

MINERAL LEAF CONTENT OF SOME MALE AND FEMALE DATE PALMS *

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ABSTRACT

Ash and mineral (N, P, K, Ca and Mg) contents of the leaves of 12 male seedling date palms, as well as the female parent of these seedling males, were determined.

Leaf ash differed between males and it ranged between 4.66 to 19.15%. Ash percentage tended to be generally higher in the males as compared to females. Levels of mineral elements varied between male palms and they were generally higher in the males than in the leaves of female palms.

Key words: mineral content.

INTRODUCTION

Information regarding leaf mineral content of date palm is limited, especially comparative studies on the leaf mineral content of males and females are rare. Brown and Bahgat (1938) noted higher levels of ash and silicon in the leaves of the female as compared to male palm. Reuther (1948) in California, Shawky and Mougheith (1974) and Minessy *et al.* (1974), in Egypt, studied the mineral content of the leaves of different date palm cultivars.

The objective of this investigation is to

study the leaf mineral contents of the selected females and their seedling males.

MATERIALS AND METHODS

This study was carried out at the College of Agriculture, King Saud University, Riyadh, during the 1984 season. One hundred date palm males selected from the Central region of Saudi were used. These males were similar in vigor and free of disease. Four leaves, about one year old, were detached from each tree. The leaves were collected in October, 1984. Similar leaf samples were also taken from the female palms grown in the same orchard.

Each leaf sample consisted of 10 pinnae, taken from the middle portion of the leaf, 5 pinnae from each side. The samples were washed thoroughly with distilled water, then were oven dried and ground for mineral determinations.

Ash and nitrogen were determined using the standard technique (A.O.A.C., 1970). Phosphorus was determined colorimetrically by the stannous chloride method (Toth *et al.*, 1948). Potassium was measured by the atomic absorption spectrophotometer. Calcium and magnesium were determined by the versenate method (Cheng and Bray, 1951).

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