

# RISHIKUL SANATAN COLLEGE

## AGRICULTURAL SCIENCE YEAR 11- 2021

### WORKSHEET 1

1. Schools run different agricultural enterprises. Identify current horticulture enterprise.

- A. fruits and vegetables
- B. honey and pigs
- C. cattle and sheep
- D. fish and prawns

2. Possible solution to overcome the pest and diseases on any farm is through

- A. integrated pest and disease management
- B. chemical control
- C. fencing the farming area
- D. avoid livestock on farms

3. The predication of the outcome of the experiment is

- A. Aim
- B. Result
- C. Hypothesis
- D. conclusion

4. Fences are most commonly made using lightweight steel wire are called

- A. chain link
- B. wooden fence
- C. goat mesh wires
- D. electric fence

5. A small, usually enclosed field for pasture or exercising animals are known as

- A. paddock
- B. Loading ramp
- C. stock yard
- D. farm house

**SHORT ANSWERS:**

- (a) Discuss **one** challenge faced by crop enterprise in schools. (2 marks)
- (b) Identify **one** solution to control for zoonosis diseases in livestock enterprise. (1 mark)
- (c) List **one** example of a field trial that is carried out in schools. (1 mark)
- (d) **Explain** how adding value enhances the nutritive value of food. (2 marks)
- (e) **Identify** the methods of value adding shown in the diagrams below. (2 marks)

i)



ii)



- (f) **Determine** how Biosecurity Authority of Fiji controls pest and diseases. (2 marks)

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### WORKSHEET 2

1. Produce are stored where it is kept between 10 and -10°C is called
  - A. cold storage
  - B. hermetic storage
  - C. dry storage
  - D. shade house
  
2. Which method prevents rot in timber when maintaining farm buildings?
  - A. replacing
  - B. painting
  - C. clearing
  - D. mending
  
3. Results when the farm business borrows money and creates an obligation to repay debt is
  - A. personal risk
  - B. production risk
  - C. financial risk
  - D. human risk
  
4. Document that lists what steps must be taken in order to achieve a specific goal is known as
  - A. Action plan
  - B. monitoring progress
  - C. assessment of farm resources
  - D. setting goals
  
5. A hard glassy looking, transparent mineral which varies from white and grey to smoky is
  - A. Mica
  - B. Olivine
  - C. Calcite
  - D. Quartz

**SHORT ANSWERS:**

(a) Compare the **purpose** of a residential fence and a farm fence. (2 marks)

(b) List the **two** common types of fences used on Fiji farms. (2 marks)

(c) Briefly **explain** why it is environmentally friendly practice to keep livestock out of creeks, streams, rivers and dams. (2 marks)

(d) State **one** advantage of clearing farm fence. (1 mark)

(e) The following diagrams shows functions of farm buildings. **Identify** the type of farm buildings shown below. (2 marks)

i)



ii)



(Source: year 11 text book)

(f) List **one** of the factors to consider when constructing farm buildings. (1 mark)

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### WORKSHEET 3

1. Indicates the basic colour of soil when measured using Munsell Colour System is
  - A. Hue
  - B. Chroma
  - C. Value
  - D. Matrix
2. Before conducting a field trial, the farmer predicts the outcome of an experiment in the
  - A. aim
  - B. budget
  - C. abstract
  - D. hypothesis
3. The raw products produced on farms usually have a limited shelf life due to
  - A. price fluctuation
  - B. microbial spoilage
  - C. changing consumer taste
  - D. value adding methods used
4. Which of the following is an exotic animal species which has adapted well to living in Fiji?
  - A. Tilapia
  - B. Wrasse
  - C. Fijian Emperor Butterfly
  - D. Orange Spotted Therapon
5. A farmer may address the problem of waterlogged soil on his farm by
  - A. installing irrigation facilities
  - B. forming soil into furrows and ridges
  - C. mulching the soil surface with leaves
  - D. applying artificial fertilizing materials.

**SHORT ANSWERS:**

- (a) Assume the main **purpose** of agriculture in Fiji in relation to Agribusiness. (1 mark)
- (b) Explain **why** it is important to plan before carrying out enterprise. (2 marks)
- (c) What **role** does farm planning plays regarding the conservation of natural resources?  
(2 marks)
- (d) **Explain** how decision making will help a farm business grow. (2 marks)
- (e) American Iguanas on Qamea Island continue to feed on small fish and leaves of cassava plants. Use **three** decision making steps to assist a farmer from the affected area who grows cassava for export, decide on how the farmer will address this issue. (3 marks)

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**WORKSHEET 4**

1. Value adding is suitable for local crops which are
  - A. expensive to preserve
  - B. cheap in the off season
  - C. abundant in main season
  - D. imported throughout the year
  
2. Which of the following types of fences would a farmer use to train a bull not to cross a fence line?
  - A. Hedge
  - B. Poultry
  - C. Electric
  - D. Wooden
  
3. Limestone is a type of rock which is composed of only one mineral called
  - A. Mica
  - B. Calcite
  - C. Olivine
  - D. Pyroxine
  
4. Which of the following is an example of an institutional risk associated with farming?
  - A. Accidents
  - B. Rising interest rates
  - C. unfavorable weather
  - D. Rules for waste disposal

5. The diagram below illustrates the layout of a shed in which cattle are milked.



- A. Rotary
- B. Parlour
- C. Parallel
- D. herringbone

**SHORT ANSWERS:**

- (a) **Differentiate** between soil texture and structure that make up the soil. (2 marks)
  
- (b) Farmers often say that black soil is best for farming. **Discuss** this statement. (2 marks)
  
- (c) Briefly **explain** how repeated ploughing can result in formation of hard pan. (2 marks)
  
- (d) **Discuss** the effects that the burning crop residue has a soil. (2 marks)
  
- (e) **Differentiate** between Liquid limit (LL) and Plastic Limit (PL) measured to Atterberg limits in relation to soil consistency. (2 marks)



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**WORKSHEET 5**

1. If the colour of a soil sample is R 5/10 it has Hue
  - A.  $\frac{1}{2}$
  - B. 5.
  - C. 10.
  - D. red
2. Before beginning the field trial, students took the temperature of the soil by placing a soil thermometer in a 10 cm deep pilot
  - A. hole
  - B. drill
  - C. profile
  - D. furrow
3. The amount of heat needed to raise the soil temperature by 1° C is called
  - A. energy
  - B. transfer
  - C. incident
  - D. capacity
4. When compared to a sandy soil, clay soil will require
  - A. less tillage
  - B. less irrigation
  - C. more fertilizers
  - D. more amendments
5. The movement of heat in soil is
  - A. insulation
  - B. respiration
  - C. conduction
  - D. vaporization

**SHORT ANSWERS:**

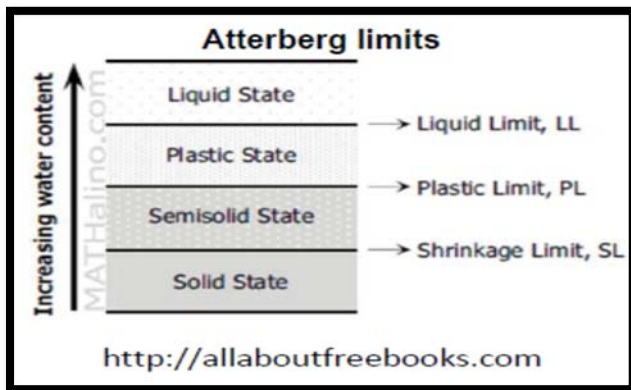
- a. State one reason why a farmer would stretch a strand of electric wire across the bottom of a goat mesh fence. (1 mark)
- b. Explain one reason why farmers clear fences of vegetation. (2 marks)
- c. Differentiate between boundary and fences. (2 marks)
- d. Discuss one main characteristic of plants used for hedges. (2 marks)
- e. Compare the type and function of a residential fence and a farm fence. (2 marks)
- f. State one advantage of strengthening farm fences. (1 mark)

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### WORKSHEET 6

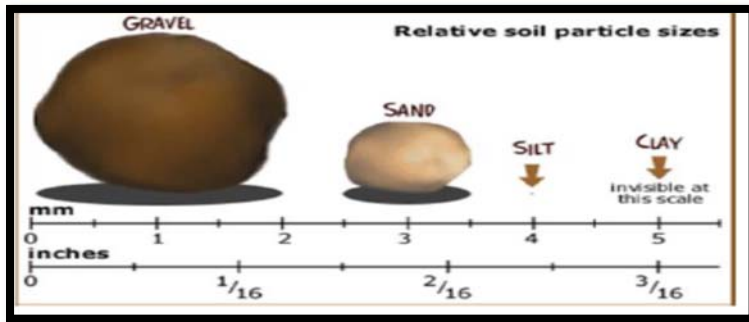
1. Pedogenesis is the science and study of the processes that lead to soil
  - A. depth
  - B. colour
  - C. formation
  - D. temperature
2. Below is a diagram of the Atterberg Limits



(Sources: year 11 text book, 2015)

- Soil scientists use Atterberg Limits, illustrated above, to evaluate and describe soil
- A. colour
  - B. texture
  - C. structure
  - D. consistency
3. The calcium carbonate sand found on atolls is composed mainly of fragments of
    - A. quartz grains
    - B. volcanic glass
    - C. different minerals
    - D. coral and shellfish remains
  4. Which of the following crops will grow best in very shallow soil?
    - A. Maize and palms
    - B. Vegetables and spices
    - C. Carpet grass and ferns
    - D. Pine and mahogany trees

5. The diagram below illustrates four different soil separates, arranged according to size.



(Source: year 11 text book, 2015)

The soil separate indicated by the letter X is

- A. silt
- B. clay
- C. sand
- D. gravel

**SHORT ANSWERS:**

- a. State one reason why some farmers dislike planning. (1 mark)
- b. State one reason why farmers gather feedback after implementing a decision. (1 mark)
- c. Describe one impact which informed decision making has on farm efficiency. (2 mark)
- d. State one reason why farmers should record the steps they followed when making a decision. (1 mark)
- e. State one example of a human risk which affects farms. (1 mark)
- f. Explain one reason why it is important for a farm manager to take responsibility for the results of all decisions made on the farm. (2 marks)
- g. Explain one characteristics of a good farm plan. (2 marks)

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### WORKSHEET 7

1. The vast majority of men die poor, not because their intentions were not right, but their plans were not right. Relate this statement to farm planning and identify the **advantages of planning**
  - A. to achieve objectives
  - B. to increase cost
  - C. to reduce income
  - D. to locate a market
  
2. **After analyzing research** on methods which would control the pests invading a farms cabbage crop, a farmer would
  - A. gather feedback
  - B. learn from mistake
  - C. implements the decision made
  - D. takes responsibility for the decision
  
3. When compared to a sandy soil, a **clay soil will require**
  - A. less tillage
  - B. less irrigation
  - C. more fertilizer
  - D. more amendments
  
4. Agricultural soils are divided into **textural classes** according to their physical texture. The fine textured soil will
  - A. feels gritty
  - B. feels smooth
  - C. feels sticky
  - D. all of the above
  
5. Which of the following **elements of landscaping** includes landforms, terrain, shape, elevation and bodies of water?
  - A. living
  - B. human
  - C. natural
  - D. abstract

**SHORT ANSWERS:**

- a. Identify one major mineral commonly found in rocks which peel off in sheets during weathering. (1 mark)
- b. State one reason why hard pans form when soil water evaporates. (2 marks)
- c. Identify one way in which soil organisms increase the temperature of soil. (1 mark)
- d. State one reason why smectite clay soil is used in the bottom of fish ponds. (1 mark)
- e. Differentiate between cohesion and adhesion in relation to soil consistence. (2 marks)
- f. State what a soil scientist would use a Cassagrande Liquid Limit Device for? (1 mark)
- g. Name the type of soil that is described as being smooth to the touch? (1 mark)
- h. State one reason why soil at the base of a slope is usually more fertile than the soil at the top of a slope. (1 mark)

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### WORKSHEET 8

1. **Challenges faced by agricultural enterprises** usually have more than one possible solution. To determine the solution most suitable for implementation on a farm, farmers are encouraged to
  - A. conduct field trips.
  - B. conduct field trials.
  - C. conduct agriculture show.
  - D. conduct disease control.
  
2. A field trial has **2 or 3 variables**. A variable is
  - A. any factor that decreases profit
  - B. any factor that adds value
  - C. any factor that varies in amount and types
  - D. any factor that increases price
  
3. The word ***Ex situ*** describes the process of protecting an endangered species of plant or animal
  - A. outside the natural habitat
  - B. within the farming system
  - C. within other farming ecosystem
  - D. interacting within all the species
  
4. One reason of adding value would be
  - i) Reduce wastage of products
  - ii) Preserves food for future use
  - iii) Some nutrients and fiber are removed or destroyed. Which of the options above are **advantages of adding value?**
  - A. ii and iii
  - B. i and iii
  - C. i and ii
  - D. all the above

5. The three main types of farm buildings are barns, houses and sheds. **Farm buildings together with land** is known as
- A. crop farm
  - B. green house
  - C. farm house
  - D. farmstead

**SHORT ANSWERS:**

- (a) Discuss ways to **safeguard** the farming enterprises during a **drought** for any crop and livestock farmers in Fiji. (2 marks)
- (b) State two importance of **conducting fertilizer field trials** on the crop enterprise farms. (2 marks)
- (c) Explain the advantage of involving **planned and actual columns** when preparing a schedule of work for the field trial. (2 marks)
- (d) The diagram below shows mango glut in Nausori market. Identify any **two methods to preserve** glut products to avoid loss to a farmer. (2 marks)

Mango glut



(Source: year 11 text book, 2016)

- (e) State one reason why **Fiji's endemic flora and fauna** must be maintained. (1 mark)
- (f) List one example of **endemic fauna** which lives in marine environments. (1 mark)