

## PRODUCTION AND CORM YIELD OF GLADIOLUS IRRIGATED WITH MUNICIPAL WASTEWATER

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Gladiolus is one of the most marketable cut flower in Portugal and it has high tolerance to salts. In the East of Portugal water resources are scarce, and this is one of the factors that decreases crop yields. Therefore, the use of wastewater in irrigation may be an alternative solution to reduce the use of better quality water while maintaining the crop yields.

This experiment was carried out with two commercial gladioli cultivars (cv. Whitefriendship and Friendship) grown under a plastic greenhouse. They were irrigated with municipal wastewater (WW) and/or tap water (W) with and/or without chlorination (C). The experimental design was completely randomized: two cultivars, four treatments and three replications.

During the experiment some aspects of cut-flower quality production were evaluated as well as the corm yields.

As far as the quality production of cut-flowers is concerned, the plant height, the length of the flower and the number of florets/spike did not show any significant differences among the treatments. In the cv. Friendship the corm diameter and the number of cormels decreased with wastewater chlorination. The diameter of the cormels decreased with the irrigation with WW and water chlorination. Both irrigation with WW and water chlorination did not influence the corm size and yield in the cv. Whitefriendship. These differences between cultivars may be due to their sensitivity to salinity. As far as the corm size and yield are concerned, the results suggest a different behaviour between cultivars. These findings will be confirmed later with the results obtained from other experiments, which are currently being carried out.