

MINISTRY OF EDUCATION
SECONDARY ENGAGEMENT PROGRAMME
SEPTEMBER 2020

GRADE: 8
Science

SUBJECT: Agricultural

WEEK 6

Lesson # 1

Topic: Cultivation of crops

Sub-Topic: The Cultivation of Citrus

Objectives

Students will:

- ❖ state the origin and distribution of citrus correctly.
- ❖ discuss without hesitation the economic importance of citrus.
- ❖ identify several varieties of citrus grown in Guyana and the Caribbean accurately.
- ❖ discuss soil and climate correctly.

Content

Family: *Rutaceae*

Genus: *Citrus*

Origin and Distribution

- ❖ The cultivated species are believed to be native of tropical and sub-tropical regions of South -East Asia.
- ❖ From there it spread to Mediterranean areas.
- ❖ It was introduced to the Caribbean by the Spanish, Dutch, French and English in the 16th and 17th century.
- ❖ Citrus is cultivated throughout the sub-tropics and tropics.
- ❖ Today, much of the commercial production is now sub-tropical regions with a Mediterranean climate.
- ❖ Most important producers of oranges are Brazil, USA, Mexico, Italy, Spain, India and China.

- ❖ Japan supplies about half the world production of mandarin.
- ❖ Mexico produces mainly lime; China produces principally shaddocks.

Economic Importance

- ❖ Citrus fruits may be eaten fresh as are the sweet orange, tangerine and grapefruit or their segments may be canned.
- ❖ Juice is extracted and consumed or it may be concentrated four or more times.
- ❖ Juice of lemon and lime is diluted into lemonades and other soft drinks.
- ❖ Segments of shaddock are used in fruit salads because the pulp falls apart easily.
- ❖ After extraction of juice, citrus pulp and molasses are used as cattle feed.
- ❖ Essential oils are made from the peel of fruits, leaves and flowers of some citrus species.
- ❖ The most expensive essential oils are derived from the flowers of sour orange (neroli) and from fruits of bergamot sour orange.
- ❖ Sour fruit is used in making marmalade (type of jam).
- ❖ Citron peel is candied.

Importance of Citrus



Candied Citrus



Fresh Citrus



Citrus Juice



Citrus Salad



Citrus Marmalade



Citrus Oils

Soil and Climate

- ❖ Citrus is cultivated from sea level up to 1000m.
- ❖ The optimal temperature for growing citrus is between 25°C and 30°C.
- ❖ Above or below temperature of 38°C and the minimum temperature of 13°C.
- ❖ An average rainfall of about 1250 to 1500 mm (50 to 60) is required if citrus trees are to be grown without irrigation.
- ❖ Even distribution of rainfall throughout the year is most important.
- ❖ A dry period of two months is sufficient for flower induction.
- ❖ When this period is followed by irrigation, the trees would flower within 20 to 28 days.
- ❖ Citrus grows well on a wide variety of soils, from coarse sand to heavy clays.
- ❖ Good drainage is essential for better growth and high yields.
- ❖ Best soil for citrus is a medium textured, reasonably deep fertile soil, free from injurious salts, and the best pH range from 6 to 7.
- ❖ High elevation with slightly sloping lands is preferred.

Review

1. What is the family and genus name for citrus?
2. Write a paragraph describing the soil and climate requirements for the cultivation of citrus.
3. Explain the economic importance of citrus to Guyana.
4. In Guyana, several varieties of sweet potato are cultivated, Identify 5 varieties of sweet potato.
5. A farmer now venturing into the cultivation of citrus would like to know where citrus originated and currently distributed, what would you tell him?

References

Book

1. Weever, et al (1993), Agricultural Science for Secondary Schools in Guyana, BK 2, Ministry of Education National Center for Educational Resource Development, Georgetown, Guyana. Chapter 2, pages 53-54.

Internet Sources

<http://agriculture.gov.gy/wp-content/uploads/2016/01/citrus.pdf>