

Landwirtschaftliche Fachschule Eisenstadt
Neusiedler Straße 6
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Experiment: Watering Greenhouse Tomatoes with Energized UMH-Water

Starting Date of Experiment: 06-01-1997 End Date of Experiment: 09-30-1997

Distance between plants: 90 x 50 cm = 2.2 plants per sq. meter

8 varieties tested, watered with and without treated water

The identical amount of water was used for both varieties tested; also the same amounts of fertilizer were used. Previous to planting we worked a small amount of horse manure into the soil. The mineral content (N-P-K) was achieved as required. At the beginning and end of July, further liquid fertilizer was applied via the drip irrigation system.

Watering was carried out via drip irrigation (FX-Agrodrip) with dripping at a distance of 33cm. We measured the dampness of the soil using plaster blocks whereby the drip irrigation was turned on by a device at intervals of between 50 and 60. The average amount of water was between 18 and 20 liter per m² with watering between every 3 to 6 days (depending on precipitation).

All varieties watered with energized water showed an average yield of 11.8% higher. The individual kinds however showed highly varying results. This situation made it necessary to clarify these varying result through further testing. As regards the quality of the fruit (color, firmness, surface features, taste) there were no noticeable differences.

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Analysis of the Results of the Experiment

Tomato Strain	kg / Plant	kg / Plant Cl. I	g / Piece	Pcs / Plant
Durinta E	- 20.0 %	- 1.9 %	- 3.8 g	+ 0.6 pcs
Elegance E	+ 26.2 %	+ 23.8 %	+ 8.0 g	+ 7.9 pcs
Excell	+ 16.0 %	+ 14.0 %	- 1.0 g	+ 7.0 pcs
NIZ 5488 E	+ 6.3 %	+ 2.7 %	+ 1.3 g	+ 2.1 pcs
NIZ 63-64 E	+ 33.1 %	+ 22.4 %	+ 13.8 g	+ 7.2 pcs
Pannovy E	+ 22.3 %	+ 21.3 %	+ 5.3 g	+ 8.0 pcs
74-16 RZ E	+ 12.0 %	+ 11.0 %	+ 6.2 g	+ 2.5 pcs
Rougella E	+ 2.8 %	+ 2.0 %	- 1.2 g	+ 2.6 pcs
Stefania E	+ 0.9 %	+ 0.5 %	+ 1.4 g	- 0.5 pcs
Union E	+ 22.0 %	+ 22.1 %	+ 6.1 g	- 7.1 pcs
Average	+ 13.4 %	+ 11.8 %	+ 3.6 g	+ 3.03 pcs

Starting Date of Experiment: 06-02-1998

End Date of Experiment: 09-15-1998

Distance between plants 90 x 50 cm = 2.2 plants per sq. meter

10 varieties tested; 16 plants watered with and without treated water

The same amount of water was used in all varieties tested

The moisture level of the soil was measured with plaster blocks to determine water amounts

Fertilization:

Varieties E and N were fertilized with 61 N-P-K horse manure per m²

2x liquid fertilizer with Hakaphos 0.2 % via drip irrigation

In general all varieties watered with energized water showed an increased yield of 13.4% per piece;

the weight per piece increased by 3.6 g; an additional 3.03 pieces were harvested. The individual varieties however showed greatly varying results in growth. This condition was already noted in the results of the 1997 experiment.

This may result from differences in earth banks or varying absorptive capacity of the root systems of individual sorts.

No pronounced differences in the qualities of the fruit (coloring, firmness, surface features, taste) could be determined; several sorts grew with increased strength and bloomed more powerful.

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