

Effect of using Some Plant Extracts to Control the Inflorescence Rot Disease of Palm Pollen

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Abstract: This study was conducted in the laboratories of the Medicinal and Aromatic Plants Unit and the Plant Protection Department of the College of Agriculture - University of Basra to know the effect of using some plant extracts to control Inflorescence Rot disease of male date palm pollen cultivar Al-Ghanami green. The field study was conducted in one of the orchards of Shatt Al-Arab. Three concentrations (0, 50, 70) % of each of the aqueous extract of mint and castor were prepared. The trees were sprayed on two dates, where the first spray was in late January before the appearance of the pollen, and the second spray was at the beginning of the emergence of pollen (February). The results of the study showed the significant effect of using plant extracts in the control of date palm trees to Inflorescence Rot disease, where the results of the study showed that the use of mint at a concentration of 70% with castor extract at the same concentration caused the percentage of infection to be reduced to 0.05% While the infection rate was 2.27% in trees not treated with plant extracts. The results also showed that the interaction between the two extracts at a concentration of 70% for each of them caused an increase in the carbohydrate content of 21.37% in male pollen and a decrease in phenolic substances in it by 0.39%. The anatomical study of the male flowers in the healthy pollen showed that its cells have healthy walls in the parenchyma and wood and are not decomposing, and the distribution of the tannin cells is small in size. As for the parenchymal cells in the affected pollen tissue, it was observed that they ruptured and merged with each other, and the distribution of large tannin cells was irregular.

Key words: plant extracts, disease, Inflorescence Rot pollen, date palm

1. INTRODUCTION

The date palm, *Phoenix dactylifera* L., belongs to the *Arecaceae* family and to the order *Arecales*. It is one of the monocotyledons, spreading in subtropical areas between latitudes 10-30° north and extending to latitude 20° south of the equator (Al-Jubouri, 2002). The Arabian Gulf region is the most widely spread date palm area in the world. Palm cultivation spread from it to all areas with favourable 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 (Ibrahim and Khalif, 2004). The date palm needs many service operations, the most important of which is the process of pollination of the female flowers carried on female palm trees known as inflorescences by the male flowers carried on palm trees known as male palms, so date palm trees are called Dioecious and Monogamous (Unisexual) with cross-pollination (Matter, 1991).The date palm, like other