Sable P A*, Piyush Kumar Saras and J J Mistry

Swarna Sheetal: Cucumber variety for *kharif* season

Cucumber is a very popular cucurbitaceous vegetable crop grown in *kharif* as well as spring (summer) season. Its tender fruit has a good taste and cooling effect. As a *kharif* season crop, it is sown in June end to July-August. This article discusses the variety Cucumber cv. Swarna Sheetal which responds to training system in *kharif* season. Trellis or bower system of training is preferred to facilitate intercultural operation, to obtain high yield and disease free crop.

SWARNA Sheetal was released by ICAR-RCER, Patna, and recommended for cultivation in Jharkhand, Bihar, Uttar Pradesh, Maharashtra, Delhi, Himachal Pradesh, Andhra Pradesh and Kerala. It is sown during July-August as *kharif* season crop and as spring (summer) during February-March. It is tolerant to powdery mildew. The yield of cucumber cv. Swarna Sheetal was tested in a demonstration plot at KVK, Sardarkrushinagar Dantiwada Agricultural University, Khedbrahma, Gujarat in *kharif* season 2022. The details of practices followed and intervention are given here.

Cultivation

It can be cultivated successfully on well-drained loam and sandy loam soils rich in organic matter. The seed rate is 1.5-2.0 kg/ha. The seeds were sown in the hills on the slope of ridges (channels). The spacing between row-to-row was 180 cm and between plants-to-plant 30 cm.

Intercultural practices

When vine became 8-10 cm tall, gap filling was done to keep 1-2 vine per hill. Since the crop is shallow rooted, earthing up was done to cover the roots and support the vine properly, especially in rainy season. It is important to keep crop weed-free at initial growth stage. 2-3 weeding are done at an interval of 15-20 days. Irrigation is done at an interval of 8-10 days as per climatic condition and type of soil.

Nutrient management

Well-decomposed organic manure @ 20 t and 100: 50: 50 kg N:P_2O_5:K_2O/ha was applied. Organic manure, half dose of N, full dose of P_2O_5 and K_2O was applied as basal dose. The remaining dose of N was top-dressed in two equal splits at 30 and 45 days after sowing (DAS). Water soluble fertilizer 19:19:19 was applied in the soil with water @ 2 g/L at an interval of 10-15 days 2-3 times as per need.

Intervention of KVK, S. D. Agricultural University, Sabarkantha in *kharif* (rainy) season

When fruits come in contact with the ground, they are likely to decay and it reduces the quality in rainy season. So vines were trailed on wire to prevent direct contact with the soil. Higher yield was also observed in trailing of vine, which might be due to increase in photosynthesis. Utilization of sunlight by maximum number of leaves resulting in enhanced assimilation of carbohydrate reflected as more yield. This variety responded to training system. The vine showed signs of twining few days after germination. The growing shoots of vines were trained

Female flowers of Swarna Sheetal

Training system view

Training in Swarna Sheetal

Tender and over-matured fruit of Swarna Sheetal

over the top wire at around 2.0-2.4 m height by tying with string and wire was supported by bamboo posts at sufficient distance.

Plant protection

Integrated pest and disease management was adapted for effective pest and disease management. To manage pests biologically, NSKE (5%) can be sprayed against aphid. Set up the yellow sticky traps (25/ha) to monitor the activity of pest and to synchronize the botanical pesticide application, if need be, at the maximum activity stage. When the infestation of aphids and jassids is severe, Imidacloprid 70% WG @35 g/ha (through 500 L of water) can be sprayed (CIB&RC). Fruit flies can be managed by installing fruit flies traps (12/ha) prior to flower initiation. When infestation of fruit fly and cucumber beetle is severe, Flubendiamide 8.33% + Deltamethrin 5.56% ww SC @ 200-250 ml/ha (through 500 L of water) can be sprayed. An approach comprising soil application of *Trichoderma harzianum* and *Pseudomonas fluorescens* enriched with FYM (@1 kg each with 100 kg FYM), prophylactic spray of Mancozeb @ 2-2.5 g/L for downy mildew management can be adopted. Downy mildew can be managed by spraying Azoxystrobin @ 1 ml/L of water. To prevent damping off and other root diseases, alternative drenching of Metalaxyl + Mancozeb (composed) @ 2 g and Copper oxychloride 3 g/L of water is to be done. Before the application of chemical pesticides and fungicides, all fruits reaching harvestable stage should be harvested and also wait for completion of waiting period of pesticides and fungicides for further harvest after spraying.

Installed fruit fly traps in cucurbits

Flowering and fruiting in Swarna Sheetal

Fruits of Swarna Sheetal

Harvesting and yield

Fruits become ready for first harvesting in 45 DAS. Its harvesting can be completed in 20-25 pickings at an alternate day or daily. Delay in harvesting makes the fruit over-matured and they lose their tenderness and taste.

Average yield of this variety under open condition is 20-30 t/ha. In demonstration plot at KVK, S. D. Agricultural University, Sabarkantha, Gujarat cucumber cv. Swarna Sheetal yielded 29.93 t/ha under open condition in *kharif* season.

For further interaction, please write to:
Dr P A Sable (Assistant Professor), College of Horticulture, S. D. Agricultural University, Jagudan, Mehsana, Gujarat 384 460. *Corresponding author: sable.pating@gmail.com