

CURRENT RESEARCH

My field of research is multifaceted and includes plant physiology, soil fertility management, plant-microbes interactions and environmental biology, though, the main area is plant physiology. I have worked extensively in the last 17 years on how to improve plant responses to biotic and abiotic stresses, where I have investigated and still investigating the effects of these stresses on plants physiology and their yield responses. I have been involved in the study of phytoremediation where we are investigating plants physiological responses to oil pollution and soil fertility problems. The plants are been conditioned to such adverse environmental effects. I have conducted research in many plants responses to arbuscular mycorrhizal and rhizobial inoculations. I worked extensively on cassava improvement and agroforestry as a cropping system.

www.ciat.cgiar.org/biotechnology/cbn/sixth> international meeting/poster.

(a) **Phytoremediation of oil polluted site:** Oil pollution is a menace in Nigeria. Many agricultural lands have been rendered useless because of oil pollution particularly in Niger Delta region and in our big cities. Effective use of plants and microbes to remedy the site is subject to adequate knowledge of these organisms and their responses to oil pollution. The work was aimed at the effective use of plants and microbes to ameliorate the oil polluted sites for productive agricultural practices.

(b) **Waste to Wealth:** This is a project embarked upon by my unit in my department. The three of us in that unit are trying to use agricultural wastes to improve crops' growth and yield using some agricultural wastes such as spent mushroom compost, poultry waste, animal dung, sawdust etc,

(c) **Improvement of crops production in saline environment:** We are trying to investigate the physiology behind crops response to salinity so as to improve production of some common vegetables under the influence of high salt contents. This project was as a result of irrigation practices in Nigeria due to high demands of these vegetables which cannot be met under normal weather conditions.

(d) **Improvement of yam production in Nigeria:** Yam is an important arable crop in Nigeria. Its production is been threatened by dearth of virgin and fertile lands. Yam is highly susceptible to soil fertility and weed infestation. It is therefore crucial at this period to evolve quality soil and cropping systems that will boost yam production to encourage our farmers to return to its production and to bring down it cost. This project is therefore aimed at evolving cropping systems and quality soil suitable for yam cultivation.

(e) **Allelopathic effects of *Tithonia diversifolia* on plants:** This plant is a common weed in many countries of the world and is one of the most underestimated problems in agriculture. It suppresses

practically almost all the grasses and herbaceous plants it comes across. The objective of this work is to find out the mechanism of suppression adopted by this weed against other plants.