



SDI Review Form 1.6

Journal Name:	Journal of Agriculture and Ecology Research International
Manuscript Number:	Ms_JAERI_50531
Title of the Manuscript:	Effect of selected soil amendments on the incidences of Ralstonia solanacearum isolates in greenhouse on selected solaneceous crops
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound. To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	<p>The use of the word incidence in the title is not appropriate. It is a term from disease epidemiology which is defined as the probability of occurrence of a given disease condition in a population within a specified period of time. The paper does not deal with natural infections, but instead involves controlled inoculations in a greenhouse and aims to study the possible control of amendments on bacterial wilt. A different title is suggested in the MS.</p> <p>Another indication to the confusion is the formula in line 127: Disease incidence = [total asymptomatic plants/total plants per area] x 100. This formula is wrong. First: it should say total <u>symptomatic</u> plants instead of <u>asymptomatic</u>. And it should say Disease index, instead of incidence. OR, you could say Disease control = [total asymptomatic plants/total plants per area] x 100.</p> <p>And as marked in the text, if you cite a bibliographic reference (Mwaniki <i>et al.</i>, (2016), then put it also in the reference list.</p> <p>The results are represented in figures, the values of the different treatments/bacterial wilt isolates against "wilt" which is the disease incidence are suggested by the titles. According to the accompanying text there are also control values (e.g. Line 155-156: "Significant differences ($P \leq 0.05$) were revealed in the bacterial wilt incidences in potatoes <u>between control and all the soil amendments</u> used in season 1 and 2 in the five <i>R. solanacearum</i> isolate from Kenyan highlands and lowlands"; Line 205-207. "There was no significant differences ($P \leq 0.05$) revealed in the bacterial wilt incidences <u>between control and Metham</u> sodium + Super-hydro-grow polymer and Metham sodium + Orange peel in the greenhouse control experiment in capsicum in both season 1 and 2."...so, what was the "disease incidence" of the control??? Do the graphs perhaps represent the ratio of control and treated plants? But that is not explained.</p>	<p>Topic changed</p> <p>Control of <i>Ralstonia solanacearum</i> on selected solanaceous crops in greenhouse by selected soil amendments</p> <p>The disease index was calculated as DI (%) = $100 \times (\text{number of disease plants} / \text{total number of inoculated plants})$ using the formulas as adapted from Mwaniki <i>et al.</i> [33].</p> $Di = \frac{\text{No. of infected plants}}{\text{Total number of inoculated plants}} \times 100$ <p>Mwaniki PK, Birech R, Wagara IN, Kinyua ZM and Freyer B. Distribution, Prevalence and Incidence of Potato ^{Bacterial} Wilt in Nakuru County, KENYA. Inter J of Innov Res and Dev, 2016; 5(1).</p> <p>The mean disease index for control and soil amendments; MS+SHG, BT, MS, CM+OP, BT+OP, BT+SHG, CM+SHG, CM and MS+OP for season 1 and 2 were as follows; 2.4, 1, 0.4667, 0.4667, 0.3333, 0.2667, 0.2667, 0.2, 0, 0 and 2.6, 2.067, 0.533, 1.2, 1.667, 0.067, 0, 0.2, 1.333, 2 respectively.</p> <p>Subsequent treatment with inorganic and organic soil treatment tend to drastically reduce <i>R. solanacearum</i> due to suppressive effect of selected soil amendment as opposed to control that was never treated with any soil amendment.</p> <p>The use of Metham sodium + Super-hydro-grow polymer and Metham sodium + Orange peel showed antagonistic effect in control of <i>R. solanacearum</i>.</p>
Minor REVISION comments	<p>Minor questions and suggestions have been introduced in the MS as track changes and comments</p>	



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Optional/General comments

And
Conditions
Assefa *et al.* [22]
wilt in Ethiopia
90% were reported
tomato.
, chemical control, and other cultural practices

0.07 m (area 0.015 m²).

6.93 m²
at the rate
0.015 m².
0.01 kg
at the rate

There were

Isolates

experiment.

grown in the greenhouse for

Potato tuber a Stems and infected tomato and capsicum plants were cut above the soil level and the cut surfaces were suspended in test tube containing clean water. Bacterial strains were routinely cultured in CPG agar (CPG broth with 15 g of agar/litre) media. These strains were easily distinguished on the basis of colony morphology and colour by using the South Africa semi-selective medium (SMSA-E) at KARI-NARL bacteriology laboratory.



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Godfray HCJ, Pretty J, Thomas SM, Warham EJ, Beddington JR. Linking policy on climate and food. Science. 2011; 331, 1013–1014. (doi:10.1126/science.1202899)

Sikirou R, Zocli B, Paret ML, Deberdt P, Coranson-Beaudu R, Huat J. First report of bacterial wilt of Gboma (*Solanum macrocarpon*) caused by *Ralstonia solanacearum* in Benin. Plant Dis. 2015; 11, 1640–1640. doi: 10.1094/PDIS-02-15-0213-PDN

Meng F. The virulence factors of the bacterial wilt pathogen *Ralstonia solanacearum*. J Plant Pathol Microbiol. 2013; 4, 3.

Swanson JK, Yao J, Tans-Kersten J, Allen C. Behavior of *Ralstonia solanacearum* race 3 biovar 2 during latent and active infection of geranium. Phytopathology. 2005; 95, 136– 43.

Genin S, Boucher C. *Ralstonia solanacearum*: secrets of a major pathogen unveiled by analysis of its genome. Mol Plant Pathol. 2002; 3:111-118.

Ramesh R, Achari GA and Gaitonde S. Genetic diversity of *Ralstonia solanacearum* infecting solanaceous vegetables from India reveals the existence of unknown or newer sequevars of Phylotype I strains. Eur J Plant Pathol. 2014; 140: 543-562.

Williamson L, Nakaho K, Hudelson B and Allen C. *Ralstonia solanacearum* race 3, biovar 2 strains isolated from geranium are pathogenic on potato. Plant Dis. 2002; 86:987-991.

Kim SH, Olson TN, *Ralstonia solanacearum* race 3, biovar 2, the causal agent of brown rot of potato, identified in geraniums in Pennsylvania, Delaware, and Connecticut (Abstract). Plant Dis. 2003; 87, 450

Bekele B, Abate E, Asefa A. Dickinson M, Incidence of potato viruses and bacterial wilt disease in the west Amhara sub-region of Ethiopia. J Plant Pathol. 2011;93(1):149-157. <http://sipav.org/main/jpp/index.php/jpp/article/view/285/151>

Assefa M, Dawit W, Lencho A and Hunduma T. Assessment of wilt intensity and identification of causal fungal and bacterial pathogens on hot pepper (*Capsicum annuum* L.) in BakoTibbe and Nonno districts of west Shewa zone, Ethiopia. Int J Phytopathol. 2015; 4, 21-28.



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		<p>Getachew A, Chemed F, Seid A, Wydra K. Effects of soil amendment on bacterial wilt caused by <i>Ralstonia solanacearum</i> and tomato yields in Ethiopia. J Plant Prot Res. 2011; 51(1):72–76.</p> <p>Tijjani A, Bashir KA, Mohammed I, Muhammad A, Gambo A and Habu M. Biopesticides for pests control: a review. J Biopest Agric. 2016; 3 (1): 6 – 13.</p> <p>Michel VV, Wang JF, Midmore DJ, & Hartman GL. Effects of intercropping and soil amendment with urea and calcium oxide on the incidence of bacterial wilt of tomato and survival of soil-borne <i>Pseudomonas solanacearum</i> in Taiwan. Plant Pathol. 1997; 46, 600–610.</p> <p>Manjunatha SB, Biradar DP, Aladakatti YR. Nanotechnology and its applications in agriculture: A review. J Farm Sc. 2016; 29(1), 1-13.</p> <p>Lazarovits G, Tenuta M, Conn KL. Organic amendments as a disease control strategy for soilborne diseases of high-value agricultural crops. Austr Plant Pathol, 2001; 30(2), 111-117.</p> <p>Brown PD and Morra MJ. Control of soil-borne plant pests using glucosinolate containing plants. Adv Agron. 1997; 61,. 167-231.</p> <p>Gruver LS, Weil RR, Zasada IA, Sardanelli S and Momena B. Brassicaceous and rye cover crops altered free-living soil nematode community composition. Appl Soil Ecol. 2010; 45, pp. 1-12.</p> <p>Kim SG, Hur OS, Ro NY, Ko HC, Rhee JH, Sung JS, Ryu KY, Lee SY, Baek HJ. Evaluation of resistance to <i>Ralstonia solanacearum</i> in tomato genetic resources at seedling stage. Plant Pathol J. 2016; 32(1): 58-64.</p> <p>Maruti J. Dhanavade CB. Jalkute KD, Sonawane K, Jai SG. Study antimicrobial activity of lemon (Citrus lemon L) peel extract. Br J Pharmacol Toxicol. 2011; 2 (3):119-122</p> <p>Rodrigues L, Destefano S, da Silva M, Costa G, Maringoni AC. Characterization of <i>Ralstonia solanacearum</i> strains from Brazil using molecular methods and pathogenicity tests. J Plant Pathol. 2012; 94, 505–516.</p> <p>Fujiwara K, Aoyama C, Takano M, Shinohara M. Suppression of <i>Ralstonia solanacearum</i> bacterial wilt disease by an organic hydroponic system. J Gen Plant Pathol. 2012; 78: 217–220.</p> <p>Aslam MN, Mukhtar T, Hussain MA, Raheel M. Assessment of resistance to bacterial wilt incited by <i>Ralstonia solanacearum</i> in tomato germplasm. J Plant Dis Protect. 2017; 124: 585–590.</p> <p>Sugimoto T, Watanabe K, Yoshida S, Aino M, Furiki M, Shiono M. Field application of calcium to reduce phytophthora stem rot of soybean, and calcium distribution in plants. Plant Dis. 2010; 94, 812–819. doi: 10.1094/PDIS-94-7-0812</p> <p>Mondal B, Bhattacharya I and Khatua DC. Crop and weed host of <i>Ralstonia solanacearum</i> in West Bengal. J Crop Weed. 2011; 7(2): 195-199.</p>
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PART 2:

	Reviewer's comment	Author's comment <i>(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	