World Academy of Science, Engineering and Technology
International Journal of Agricultural and Biosystems Engineering
Vol:11, No:05, 2017

Olive-Mill Wastewater and Organo-Mineral Fertlizers Application for the Control of Parasitic Weed Phelipanche ramosa L. Pomel in Tomato

Authors : Grazia Disciglio, Francesco Lops, Annalisa Tarantino, Emanuele Tarantino

Abstract : The parasitic weed specie Phelipanche ramosa (L) Pomel is one of the major constraints in tomato crop in Apulia region (southern Italy). The experimental was considered to investigate the effect of six organic compounds (Olive miller wastewater, Allil isothiocyanate®, Alfa plus K®, Radicon®, Rizosum Max®, Kendal Nem®) on the naturally infested field of tomato growing season in 2016. The randomized block design with 3 replicates was adopted. Tomato seedling were transplant on 19 May 2016. During the growing cycle of the tomato at 74, 81, 93 and 103 days after transplantation (DAT), the number of parasitic shoots (branched plants) that had emerged in each plot was determined. At harvesting on 13 September 2016 the major quanti-qualitative yield parameters were determined, including marketable yield, mean weight, dry matter, soluble solids, fruit colour, pH and titratable acidity. The treatments provided the results show that none of treatments provided complete control against P. ramosa. However, among the products tested Olive miller wastewater, Alfa plus K®, Rizosum Max® and Kendal Nem® products applied to the soil show the number of emerged shoots significantly lower than Radicon® and especially than the Allil isothiocyanate® treatment and the untreated control. Regarding the effect of different treatments on the tomato productive parameters, the marketable yield resulted significantly higher in the same mentioned treatments which gave the lower P. ramosa infestation. No significative differences for the other fruit characteristics were observed.

Keywords : processing tomato crop, Phelipanche ramosa, olive-mill wastewater, organic fertilizers
Conference Title : ICASMPSP 2017 : International Conference on Agricultural Soil Management Practices and Soil Productivity
Conference Location : Berlin, Germany
Conference Dates : May 21-22, 2017