

Pusa Utkarsh – A high yielding long melon variety for spring summer season

Long melon (*Cucumis melo* var. *utilissimus*) is also known as *kakari* or serpent melon. The slender, long, curved and coiled immature fruits are consumed as salad or pickled, and is a summer thirst quencher cucurbit. Owing to good taste and low energy content, they are regarded as refreshing vegetable. India is the centre of origin of long melon. In long melon improvement programme, attention should be focused on early, high yielding genotypes having slender and soft fruits with crispy texture and sweet taste. Keeping in view these facts, a long melon variety Pusa Utkarsh was developed by ICAR-Indian Agricultural Research Institute, New Delhi.

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 early maturing variety with high yielding ability. The National check variety Punjab Longmelon-1 is an old variety and shy bearer, and significantly lower in yield as compared to the new variety Pusa Utkarsh which has been released and recommended by Delhi State Seed Sub-committee for commercial cultivation in National Capital Territory of Delhi during spring summer season. It was subsequently notified by Central Sub-committee on Crop Standards, Notification and Release of Varieties of Horticultural Crops.

Pusa Utkarsh (DLM-27)

Pusa Utkarsh was developed from highly heterozygous local material collected from Faizabad, Uttar Pradesh. Selfing and individual plant selections were carried out to purify the material and develop the variety.

Vine length of this variety is 1.5-2.0 m. Leaves are medium green, non-lobed and ovate-cordate with non-serrate margins. Plants are monoecious; female flower borne solitary on short peduncle, bright yellow in colour and male flowers are borne in clusters on long pedicel. Young fruits are slightly curved, medium long (length 50 cm), thin (diameter 2.4 cm), attractive light green, shiny with tender skin, smooth non-prominent ridges, crispy flesh, and free from bitter principle. Each fruit weighs 130-140 g at marketable stage. Fruits become ready for first harvesting in 45-50 days after sowing during spring-summer season. Average yield under normal conditions is 29 t/ha which is 56 % higher than National check Punjab Longmelon-1.

Performance of Pusa Utkarsh

The newly tested variety Pusa Utkarsh (DLM-27) has shown outstanding performance in yield trials conducted

from 2022 to 2024. Compared to Punjab Longmelon-1, it delivered an impressive yield of 29.10 t/ha, which is 56.2% higher. At IARI Regional Station, Karnal, it maintained a strong average yield of 27.50 t/ha. The fruits of Pusa Utkarsh stand out with an average length of 52.18 cm and a diameter of 24.20 mm, making it a promising choice for farmers seeking high productivity and quality.

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 2.5-3.0 kg per hectare. As a spring-summer crop, it is sown from mid February to first week of March. The seeds are sown in the hills 60 cm apart on the slope of channels prepared at a distance of 1.5 m. The spacing between channels is increased to 2.5 m when sowing is done on both the sides. Two to three seeds are sown 2 cm deep in each hill.



Fruits of 'Pusa Utkarsh'

Table 1. Mean performance of Pusa Utkarsh (DLM-27) at ICAR-IARI, New Delhi during spring summer season from 2022-2024

Genotype	Yield (t/ha)			Average yield (t/ha)	Percentage increase over check	No. of days to first harvest
	2022	2023	2024			
DLM-27	28.15	30.25	28.90	29.10	56.20	45-50
Punjab Longmelon-1 (C)	18.00	19.30	18.60	18.63		55-60

Table 2. Performance of DLM-27 long melon during spring-summer season 2023 at ICAR-IARI Regional Station, Karnal

Genotype	Average yield (t/ha)	% increase over check
DLM-27	27.50	48.65
Punjab Longmelon-1 (C)	18.50	

Table 3. Fruit length and fruit diameter of DLM-27 during spring-summer season 2022-2024 at ICAR-IARI, New Delhi

Genotype	Fruit length (cm)				Fruit diameter (mm)			
	2022	2023	2024	Average	2022	2023	2024	Average
DLM-27	51.10	53.45	52.00	52.18	23.51	25.10	24.00	24.20
Punjab Longmelon-1 (C)	35.40	36.85	34.51	35.59	18.15	19.10	18.75	18.67



Pusa Utkarsh crop

Apply 15-20 tonnes of well-rotten organic manure per hectare before field preparation and 100 kg urea, 150 kg single super phosphate and 100 kg muriate of potash at the time of last ploughing. Another dose of 50 kg urea should be top-dressed at 10-12 leaf stage. Foliar application of urea (1%) may be done during early growth and at the time of fruit development. When seedlings become 8-10 cm tall, thinning should be done to keep 1 or 2 seedlings per hill.

Red pumpkin beetle attacks the plant and consume the leaves. It can be controlled by spraying of Carbosulfan 20 EC @ 2 g/litre of water. The adult of fruit fly insect punctures the skin of young fruit and lay eggs. The maggot starts feeding the flesh of the fruit and infected fruit becomes deformed. The affected fruit should be picked and destroyed. Fruit fly can be effectively controlled by spraying of Malathion @ 2 mL/litre of water and use of poison bait and pheromone trap to trap and kill the adult

flies. A need based spray of Imidachlorpid @ 0.3 mL/L or acetamiprid @ 0.3 g/ litre of water followed by Dimecron @ 2 mL/ litre of water at two weeks interval should be applied judiciously to prevent the crop from important sucking pests like aphid and whitefly.

High summer rainfall and high humidity is conducive for the spread of downy mildew disease. Symptoms appear as reddish brown spot on the upper surface and greyish black spot on the lower surface of leaves. It can be controlled by spraying of Dithane M-45 @ 2 g/litre of water twice at 10 days interval. Fusarium wilt is a soil borne disease in which the young seedlings, cotyledons

droop and wither. In older plant, leaves wilt suddenly and collar region becomes yellow or brown. The disease can be checked by drenching the soil and root zone of the crop by Captaf @ 2 g/litre of water. This should be repeated at 10 days interval.

SUMMARY

Pusa Utkarsh is an early improved variety of longmelon for spring-summer season cultivation developed by IARI for National Capital Territory of Delhi. Apart from superior quality characters, it showed 56% higher yield over the National check variety Punjab Longmelon-1.

For further interaction, please write to:

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