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Word
Identification of causal agent and investigation on possibility of controlling bacterial canker of stone fruit trees through chemical treatment and pruning in Kermanshah province

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Bacterial canker is the most important and widespread disease of stone fruit trees in Kermanshah province. This research was performed to recognize the causal agent precisely and achieving an approach to control the canker disease in a peach (Prunus persicae L.) garden with monotonous infection to the disease in Kermanshah province during 2014-2015. In order to recognize the cause of disease some infected untreated shoots were gathered in subjected garden. After transferring to the lab some symptomatic pieces of these shoots were ground and cultured on King`s medium B. After 24h a suspension of bacteria was prepared and injected to underside of tobacco leaves and the results were investigated as leaf necrosis. Other biochemical tests were performed based on Schaad et al., 2001. The experiment for controlling the disease was performed as a factorial with 2 factors (the first factor was pruning and not pruning and the second factor was various arrangements of spraying) in a pattern of completely randomized block design with 24 treatments and 4 replications. The pesticides were Bordeaux and Copper oxychloride (35%WP) which were implemented under various conditions. Timing of spraying was at 3 times. The first one was after falling the leaves in December, second was at budding stage in March and third time was after falling the petals and initial forming the fruits. For evaluation the efficacy of the treatments the percent of diseased leaves among 200 leaves were calculated and the data were analyzed by SAS.9.2 software. Based on pathogenicity and biochemical experiments the causal agent was recognized as Pseudomonas syringae pv. syringae. Results of this research showed that performing pruning and spraying had significant effect to control the disease at 1% probability level. Based on these issues the best treatment was spaying with Bordeaux 1% as 15% diseased leaves comparing to the control treatment without pruning and without spraying with 30.5%. Attention to this point that performing 3 times spraying with Bordeaux had no significant difference with 2 and 1 time sprayings so the applicable recommendation of this research is spraying Bordeaux 1% one time in the interval between falling the leaves in the Autumn until budding stage in early Spring alongside pruning.

Keywords: bacterial canker, stone fruits, gummosis, pruning, chemical control.
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