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The Heat Transferred Reduction From Building Roof Which Exposed to Environmental by using Grasses and Water (Experimental Study)

Atif Ali Hasan/ Assist Prof./ Institute of technology/ Baghdad

Abstract :

The object of this paper, is to study the thermal behavior of building roofs which covered by grass (used 50 mm sand as a base for American grasses and watered weeds by 0.0004 L/sec.m² for growth) or sprinkle the water (0.0004 L/sec.m²) on that roofs, therefore , a room of dimensions (4.5 x 4.5 x 3) m was build in 3rd floor in building at Baghdad city (33.2°N) with thermal insulation of 200 mm thickness for other room sides and using Air – conditioner 1.0 ton of refrigeration to afford the standard thermal comfort, and measured the roof surfaces temperature from 5:00 Am to 10:30 Pm (18 hr/Day) during May to September month, it was found that, the grasses in roofs building was saved 53% from electrical energy for cooling purpose, while sprinkle the water on roofs saved 38 % only.

Key Words : Heat transferred reduction from concrete roofs, using grasses and sprinkle the water – effect environmental reduction on space temperature – building energy consumption reduction .

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Storage System with Two Phase Flow)
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Baghdad, Iraq-2009 .

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0.17kw

0.3kw

(1.2 kw-hr)

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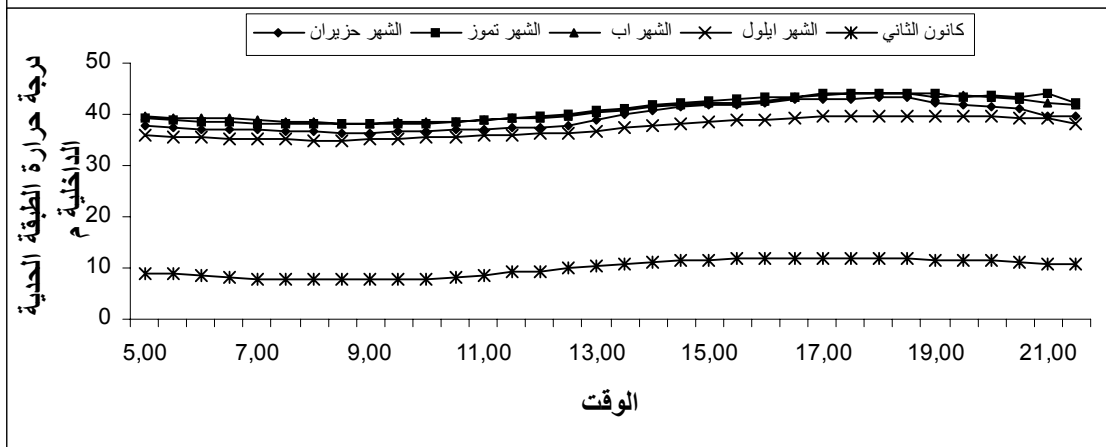
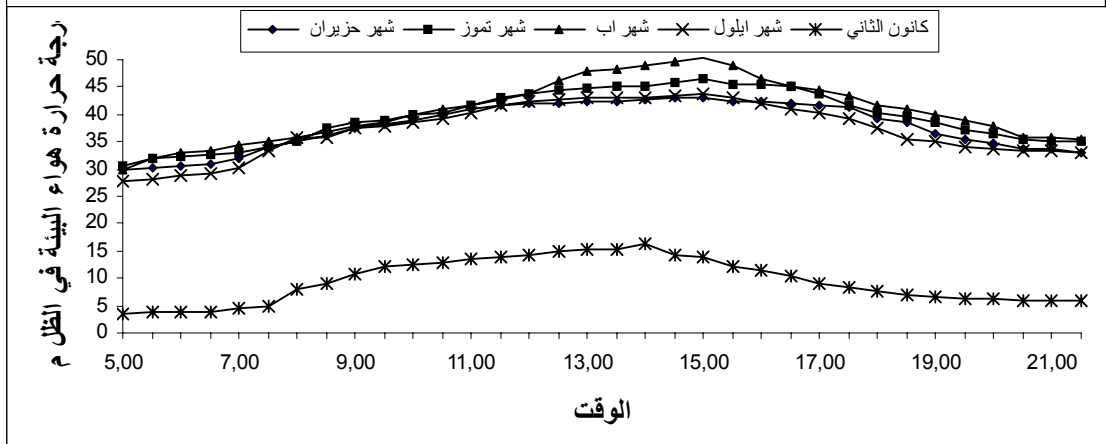
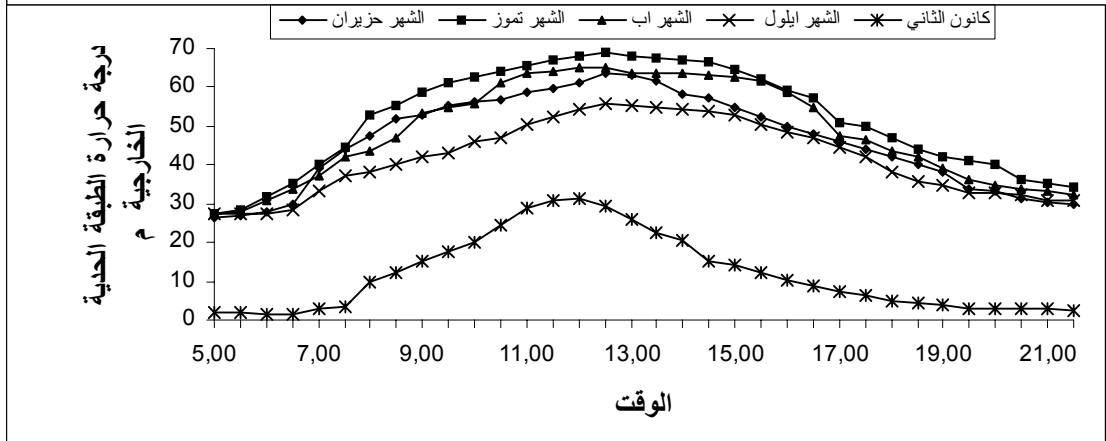
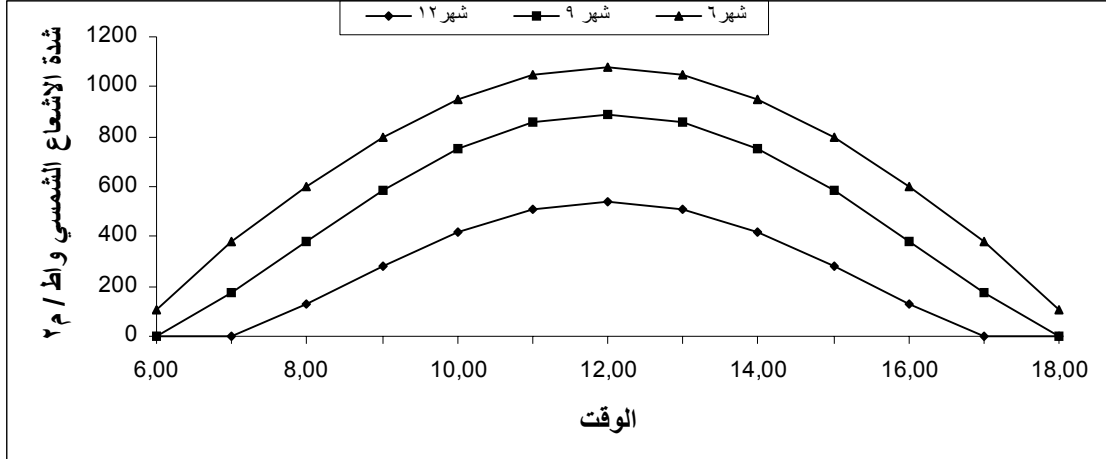
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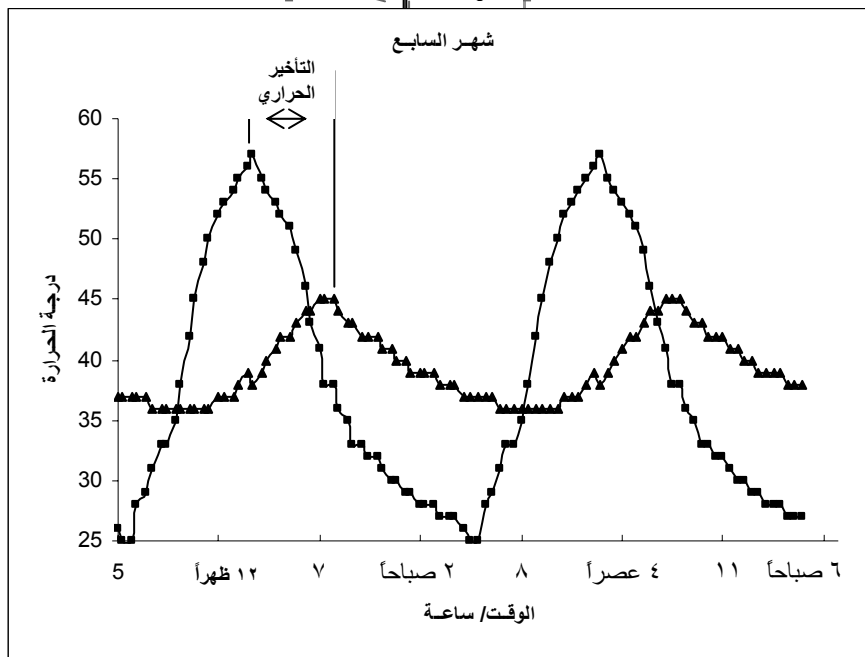
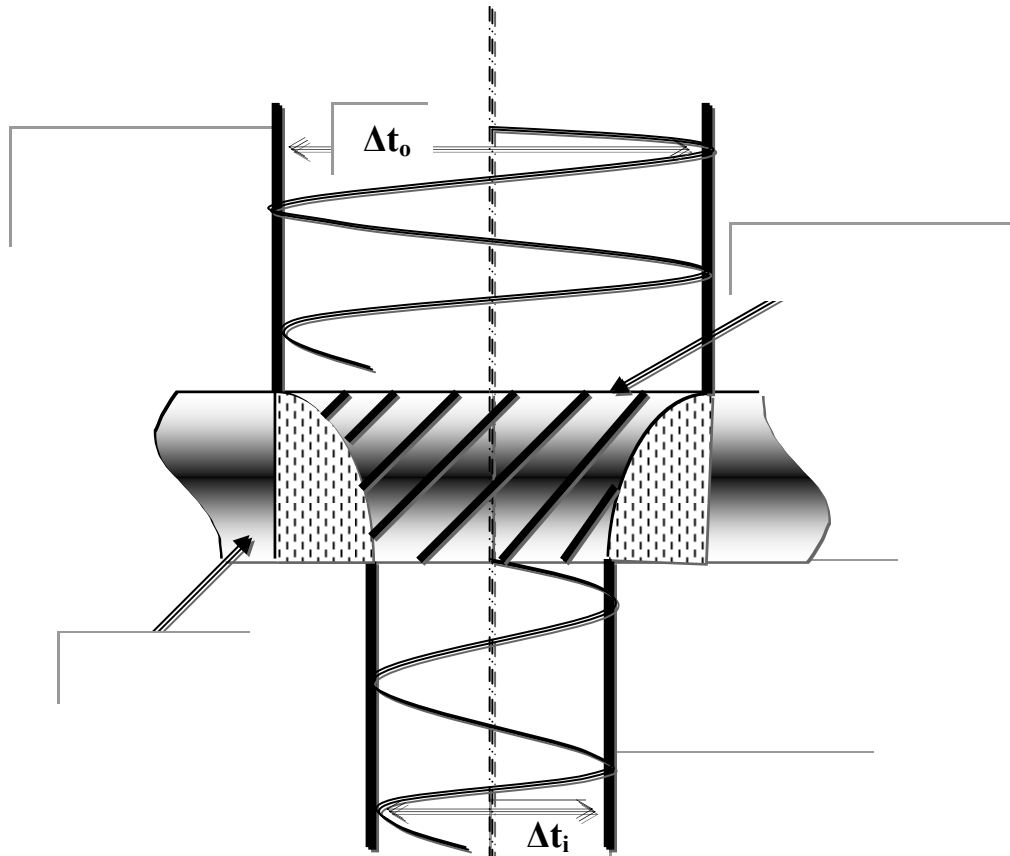


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53.0	24.3	38	62.3	82.8	5.91	5.5	36.5		
37.7	9	38	82.56	109.8	7.34	4.65	36.5		





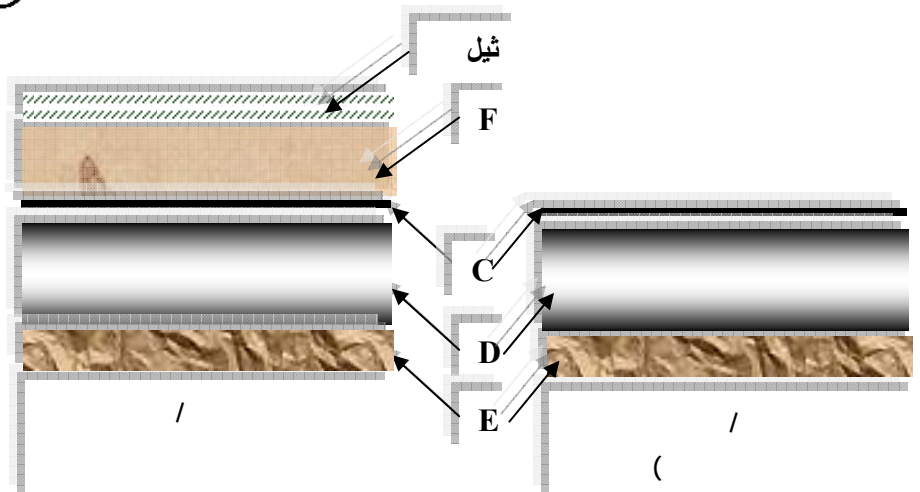
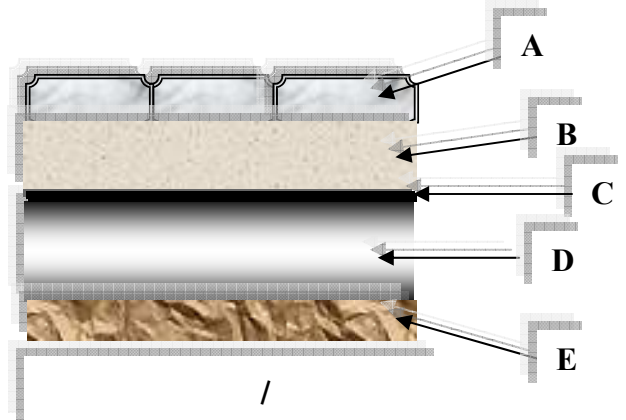
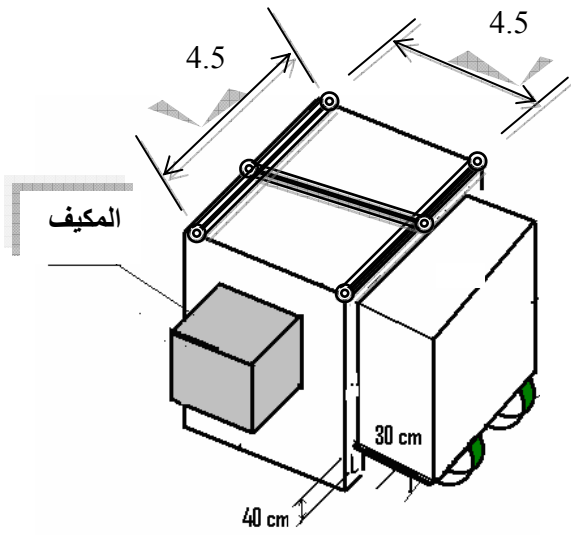
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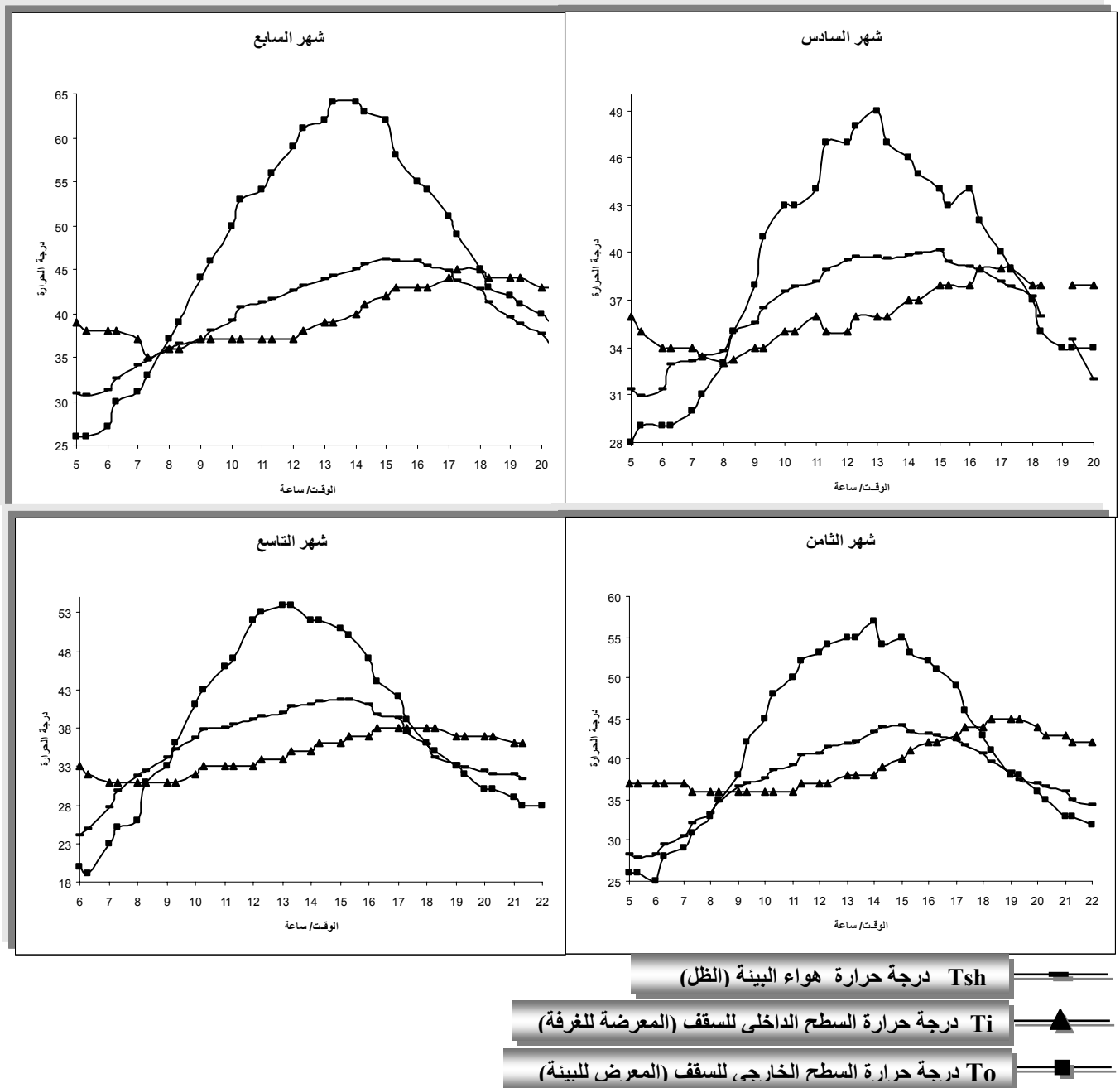
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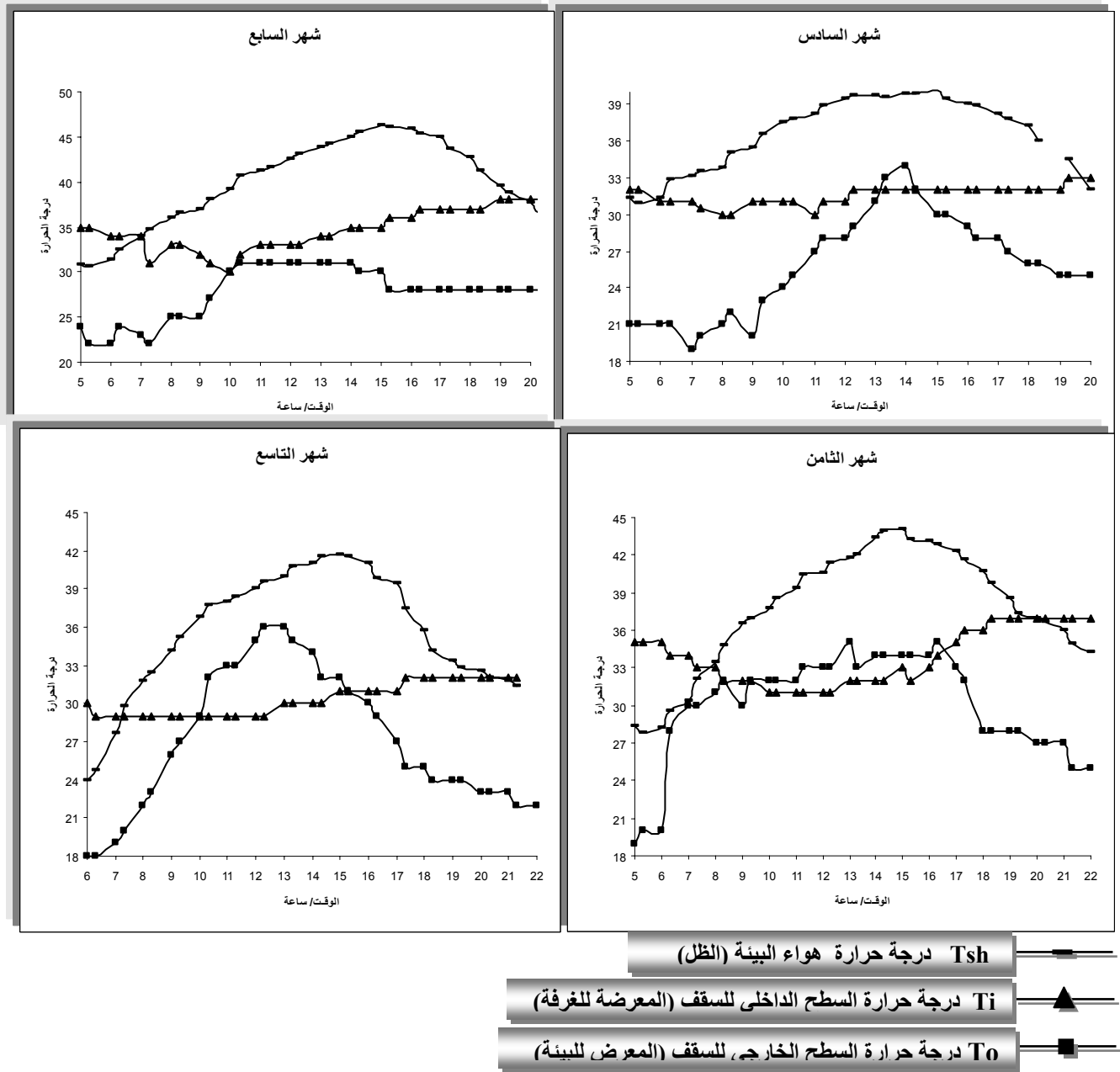


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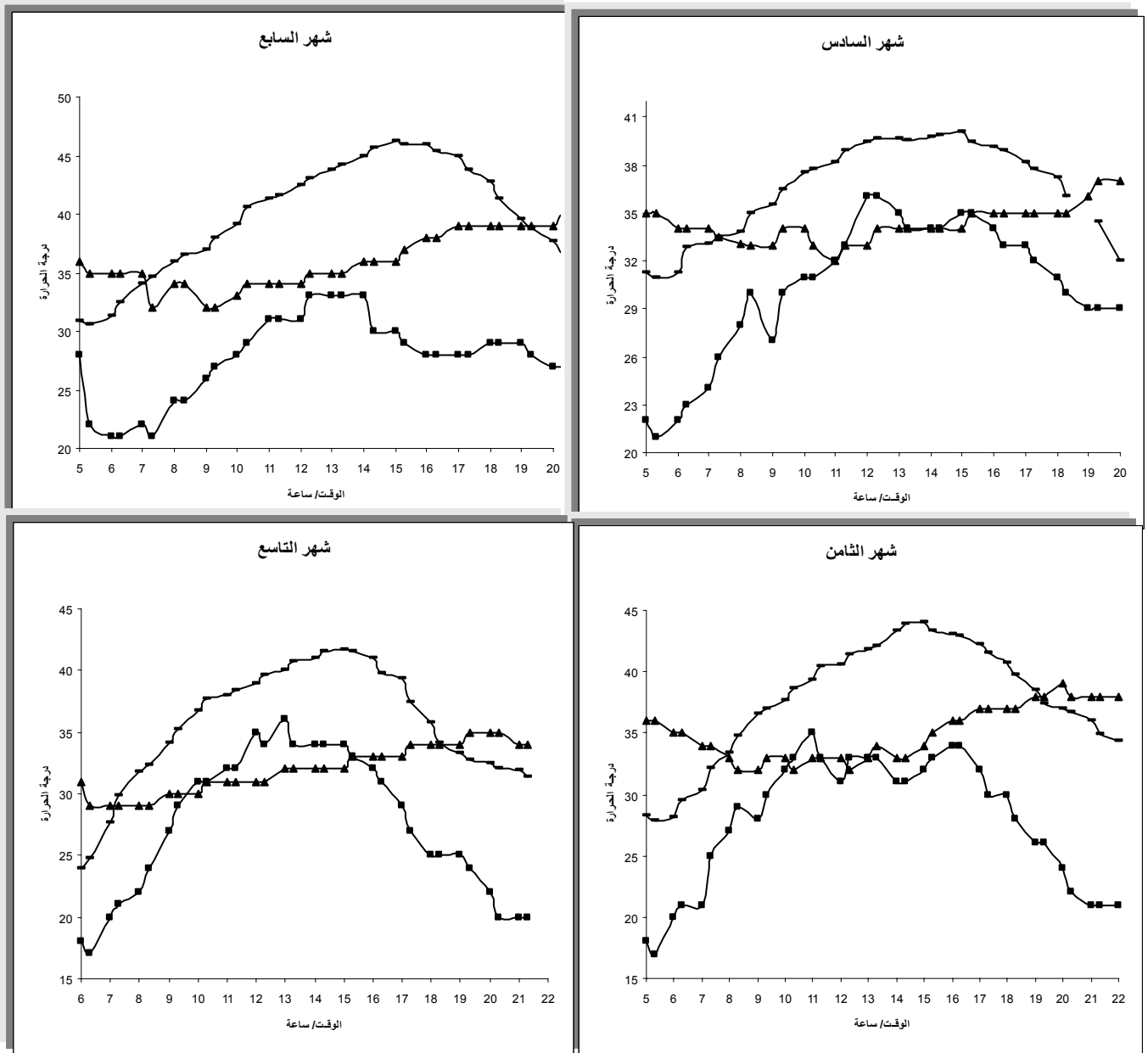
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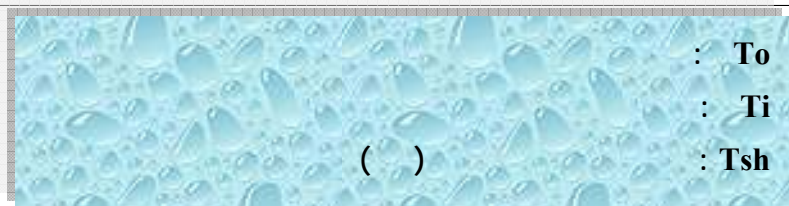
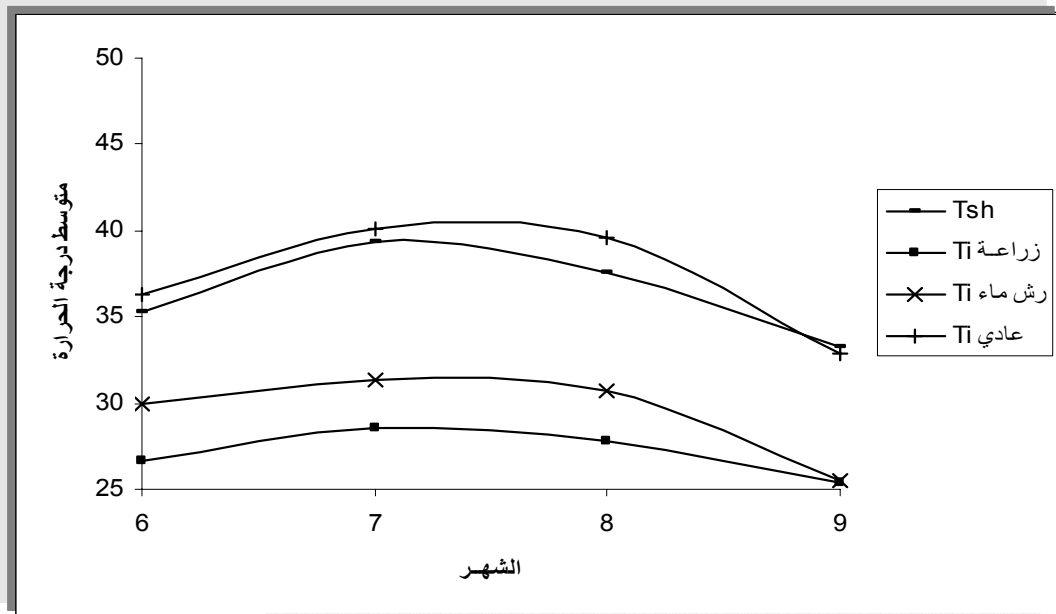
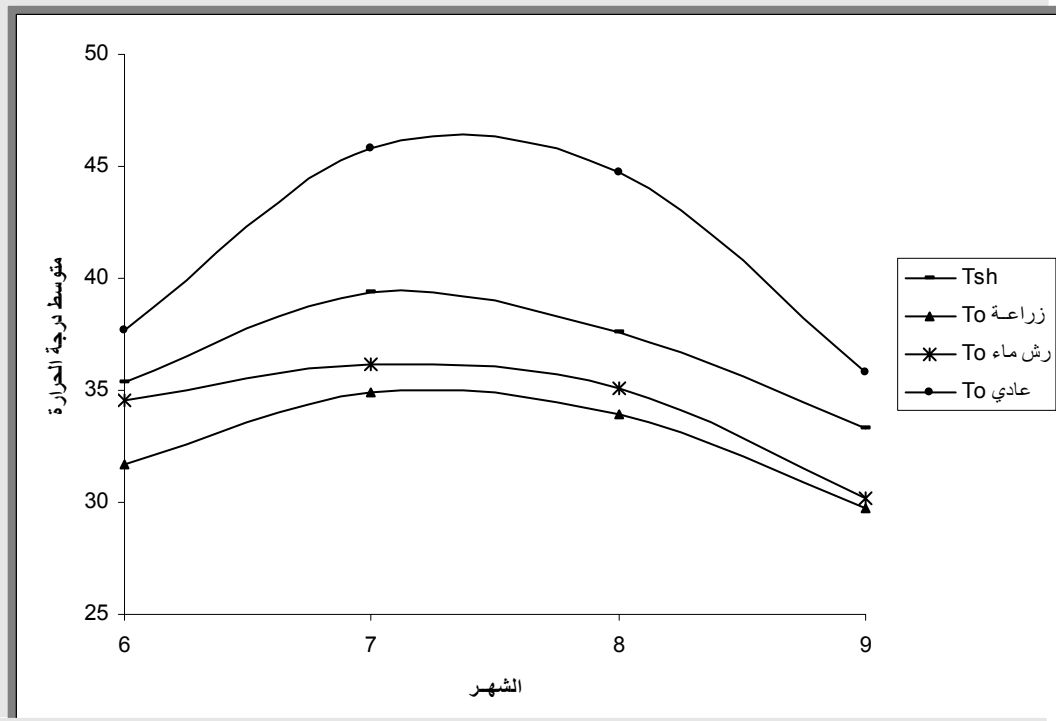


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