IDC 301 Morphology and Reproductive Systems of Crops 3(2-1)

Objectives

To enable students to understand:

Floral morphology in various self- and cross-pollinated crops

Reproductive systems of major crops

Familiarize the students regarding hybridization techniques

Theory

Morphology and anatomy of root, stem and leaf in major crops. Description of growth and reproductive stages. Floral biology and pollination behavior, sexual reproduction, self sterility, incompatibility and factors responsible. Heteromorphy, dicliny, dichogamy, asexual reproduction in different crops. Economic traits commonly measured in crop plants.

Practical

Study of root, stem, leaf and other plant parts of major crops. Study of floral morphology, various techniques employed to emasculate and pollinate flowers.

Books recommended

1. Gupta, S.K. 2006. Plant Breeding: Theories and Techniques. Agrobios, Jodhpur, India.

2. Sleper, D. A. and J.M. Poehlman. 2006. Breeding Field Crops. 5th ed. Iowa State University Press, Ames, USA.

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3. Mishra, S.R. 2005. Plant Reproduction. Discovery Publishing House, New Delhi, India.

4. Richards, A.J. 1997. Plant Breeding Systems. 2nd ed. Chapman and Hall, London, UK.