TOMATO ROOTSTOCK PERFORMANCE TO NATURAL POPULATIONS OF ROOT-KNOT NEMATODE

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An experiment with greenhouse grown grafted tomatoes (*Solanum esculentum*) on commercial rootstocks was conducted to evaluate performance of scions under natural RKN (*Meloidogyne sp*) pressure. The rootstocks tested included the varieties' Aloha', 'Aegis', 'Anchor-T', 'Armada', 'B.B.', 'Camel', 'Survivor','Beaufort' and 'Multifort' and 'TX301'. The scion variety was 'RealEZA' a small fruited variety with reported TYLCV resistance. Plants were grown under greenhouse conditions in untreated thoroughly mixed soil from a vegetable production site with a history of RKN infestations. The plants were placed in a completely randomized design in 12 L pots with low volume irrigation. Included in the rootstock treatments were self-grafted scion controls. Nematode damage was assessed using the Zeck scale (Zeck, 1971) with 0 showing no visible infestation and 10 as the maximum infestation with severe galling and little or no root system.

Root damage from nematode feeding was greatest on the self-grafted 'RealEZA' scion with 100% of the plants rating between a 6 and 8. Several rootstocks showed little or no visual infestations in the form of galls including 'Armada', 'Camel', and 'BB' with a 0 rating. The next group was essentially free of damage with a rating of 0-1 and included 'Ageis', 'Aloha'and 'Anchor T'. Rootstocks with the greatest infestation were 'TX301' at 2-3, Beaufort with a 4-5 rating and 'Multifort' with a mixed rating of 5-6 for two plants and 0 for the remaining three individuals in this group. Overall the self grafted control faired the worst with rating of 7-8 showing extensive damage on the root system. No shoots (suckers) originating from the rootstocks were observed during the duration of these experiments.

Zeck, W. M. 1971. A rating scheme for field evaluation of root-knot nematode infestation. Pflanzenschutz-Nachrichten 24: 141-144.