

CBO-504 PLANT BREEDING AND HORTICULTURE

Unit-I. Plant Breeding-I

Plant breeding – objectives, origin, domestication
Hybrid vigour Principles and methods of Plant Breeding
Self pollinated crops
Cross pollinated crops
Clonal crops Plant Introductions – NBPGR

Unit-II. Plant Breeding-II

Biosafety and Bioethics IPR, Patents, concept, benefits
GATT, TRIPS Biosafety and bioethics: objectives, risk assessment, containment
Genetically modified plants
Seed certification
Release of varieties
Plant Breeder's Right

References

- Chopra V L (2000), *Plant Breeding (2nd edition)*, Oxford & IBH Publishing P Ltd New Delhi.
Chaudhari H K (1997), *Elementary Principles of Plant Breeding (2nd edition)*, Oxford & IBH Publishing P Ltd New Delhi.
Sadhu M K (1996), *Plant Propagation* , New Age International Publishers, New Delhi.
Gupta P K (2004), *Plant Breeding, Plant Propagation and Bio technology, Rastogi Publications, Meerut.*
Singh B D (2005) *Plant Breeding, Principles and Methods*, Kalyani Publishers, Ludhiana
Gupta S K (2005), *Practical Plant Breeding*, Agrobios (India), Jodhpur
Vijendra Das L D (1998), *Plant Breeding*, New Age International Publishers, New Delhi.
Agrawal Ratan Lal (2002), *Fundamentals of Plant Breeding & Hybrid Seed Production*, Oxford & IBH Publishing P Ltd New Delhi.
Shukla R S and Chandel P S (2004), Cytogenetics, Evolution and Plant Breeding, S Chand & Co Ltd, New Delhi

Unit-III. Horticulture-I

Horticulture Propagation by seeds and vegetative structures, harvesting, storage and viability Germination, dormancy (seed and bud), Pretreatments Techniques
Anatomical and Physiological aspects of rooting of cuttings, Grafting, Budding, Layering Important horticultural crops of India with emphasis on Gujarat fruit/flowers, cultivation, harvest and post – harvest handling

Unit-IV. Horticulture-II

Gardening and Landscape Cultivation under cover
Greenhouse: advantages, construction, types, maintenance
Organic farming, mulching, composting
IPM, advantages
Landscaping-principles, types, planning
Xeriscaping Garden-features/elements, styles
Indoor gardening
Gardens of India