

# **Effect of Different Substrates, and Irrigation with Water with Different Saline Concentrations, on the Development of Tomato Fungal Diseases in an Almería-Type Greenhouse**

**Eugenio Ávalos-Sánchez, Alejandro López-Martínez \*, Francisco D. Molina-Aiz, Juan Reca, Patricia Marín-Membrive and Diego L. Valera-Martínez**

Research Centre CIAIMBITAL, University of Almería, Ctra, de Sacramento s/n,  
04120 Almería, Spain; oinegeu@gmail.com (E.Á.-S.);  
fmolina@ual.es (F.D.M.-A.); jreca@ual.es (J.R.); patriciamarin@ual.es (P.M.-M.);  
dvalera@ual.es (D.L.V.-M.)  
\* Correspondence: alexlopez@ual.es

**Table S1.** Percentage of infection of Fusarium crown and root rot in different moment of the trial.

Treatment	Fusarium crown and root rot ( <i>Fusarium oxysporum f. sp. radicis-lycopersici</i> )		
	30/01/2021	13/02/2021	14/03/2021
T1-S	1.30 ± 2.41 <sup>a</sup>	2.00 ± 3.00 <sup>a</sup>	8.67 ± 3.21 <sup>a</sup>
T2-S	0.67 ± 2.41 <sup>a</sup>	2.00 ± 3.00 <sup>a</sup>	6.00 ± 3.21 <sup>a</sup>
T3-S	2.67 ± 2.41 <sup>a</sup>	5.33 ± 3.00 <sup>a</sup>	11.33 ± 3.21 <sup>a</sup>
T1-H	22.00 ± 2.41 <sup>c</sup>	40.67 ± 3.00 <sup>b</sup>	63.33 ± 3.21 <sup>b</sup>
T2-H	15.67 ± 2.41 <sup>b</sup>	36.67 ± 3.00 <sup>b</sup>	64.67 ± 3.21 <sup>b</sup>
T3-H	22.67 ± 2.41 <sup>c</sup>	41.33 ± 3.00 <sup>b</sup>	66.67 ± 3.21 <sup>b</sup>

T1-S, 0.6 dS m<sup>-1</sup> CE irrigation water + 1.6 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T2-S, 1 dS m<sup>-1</sup> CE irrigation water + 1 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T3-S, 3 dS m<sup>-1</sup> CE irrigation water + 0.5 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T1-H, 0.6 dS m<sup>-1</sup> CE irrigation water + 1.6 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate; T2-H, 1 dS m<sup>-1</sup> CE irrigation water + 1 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate; T3-H, 3 dS m<sup>-1</sup> CE irrigation water + 0.5 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate. Values with different letters in the same column show statistically significant differences with a confidence level of 95.0% (*p*-value ≤ 0.05).

**Table S2.** Percentage of infection of Powdery mildew in different moment of the trial.

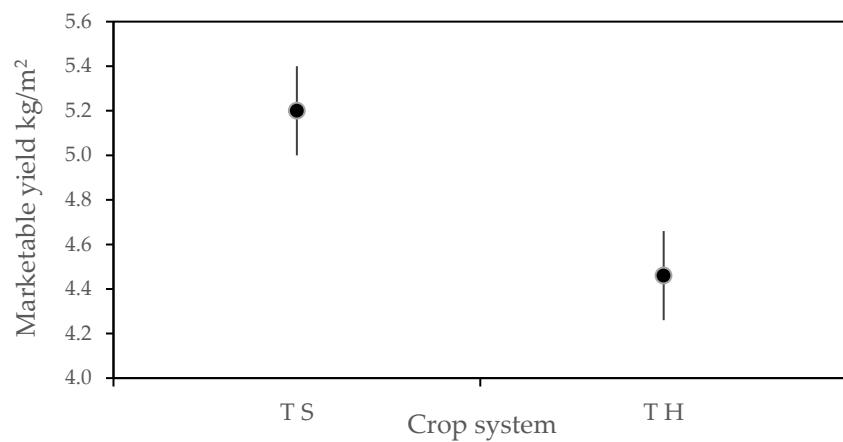
Treatment	Powdery mildew ( <i>Leveillula taurica</i> )		
	30/01/2021	01/03/2021	14/03/2021
T1-S	20.69 ± 2.39 <sup>bc</sup>	10.25 ± 0.99 <sup>b</sup>	21.27 ± 1.84 <sup>b</sup>
T2-S	20.11 ± 2.39 <sup>ab</sup>	7.04 ± 0.99 <sup>a</sup>	14.14 ± 1.84 <sup>a</sup>
T3-S	14.01 ± 2.39 <sup>a</sup>	7.40 ± 0.99 <sup>a</sup>	11.79 ± 1.84 <sup>a</sup>
T1-H	27.09 ± 2.39 <sup>cd</sup>	8.63 ± 0.99 <sup>ab</sup>	22.42 ± 1.84 <sup>b</sup>
T2-H	29.24 ± 2.39 <sup>d</sup>	14.55 ± 0.99 <sup>c</sup>	28.25 ± 1.84 <sup>c</sup>
T3-H	31.22 ± 2.39 <sup>d</sup>	13.15 ± 0.99 <sup>c</sup>	25.07 ± 1.84 <sup>bc</sup>

T1-S, 0.6 dS m<sup>-1</sup> CE irrigation water + 1.6 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T2-S, 1 dS m<sup>-1</sup> CE irrigation water + 1 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T3-S, 3 dS m<sup>-1</sup> CE irrigation water + 0.5 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T1-H, 0.6 dS m<sup>-1</sup> CE irrigation water + 1.6 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate; T2-H, 1 dS m<sup>-1</sup> CE irrigation water + 1 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate; T3-H, 3 dS m<sup>-1</sup> CE irrigation water + 0.5 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate. Values with different letters in the same column show statistically significant differences with a confidence level of 95.0% (*p*-value ≤ 0.05).

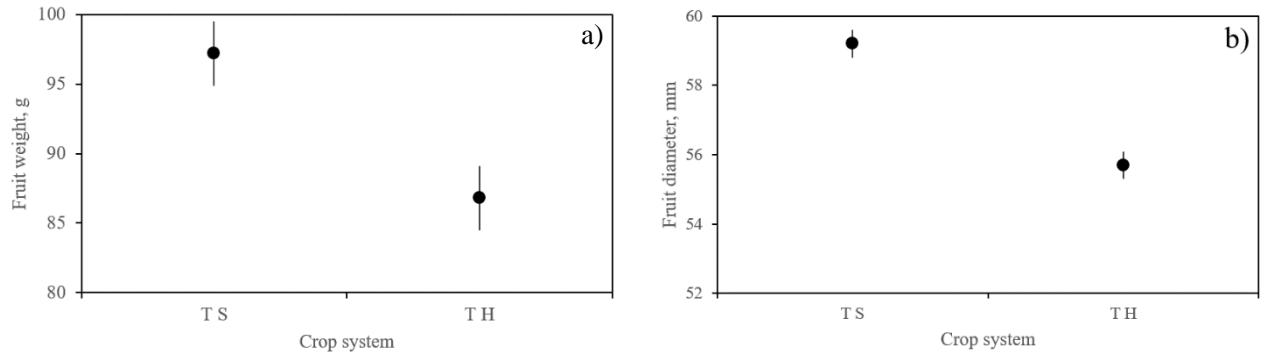
**Table S3.** Percentage of no marketable yield in harvest moments.

Greenhouse	Production no marketable (%)					
	Irrigation	13/01/2021	08/02/2021	18/02/2021	09/03/2021	Total
	T1-S	6.8 ± 2.6 <sup>a</sup>	6.8 ± 4.3 <sup>a</sup>	28.9 ± 9.3 <sup>ab</sup>	14.4 ± 13.6 <sup>a</sup>	23.2 ± 2.6 <sup>a</sup>
	T2-S	10.9 ± 2.6 <sup>ab</sup>	35.1 ± 4.3 <sup>b</sup>	22.5 ± 9.3 <sup>ab</sup>	23.6 ± 13.6 <sup>ab</sup>	24.6 ± 2.6 <sup>ab</sup>
	T3-S	12.6 ± 2.6 <sup>ab</sup>	23.3 ± 4.3 <sup>b</sup>	26.0 ± 9.3 <sup>ab</sup>	25.2 ± 13.6 <sup>ab</sup>	21.2 ± 2.6 <sup>a</sup>
	T1-H	21.7 ± 2.6 <sup>c</sup>	35.5 ± 4.3 <sup>b</sup>	46.2 ± 9.3 <sup>b</sup>	36.2 ± 13.6 <sup>ab</sup>	32.5 ± 2.6 <sup>b</sup>
	T2-H	10.6 ± 2.6 <sup>ab</sup>	32.5 ± 4.3 <sup>b</sup>	28.1 ± 9.3 <sup>ab</sup>	60.4 ± 13.6 <sup>bc</sup>	28.8 ± 2.6 <sup>ab</sup>
	T3-H	15.9 ± 2.6 <sup>bc</sup>	23.9 ± 4.3 <sup>b</sup>	14.4 ± 9.3 <sup>a</sup>	96.2 ± 13.6 <sup>c</sup>	21.4 ± 2.6 <sup>a</sup>

T1-S, 0.6 dS m<sup>-1</sup> CE irrigation water + 1.6 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T2-S, 1 dS m<sup>-1</sup> CE irrigation water + 1 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T3-S, 3 dS m<sup>-1</sup> CE irrigation water + 0.5 dS m<sup>-1</sup> CE fertilization in typical soil substrate "enarenado"; T1-H, 0.6 dS m<sup>-1</sup> CE irrigation water + 1.6 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate; T2-H, 1 dS m<sup>-1</sup> CE irrigation water + 1 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate; T3-H, 3 dS m<sup>-1</sup> CE irrigation water + 0.5 dS m<sup>-1</sup> CE fertilization in coconut fiber substrate. Values with different letters in the same column show statistically significant differences with a confidence level of 95.0% (*p*-value ≤ 0.05).



**Figure S1.** Comparison of the total marketable yield means and 95% percent LSD differences for Coconut Substrate treatment (TH) grouping all the treatments and Soil treatment (TS) grouping all the treatments.



**Figure S2.** Comparison of the Fruit weight (a) and diameter (b) means and 95% percent LSD differences for Coconut Substrate treatment (TH) and Soil treatment (TS).