Abstract of Workshops

W1: Developments in Citrus Scion Cultivar Breeding

W2: Citrus Pest Management: Insects, Mites and Weeds

Seasonal trends of Eutetranychus orientalis (klein) in moroccan citrus groves: does cultural practices can enhance IPM package service for controlling this tetranychid mite

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In Morocco, citrus trees are infested by several phytophagous mite species commonly attack citrus orchards and have been reported causing significant damage to leaves, fruits and buds. The oriental red mite, Eutetranychus orientalis (Klein) is one of the most important tetranychid mites in Morocco. Eutetranychus orientalis control in Moroccan citrus orchards is based mainly on chemical sprays. This work aimed to study a seasonal trend of E.orientalis in Moroccan citrus groves and give information how some cultural practices can enhances IPM package service for controlling such mite. Surveys were conducted in citrus orchards in the Gharb area (North Morocco) during three years: plots of Clementine (Citrus reticulata var. Nules), orange (C. sinensis var. Washington sanguine) and lemon (Citrus limon). Abundance of E.orienatlis on leaves and fruits and leaves and fruits infestation were assessed in all trials. At harvest, a sample of fruits was picked randomly from each plot and examined to assess the fruit infestation percentage. Seasonal trends revealed the presence of two periods with high E.orientalis abundance, particularly during May and October. Under field experimentation, nature of ground covers and cultural practices were less effect on E.orientalis abundance on leaves. In contrast, frequent foliar applications with water only prove to be a suitable solution to reduce E.orientalis abundance on leaves and fruits. The role of beneficial insects on E.orientalis was also assessed and discussed. These trials provided information about the role of ground cover, some cultural practices and using frequent foliar applications with water on such mite in citrus groves in Morocco. The possibility of employing our results in an integrated pest management package to control O. orientalis in citrus groves is discussed in relation to effectiveness and side effects on beneficial arthropods.

Determination of Resistance Levels of Phyllocoptruta oleivora (Ashmead) (Acarı: Eriophyidae) Populations to Some Insecticides

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Phyllocoptruta oleivora (Ashmead) (Acari: Eriophyidae) is a significant pest that is unsuccessful in its control and causes economic losses, although many chemical control applications during the season in the Eastern Mediterranean Region of Türkiye, where citrus is grown intensively.In this study, the resistance levels of *P. oleivora* populations collected from Erdemli (Mersin), Karataş, Kozan, and Yüreğir (Adana) were determined to abamectin, sulfur, spirodiclofen, and pyridaben using bioassay method. The susceptible (Balcalı/Sarıçam/Adana) population was taken from the orchard without pesticide application to be used for comparison purposes in the experiments. Based on the bioassay experiments, the LC_{50} value of the orchard populations was divided by the LC_{50} of the susceptible population, the most resistant population to abamectin was found to be Kozan with 25.31 fold, and the population with the lowest resistance was determined to be Yüreğir with 8.13 fold. All populations showed low resistance against sulfur, the highest resistance rate was found in Yüreğir with 2.53 fold. The highest resistance population against spirodiclofen was detected in Erdemli with 24.00 fold, followed by Karataş, Yüreğir, and Kozan populations with 15.39, 14.05, and 9.21 fold, respectively. The resistance rates of *P. oleivora* populations against pyridaben were found to be 30.30, 15.85, 10.10 and 7.55 fold in Erdemli, Kozan, Yüreğir and Karataş, respectively. The populations collected from the region showed the least resistance to sulfur, and moderate resistance to abamectin, spirodiclofen, and pyridaben, and the highest resistance rate was found in the Erdemli population to pyridaben.