

## EFFECT OF TEMPERATURE, LEAF WETNESS PERIOD, LIGHT AND DARKNESS ON DEVELOPMENT OF BOTRYTIS BLIGHT (*BOTRYTIS GLADIOLORUM* TIMM.) OF GLADIOLUS (*GLADIOLUS GRANDIFLORUS* L.)

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### ABSTRACT

Botrytis blight of gladiolus caused by *Botrytis gladiolorum* Timm. causes significant losses. It is favored by cool, wet and cloudy conditions. The weather parameters, especially temperature and leaf wetness period, play a pivotal role in epidemic development of any disease. The effect of these parameters on disease development was investigated under artificial conditions of disease development. Sixty-day old plants of gladiolus, cv. Sancerre, grown in 6 inch diameter plastic pots, were artificially inoculated with spore suspension of the fungus *B. gladiolorum* standardized at  $4 \times 10^4$  conidia/ml of water. The inoculated plants were incubated in growth chambers, maintained at 10, 15, 20, 25 and  $30 \pm 1^\circ\text{C}$ . Leaf wetness durations of 3, 6, 12, 24, 48 and 96 h were provided in each of the temperature regimes. It was recorded that the optimum temperature for disease development was  $20 \pm 1^\circ\text{C}$ , followed by 15 and  $10^\circ\text{C}$ . Furthermore, the disease severity increased with increasing leaf wetness periods, being the maximum at 96 h. To simulate cloudy conditions, the effect of light and darkness on disease development was studied separately in pot and field trials. Different combinations of light (L) and dark (D) periods (h) were provided, which were as follows: 12L+12D, 9L+15D, 6L+18D, 3L+18 D and 0L+24D. The plants were inoculated as described in the above experiment and incubated at  $20 \pm 1^\circ\text{C}$  in the pot trial, whereas at ambient temperature conditions in the field trial. It was found that disease severity increased with increasing periods of darkness (h), being the maximum at a combination of 0L + 24D.

**KEYWORDS:** Gladiolus, Botrytis, Effect of Weather Parameters on Disease