



Republic of the Philippines

Department of Education

DepEd Complex, Meralco Avenue, Pasig City

STRENGTHENED SENIOR HIGH SCHOOL CURRICULUM

ORGANIC AGRICULTURE

PRODUCTION

Grade 11/12

Course Description:

This course equips learners with essential skills in Organic Agriculture Production, focusing on the organic agriculture production in accordance with the industry standards. The course includes planting organic vegetables, producing organic concoctions and extracts and organic fertilizer, raising organic chickens, raising organic hogs, and/or raising organic small ruminants. After completing the course, learners are eligible to take assessments to earn the National Certificate Level II in Organic Agriculture Production. They may also pursue higher education or careers in the organic agriculture industry.

Elective: Technical Professional

Prerequisite: None

Time Allotment: In Grade 11, 320 hours for two semesters, 8 hours per week. In Grade 12, 320 hours for one semester, 16 hours per week

Schedule: First/Second Semester

QUARTER 1

CONTENT STANDARD:	The learners demonstrate understanding of principles in overview of organic agriculture production, maintenance of farm tools, materials and equipment, establish nursery for organic vegetable production, planting, and harvest and post-harvest handling operation following industry practices.
PERFORMANCE STANDARD:	The learners perform maintenance of farm tools, materials and equipment, nursery establishment, planting operation and harvest and post-harvest handling operation following safety precautions.
LEARNING COMPETENCIES	CONTENTS
1. Discuss the overview of Organic Agriculture Production	Overview of Organic Agriculture Production <ul style="list-style-type: none"> ● Trends and challenges ● Career and business opportunities ● Terminologies ● Technology and Innovation ● Laws and Regulations <ul style="list-style-type: none"> ○ Occupational Safety Health Standard (OSHS) ○ Philippine National Standard (PNS) ○ Philippine Good Agricultural Practices (PHILGAP)

	<ul style="list-style-type: none"> ○ Organic Agriculture Act Of 2010 (RA 10068) ○ Certification System ● Farm Waste Disposal Management <ul style="list-style-type: none"> ○ Solid Waste Management Act of 2000 (RA 9003) ○ Importance of Proper waste disposal ○ Reduce, Reuse and Recycles (3Rs)
2. Perform maintenance of farm tools, materials, and equipment following safety precautions	<p>Farm Tools, Materials, and Equipment</p> <ul style="list-style-type: none"> ● Farm tools ● Materials ● Equipment <p>Types of Maintenance</p> <ul style="list-style-type: none"> ● Preventive ● Corrective ● Schedule <p>Maintenance Activities</p> <ul style="list-style-type: none"> ● Cleaning ● Sanitation and disinfection ● Sharpening ● Lubrication ● Storing
3. Perform nursery operations for organic vegetable production	<p>Farm Nursery Operations</p> <ul style="list-style-type: none"> ● Site selection in nursery establishment ● Materials in nursery construction ● Types of nursery ● Design and lay-out ● Growing media ● Seed sowing

	<ul style="list-style-type: none"> ○ appropriate seedling tray for the different types of crops ○ method of Seed Sowing ○ good quality of seed ● Plant propagation techniques <ul style="list-style-type: none"> ○ sexual propagation ○ asexual propagation ● Care and maintenance
4. Perform planting operations	<p>Procedure in planting operations</p> <ul style="list-style-type: none"> ● Land preparation <ul style="list-style-type: none"> ○ clearing ○ plowing ○ harrowing ○ farrowing ● Planting <ul style="list-style-type: none"> ○ systems of planting ○ methods of planting ● Plant care and management <ul style="list-style-type: none"> ○ pest and disease prevention and control <ul style="list-style-type: none"> - crop rotation - application of beneficial micro-organisms - inter-cropping - attractants and repellent - organic Insecticide - natural predators - mulching ○ organic fertilization

5. Perform harvest and post-harvest handling operations	Harvest and Post-Harvest Handling Operations in Vegetable Production <ul style="list-style-type: none"> ● Maturity indices of vegetable ● Harvesting <ul style="list-style-type: none"> ○ methods of harvesting ○ harvesting schedule ● Post-harvest handling operations <ul style="list-style-type: none"> ○ trimming ○ sorting ○ sizing ○ washing ○ packaging ○ labelling ○ recording of harvested vegetables
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QUARTER 2

CONTENT STANDARD:	The learners demonstrate understanding of principles in producing organic fertilizer and organic concoctions in accordance with industry practices.
PERFORMANCE STANDARD:	The learners perform activities in producing organic concoctions and extracts and organic fertilizer in accordance with industry practices.
LEARNING COMPETENCIES	CONTENTS
1. Perform activities in producing organic fertilizers based on production practices	Producing Organic Fertilizers <ul style="list-style-type: none"> ● Principles of organic composting ● Method of composting <ul style="list-style-type: none"> ○ vermiculture (vermi-composting) ○ anaerobic composting

	<ul style="list-style-type: none"> ○ compost tumblers ○ hot composting ○ trench composting ○ aerated static pile composting
2. Perform the procedures of producing organic concoctions and extracts based on the Philippine National Standard in organic agriculture	<p>Organic Concoctions and Extracts Production</p> <ul style="list-style-type: none"> ● Kinds of organic concoctions <ul style="list-style-type: none"> ○ Fermented Fruit Juice (FFJ) ○ Fermented Plant Juice (FPJ) ○ Fish Amino Acid (FAA) ○ Oriental Herb Nutrients (OHN) ○ Lactic Acid Bacteria Serum (LABS) ○ Calcium Phosphate (CalPhos) ○ Vermitea ○ Indigenous Microorganism (IMO) ● Tools and materials ● Packaging and labelling ● Storing of organic concoctions ● Recording of production

QUARTER 3

CONTENT STANDARD:	The learners demonstrate understanding of the principles of raising organic chicken in accordance with industry practices.
PERFORMANCE STANDARD:	The learners perform activities in raising organic chicken in accordance with RA 10068 and Philippine National Standards.
LEARNING COMPETENCIES	CONTENTS
1. Perform activities in raising organic chicken	Raising organic chicken

	<ul style="list-style-type: none"> ● Housing <ul style="list-style-type: none"> ○ types of housing ○ bedding materials ○ fixtures ○ facilities ● Selection and culling of stocks <ul style="list-style-type: none"> ○ breeds ○ indicators of healthy chicks ● Feeds and feeding management <ul style="list-style-type: none"> ○ feed ingredients ○ feed formulation ○ feeding management program ● Growth management and harvesting of chicken <ul style="list-style-type: none"> ○ health care program ○ sanitation and cleanliness program ● Harvesting of organic chicken products ● Marketing of organic chicken ● Recording activities in production of organic chicken ● Waste disposal management
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(May take any option)
QUARTER 4 – OPTION 1 (80 hours)

CONTENT STANDARD:	The learners demonstrate understanding principles in raising organic hogs in accordance with industry practices.	
PERFORMANCE STANDARD:	The learners perform activities in raising organic hogs in accordance with industry practices.	
LEARNING COMPETENCIES		CONTENTS

Perform activities in raising organic hogs based on industry practices	<p>Raising Organic Hogs</p> <ul style="list-style-type: none"> ● Housing <ul style="list-style-type: none"> ○ types of housing ○ bedding materials ○ fixtures ○ facilities ● Selection and culling of stocks <ul style="list-style-type: none"> ○ breeder ○ piglets ● Feeds and feeding management <ul style="list-style-type: none"> ○ feed ingredients ○ feed formulation ○ feeding management program ● Growth management and harvesting of organic hogs <ul style="list-style-type: none"> ○ health care program ○ sanitation and cleanliness program ● Marketing organic hogs ● Recording activities in production of organic hogs ● Waste disposal management
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QUARTER 4 – OPTION 2 (80 hours)

CONTENT STANDARD:	The learners demonstrate understanding principles in raising organic small ruminants in accordance with industry practices.	
PERFORMANCE STANDARD:	The learners perform activities in organic small ruminants in accordance with industry practices.	
LEARNING COMPETENCIES		CONTENTS
Perform activities in raising organic small ruminants	Raising an Organic Small Ruminant (goat) <ul style="list-style-type: none"> ● Housing 	

	<ul style="list-style-type: none"> ○ types of housing ○ bedding materials ○ fixtures ○ facilities ● Selection and culling of stocks ● Feeds and feeding management <ul style="list-style-type: none"> ○ forages ○ feed ingredients ○ feed formulation ○ feeding management program ● Growth management and harvesting of organic small ruminants <ul style="list-style-type: none"> ○ health care program ○ sanitation and cleanliness program ● Marketing organic small ruminants ● Recording activities in production of organic small ruminants ● Waste disposal management
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GLOSSARY

bedding - the flooring of an organic animal housing which is made of a mixture of degradable indigenous materials

breed - a stock of animals or plants within a species having a distinctive appearance and typically having been developed by deliberate selection

brooding -the care of eggs and chicks before and after they hatch

buck - a male breeder goat

colostrum - a yellowish fluid that is rich in antibodies and minerals produced by the mother after giving birth and prior to the production of true milk

compost - an organic fertilizer made from the decomposition of materials from both plant and animal sources

concoctions - various kinds of liquid organic fertilizers made through the process of fermentation

contingency measures - are plans or actions that are intended to be used if an unexpected situation occurs

culling - the removal of unproductive animals in the farm

estrus - a recurring period of sexual receptivity and fertility in many female mammals; heat

extracts - various kinds of liquid organic fertilizers

farrowing - the act of giving birth in hogs

feeding - providing animals with safe, nutritious food that is grown without synthetic pesticides, herbicides, or fertilizers.

feeds - refers to the edible materials that animals consume to provide them with nutrients and energy. organic feed is grown without the use of synthetic chemicals, such as pesticides, herbicides, fertilizers, hormones, and antibiotics.

feedstuff - feed materials provided for poultry and livestock

fermentation - the chemical breakdown of a substance by bacteria, yeasts, or other microorganisms, typically involving effervescence and the giving off of heat

financial record - is any document that contains information about a company's financial activities, such as its income, expenses, assets, liabilities, and equity.

finisher - a poultry/ livestock that is currently in the finishing stage

food grade - a term used to describe tools, supplies, and equipment that are of sufficient quality to be used for food production, food storage, or food preparation purposes

forage grass - grasses grown and harvested specifically to be fed to livestock

furrow - a long narrow trench made in the ground by a plow, especially for planting seeds or for irrigation

gestation - the carrying of an embryo or fetus inside female viviparous animals. It is typical for mammals, but also occurs for some non-mammals.

harvesting - is the process of picking ripe crops from the field and moving them to a secure location for the storage, processing, or consumption.

hazard - any potential source of harm or adverse effect that can negatively impact organic farming operations, produce, workers, or the environment.

inventory record - or stock record, contains data about the items a company has in stock, such as the amount of inventory on hand, what's been sold and reordered, what's on order, the product's value, and where it's stored.

kid - a young goat

kidding - the act of giving birth in goats

marketing - the activity or business of promoting and selling products or services, including market research and advertising.

nursery - is a place where young plants are grown in a protected environment until they are ready to be transplanted into the field.

pest - a destructive insect or other animal that attacks crops, food, livestock, etc.

plant care- is the practice of providing plants with the right amount of water, light, fertilizer, and other needs to help them thrive and extend their life.

production record - is a document that contains details about the production of goods or services, and can be used for a variety of purposes.

ram- a male breeder sheep

ratooning - cutting down a plant to produce new shoots or sprouts springing from the base of a crop plant, especially sugar cane, after cropping

record keeping - is the process of organizing and storing information for future reference. It can be manual or digital, and is often used by businesses to track and evaluate their performance.

risk - to expose to hazard or danger

ruminants - grazing mammals, such as sheep and goats, that are important in organic farming because of their versatility, efficiency, and ability to survive in difficult environments

stock - breeds that are adapted to the local environment and have predictable outcomes

vermicast - also called worm castings, worm humus, or worm manure, which is the end-product of the breakdown of organic matter by African night crawlers

vermicomposting - a type of composting that uses African night crawlers to produce vermicast/vermicompost

waste disposal management - the process of using organic waste to improve soil and crop yield, and to reduce pollution. organic waste management practices

waste disposal - the process of collecting, sorting, transporting, treating, storing, and disposing of waste. It also includes the transformation of waste for recycling, recovery, or reuse.

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TOOLS, MATERIALS, AND EQUIPMENT

TOOLS	MATERIALS	EQUIPMENT
bolo	feeds: starter,	booth/temporary shed
broomstick	feeds: grower	shredder
plastic pail (10 liter. capacity)	21-day old chicks	fire extinguisher
carpentry tools	rice hull	booth/temporary shed
knapsack sprayer	sand	wheel barrow
storage container with cap,15 liter capacity	net, #10 mesh size	carbonizer
weighing scale, 2 kilos capacity (2); 25 kilos capacity (1)	first aid kit	soil thermometer
shovel	apron	carbonizer
knives	chopping board	moisture meter
weighing scale, 10 kilos capacity (1); 150 kilos capacity (1)	feeding trough	cart
broomstick	basal organic fertilizer	meat grinder, small
plastic pail (10 liter. capacity)	foliar organic fertilizer	
carpentry tools	seedling tray, plastic	
knapsack sprayer	plastic twine	
storage container with cap,15 liter capacity	assorted vegetable seedlings	
digging blade/bar	empty bags, 50 kg capacity	
spading fork	rags	
hoe	strainer, nylon screen, fine mesh	
rake	molasses	
measuring cup; 1 liter capacity	dry leaves	
pruning shear	pig manure	
petri dish	carbonized rice hull	
spike tooth horrow	plastic sheet	
spade	plastic tie box	

spading fork	various concoctions/extracts for at least 1 liter per sample	
measuring cup; 1 liter capacity	weight (clean stone 100grams each)	
plastic cup (1 liter capacity)	weight (empty plastic container 250 to 500 ml capacity)	
syringe, plastic, 30 ml capacity	plastic strainer, fine mesh, 1ft x 1ft square	
	plastic strainer, small mesh, 1ft x 1 ft square	
bamboo container/ plastic container/wooden box for collecting microbes	empty plastic container, 1 liter capacity	
slicing knife	empty plastic container, 5-liter capacity	
pannel(imbudo)	goat feeds: starter, grower, finisher	
	goat feeds: grower	
	45-day old goat	
	rice hull	
	sand	
	plastic sheet	
	first aid kit	