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Ethnopharmacology

BOOK OF ABSTRACTS

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## Radiation absorption and use efficiency of sesame as affected by biofertilizers in a low input cropping system

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Cultivation of high efficacious crops in resource utilization, especially with higher water and radiation use efficiencies is one of the important strategies to achieve the goals of sustainable agriculture. In agreement with these guidelines and in order to estimate light extinction coefficient and radiation use efficiency of sesame as a high value medicinal plant in arid regions a randomized complete block design with three replications was conducted in 2009-10 growing season. Treatments were three different types of biofertilizers plus control, including 1-nitroxin (containing of *Azotobacter* sp. & *Azospirillum* sp.), 2- biophosphor (PSB, containing of phosphate solubilizing bacteria, *Bacillus* sp. & *Pseudomonas* sp.), 3- biosulfur (SSB, containing of *Thiobacillus* spp.) and 4- control (no fertilizer). The results showed that application of biofertilizers resulted to 15 days shorter period to achieve maximum leaf area index compared to control and as a result, the maximum fraction of absorbed radiation and consequently sesame dry matter produced at the sixtieth day after emergence, 15 day sooner than control. Although, light extinction coefficient in control (no biofertilizer) was higher than biofertilizer treatments (0.78 vs. 0.69), but radiation use efficiency (RUE) in SSB and nitroxin was higher compared to control (1.31, 1.24 and 1.09 respectively) which resulted to highest biological and seed yield, seed oil and protein and harvest index. In this research, the total mean sesame RUE estimated of 1.19 g MJ<sup>-1</sup> (R<sup>2</sup>=0.95). In general, these results indicated that application of biofertilizers specially SSB and nitroxin enhanced utilization of radiated and absorbed radiation by sesame canopy and consequently improved quantitative and qualitative yields.

## Medicinal Plants used in Tanzania to induce or to prevent abortion and to manage the labor pains

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Herbal drugs have been used in managing labor pain and induction of abortion for the unwanted pregnancies since ancient times. These herbal drugs may cause health risks to both the mother and expected baby. In Tanzania official documentation of the mortality rate from such practices is lacking but oral communication with various medical-workers confirm such practices from the confession of some patients seeking medical help.

Herdberg and Chhabra teams [1, 2], Watt and Breyer-brandwijk [3], Haerdi [4] and Kokwaro [5] compiled many Tanzania medicinal plants for various diseases/conditions. For the purpose of this presentation, these are jointly designated as "the main point of reference". Out of their work, 62 plants belonging to 33 families are used against abortion (43.55%), abortion induction (20.97%) and mitigation of the labor pains (16.13%)

The frequency of mention is once or twice to almost all species for either of the applications. However, at the families level, Euphorbiaceae, Malvaceae, Papilionaceae and Vitaceae each have three plants used to prevent abortion, whereas, Euphorbiaceae, Menispermaceae, Plumbaginaceae and Umbelliferae each have two plants used to induce abortion, and Sapindaceae having two plants used to for labour pain management.

The drawback on the previous work in the mentioned resources lies on the format used on data presentation i.e. not focused on particular a disease/medical condition. This work aims at providing an easy and quick dissemination/access to scientific researchers for further studies in order to confirm the claimed pharmacological activity, establish their safety or toxicity. This will give a way to isolation of bioactive compounds and standardization of herbal drugs.

*Acknowledgements: I would like to acknowledge the previous work herein cited.*

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