**Effect of Pre-sowing treatment and Nitrogen Fertilizer on Seeds Germination and Seedling Development of *Borassus aethiopum* (*Daliab*) Tree**

 Idris Musa Adam1\* – Abbas Hassan Ali2 Kamal Eldin Mohammed Fadul2 Zienab Mohammed Bahar2, Salih Omer Tutu3

1 Elobeid Agricultural Research Station, Agricultural Research Corporation (ARC)

2 Forestry Department, University of Khartoun (UK) – Sudan

3 Forestry Department, University of Kordofan

\*Correspondent author

# Abstract:

This experimental study was conducted to evaluate the ability of *Borassus aethoipum* (*Daliab*) seeds to germinate without intervention then to assess the effect of fertilizer micro-dose and seeds pre-treatment on germination and morphological character of *Borassus* seedlings in South Kordofan. This tree is known to be very important tree in the area economically and ecologically, because it play very important role and has a lot of benefits to the people in the area which is under civil war for a decades of time. The study was designed to evaluate germination of *Borassus* seeds and early growth of seedling under different three seasons with fertilizer micro-dose and seed pre-treatment. A three replications of two factors, fertilizer (2 levels), seed pre-treatment (5 methods) was conducted in nursery and repeated three times (summer, autumn and winter) season 2018 - 2019. The data collected from the experiment was subjected to statistical analysis using MSTAT-C computer software. The result showed that seed pre-treatment brought significant differences on seed germination and seedling development of *Borassus*, puncturing the seeds (nipping) was better than the other seed pre-treatment. Seedling need starter dose of fertilizer and autumn is suitable for germination of *Borassus* seed and seedling development. Nipping with fertilizer gave the best germination percentage (91.5%) at winter and (84.5%) at autumn. nipping treatment also was significantly higher (16.57 cm) in shoot height, nipping group also produced significantly long root system (14.13 cm). The study recommends using seed pre-treatment with nitrogen micro-dose fertilizer for seedlings and it is recommended to be in autumn season.

Key words: Borassus, South, Kordofan, Daliab, Nipping, Pre-treatment, Hotwater, Scratch, Halook