|  |
| --- |
|  |

**PLBG-7113 Development of Hybrid and Seed Production**

This course is the post graduate level of course about develop of hybrid in different crops including vegetables and also cover how hybrid seed will be produced of different crops. Now agriculture has become an industry and farmers argue for better seed which has higher potential. As farmer concern is only about the production. Therefore the course is of great importance. The course also explains hybrid maize production and it scope. It enables the students to understand the concepts of heterosis and its significance and how hybrid vigor will be used for commercial purposes.

*Contents*

1. Principles for hybrid seed production.
2. Heterosis, classification and its genetic basis.
3. Hybrid types. Two and three-line systems of hybrid development.
4. Development and maintenance of parental lines (A, B and R lines). Evaluation of inbred lines for general and specific combining ability.
5. Production technology for hybrid seed in field crops and vegetables. Isolation (temporal and spatial), planting ratios and synchronization of male and female parents.
6. Commercial use of hybrid vigor. Field standards, genetic purity, harvesting and handling of hybrid seed.
7. Economic aspects of hybrid seed production.

*Practical*

1. Development of inbred lines.
2. Estimation of GCA and SCA. Selection and maintenance of A, B and R lines under field conditions.
3. Use of gametocytes, induction of male sterility and evaluation of hybrids.
4. Visit to private and public research institutes engaged in commercial hybrid seed production.

Recommended Books

1. Sleper, D.A and J.M. Poehlman.2006. Breeding Field Crops. 4th ed. Iowa State University Press, Ames, USA.
2. Singh, B.D. 2003. Plant breeding: Principles and Methods. Kalyani Publisher, New Dehli India

Suggested Books

1. Singal, W.C. 2004. Hybrid Seed Production. Kalyani Publishers, New Delhi, India.
2. Basra, A.S. 2000. Hybrid Seed Production in Vegetables: Rationale and Methods in Selected Crops. Food Product Press. New York, USA.
3. Feistritzer, W.P. and A.F. Kelly (eds.) 1987. Hybrid Seed Production of Selected Cereal, Oil and Vegetable Crops. FAO Plant Production and Protection Paper 82, FAO, Rome, Italy.