Rokolhuii Keditsu, Agrotechnol 2014, 2:4
http://dx.doi.org/10.4172/2168-9881.S1.007

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference on
Agricultural & Horticultural Sciences
Radisson Blu Plaza Hotel, Hyderabad, India February 03-05, 2014

Rhizosphere microbial dynamics under organic versus inorganic fertilization in open field Gerbera

Rokolhuii Keditsu
Nagaland University, India

Emerging energy crisis coupled with hike in fertilizer prices has further warranted towards finding alternatives to improve quality production of Gerbera (*Gerbera jamesonii* Bolus ex. Hook) by exploiting the rhizosphere microbial dynamics. The optimum agropedological criteria were suggested as: nutrient regime (122.1-152.6 $KMnO_4$-N, 6.1-7.2 Bray-P and 97.6-114.3 NH_4OAc-K mg/kg) and climatic features (182.3-201.0 g/kg soil moisture, rain fall 96.2-223.5 mm/month, 5-8-6.8°C hrs diurnal variation) in order to exploit upon the correct time of planting and harvesting maximum flowers yield of Gerbera grown on Alfisol under open field conditions. Treatments comprising different combinations of organic manures and inorganic fertilizers were tested. Treatment T_1 utilising inorganic fertilizers maintained a significantly lower population of fungal count ($15x10^3$ cfu/g soil) and bacterial count ($46x10^4$ cfu/g soil). Such responses on soil microbial dynamics influenced the available pool of nutrients within the rhizosphere. Treatment T_4 (50% inorganic +25% Pig manure +25% Farmyard manure) registered all the three nutrients in highest concentration (2.6% N, 0.26% P and 2.5% K), significantly superior to rest of the treatments. A greater magnitude of response was observed with treatment T^4 (238-256 flower/m^2) by replacing 50% RDF with either Pig manure as T_2 (238 flowers/m^2) or Farmyard manure as T_3 (225 flowers/m^2). The results have further established the differential changes in soil carbon pool with manures in triggering simultaneous microbial species redistribution within the rhizosphere.

Biography

Rokolhuii Keditsu, basically a Floriculturist has been working on substrate development and field evaluation, post-harvest physiology of cut flowers, exploiting meteorological conditions through adjustment in planting time, evaluation of flower germplasm diversity under protected conditions; landscaping through floriculture covering a large number flowers over the last 12 years. She is the recipient of Mahatma Phule Award for excellence, member of editorial board of 7 internationally known journals, and authored the book on Gerbera Nutrition by Lambert Publishing House, Germany. She is credited with many peer reviewed research papers and guided 16 M.Sc students.

rokokdts@yahoo.com