

## Generic Elective Course - Agriculture

### GPAGRI 101 - Pests of Crops and Stored Grains and their Management

Course Code	Course Name	TEACHING & EVALUATION SCHEME							
		THEORY			PRACTICAL		L	P	CREDITS
		END SEM University Exam	Two term exam*	Teachers Assessment*	END SEM University Exam	Teachers Assessment*			
<b>GPAGRI 101</b>	Pests of Crops and Stored Grains and their Management	50	30	00	15	05	2	1	3

1. **Legends:** L - Lecture; P – Practical; C-Credit;
2. **\*Teacher Assessment** shall be based on following components: Quiz / Assignment / Project / Participation in Class,

**Objectives:** To study the nature & damage of crop pests & stored products along with its management.

**Outcomes:**

1. On the basis of symptoms, student should be able to identify the pest of crops & stored products
2. Student should be able to manage the pest infestation.

**Unit-1:** General account on nature and type of damage by different arthropods pests.

**Unit-2:** Scientific name, order, family, host range, distribution, biology and bionomics, nature of damage, and management of major pests.

**Unit-3:** scientific name, order, family, host range, distribution, nature of damage and control practice other important arthropod pests of various field crop, vegetable crop, fruit crop, plantation crops, ornamental crops, spices and condiments.

**Unit-4:** Factors affecting losses of stored grain and role of physical, biological, mechanical and chemical factors in deterioration of grain. Insect pests, mites, rodents, birds and microorganisms associated with stored grain and their management.

**Unit-5:** Storage structure and methods of grain storage and fundamental principles of grain store management.

**Practical: GPAGRI 101**

Identification of different types of damage. Identification and study of life cycle and seasonal history of various insect pests attacking crops and their produce: (a) Field Crops; (b) Vegetable Crops; (c) Fruit

Crops; (d) Plantation, gardens, Narcotics, spices & condiments. Identification of insect pests and Mites associated with stored grain. Determination of insect infestation by different methods. Assessment of losses due to insects. Calculations on the doses of insecticides application technique. Fumigation of grain store / godown. Identification of rodents and rodent control operations in godowns. Identification of birds and bird control operations in godowns. Determination of moisture content of grain. Methods of grain sampling under storage condition. Visit to Indian Storage Management and Research Institute, Hapur and Quality Laboratory, Department of Food, Delhi. Visit to nearest FCI godowns.

## References

1. Butani, D. K. and Jotwani, M. G. 1984. Insects in Vegetables. Periodical Export Book Agency, New Delhi.
2. Butani, D. K. 1984. Insects and Fruits. Periodical Export Book Agency, New Delhi.
3. Dennis S Hill 1987 Agricultural Insect Pests of tropics and their control, Cambridge University Press, New York
4. Khare, S. P. 1993. Stored Grain Pests and Their Management. Kalyani Publishers, Ludhiana.
5. Nair MRGK. 1986. Insects and Mites of crops in India. Indian Council of Agricultural Research New Delhi.
6. Vasantharaj David, B. 2003. Elements of Economic Entomology. Popular Book Depot, Coimbatore.
7. Vasantharaj David, B and Anantha krishnan, T. N. 2006. General and Applied
8. Entomology. Tata McGraw-Hill Publishing House, New Delhi.
9. Upadhyaya K. P. and Kusum Dwivedi. 1996. A Text Book of Plant Nematology. Aman Publishing House, Meerut.