



## BIOL2252 Plant biotechnology

[20h+10h exercises] 3 credits

This course is taught in the 1st semester

**Teacher(s):** Stanley Lutts  
**Language:** French  
**Level:** Second cycle

### Aims

Describe the different manipulations applied to vegetal cells and to plants, the results obtained and the consequences that we can hope for, for a better knowledge of plants and for their improvement.

Concerns: mandatory in BIOL22.4

### Main themes

- 1/ In vitro culture methods of vegetal tissues and somatic cells : description of stages of the culture, its applications, the variation it induces, the problems posed by this variation and of its possible use.
- 2/ Using cultures of vegetal cells for industrial production of secondary metabolites and for biotransformation.
- 3/ Ways of inducing haploïdy, mainly by antheridy and microspore cultures ; using haploïds.
- 4/ Somatic hybridation by protoplast fusion, fonctionning of regenerated cells and of hybrid plants, asymeric hybrids and genetic information transfert, cybrides and mitochondrial and chloroplast transfert.

### Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Prerequisites: basic course in biochemistry, cellular biology, botany (physiology and morphology) and genetics.

Assisted work: practical works illustrate some points of in vitro culture (callogenesis and plant regeneration).

Support: reference books and review articles.

### Other credits in programs

**BIOL22/B** Deuxième licence en sciences biologiques (Biologie des organismes et des populations) (3 credits)