



NATIONAL OPEN UNIVERSITY OF NIGERIA

# CRP 304



## Principles of Horticultural Crop Production **Course Guide**

# CRP304 (Principles of Horticultural Crop Production) Course Guide

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## Introduction

Principles of horticultural crop production: This is a two credit course for 300 Level students of Bachelor of Science (B Sc.) degree in Crop production programme. The course consists of 13 units in three modules which deal with introduction to horticulture, basic principles and practice of horticultural crop production and nursery practices. This course guide tells you briefly what the course is all about, and how you can work through these units. It suggests some general guidelines for the amount of time you are likely to spend studying each unit in order to complete it successfully. It also gives you some guidance on your tutor marked assignments.

## What You Will Learn In This Course

The main aim of this course “Principles of Horticultural Crop Production” is to introduce the fundamental principles upon which horticultural crop production practices are based upon. By studying the principles of horticultural crop production you would be able to understand the interaction between the plant, the environment and how and why plants grow and develop. So that you would be able to manipulate the plants and their external conditions for better growth, development and crop yield.

## Course Aims

The aim of the course is to acquaint you with the basic principles and practices of horticultural crop production.

This would be achieved through:

- Introducing you to the basic principles of crop production.
- Creating a better understanding of horticultural crops, their classification and their response to various conditions.
- Developing a clear understanding of the role of the surrounding condition of the plant in growth and development and distinguish the effect of these factors in order to have precise control of growth process.
- Introduce you to the various cultural practices upon which is laid successful horticultural crop production enterprise.
- Identification of competitive pests, weeds and diseases so that you can select appropriate method of control.
- Identifying the best practices of harvesting, processing and storage of field crop.

## Course Objectives

In order to achieve the course aims, specific objectives are set in each unit. These are usually stated at the beginning of the unit. You should pay attention to the objectives of each unit before starting to go through them. You can always refer back to the unit's objectives to check your progress. You should also look at them after completing a unit. By so doing you can be sure that you have achieved what the unit expects you to acquire. By meeting these objectives, the aims of the course as a whole would have been achieved. These objectives include:

- state classification of horticultural crop based on usefulness, growth cycle, and response to some climatic conditions
- define and state the importance of horticultural crop production
- explain the distribution of vegetables and fruits with reference to climate and soil.
- state crops that are found in different climatic region of Nigeria.
- state and explain the requirement for sitting fruit orchards
- state and explain the requirement for sitting vegetables farm
- explain the practices of horticultural crop production
- differentiate the different practices for vegetables and fruits production
- discuss the similarity in production practices of vegetables and fruits.
- explain the post harvest operation of horticultural crops
- state and explain the methods of propagation of horticultural crops
- explain the specialised structures used in propagation of horticultural crops
- explain the different horticultural cropping system
- define and classified pests according to feeding pattern and economic threshold of destruction
- state the effects of pest and diseases on crop production
- analyse the symptoms of plant diseases and identify the kind of diseases that may be affecting a particular crop based on the symptoms
- prescribe the methods of controlling plant diseases.
- state the advantages and disadvantages of nursery
- explain the types of nursery
- explain the preparation of nursery

## Working through This Course

To complete this course you are required to read the study units, read other recommended materials. You will be required to answer some questions based on what you have read in the content to reaffirm the key points. At the end of each unit there are some tutor marked assignments (TMA) which you are expected to submit for marking. The TMA forms part of continuous assignments. At the end of the course is a final examination. The course should take you 12 to 13 weeks to complete. You will find listed the component of the course, what you have to do and how you should allocate your time to each unit in order to complete the course successfully on time.

## Course Materials

The main components of the course are:

1. Course Guide
2. Study Units
3. Textbooks
4. Assignment
5. Tutorials

## Study Units

There are twelve (12) study units in this course as follows:

## **Module 1**

- Unit 1 Definition and History of Horticulture
- Unit 2 Classification and Importance of Vegetables and Fruits in Nigeria
- Unit 3 Scope and Distribution of Fruits and Vegetables Grown in Nigeria with Reference to Climate and Soil

## **Module 2**

- Unit 1 Requirement for Sitting Fruit Orchard and Vegetables Farm
- Unit 2 Practices used in the Production of Horticultural Crops
- Unit 3 Post Harvest Technology
- Unit 4 Diseases and Pest of Vegetables
- Unit 5 Horticultural Tools and Machineries

## **Module 3**

- Unit 1 Methods Propagation (Sexual and Special Organs)
- Unit 2 Methods of Propagation (A Sexual)
- Unit 3 Horticultural Cropping Systems

## **Module 4**

- Unit 1 Nursery Preparation and Production

## **Tutor-Marked Assignments (TMA)**

There are tutor- marked assignments (TMA) and self- assessment in each unit. You would have to do the TMA as a revision of each unit. And there are four tutors -marked assignments you are required to do and submit as your assignment for the course. This would help you to have broad view and better understanding of the subject. Your tutorial facilitator would inform you about the particular TMA you are to submit for marking and recording. Make sure your assignment reaches your tutor before the deadline given in the presentation schedule and assignment file. If, for any reason, you cannot complete your work on schedule, contact your tutor before the assignment is due to discuss the possibility of an extension. Extensions will not be granted after the due date unless there are exceptional circumstances. You will be able to complete your assignment questions from the contents contained in this course material. However, it is desirable to search other references/further readings, which will give you a broader view point and a deeper understanding of the subject.

## **Final Examination and Grading**

The final examination for the course will be 2hours duration and consist of six theoretical questions and you are expected to answer four, questions. The total marks for the final examination is 70 marks. The examination will consist of questions, which reflect the tutor marked assignments that you might have previously encountered and other questions within the course covered areas. All areas of the course will be covered by the assignment. You are to use the time between finishing the last unit and sitting the examination to revise the

entire course. You might find it useful to review your tutor- marked assignments before the examination. The final examination covers information from all parts of the course.

## Textbooks and References

George, A. (2004). *Horticulture- Principles and Practices*. (2nd ed.). Eastern Economy Limited. Pp 3-720.

Lawrence, K. O. (2005). *Tropical Commodity Tree Crops*. (2nd ed.). Spectrum Books Limited. Pp 1-70.

Edmond, J. B., Senn, T. L., Andrews, F. S. and Halfacre, R. G. (1975). *Fundamentals of Horticulture*. (1st ed.). McGraw-Hill Book Company. Pp 183-219.

Doohan, D.J., Carchia., J. & Kleinhenz, M.D. (2000). *Cultural Practices in Vegetables Crop Weed Management Programs*. Ohioline: *Bulletin 888-00*. [ohioline.ag.ohio-state.edu](http://ohioline.ag.ohio-state.edu)

Harper, F. (1983). *Principles of Arable Crop Production*. U.K: Blackwell Science Ltd.

Akobundu, I.O. (1987). *Weed Science in the Tropics. Principles and Practice*. John Wiley & Sons, Inc.

My Agricultural Information Bank (2012). Cropping Systems in Horticultural Crops. [www.agriinfo.in/cropping](http://www.agriinfo.in/cropping)

Wyant, (1996). *Agroforestry - An Ecological Perspective*. Agroforestry Today 8:1

## Assignment File

The assignment file will be given to you in due course. In this file, you will find all the details of the work you must submit to your tutor for marking. The marks you obtain for these assignments will count towards the final mark for the course. Altogether, there are 29 TMAs for this course.

## Presentation Schedule

The presentation schedule included in this course guide provides you with important dates for completion of each tutor-marked assignment. You should therefore try to meet the deadlines.

## Assessment

There are two aspects to the assessment of this course. First, there are tutor-marked assignments; and second, the written examination.

You are thus expected to apply knowledge, comprehension, information and problem solving gathered during the course. The TMAs must be submitted to your tutor for formal assessment, in accordance to the deadline given. The work submitted will count for 30% of your total course mark.

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At the end of the course, you will need to sit for a final written examination. This examination will account for 70% of your total score.

## Course Marking Scheme

The following table gives the course marking scheme

| Assessment  | Marks   |
|---|---|
| Four TMA (comprising of 20 questions) carries 10marks | Total = $10\% \times 3 = 30\%$<br>(the best 3, out of 4 TMAs are taken) |
| Final Examination                                     | 70% of overall course marks   |
| Total   | 100% of Course Marks  |

## How to Get the Most from This Course

In distance learning, the study units replace the university lecturer. This is one of the huge advantages of distance learning mode; you can read and work through specially designed study materials at your own pace and at a time and place that suit you best. Think of it as reading from the teacher, the study guide tells you what to read, when to read and the relevant texts to consult. You are provided exercises at appropriate points, just as a lecturer might give you an in-class exercise.

Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit and how a particular unit is integrated with the other units and the course as a whole. Next to this is a set of learning objectives. These learning objectives are meant to guide your studies. The moment a unit is finished, you must go back and check whether you have achieved the objectives. If this is made a habit, then you will significantly improve your chances of passing the course. The main body of the units also guides you through the required readings from other sources. This will usually be either from a set book or from other sources.

Self-Assessment Exercises are provided throughout the unit, to aid personal studies. Working through these self-tests will help you to achieve the objectives of the unit and also prepare you for Tutor-Marked Assignments and examinations. You should attempt each self-test as you encounter them in the units.

The following are practical strategies for working through this course.

1. Read the course guide thoroughly
2. Organise a study schedule. Refer to the course overview for more details. Note the time you are expected to spend on each unit and how the assignment relates to the units. Important details, e.g. details of your tutorials and the date of the first day of the semester are available. You need to gather together all these information in one place such as a diary, a wall chart calendar or an organiser. Whatever method you choose, you should decide on and write in your own dates for working on each unit.
3. Once you have created your own study schedule, do everything you can to stick to it. The major reason that students fail is that they get behind with their course works. If



you get into difficulties with your schedule, please let your tutor know before it is too late for help.

4. Turn to Unit 1 and read the introduction and the objectives for the unit.
5. Assemble the study materials. Information about what you need for a unit is given in the table of content at the beginning of each unit. You will almost always need both the study unit you are working on and one of the materials recommended for further readings, on your desk at the same time.
6. Work through the unit, the content of the unit itself has been arranged to provide a sequence for you to follow. As you work through the unit, you will be encouraged to read from your set books.
7. Keep in mind that you will learn a lot by doing all your assignments carefully. They have been designed to help you meet the objectives of the course and will help you pass the examination.
8. Review the objectives of each study unit to confirm that you have achieved them. If you are not certain about any of the objectives, review the study material and consult your tutor.
9. When you are confident that you have achieved a unit's objectives, you can start on the next unit. Proceed unit by unit through the course and try to pace your study so that you can keep yourself on schedule.
10. When you have submitted an assignment to your tutor for marking, do not wait for its return before starting on the next unit. Keep to your schedule. When the assignment is returned, pay particular attention to your tutor's comments, both on the Tutor-Marked Assignment form and also written on the assignment. Consult your tutor as soon as possible if you have any questions or problems.
11. After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit objectives (listed at the beginning of each unit) and the course objectives (listed in this course guide).

## Facilitators/Tutors and Tutorials

There are 8 hours of tutorial provided in support of this course. You will be notified of the dates, time and location together with the name and phone number of your tutor as soon as you are allocated a tutorial group.

Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter and provide assistance to you during the course. You must mail your TMA to your tutor well before the due date. At least two working days are required for this purpose. They will be marked by your tutor and returned to you as soon as possible.

Do not hesitate to contact your tutor by telephone, e-mail or discussion board if you need help. The following might be circumstances in which you would find help necessary: contact your tutor if you:

- do not understand any part of the study units or the assigned readings
- have difficulty with the self test or exercise
- have questions or problems with an assignment, with your tutor's comments on an assignment or with the grading of an assignment.

## Summary

You should try your best to attend the tutorials. This is the only chance to have face to face contact with your tutor and ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from the course tutorials, prepare a question list before attending them. You will learn a lot from participating in discussion actively. GOODLUCK!