**Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar**

# SKUAST-K UNRAVELS 'HEN AND CHICKEN' PROBLEM IN SAHEBI GRAPE

*New research offers a practical message for farmers facing the 'Hen and Chicken' problem in grapes.*

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*Normal berries (dark) alongside underdeveloped ones (light)*

## Ganderbal at a glance

Grape area: **206 ha**
Yield: **1,385 metric tonnes**
Sahebi share of vineyards: **54.42%**
Hussaini share of vineyards: **35.20%**
Sahebi bunches affected by the disorder: **70–80%**

A recent study conducted at the Division of Fruit Science, Faculty of Horticulture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K), Shalimar, has confirmed that Sahebi is a functionally female grape cultivar. The finding is especially important for farmers who frequently face the 'Hen and Chicken' problem, where bunches contain both normal berries and many small, underdeveloped berries because of poor pollination.

Grape cultivation has significant potential in Kashmir, with Ganderbal being the largest grape-growing district, covering around 206 hectares, producing about 1,385 metric tonnes. The district's vineyards are dominated by two traditional cultivars: Sahebi (54.42%) and Hussaini (35.20%). Sahebi is valued for its large berries, attractive bunches, good keeping quality and adaptability to local conditions. However, nearly 70–80% of Sahebi grapes are affected by the “Hen and Chicken” disorder, where bunches contain a mixture of normal-sized and very small, underdeveloped berries due to poor pollination and improper management practices, reducing marketable yield and quality.

During the two research years, 2024-25 and 2025–26, floral morphology and pollen characteristics of nine grape cultivars were examined under Kashmir's temperate conditions by the students, namely Tehleelah Feroz and Raksha, under the mentorship of Dr Aroosa Khalil and Head, Division of Fruit Science, Faculty of Horticulture, Dr A. H. Pandit. Detailed observations revealed that Sahebi has reflexed stamens and non-functional pollen, confirming that it cannot effectively pollinate itself and depends on pollen from a compatible grape cultivar during flowering.

**Recommended pollinizers to plant nearby**
**Hussaini • Thompson Seedless • Fantasy Seedless • Pusa Navrang • Manjari Naveen**

The research suggests that when Sahebi is grown without a suitable pollinizer, inadequate pollination can contribute to poor berry development, increasing the chances of uneven bunches and the Hen and Chicken disorder. This affects fruit quality, market value and farmers' income.

For grape growers, the solution is practical. While establishing new vineyards, compatible pollen-producing grape cultivars like Hussaini, Thompson Seedless, Fantasy Seedless, Pusa Navrang and Manjari Naveen should be planted nearby to ensure better pollination during flowering. Proper vineyard management, along with timely pruning and nutrient management, can further support healthy fruit development.

This finding provides useful scientific guidance for improving Sahebi grape cultivation in Kashmir. By selecting appropriate pollinizers, farmers can reduce the risk of poor fruit set, produce more uniform grape bunches and achieve better productivity.

> *“Better pollination means healthier bunches and better returns for grape growers.”*

**Research team: Tehleelah Feroz and Raksha, under the mentorship of Dr Aroosa Khalil and Dr A. H. Pandit, Head, Division of Fruit Science.**

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