

THE WORLD VEGETABLE CENTER
REGIONAL VEGETABLE PRODUCTION AND RESEARCH TRAINING COURSE
COURSE CONTENT

COURSE TOPIC	LECTURE/PRACTICAL HOURS	
	Theory	Practicum
BLOCK I – INTRODUCTORY COURSES		
Intro to AVRDC-RCA-Background, activities and Future prospects	2	
Course overview/Administrative Matters	1	
Vegetable Crops Production Status/ Country Experiences (presentation)		8-12
Introduction and Selection of Research projects	4	
Sub-Total	7	8-12
BLOCK II - PRODUCTION TECHNOLOGY MODULE		
General introduction (Vegetables & Physiology)	2-3	
Growth & development of vegetable Crops.	1.5-2	
Environment of Vegetable Production	1.5-2	
Yield and yield components	2	
Population factors	2	
Environment factors (temperature, heat stress)	1.5	
Growth and Growth Regulators	2	
Indigenous Vegetables – Research Trends	2	
Application of Biotechnology in Crop Improvement	3-4.5	
Genetic Improvement of Solanaceous Crops	3-5	
Introduction to Plant Breeding	2	
Genetic Improvement of Mung bean	3	
Genetic Improvement of Allium Crops	3	
Genetic Improvement of Soybean crops	3	
Breeding for Pest Resistance in Vegetable Crops		
Genetic improvement of Cucurbitaceae & Indigenous Vegetable Crops	4	
Variety Testing and Maintenance	2-3	
Tomato Breeding	3	
Pepper Breeding	3	
Genetic Improvement of Crucifer Crops	3	
Genetic Improvement of Allium crops	3	
Tissue Culture in Vegetable Production	4-6	
Characterization of Vegetable Crops- Principles and Practices	4-8	
Vegetable Germplasm Conservation Systems- Principles & Practices	3	
Origin, Identification and classification of Vegetable Crops	8-10	
Farming systems	3	
Traditional Vegetables In Africa- Classification and Distribution	3-4	
Traditional Vegetables In Africa – Cultivation and Seed Production	3	
Vegetable Home Garden Production systems	4	
Seedling production & Nursery management	2	
Principles and Practices of veg. Crops production	6-9	
Production Practices of Legume Crops	3	
Production Practices of Solanaceous Crops	4-6	
Production Practices of Crucifer Crops	4-8	
Production Practices of Cucurbit Crops	4-8	
Production Practices of Allium Crops	4	
Soil conservation – Principles and Practices	3	
Plant nutrition	4	

COURSE TOPIC	Theory	Practicum
Fertilizers and Fertilizer Management	8	
Water management/ irrigation Principles and Practices/ Micro-Irrigation Management -	6 -8	
Farm mechanization	3	
Seed production of Solanaceous Crops	2-3	
Vegetable Seed production – Principles and Practices	8	
Vegetable Seed Physiology and Development	4-8	
Introduction to Plant Pathology	8	
Major Fungal Diseases of Vegetable Crops	3	
Major Bacterial diseases of Vegetable Crops	4	
Major Virus diseases of Vegetable Crops	6	
Nematode diseases of Vegetable Crops	6	
Induced Resistance to Vegetable Crops	3-6	
Seed borne diseases and seed health testing	3	
Identification of Major insect pests	3-6	
IPM in Vegetable Crops	4	
Biology of important vegetable pests	3-6	
Sources of insect pest resistance in Vegetable Crops	2	
Pesticide management: Formulation, Calibration and Application	5	
Pesticide/ herbicide registration, Handling and storage	3-5	
Weeds and Weed management in Vegetable Crops	3	
Organic Gardening - Principles & practices	3	
Sub-Total	191.5-229	
BLOCK III - POST-PRODUCTION TECHNOLOGY MODULE		
Post-harvest handling and processing of vegetables	4-6	
Vegetable seed harvesting, processing and Storage	8	
Vegetable Seed Testing and Quality	8	
Economics & Marketing of vegetables	3 - 6	
Farm Record Keeping	2-4	
Planning and budgeting	2-3	
Vegetables in human nutrition	2-4	
Basic Components of Food	2	
Nutritional Recommendations	2	
Nutritional Deficiencies and Related Disorders	2	
Nutrient Rich Vegetables	2	
Preparation , processing and preservation of vegetables	2	
Sub-Total	39-49	
BLOCK IV - SOCIAL TECHNOLOGY MODULES		
Meaning of Development	2 - 3	
Agric. Extension and Rural Development	3-4	
Strategies in Agric Extension- Education	3	
Strategies in Agric Extension - Organization	3	
Strategies in Agric Extension - Mobilization	3	
Strategies in Agric Extension –Social Marketing	3-4	
Research-Extension-Linkages	4	
Effective extension communication	2-3	
Participatory Rural Appraisal/Knowledge, Attitude and Practice (PRA/KAP)	8	
Gender and Development in Agriculture	3-4	
Technology transfer	4	
Sub-Total	38-43	

COURSE TOPIC	Theory	Practicum
BLOCK V: APPLICATION AND PRACTICUMS		
Seedling production & Nursery management		4
Identification of Vegetable Crops		2
Characterization of Vegetable Crops- Practices		4
Tissue Culture in Vegetable production		4
Variety Testing and Maintenance		2
Water management/ irrigation/ Micro Irrigation management		2-8
Introduction to Statistics	8	
Principles of field Experimentation	8	
Experimental design – Simple designs	12	
Experimental design – multiple designs	12	
Exp. Design and Statistics – Pair comparisons	4-8	
Exp. Design and Statistics – Problem data	4-8	
Exp. Design and Statistics – Correlation & Regression	6	
Exp. Design and Statistics - Covariance analysis	4	
Experimental designs and statistics exams		15
Data Organization and Computer based statistical analysis/Preparation of Reports		36
Scientific/Technical Report Writing and editing techniques	12	
Audio-Visual design	4	
Organic gardening and Composting Techniques		8
Seedling Production and Nursery management		5
Soil/plant analysis		2
Pollination techniques		2
Identification of Vegetable Fungal Diseases		4
Identification of Vegetable Bacterial Diseases		4
Identification of Vegetable Nematode Diseases		4
Identification of Vegetable Viral Diseases		4
Identification of insect pests		4
Identification of weeds		3
Integrated Pest Management in Veg. Crops		4
Farm mechanization		2-3
Fertilizers and Fertilizer Management - Applications		3
Tissue culture in Vegetable Production		4
Vegetable Seed production Techniques		4-8
Vegetable seed harvesting, processing and Storage		4-8
Vegetable Seed Testing and Quality analysis		4-6
Special Experimental Research Projects and Home garden Practicum		135
Post-harvest handling Techniques		4
Processing, Utilization and Preservation of vegetable Crops		8
Water/Micro-irrigation management		4-8
Semi Structured Interviews - PRA Tools and Direct Observation		8-20
Social marketing/ mobilization		5-10
Veg Home Garden. Prod. Systems-Planning and Layout		4-8
Benchmark Evaluation Examinations		15-20
Field Day		8
Mini-Workshop Presentation of Research Projects – Introduction and Materials and Methods		12
Mini-Workshop Presentation of Research Projects – Results and Discussion		12
Course Evaluations		2-4
Sub-Total	74-82	351-395

COURSE TOPIC	Theory	Practicum
BLOCK VI FIELD TRIPS AND STUDY TOURS		
Introductory Tour – AVRDC and HORTI		3
Visit to commercial Vegetable gardens		4-6
Visit to Research Institutes (HORTI, TPRI)		6
Visit to vegetable seed producers		4-6
Visit to Vegetable Production & Industries in Tanzania		10-20
Visit to Vegetable Production & Industries in Kenya		20-25
Sub-Total		47-66
Total Hours	341.5-410	406-469
Overall Total	752.5-882 hrs	