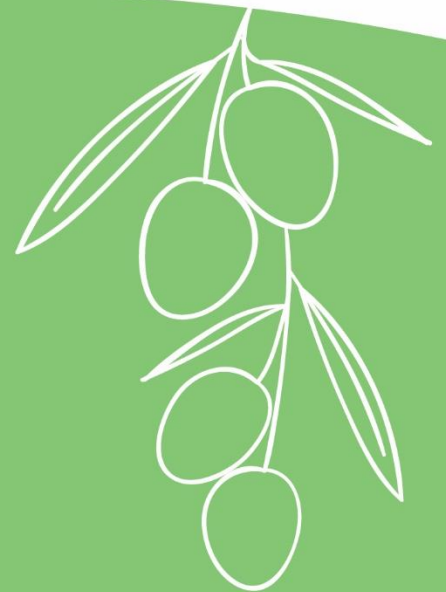




Food and Agriculture Organization
of the United Nations



Accelerated vocational training in agriculture
curriculum of module on
fruit trees: olive production



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Contents

Acknowledgements.....	iv
Introduction	1
Educational Instructions	1
Didactical tools.....	2
Evaluation of professional competencies.....	4
Chapter 1: Olive cultivation: characteristics and varieties (16 hours)	5
Chapter 2: Ways to care for the olive garden (16 hours).....	5
Chapter 3: Diseases and pests (8 hours)	6

Tables and boxes

Table 1 The competency of the unit and its stages	2
Table 2 Didactical tools and materials	3
Box 1 First phase of competency.....	5
Box 2 Second stage of efficiency.....	5

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This project, led by FAO is implemented in cooperation with the Ministry of Agriculture, United Nations International Children's Emergency Fund (UNICEF), International Labour Organization (ILO), AVSI and WARD. It aims to upgrade the management and services of the agricultural technical schools of the Ministry of Agriculture in a sustainable manner to provide high-quality agricultural technical training to Lebanese and Syrian youth for increasing their employability skills. It also aims to review and update the Agriculture Baccalaureat Technique (BT) program and curricula following competency based training (CBT) and labour market needs along reviewing and updating its related institutional arrangement.

It further aims at building linkages for agricultural technical schools with private sector and setting contractual arrangement for work based learning. Also, it seeks to provide a healthy and protective learning environment for youth growth and development through the rehabilitation of school buildings and equipping school laboratories field demonstrations.

A student text book is developed for this curriculum (in Arabic)

Introduction

Unit: fruit trees: olive production duration: 40 hours

The approach of this unit is a reference framework that links practical application with theoretical information in an integrative manner. The trainee will be able to grow olives, identify main varieties and general agricultural practices for caring for the olive orchard.

Educational instructions

Accelerated vocational training is based on the principle of free participatory and constructive education. The basis of education is that trainees share their information with each other (no matter what level they are) and build upon them after correction. Trainees' experience is one of the most important pillars that helps them to appreciate themselves and to link what they learn to what is needed in the labour market. On this basis, the training strategy aims to guide trainees and help them enter into a production cycle. It also aims to change their behaviour (especially those who have dropped out of general education or who have different difficulties to prevent their active participation in society) and to ensure a sound and effective integration into the labour market. Therefore, the trainer must be careful to implement the following things/steps:

1. Focus on collaborative work in small groups.
2. Encourage trainees to discuss, dialogue and open exchange of information and experiences.
3. Respect for colleagues at work, employer, public safety laws, rules of health and environmental protection.
4. Give equal opportunities to participate.
5. Adopt the deductive method in education because it is most suitable for this type of teaching.
6. Link practical steps to theoretical steps that is, starting from applied work to the conclusion of theories.
7. Stay away from purely technical information, simplify things, and increase experience.
8. Pay attention to each trainee individually and monitor his/her work and correct what is necessary to maintain his/her safety and the safety of his/her colleagues and his/her work.
9. To consider "class workshop" as one of the most important teaching strategies used in this field, where the reality of work is applied directly to the reality of work or similar to the reality of work, theoretical learning is not separate from the application and the processes of discovery continue.
10. Emphasize that the trainee performs the cleaning and sterilization operations with emphasis on replication with high quality.
11. Consider field training (in practice) as one of the most important learning strategies that can be adopted.
12. Individual follow-up of the trainee during and after the educational process to ensure the achievement of the procedural objectives and acquire the necessary skills as the basis for his/her work in the labour market.
13. To consider the general objectives as the basis for the work of the trainee in the labour market, so it is necessary to verify their acquisition and acquire the necessary skills through the individual follow-up of the trainee during the learning process and during field training.
14. Work to motivate trainees to learn and push them to explore, extract and apply information frequently in order to acquire the required skill and focus using different active and interactive methods. Examples: scientific observation, field visits and projects, as well as experience and practice which are considered the most important elements of training.
15. The use of multiple educational aids to facilitate the absorption process, especially films and computer programs specialized in this area or website

Table 1: The competency of the unit and its stages

	texts		
competency	At the end of this unit, when facing a problem-a situation, the trainee will be able to propose a solution to this situation by employing resources (knowledge, skills, skills, techniques ...) related to the cultivation of olives and the care of his trees.		evaluation criteria of a complex situation
competency stages	16 hours At the end of the first stage of competency, and facing a problem-situation, the trainee will be able to propose a solution to this situation by employing resources linked to the cultivation of various olive varieties.	24 hours At the end of the second stage of competency, and facing a problem- situation, the trainee will be able to propose a solution to this situation by employing resources linked to the care of the olive grove and trees.	evaluation criteria of a complex situation

Didactical tools

Learning by experience and class workshop contributes by enabling the trainee to acquire the skills he/she needs. Field training (in fields and farms) is one of the most reliable tools

In addition to the above, it is important that the trainer uses various didactical tools that contribute to reduce learning difficulties and facilitate the learning process of the trainee on the other hand. In this context, it is preferable to use active instructional materials than using the passive ones, because of the nature and type of training, and in accordance with the levels of understanding and knowledge of trainees.

Some of the most important media are:

1. computer, monitor and internet;
2. television, CD player and specialized films;
3. specialized books and magazines;
4. wall paintings; and
5. various visual and digital tools and materials to facilitate the process of explaining the theoretical content in the classroom and the practical applications in the field (safety masks, gloves, pruning shears, trees, etc.).

Add to that, websites are full of films, videos and information on the subject, which we recommend to use on the one hand and encourage trainees to look at them and search them.

Table 2: Didactical tools and materials

Total quantity	Description/ specification
7	Pruning Axe
35	Shovel with a long wooden handle
42	Pickaxe with a long wooden handle
35	Hoe with a long wooden handle
14	Rake
35	Garden hand hoe with 3 teeth + pickaxes
14	Slow release fertilizer 15.15.15(50kg)
14	Organic fertilizer 25 kg
7 Bags	Peatmoss (340 lt)
7 Bags	Tourbe (80 lt)
7	Pruning shears
7	Loppers
7	First aid kit
Each trainee	Rubber gloves
Each trainee	Agriculture gloves
Each trainee	Protective-goggles / glasses
Each trainee	Rubber boots
Each trainee	Mask
Each trainee	Coverall

Ideal daytime training time:

Preferably morning

The start time of the session

(Readiness and feasibility of implementing practical applications)

Evaluation of professional competencies

This curriculum is based on two pillars: specific objectives and competencies and their stages.

- A. Evaluation of specific objectives
- true / false questions;
 - matching questions (here the number of items in the second list must be greater than the number of items in the first list);
 - fill in the blank questions;
 - multiple choice questions;
 - exercises; and
 - follow specific implementation stages.
- B. Competency and its stages evaluation:

The formative and corrective function of the evaluation is the most important central function, as it allows to valuing achievement and discover the learning difficulties to address them and correct the course of learning through feedback. It also seeks to develop of the higher thinking skills, especially the skill of self-assessment and critical sense and mutual evaluation among trainees, which develop their sense of responsibility. Because the measurement of the development of higher thinking skills can only be achieved by solving the problem of a complex problem or carrying out a complex task¹ in which a number of factors overlap, the trainee is linked, coordinated and separated. Therefore, it is essential that the complex situation be characterized by the following components and characteristics:

Complex situation components:

- Context describing the environment in which the situation takes place.
- Document which is a set of physical, hypothesis or real elements provided to the student: text, pictures, drawings, and so on. To be used in resolving the situation, the document contains information that may be complete or incomplete, both basic and non-essential.
- The function that determines the purpose of production required, a social function.
- Instruction: A set of work instructions that are explicitly given to the student, which is a translation of the task to be accomplished.

Complex situation properties¹:

The complex situation should be:

- appropriate for any target efficiency;
- specialized resource that employs resources;
- motivating the trainee, meaning that it raises his/her interests.

The standardized evaluation is ideal for verifying the extent to which a trainee acquires competencies and their stages through a complex situation or a complex task. The criteria adopted in this approach are:

- Relevance of the learner's product: meaning match of the production of the trainee with instructions for the task required of the trainee to do, regardless of whether the production is true or not. Did the trainee answer what he/she asked for? Was the answer within or beyond the subject? And so on. In other words, the trainee's understanding of the situation in general and of instruction in particular. If the instruction, as it is supposed to be, is composed of a complex procedural act and a cognitive content, the answer is appropriate if procedural action and cognitive content are taken into account.
- Proper use of the tools of the material: the use of concepts, theories and knowledge relating to the question properly.

¹ Complex and not complicated: "complex" means that the trainee has all the resources necessary for the solution, and only has to coordinate and connect with each other* to accomplish the solution or task while "complicated" means that resources have not yet been acquired by the trainee

- Coherence in answers, arguments, and intellectual context. The logical sequence in a trainee's product, the coherence of ideas, and the unit of meaning in a product. Is the answer logical, reasonable, acceptable, or likely to be, even if it is wrong? Is there a contradiction in the trainee's answer? And so on.

Box 1: First phase of competency

First phase of competency (16 hours)

At the end of the first stage of competency, when facing a problem- a situation, the trainee will be able to propose a solution to this situation by employing resources linked to the cultivation of various olive varieties.

Chapter 1: Olive cultivation: characteristics and varieties (16 hours)

Specific objectives: at the end of this chapter, the trainee will be able to:

1. discover the specifications of the olive tree (morphology);
2. link between Olive planting places and climatic requirements and soil type;
3. distinguish local olive varieties from their foreign varieties; and
4. plant the olive tree.

Theoretical content:

1. introduction of the olive tree (anatomic parts and functions);
2. climatic requirements of olive growing: temperature-moisture-light;
3. determination of soil quality suitable for olive cultivation (identification of the importance of soil examination);
4. identification of Lebanese and international varieties; and
5. cultivation of olive trees (intensive and traditional plantation).

Practical content:

Exercise 1: visit orchard or olive fields.

Exercise 2: establishment of a new olive orchard.

Box 2: Second stage of efficiency

Second stage of efficiency (24 hours)

At the end of the first stage of competence, when facing a problem- a situation, the trainee will be able to propose a solution to this situation by employing resources linked to the care of the olive grove and trees.

Chapter 2: Ways to care for the olive garden (16 hours)

Specific objectives: at the end of this chapter, the trainee will be able to:

1. explain ways to control weeds;
2. prune the olive tree;
3. fertilize an olive grove; and
4. practice the basics of irrigation of olive trees.

Theoretical content:

1. weed control;
2. irrigation: Irrigation times;
3. pruning: its importance, period and pruning methods;
4. plowing: its importance, times of cultivation / conservation agriculture; and
5. fertilization: importance, types of fertilizer, fertilization time.

Practical content:

- weed control;
- irrigation:
 - Rain-fed agriculture or use of supplementary irrigation.
- pruning:

For the new orchard the pruning is to control size and shape only for 3 years because the production may be started depending on the age of the tree planted in the first.

- in the case of an old orchard there is a certain method of pruning (regenerative pruning);
- plowing: Importance and the favorable timing for plowing; and
- fertilization (chemical + organic fertilization).

Chapter 3: Diseases and pests (8 hours)

Specific objectives: at the end of this chapter the trainee will be able to:

1. identify the types of diseases and pests that affect the olives and their characteristics;
2. control diseases according to the responsible engineer instructions; and
3. detect olive protection methods from pests.

Theoretical content:

1. identify the diseases and pests that affect the olive tree; and
2. identify methods of prevention.

Practical content:

Exercise: control and prevention of diseases and insects according to the responsible engineer instructions.

Identifying the diseases, symptoms and causes.

Field identification (observation, examination, identification) to insects that affect trees.

Note: In case the orchard is new or old, monitoring, traps and visits should be made weekly to ensure that there is no infection.



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