



## Research Paper

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# Optimizing harvesting stage of gladiolus spikes for wet refrigerated storage

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**ABSTRACT :** Spikes of gladiolus cv. White Prosperity were harvested at four stages of floret development viz., S<sub>1</sub>- tight bud stage (when 1-2 basal florets showed color); S<sub>2</sub>-when 5-7 florets showed color; S<sub>3</sub>- when basal floret was half open; and S<sub>4</sub>- when one basal floret was fully open. The spikes were subjected to wet refrigerated storage at 4±0.5°C for 3, 6, 9, 12, 15 and 18 days. Increase in storage duration hastened opening of the basal floret, increased vase life and per cent opening of florets on the spike. The spikes harvested at S<sub>1</sub> exhibited the minimum vase life and floret opening. The spikes harvested at S<sub>2</sub>, S<sub>3</sub> and S<sub>4</sub> exhibited long post-storage vase life and opening of florets and were hence, found suitable for storage. In case of S<sub>2</sub> spikes, the florets did not exhibit complete opening till 9 days of storage. The spikes harvested at S<sub>3</sub> and S<sub>4</sub>, however, exhibited an early opening of the basal floret *i.e.* after 3 to 6 days of storage and hence, could only be used for local marketing because open florets on the spike are highly prone to damage during transport. The spikes harvested at S<sub>1</sub> exhibited maximum starch content. These spikes also showed low levels of total as well as reducing sugar content in the tepals which exhibited increase in the spikes harvested at S<sub>2</sub>, S<sub>3</sub> and S<sub>4</sub>.

**KEY WORDS :** Gladiolus, Storage, Stages of harvest

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