

STUDIED POLLEN, RECEPTIVITY OF STIGMA, POLLINATING AGENTS AND MODE OF POLLINATION ON IN POMEGRANATE (*PUNICA GRANATUM L*) UNDER VALLEY CONDITIONS OF GARHWAL HIMALAYA

MANJU¹ & ISHA BISHT²

¹Assistant Professor, Department of Fruit Science, VCSGUUHF, Bharsar, Uttarakhand, India

²Department of Horticulture, HNB Garhwal University, Srinagar (Garhwal), Uttarakhand, India

ABSTRACT

The pollen grains of Ganesh and Kandhari exhibited the largest size (28.14×26.51μ) in acetocarmine and (27.07×22.26μ) in glycerin respectively. The pollen viability in both cultivars was recorded as 92.83% and 95.85% respectively. Sucrose solutions of 10% and 20% showed the highest pollen germination (25.07% and 27.21%) while 20% and 15% sucrose solutions exhibited the largest pollen tube length (28 μ and 49.78 μ) after 24 hours, in both of the cultivars, respectively. The stigma was 80% receptive on the day of anthesis in Ganesh, and one day before anthesis, 100% receptivity was recorded in Kandhari. Honey bees (*Apis mellifera*, *A. indica* and *A. dorsata*), black ants (*Componatus spp.*) and lemon butterfly (*Papilio demoleus*) appeared to be the most important insect for pollination. Hand pollination resulted in the highest fruit set (60% in Ganesh and 80% in Kandhari) followed by bag selfing and open pollination.

KEYWORDS: Pollen, Germination, Receptivity, Ganesh, Kandhari