PENANG SANGAM HIGH SCHOOL
P.O.BOX 44, RAKIRAKI
LESSON NOTES

School: Penang Sangam High School
Subject: Agricultural Science
Year/Level: 11 **Week 8**

Strand	Strand as 11.3 Agronomy
Sub Strand	Sub-strand 11.3.1 Soils
Content Learning Outcome	Demonstrate the assessment methods used in determining the physical properties of the soil.

LESSON 2: IMPORTANCE OF SOIL COLOUR [Textbook Reference: Pg 74]
LESSON OUTCOME: At the end of this lesson the student will discuss the importance of soil colour.

- Soil science - scientific study of the formation, classification, mapping, and the physical, chemical and biological properties of soil.
- Pedology - the science that deals with the study of soils in their natural environment.
- Latosol - soils found under tropical rainforests with a relatively high content of iron and aluminium oxides.
- Podzol- soils which form under forested landscapes on coarse parent material that is high in quartz.

Notes

Soil scientists study the colour of soil to:

1. Assist with the field identification of types of soil
2. Describe and classify soil Light color in a calcium carbonaterich soil (southeastern Spain)
3. Determine the origin and the condition under which soil was deposited
4. Determine the mineral composition of soil
5. Determine the age of soil.

By determining these facts soil scientists can decide the use and management practises that are needed to improve the productivity of the soil.

Student Activity

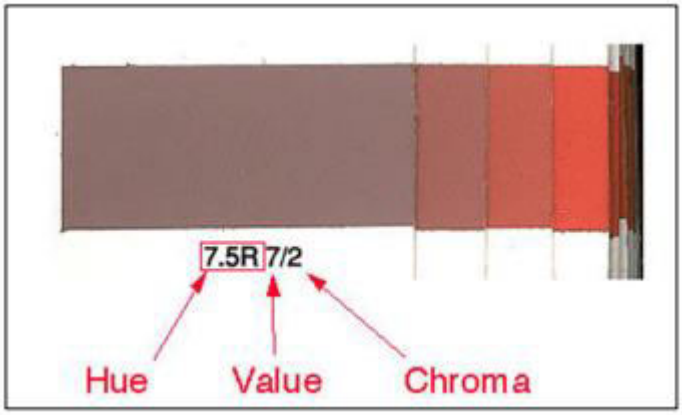
1. Differentiate between latosol and podzol.
   _____
   _____
   _____
2. State three reasons why farmers study the soil colour of their farm.
   a) _____
   b) _____
   c) _____

LESSON 3: DETERMINING SOIL COLOUR [Textbook Reference: Pg 75-76]
LESSON OUTCOME: At the end of this lesson the student will discuss how soil colour is measured.

- **Munsell colour system -** an international standard reference system used so that everyone knows precisely what soil colour is being described.

Notes

- ✓ Soil Scientists use soil colour to assess and classify soil. Often soil colour is described in terms such as "dark brown", "black" or light red".
- ✓ Soil colour is measured using a standardized system called the Munsell Colour System.
- ✓ This system was invented by Albert H Munsell (1858- 1918) as an accurate way to numerically define colours. The system is composed of 1000 colour samples which are presented in a book of removable cards as illustrated below.



Each sample is designated a letter and number which relate to the hue, value and chroma of a colour. The soil is compared to the colour samples and so that colour of the soil is determined and can be described e.g. a soil colour may be expressed as **R 5/10** meaning – Hue Red, Value **5**, Chroma **10**.

Student Activity

1. What is a munsell colour system?
   _____
   _____
2. State the use of the munsell colour system.
   _____
   _____
3. Soil colour is often classified in three terms. State the three terms.
   _____
4. How is the soil colour determined?
   _____
   _____
   _____
   _____

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