

MINISTRY OF EDUCATION
SECONDARY ENGAGEMENT PROGRAMME
SEPTEMBER 2020

GRADE: 8
Science

SUBJECT: Agricultural

WEEK 4

Lesson # 1

Topic: Cultivation of crops

Sub-Topic: The Cultivation of Cabbage

Objectives

Students will:

- ❖ state the origin and distribution of cabbage correctly.
- ❖ discuss without hesitation the structure of the plant and economic importance of cabbage.
- ❖ identify several varieties of cabbage grown in Guyana and the Caribbean accurately.
- ❖ discuss nursery and land preparation activities correctly.

Content

Botanical name: *Brassica oleracea var. capitata*

Family: *Cruciferae*

Origin and Distribution

- ❖ present day cabbage is believed to have originated from the wild cabbage found growing along chalky coast of England and western/southern coast of Europe.
- ❖ It is now grown throughout the world.

Structure of the Plant

- ❖ The plant is biennial.

- ❖ Has noticeably short stem surmounted by a mass of thick overlapping leaves forming a patch head.
- ❖ The head may be pointed, round, green, red, smooth, or crinkled.
- ❖ The flowers have 4 petals, 4 sepals, 4 stems (2 long), 2 fused carpels forming fruits which split from bottom.

Economic Importance of Cabbage

- ❖ The only part of the plant that is normally eaten is the leafy head; more precisely, the spherical cluster of immature leaves, excluding the partially unfolded outer leaves.
- ❖ The so-called 'cabbage head' is widely consumed raw, cooked, or preserved in a great variety of dishes, and is thus a leaf vegetable.
- ❖ While raw cabbage can be eaten in hand, for most uses it is sliced into thin strips or shredded and used in salads or chopped as in coleslaw.
- ❖ Cabbage is often prepared by boiling, usually as part of soups or stews, such as the Central European and Eastern European borscht.
- ❖ Cabbage is favored for pickling and is considered ts'ai, or suitable to go over rice. The pickled cabbage known as kim-chi or kim-chee is a staple throughout Korea.
- ❖ Cabbage is often consumed as the German sauerkraut.
- ❖ Large drumhead long aged cultivars are grown for feeding livestock in developed countries.

Foods made from Cabbage



Sauerkraut



Boiled Cabbage



Stewed Cabbage

(Pickled cabbage)



Cabbage Coleslaw



Cabbage Salad



Steamed Cabbage

Soil and Climate

- ❖ A hardy cool season crop and performs at its best during cool, moist period.
- ❖ Fertile, moist, well drained soils with pH of 6.5 is ideal.
- ❖ The soil should contain a liberal supply of organic matter.

Varieties of Cabbage

- ❖ In selecting varieties, factors such as market demand, disease resistance, season of the year to be planted and resistance to premature flowering must be considered.

Varieties grown in Guyana and the Caribbean



O.S. Cross



K.K. Cross



K.Y. Cross



Premium Flat Dutch



Copenhagen Market



Early Jersey



Charleston Wake



Early Round Dutch



Red Acre



Nursery Preparation

- ❖ Seeds are sown in a nursery bed and transplanted into the field.
- ❖ Seeds should be sown in seed bed that contain rich fertile soil.
- ❖ Site should be hoed or ploughed and allowed to weather.
- ❖ Raised beds of size 3 x 0.6 m and 10-15 cm in height are prepared.
- ❖ About 70cm distance is kept between two beds to carry out intercultural operations such as watering, weeding, etc.
- ❖ The surface of beds should be smooth and well levelled. Well-decomposed farmyard manure at 2-3 kg/m is added at the time of bed preparation.
- ❖ Raised beds are necessary to avoid problem of water logging in heavy soils.

- ❖ To avoid mortality of seedlings due to damping off, drenching of the beds with Bavistin (15-20g/10 litres of water) is effective.
- ❖ The seeds are generally sown in a seed bed and 4-6-week-old seedlings are transplanting to the field.



❖ **Video on How to Grow cabbage from a Seed**

https://www.youtube.com/watch?v=SohCJjY_bns

Land Preparation and Transplanting

- ❖ The field for cabbage should be ploughed in the season and be allowed to aerate for a few weeks.
- ❖ In low lying areas, raised beds should be about 90 cm (3ft) wide and of a convenient length with a 30 cm (1ft) drains between beds, 15-20 cm deep to remove excess water from the beds.
- ❖ Well-rotted farmyard manure must be incorporated during harrowing along with 170kg (350lbs) of triple superphosphate or 3-3 cwt of 5-10-10 NPK mixture.
- ❖ Before transplanting of the seedlings, the nursery beds should be thoroughly watered to facilitate lifting of the seedlings without much damage to the roots.
- ❖ Only healthy seedlings should be transplanted.
- ❖ Seedlings should be 3-4 weeks old for transplanting.
- ❖ Transplanted in spacing of 60 cm between rows and 45 cm within rows.
- ❖ Transplanting should be done in the cool of the evening and preferable during rainy weather.

- ❖ They seedlings must be adequately watered throughout the growing season.

Review

Answer the following questions

1. The botanical name for cabbage is_____.
2. Name three (3) varieties of cabbage grown in Guyana.
3. What are the two factors that limit the successful cultivation of cabbage in Guyana?
4. Describe the nursery preparation for cabbage cultivation.
5. Write a paragraph discussing the uses of cabbage.

Reference

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 43-45.

Internet Sources

1. https://www.youtube.com/watch?v=SohCJjY_bns
2. <https://www.newworldencyclopedia.org/entry/Cabbage>
3. https://harvesttotable.com/how_to_grow_cabbage/