

**Sudan University of Science & Technology
College of Graduate Studies**

**Variation in Seeds and Seedlings Characteristics
between *Acacia tortilis* subspecies *raddinna* and
subspecies *spirocarpa* from Three Provenances in Sudan**

By

**Abdel Basit El Hussien Elmagboul
M.Sc in Environmental Forestry
Sudan University of Science and Technology**

**A thesis submitted for the fulfilment of the requirements for the
degree of doctor of philosophy in Forestry Science.**

Supervisor. Dr. Saydia Mahgoub

March 2009