

Influence of Acacia Senegal varieties on quality of gum arabic in Baringo District Kenya

Jumba, Isaac O

URI: <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/32717>

Date: 2013

Abstract:

A study was done to determine the influence of Acacia senegal variety and var.kerensis on quality of gum arabic in solit, kapkun, kimorok and maoui, Marigat division, baringo District. Soil and gum arabic samples were collected, dried and analysed to establish their chemical characteristics. Gum nitrogen from A. senegal variety senegal in kapnun and solit was negatively correlated to soil nitrogen ($r=-0.28$), while gum nitrogen from variety kerensis at kimorok and Maoi was positively correlated to soil nitrogen ($r=0.16$), respectively. High nitrogen content in soils was significantly correlated to high content of nitrogen (0.30%) in gum arabic obtained from A.senegal varieties. Gum copper was highly correlated to soil copper ($r=0.09$; $p<0.01$), soil iron was highly correlated to gum iron ($r=0.09$; $p<0.05$) and soil manganese and gum manganese was negatively correlated ($r= -0.08$; $p<0.05$). Gum zinc from A. senegal variety senegal at kapkun and Solit was negatively correlated to soil nitrogen and ($r=-0.15$), respectively. Nitrogen, iron, manganese and zinc contents in gums from A.senegal varieties fell within the ranges of the international standard specifications (0.26 to 0.39% N, iron (730 to 2490 ppm), manganese (69 to 117 ppm) and zinc (45 to 111ppm), respectively. A.senegal variety senegal in Solit and kapkun produced better quality of gum arabic than A. senegal variety kerensis in kimorok and Maoi.