


4 credits

Q1

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| Teacher(s) | Bertin Pierre coordinator ;Draye Xavier ; |
| Language : | French |
| Place of the course | Louvain-la-Neuve |
| Main themes | General principles of ecophysiology of major crops Biomass production and resources capture Passage from the isolated plant to the plant population Plant growth and development, yield components Morphology, phenology, physiological factors, biotic and abiotic stresses Application to several temperate, tropical and ubiquitous crops |
| Aims | <i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i> |
| Evaluation methods | Written examination |
| Teaching methods | Oral teaching with case studies Field visits In silicomodelling |
| Content | 1. The plant in terms of supply and demand Generic scheme of a plant. Development, morpho-genetic sequences. Approach in terms of supply and demand. Principles of yield constitution 2. light interception, photosynthesis and allocation From the leaf to the canopy. Photosynthesis efficiency. Dry biomass distribution 3. Limiting factors and sustainable yields. Water-driven limitation. Nitrogen-driven limitations. Resources capture and yields 4. Modellingof biomass production Exercise on genotype-environment interactions 5. Temperate and ubiquitous major crops: maize, wheat, sugar beet, potato Morphology. Growth and development. Yield parameters 6. Tropical major crop: rice Morphology. Growth and development. Yield parameters. Ecology: soil, climate, abiotic stresses. Crop management |
| Inline resources | Moodle |
| Bibliography | <u>S</u> upport de cours obligatoires Syllabus (diapositives du cours), nombreuses visites de terrain <u>S</u> upports de cours facultatifs Sites internets vus au cours Ouvrages de référence Hay and Porter (2006) ' The physiology of crop yield Hay RKM and Walker AJ, 1989. An introduction to the physiology of crop yield. Longman, Essex. 292 p. Smith DL and Hamel C, 1999. Crop yield. Physiology and processes. Springer, Heidelberg. 504 p. |
| Other infos | This course can be given in English |
| Faculty or entity in charge | AGRO |

| Programmes containing this learning unit (UE) | | | | |
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| Program title | Acronym | Credits | Prerequisite | Aims |
| Master [60] in Biology | BIOL2M1 | 4 | |  |