



COURSE SPECIFICATION 2nd SEMESTER

Course Name : Technology of Planting Materials
Code : KU 123
Credit : (2-2)

Course Description:

A course to prepare students to be able to apply science and technology in the field of planting material. This course studies the basic concepts of genetics and plant breeding, cells, chromosomes, DNA, genes, transcription and translation processes, the provision of vegetative planting material, in vitro culture, conventional and modern plant breeding methods, the introduction of genetic transformation, characteristics of quality seeds, seed production, seed drying, seed processing, seed testing, seed storage and packaging, certification and seed marketing.

References:

- Draper, J., R. Scott, P. Armitage, R. Walden. 1988. Plant Genetic Transsformation and Gene Expression. Blackwell Scientific Publication. London.
- George & Sherington. 1984. Plant Propagation by Tissue Culture. Handook & Dictionary of Commercial Laboratories. Exegetic Limited. Nglan.
- Kardinan, A. 2001. Pemuliaan Tanaman Secara In Vitro. Kanisius. Yogyakarta.
- Kuswanto, H. 1996. Dasar-dasar teknologi, produksi dan sertifikasi benih.
- Mangoendidjojo, W. 2003. Dasar-Dasar Pemuliaan Tanaman. Kanisius. Yogyakarta
- Crowder, L.V. (1986). Genetika Tumbuhan. Terjemahan. Gadjah Mada University Press.
- Gardner, E.J. (1992). Priciples of Genetics. 7th ed. John Wiley & Sons, Inc. New York.

Topics:

1. Basic concepts of genetics and crop breeding (pollination and Mendel's law), cells, chromosomes, DNA and genes, transcription-translation processes
2. Provision of vegetative cropping material (grafting, grafts, cuttings, etc.); and provision of cropping material by in vitro culture
3. Conventional (cross) and modern crop breeding methods (in vitro culture and introduction of genetic transformation)
4. Seed Technology: Characteristics of quality seeds, seed production, drying, seed processing, seed testing, seed storage and packaging, seed certification, seed marketing, marketing.