

Shalimar Maize Composite-3- an opportunity to break the yield barrier 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 variety of maize(**Shalimar maize Composite-3**) suitable for high altitude agro climatic conditions of Kashmir valley. The variety has been developed by pooling material from local land races and exotic collections(CIMMYT) selected on the basis of different potentialities but uniform in different morpho- agronomic traits.

The variety has shown excellent performance in different locations of the state with an average yield superiority of 10.5 % against the standard check (C15) in the target environment.(Table 1). The benefit cost ratio of this variety has been worked out as 1.52:1.00 as against 1.22:1.00 of 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 variety under report has shown moderately resistance to Turicum leaf blight and common rust (Table 4)

Table 1. Yield performance(q/ha) of Shalimar maize composite-3 over years and locations Under high altitude conditions of Kashmir

S.No	Variety	Mean(Kg/ha)	% increase over check
1	Shalimar maize composite	39.90	10.64
2	C 15(check)	36.06	

Table 2. Benefit cost ratio analysis/ha of Shalimar maize composite-3

S.no	Variety	Cost of cultivation(Rs)	Returns(Rs)	Benefit(Rs)	Ratio(Benefit cost)
1	Shalimar maize composite	15930	40200	24270	1.52:1.00
2	C 15(check)	15930	35500	19570	1.22:1.00

Table 3. Agronomic features 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

Table 4. Disease status of Shalimar maize composite-3

S.no	Variety	Turcicum leaf blight(%)	Common rust(%)
1	Shalimar maize composite	17.9(2)	23.7(2)
2	C 15(check)	32.2(3)	36.4(3)

Fig. in parenthesis indicate disease score(1-5 scale was used for scoring the disease reaction)





(Shalimar maize composite-3)