

MFT204: Technology of Oil Seeds and Legumes

Teaching Scheme	ExaminationScheme
Lectures:3hrs./week	InternalAssessment Marks[IAM]:30
Tutorials: 1hr./week	[Class Test: 12, Teachers assessment:6,Attendance: 12]
Credits:4	EndSemesterMarks[ESM]:70

CourseObjectives:

1. To give knowledge about legumes and oilseeds production and processing in world.
2. To give knowledge about soyabean processing and value addition.
3. To impart knowledge about various edible oil sources and their processing technology.
4. To impart knowledge about oil based food emulsions preparation.

DetailedSyllabus

MODULE1
Status, production and major growing areas of legumes and oilseeds in India and world; structure and chemical composition of pulses and oilseeds; nutritional and antinutritional factors. Milling scenario of pulses in India, milling techniques: dry milling and wet milling; processing of legumes: soaking, germination, decortication, cooking, fermentation; puffing, roasting and parching; utilization of pulses; protein isolates and concentrates; role of legumes in human nutrition.
MODULE2
Processing and utilization of soyabean for value added products; soy based fermented products; innovative products from pulses and oilseeds; future developments in products and processes; products from legumes and uses: starch, flour, protein concentrates and isolates.
MODULE3
Sources of edible oils (groundnut, mustard, soyabean, sunflower, safflower, coconut, sesame and oil from other sources); physio-chemical properties; processing of oilseeds: rendering, pressing, solvent extraction, refining, hydrogenation; factors affecting extraction; packing and storage of fats and oils, changes during storage.

MODULE4
Oil specialty products: margarine, mayonnaise, salad dressing, fat substitutes etc; chemical adjuncts: lecithins and GMS.
MODULE5
Nutritional food mixes from oilseeds: processing of oilseeds for food use, protein rich foods, protein enriched cereal food.

Suggested readings
1. Hamilton, R.J. and Bharti, A. Ed. 1980. Fats and Oils: Chemistry and Technology. Applied Science, London.
2. Salunkhe, O.K. Chavan, J.K, Adsule, R.N. and Kadam, S.S. 1992. World
3. Mathews, R.H. Ed. 1989. Legumes: Chemistry, Technology and Human Nutrition. Marcel Dekker, New York.

CourseOutcomes:

After completing the course, students will be able to:

1. Understand the legumes and oilseeds production and processing in world.
2. Understand the soyabean and its various products processing and value addition.
3. Understand about the different edible oil sources and their processing
4. Knowledge about oil based food emulsions preparation.
5. Understand the preparation of nutritional food mixes from oilseeds.