Physiological Studies On Ripening And Storage Of Dates

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Approval Sheet

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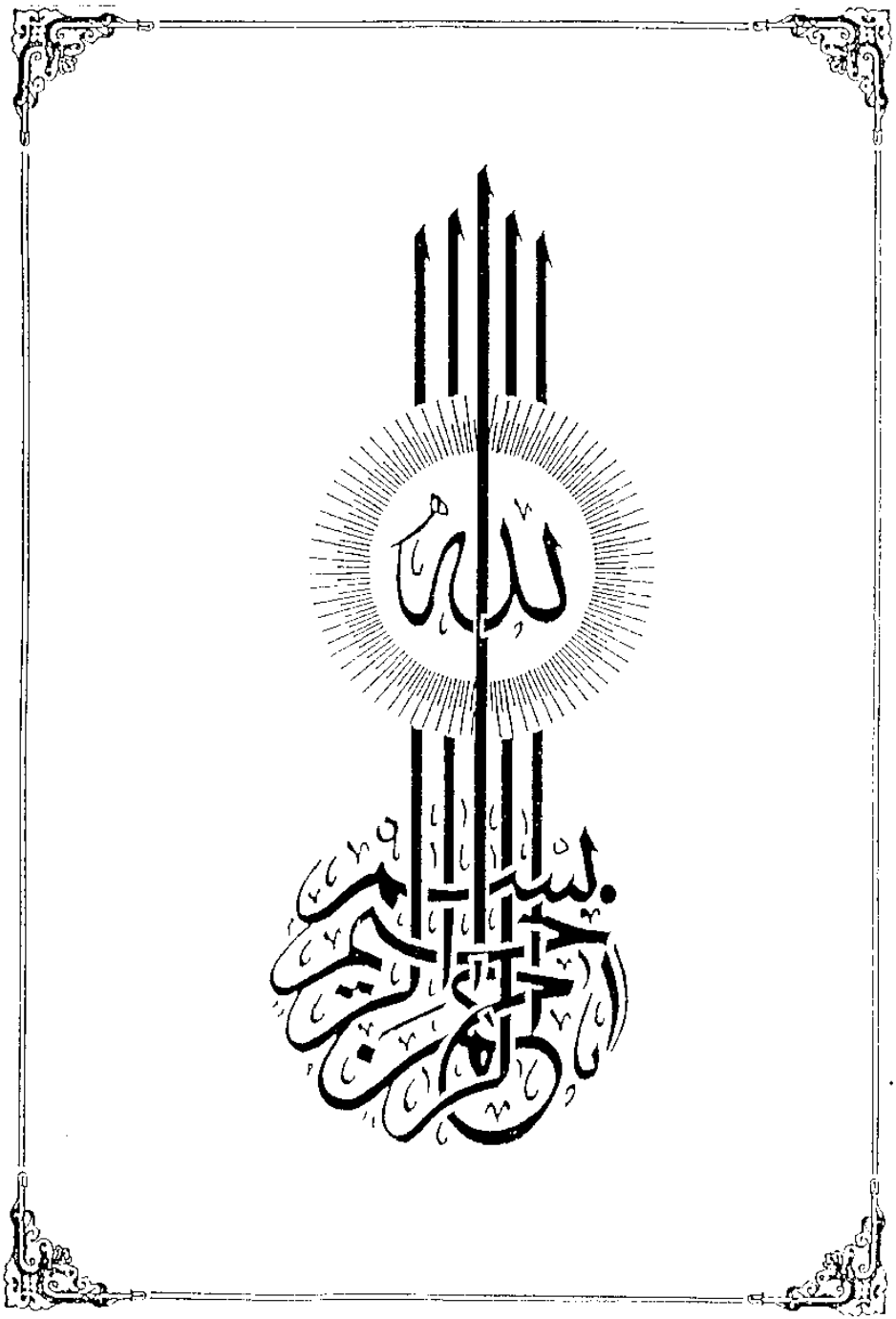

PHYSIOLOGICAL STUDIES ON RIPENING AND STORAGE OF DATES

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ABSTRACT

Three experiments were carried out during the 1990, 1991 and 1992 seasons on "Zaghloul", "Hayany" and "Seewi" dates. The first experiment was performed to investigate the possibility of increasing the storage period and ,hence, marketing period of "Zaghloul" dates, while the second and third experiments were designed to improve the ripening methods of both "Hayany" and "Seewi" dates, respectively.

Results of the first experiment indicated that dipping "Zaghloul" dates in GA_3 and/or $CaCl_2$ solution at different concentrations was effective in increasing total sugars, and decreasing both tannins %, and titratable acidity. These results also indicated that the usage of GA_3 with $CaCl_2$ as supplementary treatment to cold storage at 0°C was of beneficial effect on prolonging the

storage period of "Zaghloul" dates with respect to the fruit quality. Storing treated Zaghloul dates at 5°C ranked second in this respect.

As for the second and third experiments results of this work showed that all tested treatments either for ethrel or for calcium carbide were effective in hastening ripening of both "Hayany" and "Seewi" dates. These treatments particularly for calcium carbide increased in general "rutab %, and total sugars while such treatments, on the other hand, decreased weight loss % and fruit decay percentages.

Therefore, it could be generally concluded that using both GA_3 and $CaCl_2$ treatments was effective in increasing storage ability of "Zaghloul" dates when stored at 0°C or 5°C whereas storage at 10°C is not recommended for "Zaghloul" dates under the condition of this experiment. Also, it could be concluded that calcium carbide was more suitable agent for artificial ripening of both "Hayany" and "Seewi" dates than ethrel.

Key words: Date fruits, "Zaghloul", "Hayany", "Seewi", cold storage, supplementary treatments, growth regulators, fruit quality, calcium chloride, Gibberllic acid, calcium carbide.

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