BIR1325 Physiologie du développement et systématique des plantes d'intérêt agronomique

[30h+7.5h exercises] 3 credits

This course is taught in the 2nd semester

Teacher(s):	Pierre Bertin (coord.), Jean-François Ledent, Stanley Lutts
Language:	French
Level:	First cycle

Aims

To give students precise notions to apprehend the specificities of plant functioning and to master the complex problematics of processes governing growth, development and adaptation to the environment.
To initiate students to methodologies used in physiology of the whole plant.
To initiate students to the systematics of angiosperms and to the observations of morphological characters allowing plant determination.

Main themes

The 5 classical plant hormones, namely auxins, gibberellins, cytokinins, ethylene and abscissic acid, are studied in detail. The specific functions of other molecules involved in plant growth and development, but also in plant defence against biotic invaders, are viewed. The major role of photoperiodism in plant development is analysed in depth using the control of floral transition as an example. Basic concepts on photomorphogenesis and endogenous biological rhythms are overviewed as well as the biochemical and physiological basis of vernalization and bud dormancy. The mechanisms of resistance of plants to environmental constraints are schematically presented.
Principles, methods and history of plant systematics (with a focus on angiosperms). Morphology and organisation of the vegetative (leaves, stems, roots) and generative (flowers, inflorescences and fruits) apparatus. Brief description of a selected choice of families and presentation in each case of a few typical species of interest for agriculture or horticulture (crops and weeds).New developments due to recent achievements in genetical and molecular analysis.
Exercises of plant determination with a flora.

Other credits in programs

BIR13BA/A	Troisième année de bachelier en sciences de l'ingénieur, orientation bioingénieur (option : agronomie)	(3 credits)	Mandatory
BIR13BA/E	Troisième année de bachelier en sciences de l'ingénieur, orientation bioingénieur (option : environnement)	(3 credits)	Mandatory