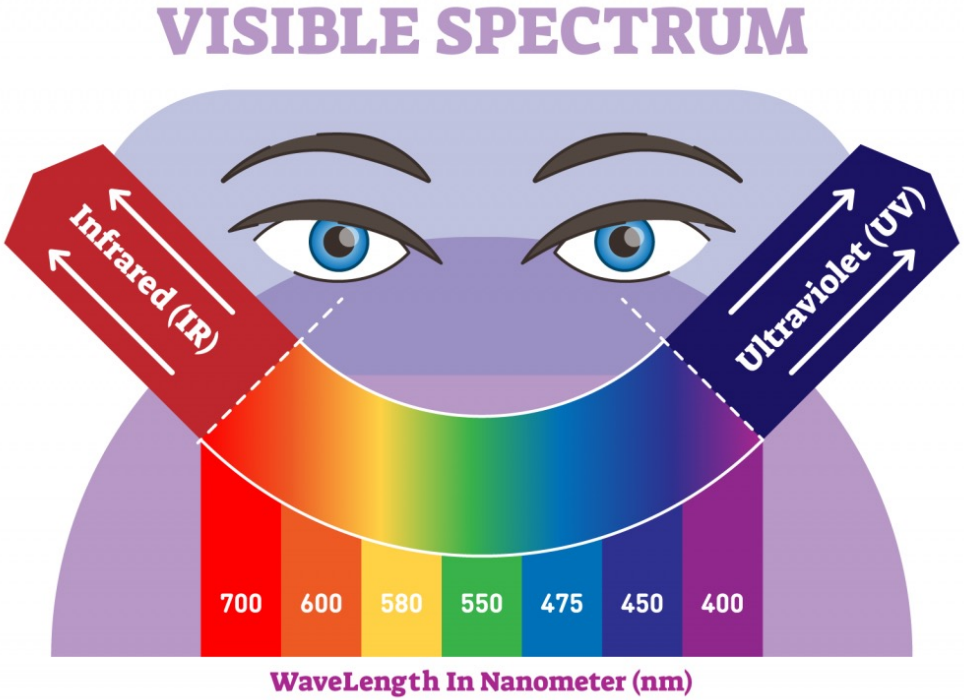
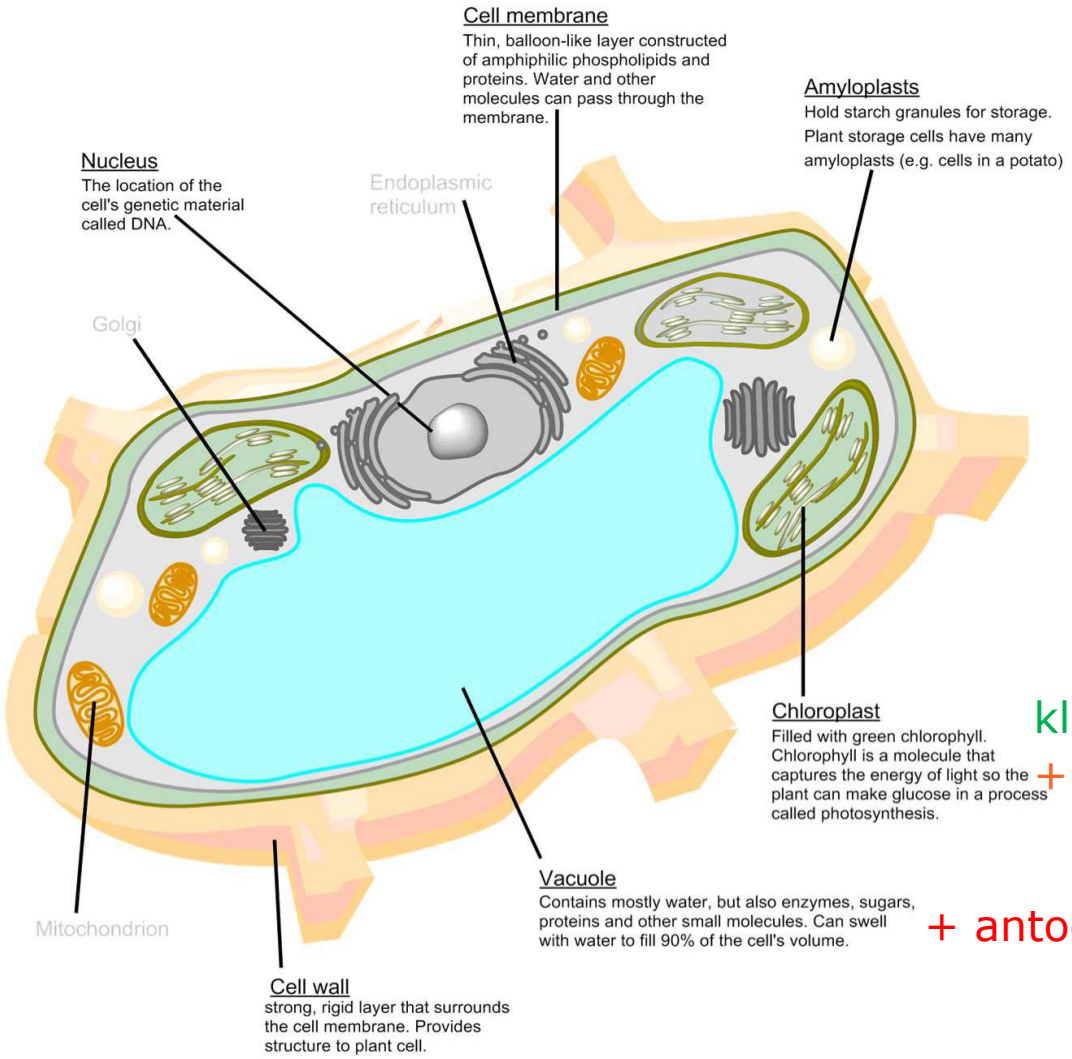
NatMAD

Karsten Olsen

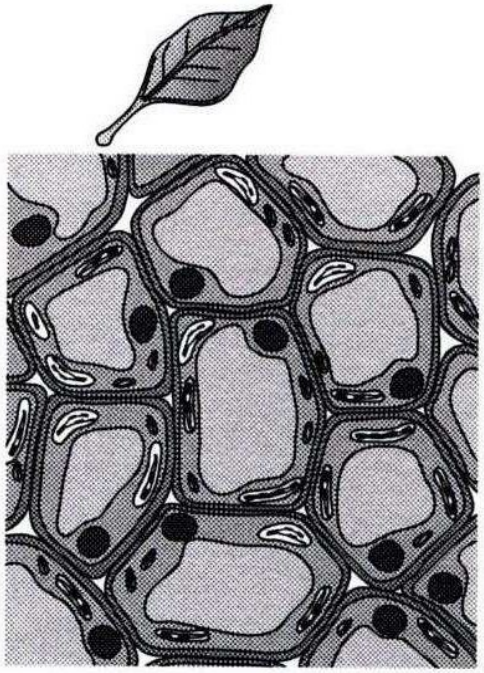
Fødevarefarver

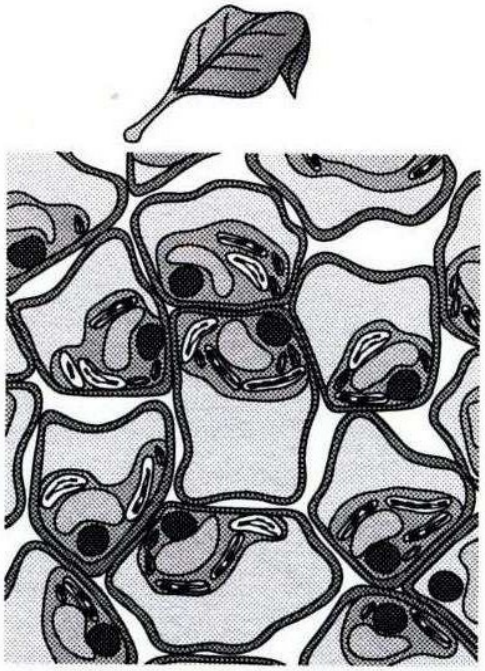


Strukturen af en plantecelle



Cellevæggen og vandtrykket er vigtig for teksturen af grøntsager og frugter





Hvordan lys vekselvirker med molekyler (farver)

- lycopen

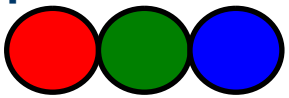
extensive conjugation
⇒ absorberer bølgelængderne:

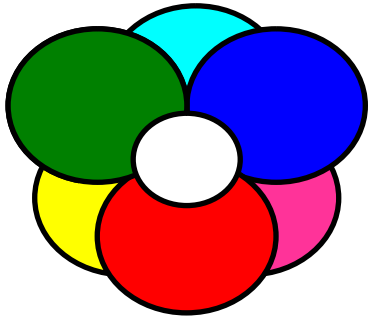
~ 440 nm
~ 470 nm **Blåt lys**
~ 510 nm **Grønt lys**

Hvordan lys vekselvirker med molekyler (farver)

- Why does lycopene look red?

primære farver





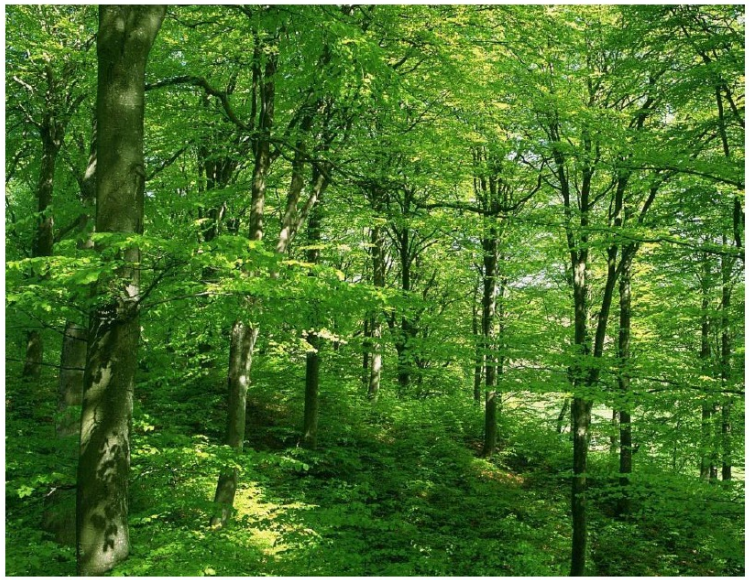
- lycopen absorberer blåt og grønt lys

⇒ rød farve reflekteres og observeres af modtager (dig)

Farver i naturen

- Klorofyl
- Karotener
- Antocyaniner

Plant pigments: the prooxidative colour



Plant pigments: the antioxidative colour

Strukturelle ændringer af antocyaniner ift pH

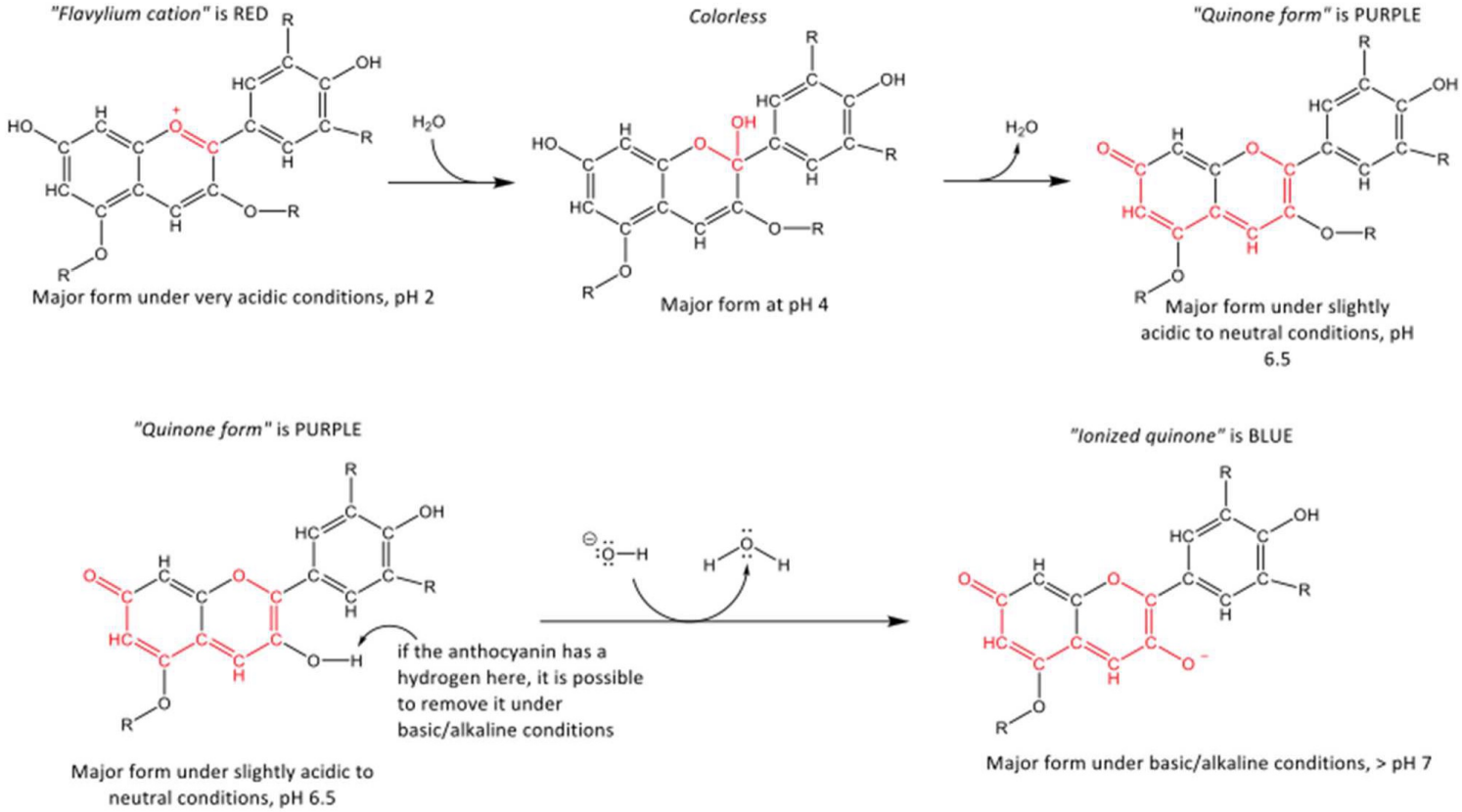
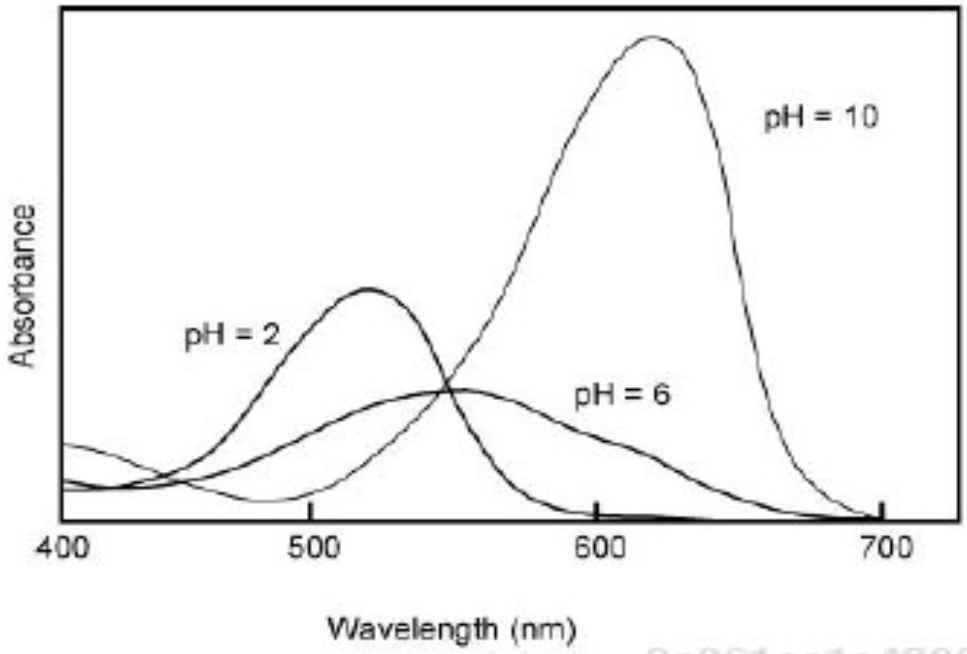


Figure 7-22 Changes to Anthocyanins with pH. The red flavylium cation form is present at low pH (very acidic conditions). As the pH increases, water reacts with the flavylium cation to produce the colorless carbinol. As the pH increases further, the purple quinone is formed and water is released again. Finally, increasing the pH above pH 7 (alkaline/basic pH) will produce the blue ionized quinone.

Rød -> farveløs -> blå



ure 6.10 *The effect of pH on the absorption spectra of an anthocyanin.* (Redrawn from R. Brouillard, in 'Anthocyanins as Food Colours' e Markakis, Academic Press, New York, 1982.)