Title of Article: Comparative Germination Studies of Cowpea (*Vigna unguiculata* Linn. Walp) and Soy bean (*Glycine max* Linn. Merr) on Whole and Water Saturated Fractions of Hydrocarbon (Hexane)

Author(s): Ogbemudia, F. O., Denise, E. M., Ogie-Odia E.A., Omonhinmin, A. C.

Outlet: *Annals of Biological Research*, 2010, 1 (4) 34-40

Date: 2010

Abstract The effects of whole and water saturated fractions (WWSF) of hydrocarbon hexane on the germination of two leguminous crops: *Vigna unguiculata* (Linn) Walp and *Glycine max* (Linn) Merr were investigated at the green house of Botany and ecological department university of Uyo Akwa- Ibom State, using Petri dishes at room temperature (±280C), between July and September 2009. The results obtained in this study showed that the germinations of both cowpea (*Vigna unguiculata*) seeds and soybean (*Glycine max*) seeds were influenced differently by various concentrations of whole and water saturated fraction of hexane. At the highest concentration (75%) of water saturated fracture of hexane, 52.1 % of the cowpea seeds germinated compared to the 81.1% obtained when distilled water was used at 168HAP, while at the highest concentration (75%) of water saturated fracture of hexane, 50.5 % of the soybean seeds germinated compared to the 62.0% obtained when distilled water was used at 168HAP. The results also shown that at 168HAP, the mean radicle lengths of 8.8±1.6, 6.2±0.3, 6.1 ±0.9 and 5.4± 0.6 were obtained when distilled water, 25%, 50% and 75% water saturated fraction of hexane were introduced respectively into Petri-dishes containing cowpea , while there were slight reductions in the values obtained when whole hexane were used. The results also showed that 25%, 50% and 75% concentrations each of whole and water saturated fraction of hexane significantly affected the mean percentages of soybean (*Glycine max*) germination while significant reduction at (P=0.001) in the radicle lengths of soybeans at different concentrations (75, 50 and 25%) of whole and water saturated fraction of hexane were obtained .This therefore, suggested that cowpea and soybean will be affected if planted in an area contaminated with both whole and water saturated fraction of hexane.