



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, asyetric 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

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