

Pusa Gynoecious Cucumber Hybrid-18

The cucumber (*Cucumis sativus* L.), known as Khira in Hindi is a very popular and important vegetable grown in hills and plains of India. It is used as salad, pickle and also as cooked vegetable. Apart from being used as salad, it is also used for pickling and rayata preparation. Due to good taste and low energy content, they are regarded as refreshing condiment. In north Indian plains, generally two crops are taken in a year viz. spring-summer and *kharif* season crops. The consumer preference in India is long cylindrical type, medium thick indigenous (desi) hybrid of cucumber with earliness and high yielding ability. Keeping in view these facts, a gynoecious cucumber hybrid Pusa Gynoecious Cucumber Hybrid-18 was developed by Division of Vegetable Science IARI, New Delhi and recommended by AICRP (vegetable crops) for cultivation in Zone I [Humid Western Himalayan Region i.e. Jammu & Kashmir (J&K), Himachal Pradesh and Uttarakhand] during spring-summer and *kharif* season and subsequently notified by central sub-committee on crop standards, notification and release of varieties of horticultural crops during the year 2021.

PUSA Gynoecious Cucumber Hybrid-18 (DGCH-18) is a gynoecy based hybrid which becomes ready for first harvesting in 40-45 days after sowing during spring-summer and *kharif* season. Fruits are attractive green in colour with mild whitish green stripes originating from the blossom end and brownish green blotchy patches present near the stem end; 18-20 cm long having soft skin, crispy and tender flesh with average fruit weight 200 g. Average yield in AICRP (VC) trials at six Centres over 3 years is 24.52 t/ha, which is 31.44% higher than National check PCUCH-3.

Performance of Pusa Gynoecious Cucumber Hybrid-18

Pusa Gynoecious Cucumber Hybrid-18 (DGCH-18) has been tested in yield trial at several centers throughout India in AICRP (vegetable crops) trials from 2016-17 to

2018-19 along with check PCUCH-3. The results indicated that Pusa Gynoecious Cucumber Hybrid-18 yielded 24.52 t/ha which was 31.44% higher than check PCUCH-3 (Table 1). At multilocation testing DGCH-18 has fruit length of 18.36 cm (Table 2) and average fruit weight 212.88 g (Table 3).



Fruits of 'Pusa Gynoecious Cucumber Hybrid-18'

Cultivation

It can be grown successfully on all type of soils but prefers well-drained loam and sandy loam soils rich in organic matter. The seed rate is 1.5-2.0 kg per hectare. Seed should be treated with 2 g Captan/ Thiram per Kg of seed. As a spring-summer crop, it is sown from mid February to February end and as *kharif* season crop in June-end. The seeds are sown in the hills 45-60 cm apart on the slope of channels prepared at a distance of 2.0 m. The spacing between channels is increased to 2.5 m when sowing is done on both the sides.

Table 1. Mean performance of Pusa Gynoecious Cucumber Hybrid-18 (DGCH-18) in AICRP (VC) from 2016-17 to 2018-19

Entry	IET (2016-17)	AVT-I (2017-18)	AVT-II (2018-19)	Average yield (t/ha)	% increase over check
DGCH-18	24.65	24.51	24.40	24.52	31.44
PCUCH-3 (Check)	20.94	17.40	17.63	18.65	

Table 2. Average fruit length (cm) of Pusa Gynoecious Cucumber Hybrid-18 (DGCH-18) in AICRP (VC) from 2016-17 to 2018-19

Entry	IET (2016-17)	AVT-I (2017-18)	AVT-II (2018-19)	Average fruit length (cm)
DGCH-18	16.55	18.69	19.83	18.36
PCUCH-3 (Check)	17.28	17.77	18.55	17.87

Table 3. Average fruit weight (g) of Pusa Gynoecious Cucumber Hybrid-18 (DGCH-18) in AICRP (VC) from 2016-17 to 2018-19

Entry	IET (2016-17)	AVT-I (2017-18)	AVT-II (2018-19)	Average fruit weight (g)
DGCH-18	214.70	217.45	206.49	212.88
PCUCH-3 (Check)	225.40	184.33	188.92	199.55

Two to three seeds are sown 2 cm deep in each hill. Bower or trellis system of training is preferred during *kharif* season to obtain high yield and disease free crop.

Apply 15-20 tonnes of well-rotten organic manure per hectare before field preparation and 100 kg urea, 200 kg single super phosphate and 80 kg muriate of potash at the time of last ploughing. Another dose of 50 kg urea should be top-dressed at 8-10 leaf stage. Spray 1 % urea if crop growth is poor. When seedlings become 8-10 cm tall, thinning should be done to keep 1 or 2 seedlings per hill.

Weeds are controlled by 2-3 hoeing and hand weeding in the channels and between the channel. Crop needs earthing up twice at one month interval to facilitate good root development and to reduce the weeds. Care should be taken that fruits should not touch the wet ground surface by providing some support under the fruit at the time of maturity to avoid rotting especially during *kharif* season

Irrigation is given in the channels. Frequent irrigations during summer crop and light irrigations during rainy season crop depending upon the weather conditions. It is ready for first harvesting in 40-45 days and 50-55 days after sowing during *kharif* and spring-summer season, respectively. Drenching with ridomil @ 2 g/litre and blitox @ 3g/litre of water is necessary to prevent the

seedlings from damping off and other root borne diseases. Downy mildew and virus are the major problem during *kharif* season. A need based spray of Imidachlorpid @ 0.3 ml/l or acetamiprid @ 0.3 gm/litre of water followed by Dimecron @ 2ml/liter of water at two to three weeks interval should be applied judiciously to prevent the crop from Tomato Leaf Curl New Delhi Virus and important sucking pests like aphid and whitefly.

SUMMARY

Pusa Gynoecious Cucumber Hybrid-18 is a gynoecy based hybrid of cucumber with earliness and desirable horticultural traits for spring summer and *kharif* season cultivation in Zone IV (Sub-humid Sutlej-Ganga Alluvial Plains i.e. Punjab, Uttar Pradesh, Bihar and Jharkhand). Apart from superior quality characters, it showed 31.44% higher yield over the National check hybrid PCUCH-3.

For further interaction, please write to:

Amish K Sureja, (Principal Scientist), Division of Vegetable Science, ICAR-Indian Agricultural Research Institute, New Delhi 110 012. *Corresponding author e-mail: aksureja@gmail.com

**Flowers always make people better, happier, and more helpful;
they are sunshine, food and medicine for the soul.**

– Luther Burbank