DATE PALM POLLEN VIABILITY IN RELATION TO STORAGE CONDITIONS

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ABSTRACT

Viability of fresh and stored pollen of date palm (*Phoenix dactylifera*, L.) was studied. Pollen samples were stored at room temperature (25-30°C), under refrigeration (3-4°C). *In vivo* test, pollen viability was determined by percent fruit set.

Results suggest that different storage conditions had no apparent effect on pollen viability as tested with acetocarmine. However, results of *in vivo* test showed that pollen stored either at room temperature or in a refrigerator had higher viability as determined by percent fruit set to deep freezer storage.

Key words: Pollen viability, pollen stroage, acetocarmine.

INTRODUCTION

Commonly in pollinating date palms pollen is used. For this, the male and female should bloom same time. Often emergence of inflorescence on female palms before male palms bloom causes scarcity of pollen in early spring. The storing of pollen from one season to the next offers a practical solution, providing it can be kept without appreciable loss of viability.

Very little experimental work has been done with pollen storage. As early as 2000 B.C. male flowers with pollen were stored in the dark under dry conditions (Kampfer, 1712, cit. by Pfundt, 1910).

Numerous investigations on storage of date pollen have been carried out elsewhere (Stout, 1924; Albert, 1930; Crawford, 1938; Aldrich and Crawford, 1941; Rahim, 1975). However, information concerning storage of date pollen in Saudi Arabia is lacking (Abo-Hassan *et al.*, 1982). In the present investigation pollen was stored at different temperatures till next season. Effect of storage conditions on pollen viability was determined. Viability of pollen in some of the males under study was also determined using the germination and *in vivo* techniques.

MATERIALS AND METHODS

This investigation was commenced in 1984 to determine the viability of pollen grains of the males selected in the Central Region which amounted to about 135 males.

Three matured spathes were collected from each of the selected males. For pollen extraction, the strands were cut off and spread in on paper sheets to dry. Then, the pollen grains were separated from the flower parts by using fine sieves (40 mesh). Viability of pollen grains of each sample was recorded.