

Efficiency of Micronutrients Loaded on Urea-Carriers on the Productivity of Tunis Grass (*Sorghum vergatum* (Hak.)) under Saline Conditions

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THE PRESENT study was carried out at Ras Sudr Experimental Station, South Sinai during 2005 and 2006 seasons. The aim of this study was to evaluate the effect of five different urea carriers of slow release nitrogen fertilizer, *i.e.* formaldehyde-coated urea (40%N), sulfur-coated urea (37%N), rock phosphate-coated urea (37%N), bentonite-coated urea (37%N), talic-powder coated urea (37%N) with or without micronutrients (Zn, Mn, Fe) at the following rates 90 and 120 kg N/fed on some growth traits, forage yield and quality of Tunis grass.

The obtained results showed significant responses of the studied growth traits and forage yields when the slow release urea carriers were loaded with micronutrients. The increases in the accumulated fresh and dry forage yields amounted 6.56, 5.95% and 3.97, 6.98% in the first and second seasons, respectively. Moreover the crude protein percentage surpassed that without micronutrients but the increases did not reach the significant level in the first season. Meanwhile, the crude fiber percentage was not significantly affected.

Significant responses were obtained on the studied growth traits with the different slow release carriers. The following urea carriers, *i.e.* sulfur, bentonite, rock phosphate and talic powder showed superiority over urea formaldehyde. Meanwhile, higher increases in the studied traits were recorded when micronutrients were loaded on the investigated carriers.

The interaction effects between the micronutrients and urea carriers were significant on the studied growth traits, forage yields and quality.

Keyword: Tunis grass. Slow release carriers, Micronutrients, Growth traits, Forage yield, Forage quality.

In Egypt, there has been an increasing interest to increase the area of the cultivated land in Sinai, which suffer from salt-affected soils along with saline underground water. Many plant species including several crops are grown under such unfavorable conditions with a reasonable degree of success.