

**SGT UNIVERSITY (GURUGRAM)**  
**FACULTY OF AGRICULTURAL SCIENCES**

**Certificate course on Pesticides Application Techniques for Pest Management**

**Description:** Pesticide application plays an important role in pest management. Proper technique of application of pesticide and the equipment used for applying pesticide are vital to the success of pest control operations and act as the key elements of the agricultural production system. The application of pesticide is not merely the operation of sprayer or duster. It has to be coupled with a thorough knowledge of the pest problem. The use of pesticides involves knowledge not only of application equipment, but of pest management as well. It provides fundamental concepts, the necessary knowledge and the basic skills related to types of pesticide formulation and application of these formulations through different equipment's to the graduating students. This course provides the practical knowledge and to help them learn various techniques of plant protection equipments and techniques related to microscopy, computation, pest forecasting etc.

**Objectives:**

1.	To provide knowledge of different pesticide formulation technology.
2.	To impart knowledge about the different spray techniques.
3.	To generate understanding about effect of pesticides on environment.
4.	To expose the participants for advanced methods of pesticide application.
5.	To aware the participants for adequate use of pesticides.

**Overview:**

The pesticide application technique constitutes an inter-disciplinary science and is applied to cover the target with maximum efficiency and minimum efforts to keep the pest under control as well as minimum contamination of non-targets. The application techniques ideally should be target oriented so that safety to the non-targets and the environment is ensured. Therefore, proper selection of application equipment, knowledge of pest behaviour and skillful dispersal methods are vital.

**Advantages:**

1.	It prevents pesticide losses.
2.	The main purpose is to cover the target with maximum efficiency and minimum efforts to keep the pest under control as well as minimum contamination of non-targets.

**Eligibility of Course:**

1.	Undergraduate & Postgraduate Students of Agriculture
2.	Faculty Members of State Agriculture Universities & Agriculture Based NGOs

**Certificates:**

Qualifying students will be given certificates based on their involvement and performance. Participation certificate and Competency certificate will be issued by the FASC, SGT University, Gurugram, NCR-Delhi, India.

**Duration of course:** 3 weeks

**Course structure:**

Paper I	Theory
Paper II	Practical



**Level:** Certificate

**Subject:** Post-Harvest Management of Horticultural Crops

**Attendance:** 85%

**Lecture/practical timing:** As per time table issued by FASC.

Target Group: Academicians, Employees, General Users, Others, Researchers, Scholars, Scientist, Students, Subject Experts

**Skeleton of the course:**

S. No	Paper	Teaching hours	Maximum marks allotted (%)			Passing marks (%)		
			External	Internal	Total	External	Internal	Total
1	Theory (Paper I)	6	50	50	100	40	40	50
2	Practical (Paper II)	12	50	50	100	40	40	50

### **COURSE LAYOUT:**

#### **Paper I: Theory:**

##### **Unit 1:**

1.	Introduction to pesticides and their classification.
2.	Pesticide properties, entry and mode of action.
3.	Formulation and toxicity of pesticides.
	• Definitions and Abbreviations
	• Liquid formulations
	• Dry formulations
	• Other formulation types
	• Adjuvants
4	Factors affecting toxicity of pesticides.
5	Problems associated with the use of pesticides
6	Insecticide Act of India, 1968

##### **Unit 2:**

1	Precaution for safe use of pesticides
2	Demonstration on use of various types of pest control equipment
3	Study of factors affecting efficacy of pesticide spray
4	Antidotes required for management of pesticides poisoning
5	Importance of Label and Labelling

##### **Unit 3:**

1	Calibration of plant protection equipment's
2	Common troubles in the use of pest control equipment and their remedies
3	Principles of working, operation, maintenance and selection
4	Application methods and equipments
	• Principles of Pesticide Application
	• Types of Sprayers and Dusters



	• Spray Nozzles and Their Classification
5	Techniques to reduce drift
6	Calculating the application area
7	Calculating the application rate

**Paper II: Practical:**

1.	Familiarization with different formulations of pesticides their preparation and use.
2.	Toxicity of pesticides to insects and plants
3.	Demonstration on use of various types of pest control equipment
4.	Study of factors affecting efficacy of pesticide spray.
5.	Calibration of plant protection equipments
6.	common troubles in the use of pest control equipment and their remedies

**Course Outcomes:**

1. The course will help in reducing use of pesticides, thereby help in reducing cost of cultivation, residual toxicity, and enhance quality of produce and better health of human beings.
2. The students will learn techniques of pesticides spray for different crops and overall reduce the cost of cultivation.
3. Minimize the use of pesticides, thus help in reducing environmental pollution.

**Suggested Readings:**

1. T.V. Prasad, 2019. *Handbook of Entomology*. Vol. 4. New Vishal Publication.
2. K P Sirivastva & G S Dhaliwal. 2019. *A Text book of Applied Entomology*, Vol – I & II. Kalyani Publication.
3. Alford DV. 1999. *A Textbook of Agricultural Entomology*. Blackwell Science

Course Coordinator	Dean (FASC)
Dr. Meenakshi Devi, Asstt. Prof. & HOS	Prof. (Dr.) Ashok Kumar

  
**Registrar**  
 SGT University,  
 Budhera, Gurugram



**SGT UNIVERSITY (GURUGRAM NCR)****FACULTY OF AGRICULTURAL SCIENCES****Course Title: Pesticides Application Techniques for Pest Management****Faculty: Dr. Meenakshi Devi, Asstt. Prof (Entomology), Session 2020-21 (2nd Sem.)**

<b>S.No</b>	<b>Name</b>	<b>Registration No.</b>	<b>Year/ Sem</b>	<b>Certificate No.</b>
1	Piyush Saini	171101001	final year/ 8th sem	2786
2	SAANIA BALANA	171101003	final year/ 8th sem	2787
3	TAPSIYA SARMIN	171101006	final year/ 8th sem	2788
4	RAHUL SAHRAWAT	171101007	final year/ 8th sem	2789
5	ANKIT	171101009	final year/ 8th sem	2790
6	ROHAN	171101011	final year/ 8th sem	2791
7	RISHITA TRIPATHI	171101012	final year/ 8th sem	2792
8	NISHTHA MISHRA	171101013	final year/ 8th sem	2793
9	ANKIT SINGH	171101015	final year/ 8th sem	2794
10	MADHU SANGWAN	171101016	final year/ 8th sem	2795
11	SOURABH SHARMA	171101017	final year/ 8th sem	2796
12	VIKRAM SEHRAWAT	171101019	final year/ 8th sem	2797
13	SONALI BISWAL	171101020	final year/ 8th sem	2798
14	MAYANK SHARMA	171101021	final year/ 8th sem	2799
15	KHUSHBOO	171101023	final year/ 8th sem	2800
16	S MENAKA	171101024	final year/ 8th sem	2801
17	NAVEEN SHARMA	171101025	final year/ 8th sem	2802
18	JAYANT	171101033	final year/ 8th sem	2803
19	DEEPAK	171101036	final year/ 8th sem	2804

  
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**SGT University,**  
**Budhera, Gurugram**





# SGT UNIVERSITY

SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY  
(UGC Approved)

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## Pesticides application techniques for pest management

**Outcomes:** Through this certificate course, participants can be benefited to get skill in covering the target with maximum efficiency and minimum efforts to keep the pest under control as well as minimum contamination of non-targets. To apply pesticides in the farm with the different instruments with the proper selection, up-skilling in safety to the environment, knowledge of pest behaviour and skilful dispersal methods can be trained during this course.

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