FACULTY OF AGRICULTURE

DEPARTMENT OF GENETICS AND PLANT BREEDING

GGPBVAC01 - COMMERCIAL SEED PRODUCTION

Learning objectives

1. To enable students to gain hand-on experience in commercial seed production
2. To enable students to become entrepreneur by starting their own seed production

Course Outcomes

Learn the meaning of quality seed, and their importance in crop production

students will acquire knowledge and basic principles related to quality seed production of varieties in agricultural crops

- To grasp the importance of Indian minimum seed certification standards
- To knows the systems involved in seed production
- To encourage the students to become an entrepreneurship in seed production.

UNIT I Introduction

Seed – Characteristics of good quality seed – its Significance – principles of seed production - Generation system of seed multiplication - Pollination behavior.

UNIT II Seed Certification

Exposure to seed certification – IMSCS - Principles and procedures - Registration and sowing report - Field inspection – Post harvest inspection – Seed testing – certification tag

UNIT III Seed Production Planning

Planning of seed production - Season and land selection - Assessment of seed source and seed selection - Physical and genetic contaminants - isolation distance -pre sowing seed invigouration treatments - Dormancy breaking treatments Seed priming - pelleting - polymer coating.

UNIT IV Field Preparation

Main field preparation - layout - formation of beds - transplanting - fertilizer and nutrient management –Synchronization of flowering- weed management - irrigation management - special cultural practices - pest and disease management - identification and removal of off-types and volunteer plants - Practicing hybridization techniques - Identification of physiological disorders and management.

UNIT V Harvest and Post Harvest Technology

Pre-harvest sanitation spray - identification of physiological and harvestable maturity indices - Harvesting methods - Post harvest verification - Seed extraction methods - Processing sequence - Seed drying - Seed cleaning - Grading - Pre-storage seed treatment - Seed packing - Seed storage - seed storage godown and sanitation measures - Seed Blending - Economics of variety seed production (cost benefit ratio) - Project preparation.

References:

1. Agarwal, R.L. 1997. Seed Technology. 2nd Ed. Oxford &IBH, New Delhi.
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3. Bhaskaran, M., A. Bharathi and K. Vanangamudi. 2016. Text book on principles of seed production and quality control. Kalyani Publishers, New Delhi.
4. Singhal, N.C. 2003. Hybrid Seed Production in Field Crops. Kalyani Publishers,New Delhi.
5. S.Padmavathi, M.Prakash, S.Ezhilkumar, G.Sathiyanarayanan and A.Kamaraj. 2021. A Text Book of Seed Science and Technology. New India Publishing Agency, New Delhi. (ISBN: 978-93-90175-32-1).