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LIST OF ABBREVIATIONS

A.O.A.C.	Association of Official Agricultural Chemists
ARE	Arab Republic of Egypt
°C	Degree Celsius
cm	Centimeter
cv.	Cultivar
D.W.	Dry weight
F.W.	Fresh weight
Fed	Feddan
g, gm	Gram
ha.	Hectare
Kg	Kilogram
m	Meter
mm	Millimeter
mg	Milligram
ml	Milliliter
R.H.	Relative Humidity
t	Ton
Si	Silicon
JO	Jasmine oil
MeJA	Methyl Jasmonate
JA	Jasmonic acid
L*	Lightness
h°	Hue angle
C*	Chroma
PAL	Phenylalanine ammonia lyase
GA	General appearance
MAP	Modified atmosphere packaging
PVC	polyvinyl chloride

ABSTRACT

Ebtsam Hemida Eisa Afifi: Effect of some Pre and Postharvest Treatments on Storability of Strawberry Fruits. Unpublished M.Sc. Thesis, Department of Horticulture, Faculty of Agriculture, Ain Shams University, 2016.

A field experiment was carried out during the winter seasons of 2013-2014 and 2014-2015 at a private farm located at Tokh district, Qalyubia Governorate and laboratory of Handling of Vegetable Crops Research Department, Horticulture Research Institute, Agricultural Research Center, Giza, to study the effect of foliar spray with potassium silicate and Jasmine oil at different concentrations on vegetative growth, yield and its components, fruit quality and storability of strawberry cv. Festival. In addition, study was conducted on the effect of active and passive modified atmosphere packaging (MAP) on quality and storability of strawberry fruits. The experimental design was complete randomized block design for the field experiment and was complete randomized design for the Lab experiments. The results indicated that foliar spray with potassium silicate at 2000 ppm, potassium silicate at 2000 ppm + jasmine oil at 50 ppm or potassium silicate at 2000 ppm + jasmine oil at 100 ppm increased vegetative growth, yield and its components, physical and chemical properties of fruits. Potassium silicate at 2000 ppm + jasmine oil at 100 ppm treatment improved storability of strawberry fruits and exhibited good appearance with no decay after 12 days at 0°C + 2 days at 10°C. Strawberry fruits obtained from plants sprayed with potassium silicate at 2000 ppm + jasmine oil at 100 ppm and packed in active modified atmosphere packaging (7.5% O₂ + 15% CO₂) was the most effective treatment in maintaining quality and gave fruits with good appearance without decay till 15 days at 0°C + 2 days at 10°C.

Key Words: Strawberry, foliar spray, potassium silicate, Jasmine oil, postharvest, storability, shelf life, MAP.