

COMPARATIVE ANALYSIS OF THE EFFECT OF WELLNESS ENHANCED WATER, FILTERED WATER AND TAP WATER ON GLADIOLUS (*Mon Amour*) BULBS – June 1, 2004

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ABSTRACT

Tests were conducted to provide a comparative analysis of the effect of Wellness Enhanced water, filtered water¹ and tap water on the development of roots and stems of Gladiolus (*Mon Amour*) bulbs at the end of a 14-day period. Digital images were obtained to facilitate the counting and measuring of the roots and stems and compare the results of measurements obtained on day 14. The bulbs were exposed to the respective water treatments using a special vase to permit appropriate surface contact in the root areas. Three replications of each water treatment were conducted and assignment of the Gladiolus bulbs was made using a previously determined random determination. It was observed that genetic differences among the bulbs appeared to affect the final results. Anticipating this effect, three replications and random assignment of the bulbs were utilized to minimize bias in the test results. The number and total length of all roots developed by the Gladiolus bulbs exposed to the Wellness Enhanced water was at least three (3) times the values obtained in the Tap water treatment group. The number and total length of stems developed by the Gladiolus bulbs exposed to the Wellness Enhanced water was greater than in the Tap water treatment. The number and total length of all roots developed by the Gladiolus bulbs exposed to the filtered water was also greater than in the Tap water treatment group but significantly less than the values obtained by the bulbs in the Wellness Enhanced water treatment group.

INTRODUCTION

Previous studies measuring the effect of the Wellness Enhanced water have demonstrated an increased production in selected agricultural plants. This study examined possible enhancement of the growth of Gladiolus bulbs when exposed to the Wellness Enhanced water and also to traditional carbon filtered water.

The objectives of this study were:

- (1) To determine the number and total length of all roots developed as a result to being exposed to each water treatment.
- (2) To determine the number and total length of stems produced in each water treatment.

¹ Ultimate H2O Bottle purchased from Team in Focus, April 2004.

EXPERIMENTAL

Materials

Gladiolus (*Man Amour*) bulbs from a single package purchased at a local gardening center. The random assignment of the bulbs to the corresponding special water vase was made to minimize test bias.

Water from a Wellness Level 1 Enhanced Filter was placed in three special vases and identified as Treatment # 1. Treatment # 2 included water from a Wellness Level 2 Enhanced Filter. Treatment # 3 included water from an Ultimate H2O Bottle. Tap water was identified as Treatment # 4.

Measurement of Root and Stem Development

Measurement of the number and length of the roots and stems was made using enhanced digital images in order to not damage any of the roots that might result in removal of the bulbs from the vase. Also, visual measurements were made and recorded shortly after securing the digital images. Several roots were damaged in a previous trial when the bulb was removed from the vase in the Wellness Enhancement water treatment due to extensive growth to minimize overcrowding conditions. Measurement of the number and total length of all stems developed in each water treatment vase was made and recorded after securing the digital images.

RESULTS

Mean physical values of measurements made are tabulated below:

Means				
Root Development			Stem Development	
Treatment	Number	Combined Length ² (cm)	Number	Combined Length ² (cm)
Wellness Level 2 Enhanced	28	227	6	104
Wellness Level 1 Enhanced	24	203	5	61
Ultimate H2O Bottle ³	18	72	5	38
Tap	9	57	3	32

² Mean value of combined length of root and stem development in the three replications.

³ Purchased April 2, 2004, Team In Focus, 6851 Distribution Ave S, Jacksonville, FL 32256

The mean number of roots developed was 28, 24, 18 and 9 for the Wellness Level 2 Enhanced, Wellness Level 1 Enhanced, Ultimate H2O Bottle and Tap water treatments respectively. The mean values of combined length of roots developed were 227, 203, 72 and 57 for the Wellness Level 2 Enhanced, Wellness Level 1 Enhanced, Ultimate H2O Bottle and Tap water treatments respectively. The number of stems developed in each treatment was 6, 5, 5, and 3 for the Wellness Level 2 Enhanced, Wellness Level 1 Enhanced, Ultimate H2O Bottle and Tap water respectively. The combined lengths of stems were 104, 61, 38 and 32 for the Wellness Level 2 Enhanced, Wellness Level 1 Enhanced, Ultimate H2O Bottle and Tap water treatment respectively.

CONCLUSIONS

Genetic differences among the *Gladiolus (Mon Amor)* bulbs were anticipated with respect to the number and combined length of roots and stems developed within each water treatment. Therefore, three replications and random assignment of bulbs to the water vases were needed to minimize treatment bias. Results of this initial study demonstrated a significant increase in plant growth and root structure by the Wellness Enhanced water when compared to traditional filtered water and tap water. Given that the Wellness Level 2 Enhanced filter and the Ultimate H2O Bottle filter both use precisely the same purification cartridge while the Wellness system also employs patented enhancement media, the significant difference in results between the two systems would indicate that these results are due entirely to Wellness' enhancement media. The similar results with the Wellness Level 1 Enhanced system support this hypothesis. These results also indicate the need for further research to examine the effect of enhancing water systems such as the Wellness Enhancement System where the water is applied to various horticultural plants and seeds. Research is also needed to examine the effect of the enhanced water on the nutritive value of food products produced.

Additional research is needed to examine the appropriate filter system(s) for water wells since a high degree of variability in raw water quality exists in rural areas. Cost effectiveness is another area of research that is greatly needed to ensure best return on the investment. Research is also recommended to evaluate the utilization of purified and enhanced water to increase and improve the quality of fruit and vegetable production in the third world.







