

## ABSTRACT

The present work was conducted to evaluate the effect of four botanical oils extracted from the four plants namely; *Lepidium sativum*, *Cyperus esculentus*, *Rosmarinus officinalis* and *Cyperus rotundus* as nutritional additives to enrich mulberry leaves offered to *Bombyx mori* L. larvae.

Enriching mulberry leaves offered to grown silkworm larvae with 0.1, 0.05 and 0.025 % of *Lepidium sativum*, *Cyperus esculent* and 0.05 and 0.025 % *Cyperus rotundus* and *Rosmarinus officinalis* showed the lowest mortality rates and decreased the larval duration periods compared with the control, also *Lepidium sativum* oil at all tested concentrations exhibited the highest cocooning percentage. It was found that, 0.1 % *Lepidium sativum*, *Rosmarinus officinalis* and *Cyperus esculentus* oils increased the fresh cocoon weight, cocoon shell weight, silk filament length and silk filament weight. *Rosmarinus officinalis* at 0.1 % increased the silk content ratio. *Cyperus esculentus* oil at 0.1 % and *Lepidium sativum* oil at 0.025 % increased silk filament size. Also, the effect of addition of three compounds namely; flume forte, potassium sulfonate and dettol as disinfectants on silkworm, *Bombyx mori* was evaluated. It was found that, the treatment of mulberry leaves with the disinfectants, especially flume forte and potassium sulfonate compounds inhibit the symptoms of bacterial disease and caused increase of larval, pupal and silk gland weights, cocooning percentage, pupation percentage, fertility percentage and fecundity of female. Treatment with the tested botanical oils and disinfectants enhanced the growth of the mulberry silkworm and subsequently improved the productivity characters of the resulted cocoon (weight, silk ratio). Therefore, a noticeable improvement was detected in the technological parameters of the reeled silk filament (length, weight, size).

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## LIST OF ABBREVIATIONS

<b>C</b>	<b>: Cilesious</b>
<b>Cm</b>	<b>: Centimeter</b>
<b>Dn</b>	<b>: Denier</b>
<b>G</b>	<b>: Gram</b>
<b>GC/MS</b>	<b>: Gas Chromatography/ Mass Spectrometry</b>
<b>GLC</b>	<b>: Gas Liquid Chromatography</b>
<b>GOT</b>	<b>: Glutamic Oxaloacetic Transaminase</b>
<b>GPT</b>	<b>: Glutaric Pyruvic Transaminase</b>
<b>2DM</b>	<b>: Two Day Meals</b>
<b>4DM</b>	<b>: Four Day Meals</b>
<b>Ns</b>	<b>: No significant difference</b>
<b>Rpm</b>	<b>: Revolutions per minute</b>
<b>*</b>	<b>: Significant difference</b>
<b>**</b>	<b>: Highly significant difference</b>
<b>%</b>	<b>: Percentage</b>