

**K to 12 BASIC EDUCATION CURRICULUM
TECHNOLOGY AND LIVELIHOOD EDUCATION
AGRI-FISHERY ARTS – HORTICULTURE
Grade 7/8 (Exploratory)**

Course Description:

This Module is an exploratory and introductory course which leads to a **Horticulture** National Certificate Level II (NC II). It covers **four** common competencies that a Grade 7/Grade 8 Technology and Livelihood Education (TLE) student ought to possess: 1) using tools, equipment and paraphernalia; 2) performing mensuration and calculation; 3) practicing Occupational Health and Safety (OHS) procedures; and 4) interpreting technical drawing and plans.

The preliminaries of this exploratory course include the following: 1) discussion on the relevance of the course, 2) explanation of key concepts relative to the course, and 3) exploration of career opportunities.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
Introduction 1. Basic concepts in agriculture crop production 2. Relevance of the course 3. Career opportunities	The learner demonstrates understanding of basic concepts and underlying theories in horticulture.	The learner independently demonstrates common competencies in horticulture as prescribed by TESDA Training Regulations.	1. Explain basic concepts in horticulture 2. Discuss the relevance of the course 3. Explore career opportunities for horticulture	
PERSONAL ENTREPRENEURIAL COMPETENCIES				
1. Assessment of Personal Competencies and Skills (PECS) vis-à-vis a practicing entrepreneur/employee in the province. 1.1. characteristics 1.2. attributes 1.3. lifestyle 1.4. skills 1.5. traits 2. Analysis of PECS in relation to those of a practicing entrepreneur/employee 3. Align, strengthen and develop one's PECS based on the results	The learner demonstrates understanding of ones Personal Competencies and Skills (PECS)	The learner recognizes his/her Personal Competencies and Skills (PECS) and is able to compare these with the PECS of a practicing entrepreneur/employee involved in Horticulture	LO 1. Recognize Personal Competencies and Skills (PECS) needed in Horticulture 1.1. Identify and assess ones PECS: Characteristics, Attributes, Lifestyle, Skills, Traits 1.2. Identify and assess a practitioner's PECS: Characteristics, Attributes, Lifestyle, Skills, Traits 1.3. Compare self with a practitioner 1.4. Identify areas for improvement, development and growth	TLE_PECS-0k-1
ENVIRONMENT AND MARKET				
1. Key concepts of Environment & Market 2. Products & services available in the market 3. Concept of differentiation of products	Learner demonstrates understanding of the environment and market of Horticulture	The learner independently identifies the products/services available, the customers, and the competition within the horticulture market.	LO 2. Recognize and understand the market for Horticulture 2.1. Identify the different products/services available in the market 2.2. Enumerate the differences between	TLE_EM-0k-2

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
& services 4. Concept of Customers and the reasons they buy products & services 5. Competitors in the market			2.3. these products Identify the customers of these products and the reason these products/services are purchased Identify the companies selling these products/services	
LESSON 1: USE AND MAINTAIN FARM TOOLS AND EQUIPMENT				
1. Farm tools 2. Farm equipment 3. Parts and functions of farm tools and equipment 4. Safety practices 5. Preventive maintenance 6. Upkeep of equipment	The learner demonstrates understanding of basic concepts, underlying theories and principles in using farm tools and equipment in horticulture.	The learner uses farm tools and equipment in horticulture based on the required task.	LO 1. Select farm tools 1.1. Identify appropriate farm tools according to requirement 1.2. Check farm tools for faults and defects in accordance with farm procedures 1.3. Use appropriate tools and equipment safely according to job requirements and manufacturer's instructions 1.4. Use farm tools	TLE_AFHC7 /8UT-0a-1
	The learner demonstrates understanding of basic concepts, underlying theories and principles in using farm tools and equipment in horticulture.	The learner uses farm tools and equipment in horticulture based on required task.	LO 2. Operates farm equipment 2.1. Identify appropriate farm equipment and facilities 2.2. Follow directions in the instructional manual of farm equipment prior to operation. 2.3. Conduct pre-operation check-up in line with manufacturer's manual 2.4. Report faults in farm equipment and facilities in line with farm procedures 2.5. Use farm equipment according to their functions 2.6. Follow safety procedures	TLE_AFHC7 /8UT-0b-2
			LO 3. Perform preventive maintenance. 3.1. Discuss procedures in cleaning tools and equipment in line with farm procedures immediately after use 3.2. Explain the steps in performing routine check-up and maintenance operations 3.3. Store tools and equipment in	TLE_AFHC7 /8UT-0c-3

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			3.4. designated areas Observe how to sharpen and oil farm tools and equipment	
LESSON NO. 2: PERFORM ESTIMATION AND BASIC CALCULATION				
1. Problem solving procedures in fertilizer computation 2. Basic mathematical operations in solving problems related to horticulture 3. Simple project proposal 4. Systems of measurement 5. Units of measurement 6. Conversion of units 7. Fractions and decimals 8. Percentage and ratios 9. Basic record keeping	The learner demonstrates understanding of basic concepts, underlying theories and principles in performing estimations and basic calculations in horticulture.	The learner performs estimations and basic calculations related to horticulture.	LO 4. Perform estimation 4.1. Identify job requirements 4.2. Estimate quantities of materials and resources required to complete a work task 4.3. Estimate time needed to complete a work/activity 4.4. Make a cost estimate of materials and labor to complete a task 4.5. Report estimate of materials and resources 4.6. Determine cost and return when producing crops 4.7. Determine profit and/or loss using the four fundamental operations 4.8. Determine the price of a product using mark-up percentage	TLE_AFHC7 /8MC-0d-e-4
	The learner demonstrates understanding of basic concepts, underlying theories and principles in performing estimations and basic calculations in horticulture.	The learner performs estimations and basic calculations related to horticulture.	LO 5. Perform basic calculations 5.1. Identify calculations to be made according to job requirements 5.2. Determine the correct method of calculation 5.3. Ascertain system and units of measurement to be followed 5.4. Perform calculations needed to complete the task using the four basic fundamental operations 5.5. Use appropriate operations to comply with the instructions 5.6. Employ different techniques in checking the accuracy of computation	TLE_AFHC7 /8MC-0f-5

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
LESSON 3: INTERPRETATION PLANS AND DRAWINGS				
1. Farm plans and drawings 2. Types of planting 3. Interpreting and reading planting system 4. Staking procedures 5. Use of planting board 6. Layout of irrigation system 7. Types of irrigation system	The learner demonstrates understanding of basic concepts, underlying theories and principles in interpreting plans and drawings of farms and irrigation systems.	The learner interprets plans and drawings of farms and irrigation systems in horticulture.	LO 6. Interpret farm plans and layout 6.1. Interpret planting system according to established farm procedures 6.2. Design farm plans and layout 6.3. Stake site according to planting system	TLE_AFHC7 /8ID-0g-6
			LO 7. Interpret irrigation plans and designs 7.1. Interpret irrigation system plan according to established procedures 7.2. Differentiate the designs of irrigation system according to standard procedures	TLE_AFHC7 /8ID-0g-7
LESSON 4: APPLY SAFETY MEASURES IN FARM OPERATIONS				
1. Farm chemicals 2. Personal protective equipment 3. First aid 4. Emergency procedures 5. Safe working environment 6. Procedure in cleaning and storing tools and outfits 7. Technique in storing materials and chemicals 8. Waste disposal 9. Water management system	The learner demonstrates understanding of basic concepts, underlying theories and principles in applying safety measures in farm operations.	The learner observes safety measures in farm operations in horticulture.	LO 8. Apply appropriate safety measures while working in the farm 8.1. Apply safety measures based on work requirement and farm procedures 8.2. Utilize tools and materials in accordance with specifications and procedures 8.3. Follow the guidelines in wearing outfits in accordance with farm requirements 8.4. Explain the importance of checking shelf life and/or expiration of materials' effectivity against manufacturer's specifications 8.5. Differentiate the hazards in workplaces and report these in line with guidelines 8.6. Observe how to respond to emergencies in the farm 8.7. Discuss how to prevent accidents	TLE_AFHC7 /8OS-0h-8
			LO 9. Safekeeping/disposal of tools, materials and outfits 9.1. Explain how to clean used tools and outfit following the farm procedures	TLE_AFHC7 /8OS-0i-9

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
			before storing 9.2. Label unused materials and supplies according to manufacturer's recommendation and farm requirements before storing 9.3. Observe how to dispose waste materials according to manufacturers', government and farm requirements	

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AGRI-FISHERY ARTS – HORTICULTURE
GRADE 9 (Specialization)**

Course Description:

This is a course in **HORTICULTURE** leading to **NC II** Qualification consisting of the core competencies that a person must achieve on conducting pre-horticultural farm operations.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<p>Introduction</p> <ol style="list-style-type: none"> 1. Concepts and competencies in performing pre-horticultural farm operations 2. Career Opportunities in Horticulture Farm Operations 	<p>The learner demonstrates understanding of one's Personal Competencies (PEC's) across horticultural products and services</p>	<p>The learner recognizes his/her Personal Competencies (PEC's) across horticultural products and services and prepares an activity plan that aligns with that of a practitioner/ entrepreneur in Horticulture</p>	<ol style="list-style-type: none"> 1. Explain the different factors to be considered in setting up a business 2. Assess one's PEC's, such as, characteristics, lifestyle features , and skills 3. Assess practitioner's entrepreneurial competencies, such as, characteristics, attributes, lifestyle, skills, and traits 4. 	
QUARTER 1: DEVELOPING PERSONAL ENTREPRENEURIAL COMPETENCIES ACROSS ENVIRONMENT AND MARKET				
LESSON 1: Entrepreneurship and Personal Entrepreneurial Competencies (PEC's)				
<ol style="list-style-type: none"> 1. Nature of entrepreneurial activities 2. Assessment of Personal Competencies and Skills (PECS) vis-à-vis a practicing entrepreneur/ employee in locality/town <ol style="list-style-type: none"> 2.1. Characteristics 2.2. Lifestyle 2.3. Skills 3. Analysis of PECS in relation to a practitioner 4. Align, strengthen and develop ones PECS based on the results 	<p>The learner demonstrates understanding of one's Personal Competencies and Skills (PECS) in Horticulture</p>	<p>The learner recognizes his/her Personal Entrepreneurial Competencies and Skills (PECSs) and prepares an activity plan that aligns with that of a practitioner/entrepreneur in Horticulture</p>	<p>LO 1. Know the Nature of an Entrepreneurial Activity in relation to Personal Entrepreneurial Competencies and Skills (PECSs) needed in Horticulture</p> <ol style="list-style-type: none"> 1.1. Know the different factors considered in setting up businesses 1.2. Identify the characteristics, lifestyle, skills of successful entrepreneurs 1.3. Assess one's PECSs: characteristics, attributes, lifestyle, skills, traits 1.4. Assess practitioner's: characteristics, attributes, lifestyle, skills, traits 1.5. Compare one's PECSs with that of a practitioner /entrepreneur 1.6. Align one's PECSs with that of a practitioner/entrepreneur 	<p>TLE_PECS9-Ia-e-1</p>

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LESSON 2: Understanding The Environment And Market Of Businesses				
Market (Town) 1. Key concepts of Market 2. Players in the Market (Competitors) 3. Products & services available in the market	The learner demonstrates understanding of environment and market in Horticulture in one's town/municipality.	The learner independently creates a business vicinity map reflective of potential Horticulture market within the locality/town.	LO 2. Recognize and understand the influence of the market and environment in businesses 2.1. Market characteristics 2.2. Forms of businesses across industries 2.3. Needs and demands through environmental scanning 2.4. 4M's of production 2.5. Start-up capital, site selection, hiring, registering a business, and record keeping 2.6. SWOT 2.7. Business Plan	TLE_EM9-If-j-2
QUARTER 2: Conduct of Pre-Horticultural Farm Operations (Note: Research components should be included in all activities)				
LESSON 3: Preparing farm tools, implements, and simple equipment for horticultural farm operations				
1. Identification and classification of farm tools, farm implements and simple equipment <u>Tools</u> Digging tools - Harvesting tools - Measuring tools, etc.) <u>Farm implements/ Simple Equipment</u> - Water pumps - Hand tractor - Plow and Harrow - Sprayer 2. Safety precautions in preparing tools, farm implements and simple equipment 3. Basic pre-operative checking of tools, farm implements and equipment in accordance with manufacturer's manual 4. Treating tools with wear and			LO 1: Prepare tools, farm implements, and simple equipment for horticultural operations 1.1. Identify and classify tools, farm implements and simple equipment according to its usage 1.2. Perform basic pre-operative checking of tools, farm implements and equipment in accordance with manufacturer's manual 1.3. Segregate and treat tools with wear and corrosions	TLE_AFHC9UT-IIa-j-1

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corrosions 5. Friction				
QUARTER 3: Conduct of Pre-Horticultural Farm Operations <i>(Note: Research components should be included in all activities)</i>				
Lesson 4: Observing Safety Precautions In Horticultural Farm Operations				
1. Preventing Hazards in the Workplace 1.1. Presence of wildlife in the workplace 1.2. Exposure to fumes and solar radiation 1.3. Adverse weather conditions 1.4. Hazardous substances like fuel, grease, and oil spills 2. Maintenance activities of nursery facilities 3. Safety measures/pre-caution in preparing and maintaining farm			LO 1. Prepare and maintain farm facilities 1.1. Prevent workplace hazards and environmental implications with maintenance procedures 1.2. Perform maintenance activities to maximize efficiency and effectiveness of nursery facilities	TLE_AFHC9OS-IIIa-j-1
QUARTER 4: Conduct of Pre-Horticultural Farm Operations <i>(Note: Research components should be included in all activities)</i>				
Lesson 5: Maintenance Activities of Farm Facilities				
1. Maintenance activities of facilities 1.1. Pump house 1.2. Mechanical drier 1.3. Storage house 1.4. Machine shed 1.5. Drainage system 2. Setting up preventive structures during inclement weather 3. Safekeeping of equipment every after use 4. Principle of 5S 5. Securing post-harvest tools			LO 1. Secure tools, farm implements/equipment and facilities 1.1. Perform maintenance activities to maximize efficiency and effectiveness of facilities 1.2. Set up preventive structures during inclement weather 1.3. Store tools, farm implements and equipment according to approve practice	TLE_AFHC9-IVa-j-1

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AGRI-FISHERY ARTS – HORTICULTURE
GRADE 10 (Specialization)**

Course Description:

This is a course in **HORTICULTURE** leading to **NC II** Qualification consisting of the core competencies that a person must achieve in producing major lowland and semi temperate vegetables.

CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<p>INTRODUCTION</p> <ol style="list-style-type: none"> 1. Concepts and competencies in producing major lowland and semi-temperate vegetables 2. Opportunities in Vegetables Crop Production 	<p>The learner demonstrates understanding of core concepts and competencies in producing major lowland and semi-temperate vegetables.</p>	<p>The learner independently demonstrates core competencies in producing major lowland and semi temperate vegetables as prescribed in the TESDA Training Regulation.</p>	<ol style="list-style-type: none"> 1.1. Explain concepts and perform core competencies on producing major lowland and semi temperate vegetables 1.2. Explore job opportunities that one can venture into after taking the course 	
PERSONAL ENTREPRENEURIAL COMPETENCIES				
<ol style="list-style-type: none"> 1. Assessment of Personal Competencies and Skills (PECS) vis-à-vis a practicing entrepreneur/employee in the province. <ol style="list-style-type: none"> 1.1. Characteristics 1.2. Attributes 1.3. Lifestyle 1.4. Skills 1.5. Traits 2. Analysis of PECS in relation to a practitioner 3. Align, strengthen and develop ones PECS based on the results 	<p>The learner demonstrates an understanding of ones Personal Competencies and Skills (PECS) and what it takes to become successful in the field.</p>	<p>The learner recognizes his/her Personal Competencies and Skills (PECS) and is able to compare these with the PECS of a practicing entrepreneur/employee involved in horticulture.</p>	<p>LO 1. Develop and Strengthen Personal Competencies and Skills (PECS) needed Horticulture</p> <ol style="list-style-type: none"> 1.1. Identify & Assess ones PECS: Characteristics, Attributes, Lifestyle, Skills, Traits 1.2. Identify successful entrepreneurs/employees in the province. 1.3. Identify & Assess a practitioner's: Characteristics, Attributes, Lifestyle, Skills, Traits 1.4. Compare self with a practitioner. 1.5. Identify areas for improvement, development and growth 1.6. Align, strengthen, develop areas based on the results of the PECS Assessment 	<p>TLE_PECS10-0k-1</p>

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ENVIRONMENT AND MARKET				
THE MARKET (The Province) 4. Key concepts of the Market 5. Players in the Market (Competitors) 6. Products & services available in the market	The learner demonstrates understanding of the market of horticulture in the context of the province.	The learner independently identifies the products/services available and the competitors within the province's horticulture market	LO 2. Recognize and Understand the market for horticulture. 2.1. Identify the players/ competitors within the province 2.2. Identify the different products/services available in the market 2.3. Enumerate the differences between these products/ services	TLE_EM10-0k-1
THE MARKET – PRODUCT DEVELOPMENT 1. Key concepts of developing a product 2. Finding Value 3. Innovation 4. Unique Selling Proposition (USP)	The learner demonstrates understanding of developing a product in Horticulture	The learner independently identifies: the customers of within the Horticulture market.	LO 3. Develop a product for the provincial market. 3.1. Identify what is of “Value” to the customer. 3.2. Identify the Customers 3.3. Define and identify what makes a product different 3.4. Enumerate and apply creativity and innovation techniques in order to develop a product that stands out. 3.5. Identify the Unique Selling Proposition (USP) of the product.	TLE_EM10-0k-1
THE MARKET - SELECTING BUSINESS IDEA 1. Key concepts in Selecting a Business Idea 2. Criteria 3. Techniques	The learner demonstrates understanding of the techniques of selecting business ideas.	The learner independently selects a viable business idea.	LO 4. Select a business idea for the Horticulture market based on the criteria and techniques provided 4.1. Identify potential business ideas to select from 4.2. Enumerate the various criteria and steps to selecting a business idea 4.3. Apply the criteria/steps in order to select a viable business idea. 4.4. Identify a business idea based on the criteria/steps provided.	TLE_EM10-0k-2
THE MARKET – BRANDING Key concepts of Branding	The learner demonstrates understanding of branding and develops a brand for	The learner independently generates a brand for their business idea.	LO 5. Develop a brand for the product. 5.1. Identify the benefits of having a good brand.	TLE_EM10-0k-3

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	their business idea.		5.2. Enumerate recognizable brands in the town/province. 5.3. Enumerate the criteria for developing a brand. 5.4. Generate a brand that is clear and follows the techniques of generating a brand.	
Quarter 1 LESSON : Produce vegetables Module: Prepare land for planting				
<i>(Note: Research component should be included in the activities)</i>				
1. Collection of samples for soil analysis 1.1. Importance of Soil Sampling 1.2. Guidelines in collecting soil samples 1.3. Procedure in Soil Sampling 2. Soil laboratory analysis using 2.1. Soil testing Kit (STK) and 2.2. Soil Laboratory Analysis 2.3. Procedure in soil analysis 2.4. CEC 2.5. NPK ratio 3. Interpretation of the results of soil analysis 3.1. Recommendation based on the manual of the DA standards & procedures 3.2. Basic calculations 4. Farm implements and equipment used in preparing land for planting 4.1. Safety measures in proper			LO 1 Prepare land for planting 1.1. Collect soil samples for soil analysis 1.2. Conduct soil analysis 1.3. Interpret the result of soil analysis 1.4. Choose and use right farm implements and equipment	TLE_AFHC10P V-Ia-1 TLE_AFHC10P V-Ib-2 TLE_AFHC10P V-Ic-3 TLE_AFHC10P V-Id-e-4

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> 4.2. use of farm equipments 4.2. Types and function of Farm Tillage Implements 4.3. Advantages of using farm tillage implements 5. Proper land preparation using plow and harrow <ul style="list-style-type: none"> 5.1. Importance of land preparation & tillage 5.2. Common method and tillage for lowland & upland 5.3. Land preparation procedure 5.4. Seedbed/seedplot preparation 5.5. Operation of Farm equipment 6. Safety precautions in operating farm tools and equipment <ul style="list-style-type: none"> 6.1. Procedure in the use of power tools and equipment 6.2. Safety precaution guidelines in operating farm tools and equipment 			<ul style="list-style-type: none"> 1.5. Clear, plow and harrow of the area 1.6. Observe safety precautions in operating farm tools and equipment 	<p>TLE_AFHC10P V-If-h-5</p> <p>TLE_AFHC10P V-Ii-j-6</p>
<p>Quarter 2 LESSON : Produce vegetables <i>(Note: Research component should be included in the activities)</i> Module 2: Growing seedling</p>				
<ul style="list-style-type: none"> 1. Characteristics of good quality seeds <ul style="list-style-type: none"> 2.1.-Damage free 2.2.-True-to-type 2.3.-Viable 2.4.-Free from mixture 2.5.-Free from seed-borne disease 2.6.Types of seed 2.7.Seed certification standard 			<p>LO 2 Grow seedlings</p> <ul style="list-style-type: none"> 2.1. Procure and select good quality seeds 	<p>TLE_AFHC10P V-IIa-1</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
2. Seed germination test 2.1. Importance of Seed Germination Test 2.2. Methods of Seed Germination Test - Ragdoll Method - Petri Dish - Seed bed - Seedbox 2.3. Procedure in Seed 2.4. Germination Test following the three methods: - Computing Percentage - Seed Germination - Safety precaution in using chemicals			2.2. Conduct seed testing	TLE_AFHC10P V-IIb-c-2
3. Composition of growing media 3.1. Importance of 3.2. Growing Media 3.3. Characteristics of a Good Growing Media 3.4. Composition of a Good Growing Media - 1 part garden soil - 1 part Sieved sand - 1 part Compost - 1 part Sawdust/Ricehull 3.5. Procedure in proper mixing growing media using the ratio and proportion			2.3. Identify and mix components and proportion of different growing media	TLE_AFHC10P V-IIe-3
4. Sterilization of growing media 4.1. Importance of sterilizing the			2.4. Sterilize growing media	TLE_AFHC10P V-IIf-4

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
<ul style="list-style-type: none"> Application 1.2. Types of Fertilizer 1.3. Sources of Fertilizer 1.4. Methods of Fertilizer Application 1.5. Time and frequency of fertilizer application 1.6. Fertilizer computation 1.7. Fertilizer management safety precaution 			soil analysis	V-IIIa-d-1
<ul style="list-style-type: none"> 2. Mulching <ul style="list-style-type: none"> 2.1. Importance of mulching 2.2. Kinds of Mulching materials 2.3. Polyethelene plastic film 2.4. Rice straw 2.5. Cut grasses 2.6. Procedure in Applying Mulch 2.7. Characteristics of mulches 			3.2. Apply mulching materials	TLE_AFHC10P V-IIIe-2
<ul style="list-style-type: none"> 3. Transplanting seedling <ul style="list-style-type: none"> 3.1. Distance and depth of planting 3.2. Characteristics of good quality seeds 3.3. Procedures and recommendation on transplanting 			3.3. Transplant seedlings following the right recommendation	TLE_AFHC10P V-IIIf-g-3
<ul style="list-style-type: none"> 4. Management of newly transplanted seedlings techniques in: <ul style="list-style-type: none"> - shading - watering 			3.4. Perform post-planting care on newly transplanted seedlings	TLE_AFHC10P V-IIIh-j-4

Quarter 4

LESSON : Produce vegetables (Note: Research component should be included in the activities)

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Module: Maintaining growth of vegetables				
<p>1. Soil cultivation</p> <p>1.1. Importance of soil cultivation</p> <p>1.2. Appropriate tools and methods to be used in soil cultivation</p> <p>1.3. Types of soil cultivation</p> <p>2. Fertilizer application</p> <p>2.1. Fertilizers and chemical computation</p> <p>2.2. Recommended rate data</p> <p>2.3. Methods, time and kinds of application</p> <p>2.4. Factors to consider in selecting chemicals to use</p> <p>2.5. Knowledge in the proper application of chemicals</p> <p>2.6. Calibration of sprayer</p> <p>2.7. FPA</p> <p>3. Irrigation</p> <p>3.1. Importance of irrigation</p> <p>3.2. Methods of Irrigation</p> <p>- Over head (mist, sprinkler)</p> <p>- Surface (Furrow, drip, sub surface)</p> <p>3.3. Safety precaution/measures in proper use of tools and equipment</p> <p>- Setting up drip irrigation</p> <p>4. Pest control</p>			<p>LO 4. Maintain growth of vegetables</p> <p>4.1. Apply proper cultivation method for particular crop</p> <p>4.2. Apply fertilizers and chemicals</p> <p>4.3. Select and set-up right irrigation system</p> <p>4.4. Determine control measures on specific pests and diseases</p>	<p>TLE_AFHC10P V-IVa-1</p> <p>TLE_AFHC10P V-IVb-2</p> <p>TLE_AFHC10P V-IVc-d-3</p> <p>TLE_AFHC10P V-IVe-h-4</p>

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CONTENT	CONTENT STANDARD	PERFORMANCE STANDARD	LEARNING COMPETENCIES	CODE
7.3. Factors to consider in determining matured vegetable crops 8. Harvesting vegetable crops 8.1. Time and methods of harvesting vegetable crops 8.2. Techniques and importance of harvesting 8.3. Appropriate packing materials 8.4. Stages of maturity 8.5. Safety precaution in using cutting tools 8.6. Operating farm equipment and tools			5.2. Determine when to harvest based on the maturity indices 5.3. Perform harvesting using appropriate materials ,tools and equipment	

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GLOSSARY

Drainage system	A system of watercourses that carries off excess water.
Farm Tillage	The general tilling of the soil.
Harrow	A farm implement consisting of a heavy frame with sharp teeth or upright disks, used to break up and even off plowed ground.
Machine shed	A small hut or any light shelter for a machine.
Mechanical drier	A machine used for dehydrating something, either by direct heat, drafts of hot air or centrifugal action.
Planting board	A thin, flat, rectangular piece of wood (or other stiff material) with holes used for dropping seeds into the soil at given distances; it is also used for marking distances when sowing or transplanting in field or plots.
Plower	A farm implement consisting of a heavy blade at the end of a beam, usually hitched to a draft team or motor vehicle and used for breaking up soil and cutting furrows in preparation for sowing.
Pump house	A house where pumps (e.g. to irrigate) are installed and operated.
NPK	Stands for Nitrogen (N), Phosphorus and Potassium (K) ;It is based on the relative content of the chemical elements nitrogen, phosphorus , and potassium that are commonly used in fertilizers. The N value is the percentage of elemental nitrogen by weight in the fertilizer. The values for P and K represent the amount of oxide in the form of P ₂ O ₅ and K ₂ O that would be present in the fertilizer if all the elemental phosphorus and potassium were oxidized into these forms.
Seedbed	(1) A plot of land in which seeds or seedlings are grown before being transplanted; (2) A bed of soil cultivated for planting seeds.
Seedplot	(1) Old-fashioned term for seedbed (2) A piece of ground in which seeds are sown to produce plants for transplanting; a piece of nursery-ground; hence, figuratively, a nursery or hotbed.
Solar radiation	Radiant energy emitted by the sun from a nuclear fusion reaction that creates electromagnetic energy. The spectrum of solar radiation is close to that of a black body with a temperature of about 5,800 K.
Soil analysis	(1) The determination of the level of nutrients found in a soil sample; (2) a comprehensive test that measures the level of nutrients in the soil. The analysis is used to assess the fertility of the soil and to determine ways to increase fertility levels.
Soil cultivation	(1) The planting, tending, improving, or harvesting of crops or plants; (2) the preparation of ground to promote their growth
Soil Sampling	The determination of the quality of soil by collecting representative samples from different spots within a particular field.
Soil Testing Kit (STK)	A device used for the analysis of a soil sample to determine nutrient and contaminated content, composition, and other characteristics such as the acidity or pH level.
Staking	A process whereby a piece of wood or metal that is pointed at one end is driven into the ground and used as a marker, a fence pole, or a tent peg.
Storage house	A place where things are stored.
Tillage	The agricultural preparation of soil through mechanical agitation such as digging, stirring, and overturning.
Wildlife	Pertains to animals and vegetation when living in a natural or undomesticated state.

**K to 12 BASIC EDUCATION CURRICULUM
TECHNOLOGY AND LIVELIHOOD EDUCATION
AGRI-FISHERY ARTS – HORTICULTURE**

CODE BOOK LEGEND

Sample: TLE_AFHC10PV-IIIh-j-4

LEGEND		SAMPLE	
First Entry	Learning Area and Strand/ Subject or Specialization	Technology and Livelihood Education_Agri-Fishery Horticulture	TLE_AF HC 10
	Grade Level	Grade 10	
Uppercase Letter/s	Domain/Content/ Component/ Topic	Produce Vegetables	PV
			-
Roman Numeral <i>*Zero if no specific quarter</i>	Quarter	Third Quarter	III
Lowercase Letter/s <i>*Put a hyphen (-) in between letters to indicate more than a specific week</i>	Week	Week Eight to Ten	h-j
			-
Arabic Number	Competency	Perform post-planting care on newly transplanted seedlings	7

DOMAIN/ COMPONENT	CODE
Personal Entrepreneurial Skills	PECS
Environment and Marketing	EM
Use and Maintain Farm Tools and Equipment	UT
Perform Estimation and Basic Calculation	MC
Interpret Plans and Drawings	ID
Apply Safety Measures in Farm Operations	OS
Produce Vegetables	PV