220220658 Postharvest Physiology and Technology

Module Name	**Postharvest Physiology and Technology**
Module Level, if applicable	Intermediate
Code if Applicable	220220658
Subtitle, if applicable	-
Courses, if applicable	220220658 Postharvest Physiology and Technology
Semester(s) in which the module is taught	4th
Person responsible for the module	Prof. Dr. Ir. Noor Harini, MS. Rista Anggriani, STP., MP., M.Sc.
Lecturer	Prof. Dr. Ir. Noor Harini, MS. Rista Anggriani, STP., MP., M.Sc.
Language	Indonesian
Relation to curriculum	Compulsory Courses for undergraduate program in Faculty of Agriculture and Animal Science Department Food Technology
Type of teaching	Lecture, project
Workload	● Lecture: 2 sks X 50 minutes X 16 weeks ● Project: 2 sks X 60 minutes X 16 weeks ● Independent learning: 2 sks X 60 minutes X 16 week
Credit points	2 SKS X 1.5 = 3 ECTS
Requirements according to the examination regulations	1. Registered in this course 2. Minimum 80% attendance in this course
Recommended prerequisites	Food Chemistry and Biochemistry, Food Ingredient Knowledge
Module Objectives (Intended learning outcomes)	On successful completion of this course, student should be able to : ● Understand the post-harvest processes and phases of agricultural products, the differences between the stages of post-harvest products (vegetable and animal), physical, chemical, structural, anatomical and post-harvest indicators and post- harvest phases (development, maturation, ripening and senescence). ● Knowing the relationship between pre-harvest and post-harvest, internal factors (cultivation) and external factors (environment) on post-harvest physiological processes ● Knowing, analyzing and developing processes that occur in post-harvest products including respiration (aerobic and anaerobic), graphs on climacteric and non-climacteric, their relationship with the hormone ethylene, stages of respiration and RQ assessment based on

	the substrate ● Knowing, exploring and developing post-harvest technology by drying, cooling, modified air, irradiation, chemical modification, storage, packaging and transportation.
Module Content	This course is intended to discuss about the physiologics of post-harvest products, the phases in post-harvest and discussing the relationship between pre-harvest and post- harvest, and developing post-harvest technology in order to improve the quality of agricultural products from post-harvest products. In addition, it explores post-harvest technology for plant and animal foodstuffs such as cereal sources (rice, beans, tubers), from horticultural sources (fruits and vegetables), from animal sources and their derivatives (fish, milk, eggs). Post-harvest technology includes physiological activities during the process of drying, cooling, air modification, irradiation, chemical modification, storage, packaging and transportation.
Study and examination requirements and forms of examination	**Cognitive:** Midterm exam, Final exam, Quizzes, Assignments **Affective:** Assessed from the element /variables achievement, namely (a) Contributions (attendance, active, role, initiative, and language), (b) Being on time, (c) Effort.
Media employed	Classical teaching tools with white board and power point presentation
Recommended Literature	For Class **A. Compulsory** 1. Harini, N. 2010. Fisiologi dan Teknologi Pasca Panen. Jurusan Teknologi Hasil Pertanian, Fakultas Pertanian, Universitas Muhammadiyah Malang, Malang. 2. Kartasaputra, A.G. 1989. Teknologi Penanganan Pasca Panen. Bina Aksara. Jakarta. 3. Pantastico, ER. B. 1989. Fisiologi Pasca Panen : Penanganan dan Pemanfaatan Buah-buahan dan Sayur-sayuran Subtropika. Diterjemahkan oleh : Kamariyani. Gadjah Mada University Press. Yogyakarta. 4. Widjanarko, S.B. 2010. Fisiologi dan Teknologi Pasca Panen. Jurusan Teknologi Hasil Pertanian, Fakultas Teknologi Pertanian, Universitas Brawijaya, Malang.

	B. Option 1. AAK. 1975. Bertanam Pohon Buah-Buahan. Kanisius. Yogyakarta. 2. Harborne, J.B. 1987. Metabolisme Fitokimia : Penentuan Cara Modern Menganalisis Tumbuhan. Terjemahan oleh K. Padmawinata. Institut Teknologi Bandung. Bandung. 3. Susanto, T. dan B. Saneto. 1994. Teknologi Pengolahan Hasil Pertanian. Bina Ilmu. Jakarta. 4. Suwarno. Pengaruh Cahaya dan Perlakuan Benih Terhadap Perkecambahan Benih Pepaya. Dalam Buletin Agricultural Vol. XV No. 3 Tohir, Kaslan A. 1978. Bercocok Tanam Pohon Buah-Buahan. Pradnya Paramita..Jakarta.
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