

EVALUATION OF EFFECTS OF THYMUS VULGARIS AND THYMUS KOTSCHYANUS ON SOME ENZYMES ACTIVITY OF STRAWBERRY FRUITS

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Introduction

Some of the chemicals that are used to increase the shelf life of products can have adverse effects on human health. In recent years, researchers in order to increase the shelf life of fruits, green vegetable have used Essential oils of plants which have naturally antiseptic and anti-fungal effects. In 2008, Wang and colleagues showed that the essential Thymol, Menthol had effects on increasing the capacity of the antioxidant activity to neutralize free radicals. the aim of this study was to evaluate the effect of *Thymus vulgaris* and *Thymus kotschyanus* on CAT and SOD enzymes activity of selva strawberry fruits.

Materials and Methods

The concentrations tested were 200,400,600,800,1000 $\mu\text{l/l}$ from both essences of *T.vulgaris* and *T.kotschyanus*. we had also the control treatments. to evaluate the activity of CAT enzyme tests were carried out according to the method described by Luck (1974) and SOD enzymes measured based on Myrta (1972).

Results and Discussion

The results showed that CAT and SOD enzyme activity in both treated and control fruits decreases during the storage. The maximum value of enzyme in order treatments :1000,800,600,400,200 $\mu\text{l/l}$ were found. glucose has the ability of induction of SOD gene expression but this gene also need sufficient amino acid resources and the key elements of Manganese and Fe . After product lost its connection with its native plant it seems a little difficult to providing Initial composition for increasing expression SOD gene, therefore it can describe the reason of decreasing SOD enzyme activity during the storage . In conjunction with CAT enzyme, have the duty to destroy H_2O_2 and analysing O_2 and H_2 it matched With results of Mohammadi (1390) that showed treated strawberries With highest essential oil (300ppm) had the strongest effect on CAT activity . finally the results of this study show that the advantages of natural compounds in plants dealing with plant diseases Such as lack of environmental pollution , Adaptation of plant physiology and These compounds can be a suitable replacing with high concentration for common pesticides. However, for the practical application of these compounds, and try to provide Variety of suitable formulations are necessary

Keywords: *Thymus vulgaris*, *Thymus kotschyanus*, strawberry, CAT enzyme, SOD enzyme.

References

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