SUBJECT: AGRICULTURAL SCIENCE

TOPIC: AGRICULTURAL FARMING

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LEARNING OBJECTIVES

- Identify various Agricultural farming systems.

- Mention factors influencing farming systems.

- Give at least two features of each farming system.

- Differentiate between the main agricultural farming systems available.

INTRODUCTION

- Farming is as old as man itself. It began from gathering of fruits (and other edibles), moved to hunting of wild animals, proceeded to planting of wild seeds and rearing of domesticated livestock which brought about the first farming system.

- Agricultural farming systems are a set of strategies to manage the available resources to achieve economic and sustainable agricultural production

Factors influencing Farming systems.

Several factors have influenced the types of farming systems practiced in different parts of the world. These factors include;

❏ Available water

❏ Land

❏ grazing areas

❏ arable lands

❏ forest

❏ climate

❏ landscape etc.

TYPES OF FARMING SYSTEMS

Types of farming

- Shifting Agriculture
- Subsistence Agriculture
- Intensive agriculture
- Extensive Agriculture
- Plantation Farming
- Mixed farming
- Commercial agriculture

Subsistence Production

Purpose:

Production of crops & livestock for personal and family consumption

Subsistence Production

Land Use:

Utilizes land resources available regardless of size, shape, suitability

Subsistence Production

Crops:

mixed crops (variety), companion crops and often includes animals.

Subsistence Production

Cropping practices

- Aimed at providing a continuous supply of food

- Vertical farming methods employed where land is scarce

Subsistence Production

Labour Use

High labour requirements, provided by family, including children
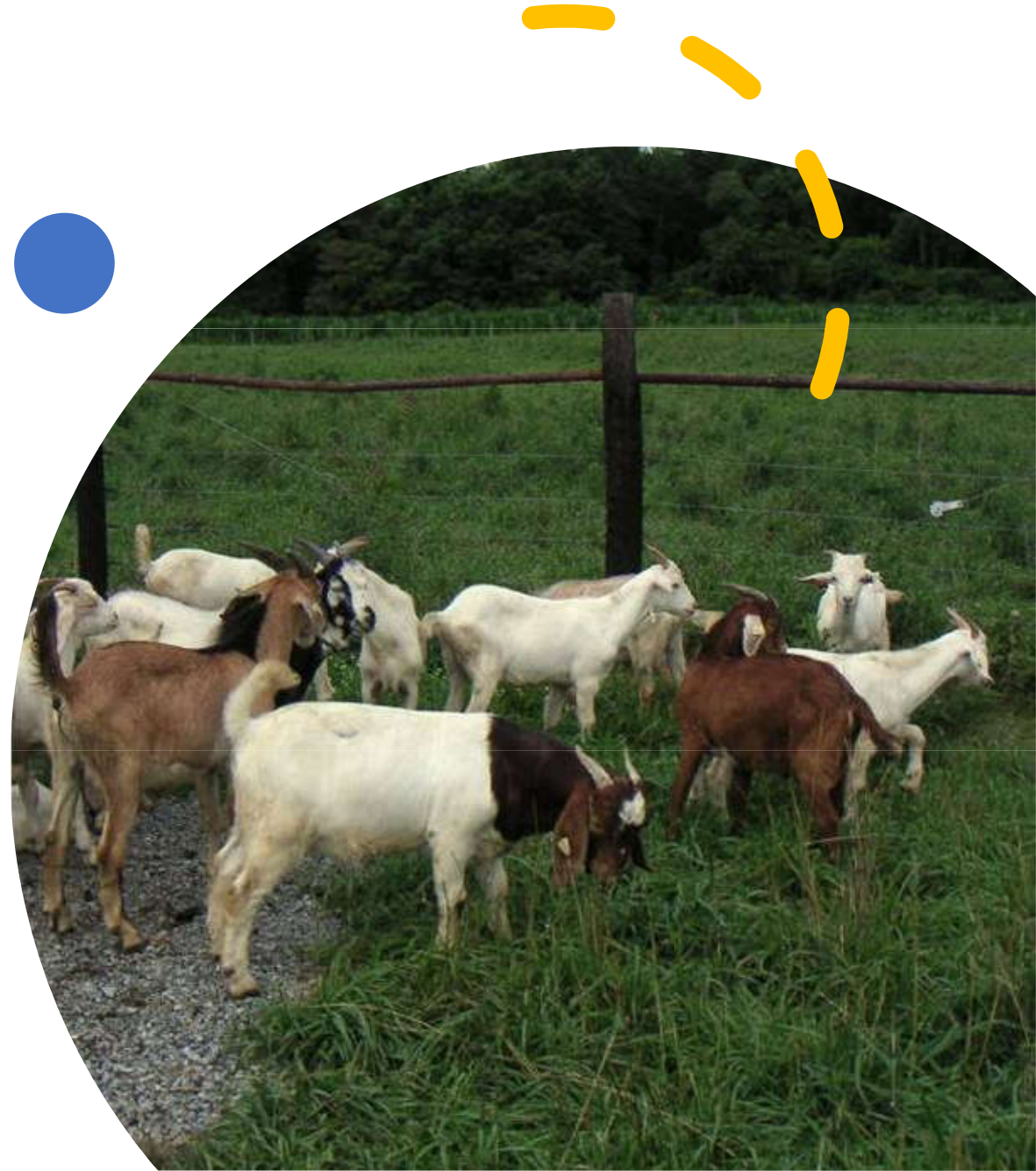
Subsistence Production

Technology

Little or no advanced technology use (primitive tools), sometimes animal power use.

Subsistence Production

- **Fertilizer Use**

- Little or No inorganic fertilizer use depend largely on recycled animal waste or farmyard manure.

<u>Subsistence Production</u>

- **Agrochemicals**
- Pesticides or herbicides used only if available and/or affordable

Subsistence Production

- **Harvesting**
- Harvest is by hand and continuous where the growing season allows

Subsistence Production

- **Storage and Preservation**

- Crude preservation techniques and limited storage capability – ambient conditions (barns, kitchen roofs)

Commercial Production

Purpose:

Produce crops and livestock for sale and profit

Commercial Production

Land Use:

Requires large, contiguous acreage

Commercial Production

Crops:

Single or few Crops on large scale/ rotational monoculture

Commercial Production

Cropping practices

➤ Aimed at production efficiency and profitability (scale)

➤ Highly mechanized (soil prep, planting, cultivation, harvesting, handling)

al Production

Labour Use

Minimal hired labour due to automation

Commercial Production

Technology

modern technology use and research-based methods employed.

Aquaponics

Greenhouse technology

Commercial Production

Fertilizer Use

Regular and mechanized use of fertilizers

Fertigation

Commercial Production

Agrochemical Use

Regular and mechanized

use of pesticides and herbicides

Aerial Chemical spray

Commercial Production

Harvesting

Harvest is short-term and scheduled to maximize yield and quality

Commercial Production

Storage & preservation

- Modern storage equipments use for short and long-term storage common.

- Processing for better preservation or value addition.

Summarily, the differences between Subsistence and Commercial farming is shown below

S. No.	Subsistence farming	Commercial farming
(i)	It is practised on small patches.	It is practised on a large scale.
(ii)	Farming depends on irrigation	Irrigation facilities are available.
(iii)	Primitive tools are used	Modern technology is used.
(iv)	Production is low.	Production is high.
(v)	No costly fertilisers are used.	Chemical fertilisers are used.
(vi)	Family members provide labour.	Labourers are hired.
(vii)	Only cereals and other food crops are grown.	Commercial crops are grown.

EVALUATION

Identify at least five Agricultural farming system and explain any two?

Highlight three features each of Subsistence and Commercial Agriculture.

ASSIGNMENT

State five differences between commercial agriculture and subsistence agriculture.

(WASSCE Theory question)