

Shalimar Maize Hybrid-1 a high yielding maize hybrid under high altitude conditions of Kashmir valley

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High altitudes (>6500 ft amsl) cover 75 % of the total maize area (1 lakh hectare) in the Kashmir valley. The average productivity of maize under high altitude conditions is very low (around 10q/ha) which is dismal when compared to national productivity (2.2 t /ha). The low productivity is mainly attributed to the fact that the farmers mainly grow the traditional varieties and land races which are not only low yielding but highly susceptible to biotic and abiotic stresses. To boost the maize production, SKUAST-K has recently released a high yielding hybrid of maize (**Shalimar Maize Hybrid-1**) suitable for high altitude agro- climatic conditions of Kashmir valley. The hybrid has been developed exploiting the hybrid vigour between two elite maize inbreds(W3 & W5) after selection and proper assessment over location and years. The hybrid has shown excellent performance in different locations of the state with an average yield superiority of 26.6 against the standard check (C15) in the target environment.(Table 1). The benefit cost ratio of this variety has been worked out as 2.4 as against 1.22 C15 (Table 2). The specific area of adaptation for this variety include high altitudes of Kashmir between 1800-2250 meters amsl (rainfed)

Timely sown crop with adequate moisture at critical growth stages like tasseling, silking and grain filling with soils having good quantity of organic manure and fertilizer are the prerequisite to exploit the maximum potential of this variety (Table-3)

The major challenges to maize cultivation under high altitude conditions of Kashmir valley include diseases mainly Turicum leaf blight and common rust which take a heavy toll of the crop. The hybrid under report has shown moderate resistance to Turicum leaf blight and common rust (Table 4)

Table 1. Yield performance(q/ha) of Shalimar maize hybrid-1 over years and locations Under high altitude conditions of Kashmir

S.No	Variety	Mean(Kg/ha)	% increase over check
1	Shalimar maize hybrid-1	40.4	26.6
2	C 15(check)	31.9	

Table 2. Benefit: cost ratio analysis of seed production (ha⁻¹) of Shalimar Maize Hybrid-1

Variety	Cost of cultivation	Returns	Benefit	Ratio (Benefit/cost)
W3 x W5	27540	93570	66030	2.4
C 15(check)	15930	35500	19570	1.22

Table 3. Agronomic practices for Shalimar Maize Hybrid-1 to exploit the maximum potential of the crop

1	Sowing time	1 st . week of April to last week of April
2	ii. Spacing (cm)	60 x 20
3	. Seed rate (kg ha ⁻¹)	25 kg for line-sowing and 35 kg for broadcasting
4	.Fertilizer responsiveness	Irrigated: N,P ₂ O ₅ and K ₂ O @ 90, 60 and 40 kg ha ⁻¹ Unirrigated: N,P ₂ O ₅ and K ₂ O @ 60, 40 and 20 kg ha ⁻¹ Compost/FYM:150q ha ⁻¹

Table4. Screening of Shalimar Maize Hybrid-1 against reaction to major diseases

Cultivar	Turicum leaf blight (%)	Common rust (%)
Shalimar Maize Hybrid-1	18.1 (2)	17.3 (2)
C 15(check)	33.2 (3)	35.5 (3)

Figures in parentheses indicate disease score



Fig. 1 Shalimar Maize Hybrid-1 along with parents(W3 & W5)



Fig.2. Shalimar Maize Hybrid-1

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