Effect of Stand Type and Tree Size on Gum Arabic Yield from *Acacia senegal* in North Kordofan State, Sudan

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# ABSTRACT

To study the effect of stand type and tree sizes on gum arabic yield of *Acacia senegal* tree species. We selected two locations of local villages in Sudan, called Demokeya (reserved research testing site) east Elobeid town and Al-Rahad natural open forest inside the gum arabic belt. Two sizes (base on stem diameter at breath height of the trees) were determined within these two forests. A combination of four variables was considered as source of variation to be tested for gum arabic yield/production. Every experimental level was represented with (5 trees). We collected gum nodules from these combination groups separately after 45 days from time of tapping and then 15 days interval between picking up to fife pickings, then we weighed the gum. The data obtained was subjected to statistical analysis using (SAS) computer software program. The result showed significant differences (p = 0.05) for four out of five picks on gum yield. Variation within the gum yield according to the size class, in the both sites was observed, size class (2) was higher gum yield all around the fifth pickings for Demokeya and Al-Rahad areas.

Key words: Gum Arabic, Demokeya, North Kordofan, Hashab tree and *Acacia senegal*.