Training Course on Plant Growth Regulators and Their Application

Professional Development Training Course Outline

Category	Agriculture	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Plant Growth Regulators (PGRs) are vital tools in modern agriculture, enabling farmers and agronomists to manage plant development, enhance crop yields, and ensure sustainable production. These biochemical compounds influence physiological processes such as germination, flowering, fruit development, and ripening. With the global demand for food rising and climate variability affecting crop performance, understanding the use of PGRs is more critical than ever. Training Course on Plant Growth Regulators and Their Application equips professionals with practical knowledge of PGR types, functions, safe application methods, and innovations in crop management technologies.

Through in-depth modules, real-world case studies, and hands-on approaches, this course explores how auxins, gibberellins, cytokinins, ethylene, and abscisic acid can be harnessed for specific crop challenges. By the end of the training, participants will have a strong grasp of precision agriculture strategies, residue management, regulatory compliance, and the integration of PGRs with digital tools like AI and remote sensing. Whether you're aiming to increase farm productivity, enhance plant health, or adopt climate-smart practices, this course delivers essential insights grounded in science and sustainability.

Programme Curriculum

Training Course on Plant Growth Regulators and Their Application

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Course Objectives

1. Understand the science behind plant growth regulators (PGRs) and their roles in plant physiology.
2. Identify different types of PGRs: auxins, gibberellins, cytokinins, ethylene, and abscisic acid.
3. Apply PGRs effectively for enhanced crop yield and quality.
4. Explore sustainable and climate-smart PGR practices in agriculture.
5. Implement precision agriculture techniques with PGR applications.
6. Evaluate the environmental impact and residue control of PGR use.
7. Align PGR practices with global food security and safety standards.
8. Use AI and IoT technologies in monitoring PGR efficacy.
9. Analyze PGR compatibility with various crops and farming systems.
10. Develop safe handling, storage, and application protocols for PGRs.
11. Interpret regulatory frameworks and compliance standards for PGR usage.
12. Study real-world case studies of PGRs in different agroecological zones.
13. Innovate crop-specific PGR solutions using digital agriculture tools.

Target Audiences

1. Agronomists and Crop Advisors
2. Extension Officers and Agricultural Trainers
3. Agricultural Students and Researchers
4. Commercial Farmers and Horticulturists
5. Agrochemical Companies and Input Suppliers
6. Food Security and Climate Change Specialists
7. Policy Makers and Regulators in Agriculture
8. Tech Companies in Smart Farming Solutions

Course Duration: 5 days

Course Modules

Module 1: Introduction to Plant Growth Regulators

- Definition and classification of PGRs
- Historical background and discovery
- Natural vs. synthetic plant hormones
- Role of PGRs in plant life cycle stages
- Commercial importance in global agriculture
- **Case Study:** Auxin application in tomato fruit development

Module 2: Auxins and Their Applications

- Physiological effects of auxins
- Use in rooting and shoot elongation
- Auxins in tissue culture and propagation
- Common products and dosage guidelines
- Auxin-related crop improvement strategies

- **Case Study:** Clonal propagation in eucalyptus using IBA

Module 3: Gibberellins and Crop Yield

- Overview of gibberellin functions
- Role in seed germination and flowering
- Application in cereal crops
- Growth enhancement in fruiting plants
- Challenges and best practices in use
- **Case Study:** GA3 use in rice for increased panicle length

Module 4: Cytokinins and Plant Health

- Cytokinins in cell division and senescence delay
- Application in tissue culture and stress resistance
- Use in floriculture and leafy vegetables
- Commercial cytokinin-based products
- Limitations and safe handling tips
- **Case Study:** Cytokinin use in leafy greens shelf-life extension

Module 5: Ethylene and Fruit Ripening

- Ethylene's natural production in plants
- Ripening control in climacteric fruits
- Post-harvest ethylene management
- Inhibitors and enhancers of ethylene
- Regulatory concerns in export markets
- **Case Study:** Use of ethylene in banana ripening chambers

Module 6: Abscisic Acid and Stress Management

- Abscisic acid in drought and cold response
- ABA’s role in stomatal closure and seed dormancy
- Synthetic ABA and precision stress control
- Application guidelines in field conditions
- Interaction with other hormones
- **Case Study:** ABA use in grapes under water stress

Module 7: Integration with Digital Agriculture

- IoT and AI tools for PGR monitoring
- Precision spraying technologies
- Digital mapping for hormone application
- Smart irrigation systems and PGR synergy
- Data analytics in hormone response
- **Case Study:** Use of drones for PGR spraying in vineyards

Module 8: Safety, Compliance, and Innovation

- Health and safety protocols in PGR handling
- International standards and compliance (FAO, EPA)
- Risk mitigation and residue management
- Innovations in nano-PGR formulations
- Public perception and education
- **Case Study:** Policy impact of banned PGRs in EU

Training Methodology

- Interactive lectures with real-time Q&A
- Group work and breakout discussion sessions
- Hands-on demonstrations and lab simulations
- Video case studies and role-play exercises
- Field visits to commercial farms using PGRs
- Post-training assessments and certification

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

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