

THE EFFECT OF USING SOME PLANT EXTRACTS TO CONTROL DATE MOTH (BARACHEDRAMYDRAULA MEYRICK) ON DATE PALM

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ABSTRACT

Article information
Article history:
Received:25/12/2022
Accepted:6/1/2023
Available:1/11/2023

Keywords:

Plant extracts, Control, Small palm worm, Batrachedra amydraula, Date palm

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This study was conducted in the laboratories of the Medicinal and Aromatic Plants Unit and Department of Horticulture and Gardening at the College of Agriculture - University of Basra to know the effect of using some plant extracts to control the infection of *Batrachedra amydraula* date palm cultivar Barhi. The field study was conducted in one of the Shatt al-Arab orchards. Palm trees were sprayed with plant extracts of Jujube leaves and olive leaves at the prepared concentrations (0, 80, 100)% of each extract using a pump. The vegetative growth were sprayed in the early morning until complete wetness with the use of a diffuser and at three times. The first spray was in January, before the appearance of pollen, and the second spray was ten days after the completion of the pollination process, and the third spray was at the beginning of the Hababauk stage. The results of the study showed the significant effect of the use of plant extracts of Jujube leaves and olive leaves in the control of date palm trees to the infection of the *Batrachedra amydraula* insect. The control treatment recorded the highest infection rate of 10.97% and 10.13% for both Jujube and olive leaf extracts. The interaction between Jujube leaf extract and olive leaf extract recorded the lowest infection rate of 0.05%, and the highest percentage of insect killing amounted to 73% for 100% treatment. The treatment of Jujube leaf extract at 100% concentration recorded the highest value of carbohydrates content of 21.69% of the fruits. While the treatment of olive leaf extract with concentration 100% recorded the highest value amounting to 20.90%. The control treatment also recorded the highest percentage of phenol content of fruits, which amounted to 2.45% and 2.39% for both Jujube and olive leaf extract, respectively. Treatment with these extracts also affected the anatomical characteristics of the fruits, as the interaction between Jujube leaf extract and olive leaf extract recorded the highest thickness of the epidermal layer in the fruits reached 19.65 μm and the highest thickness of the epidermal layer reached 19.65 μm for the 100% treatment.

INTRODUCTION

The date palm, *Phoenix dactylifera* L., belongs to the palm *Arecaceae* family and to the order *Arecales*. It is one of the monocotyledons, where it spreads in subtropical areas between latitudes 10-30° north and extends to latitude 20° south of the equator [1]. The Arabian Gulf region is the most widely spread date palm area in the world. Palm cultivation spread from it to all areas with favorable weather mediated by navigators from the inhabitants of Darin Island, and palm cultivation extended from the Gulf to Basra and from there it spread to the rest of the countries [2]. The date palm, like other trees, is affected by many pests and insects that cause great losses if these pests are left undiagnosed or controlled. Therefore, knowing the type of pathogen and its effect on the date palm in general is essential. The disease is caused