

AMFT27 PULSE AND OIL SEED TECHNOLOGY

UNIT-1 INTRODUCTION

- 1.1 Present status and future prospectus of Pulse and Oil seeds, Morphology of legume.
- 1.2 Classification and types of legumes and pulses.
- 1.3 Chemical composition and nutritional value.
- 1.4 Anti-nutritional factors, their chemistry, methods of removal of anti-nutritional factors.

UNIT-2 LEGUMES

- 2.1 Processing of legumes: Home scale, Cottage Scale and commercial methods of deshelling.
- 2.2 Modern techniques in Dal mills.
- 2.3 Processing of Red gram, Bengal gram, Green gram, Black gram. Dal milling- Principle, methods, equipments and effect on quality.
- 2.4 Principle products, Dry and Wet milling of pulses, Fermented Products of legumes.
- 2.5 Soaking- Principles, Methods of soaking- Sprouting, Puffing, Roasting & Parboiling of Legumes, Physical and Bio-chemical changes during these processes.
- 2.6 Cooking quality of dhal- methods, factors affecting quality of dhal and cooking of dhal. Quick cooking dhal, Instant dhal.

UNIT-3 SOYA PROCESSING

- 3.1 Soya as a source of protein and oil;
- 3.2 Processing of Soya- soya milk, soy protein Isolate, soya paneer, soya sauce;
- 3.3 Extrusion technology and production of textured vegetable proteins.

UNIT-4 OIL SEEDS

- 4.1 Chemical composition and characters of oil seed and Oils, Anti-nutritional factors, elimination Methods.
- 4.2 Post-Harvest Technology of Oil seeds, Handling Drying, Storage, Grading, Pretreatments, cleaning, Deshelling, Size reduction and flaking.
- 4.3 Oil extraction: Traditional Methods, Ghani, Power Ghanis, Expellers - Principle of Expeller, structure design of expeller.
- 4.4 Solvent extraction process: Principle, Pretreatment - Breaking, Cracking, flaking.

UNIT-5 OIL SEED PROCESSING

- 5.1 Extraction principles, factors affecting the extraction process.
- 5.2 Desolventization. Refining of Oils - Degumming, neutralization, bleaching, filtration, deodorization, their Principles and process controls.
- 5.3 New Technologies in oil seed processing, utilization of oil seed meals of different food uses.
- 5.4 High protein Product, like protein concentrate and isolates.

References Books

1. Rajah, Kanes K. "Fats in Food Technology", Blackwell / Ane Books, 2004. 79
2. Sivasankar, B. "Food Processing & Preservation", Prentice Hall of India, 2002