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STUDIES ON TOXICITY AND RESIDUE LEVELS OF SOME CHEMICALS USED IN CONTROLLING STRAWBERRY FRUIT-ROTS

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TITLE

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ABSTRACT

Isolation trials from naturally rotted strawberry fruits collected from different governorates yielded 708 fungal isolates belonging to more than 10 genera: The isolated fungi were purified and identified. All the isolated fungi were pathogen to Sweet Charlie, with exception of *T. harzianum*. Both *Botrytis cinerea* and *Phytophthora cactorum* were the most pathogenic ones. The effect of some plant extracts, essential plant oils, bioagents and fungicides on the growth of *B. cinerea* and *P. cactorum*, using PDA medium *in vitro*, were tested. All these factors caused different degrees of inhibitory effect. Experiments of controlling fruit rot either that resulted from the artificial inoculation by the two tested fungi, in greenhouse experiments, or from the natural infection under field conditions were carried out.

Fruits of all the tested strawberry cvs. were liable to the natural infection with the causal of fruits rates but with different degrees, which Camarosa cv. was the lowest susceptible cv. and Doret was the highest susceptible one.

Fertilizing strawberry plants with any concentration from calcium and potassium salts resulted in significant reduction to the rotted fruits by the two tested fungi yield with an increase in fruit yield, firmness and T.S.S. for both healthy and infected fruits.

Spraying strawberry plants with any of plant extracts, antioxidants, culture filtrate of bioagent, and fungicides resulted in significant reduction to the rotted fruits caused by the two tested fungi. Also, spraying any of the culture filtrate of the tested bioagent and fungicides resulted also in significant reduction to the natural infection with fruit - rots.

Determination the residues of the fungicides Euparen, Rovral and Sumislex after spraying them during harvesting was carried out to know their residue in order to recommend the safety fungicides for human health that could be used for controlling fruit -rots. According to Codex eliminators, the first fungicide has un safety residue and this extended to more than 7 days after treatment. But the other two fungicides have safety period, which did not exceeded than 2 days (fruit harvested each 2-3 days).

Monitoring the residues of 75 pesticides (organophosphres, organonitrogen, organochlorine and certin pyrethroides pesticide), sprayed on strawberry plants during years 2003 and 2004 was assessed to determination their residue. It is found that most collected samples were free from the sprayed pesticides. Also samples that have residues, most of them were not exceeded than the maximum residue limit of contamination according to Codex eliminators.

There were considerable variations in sulphoric amino acids (methionine, cystine and cysteine) as well as total protein content of six isolates of both *B. cinerea* and *P. cactorum*.

K. A. Abada

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