Agrotechnol 2014, 2:4
http://dx.doi.org/10.4172/2168-9881.S1.008

OMICS Group Conferences
Accelerating Scientific Discovery

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

Effect of top dressing and foliar application of organic nutrient sources on growth and yield of sorghum

Tejavath Barath Rathod
Acharya N. G. Ranga Agricultural University, India

A field experiment entitled "Effect of top dressing and foliar application of organic nutrient sources on growth and yield of sorghum" was conducted during *kharif*, 2012 at Student farm, College of Agriculture, Rajendranagar, Hyderabad, Southern Telangana climatic Zone of Andhra Pradesh. The soil of experimental site was sandy clay loam with pH of 7.9, electrical conductivity 0.96 dSm^{-1}, low in organic carbon (0.69%), low in available nitrogen (221 kg ha^{-1}) and high in phosphorus (86 kg ha^{-1}) and high in potassium (446 kg ha^{-1}). The experiment was laid out in randomized block design with nine treatments and three replications. The treatments comprises of top dressing of vermicompost at 2.5 t ha^{-1} (T_1), top dressing of vermicompost at 5 t ha^{-1} (T_2), foliar spray of vermiwash at 1% (T_3), foliar spray of vermiwash at 2% (T_4), foliar spray of humic acid at 0.5% (T_5), foliar spray of humic acid at 1% (T_6), foliar spray of fulvic acid at 0.5% (T_7), Foliar spray of fulvic acid at 1% (T_8), 80:40:40 of NPK fertilizers (T_9).

The results of the experiment indicated significant influence of organic nutrient management on plant growth and yield attributes. Maximum growth in terms of plant height, leaf area index was recorded with application of foliar spray of fulvic acid at 1% (T_8). Dry matter accumulations values were also significantly higher with foliar spray of fulvic acid at 1% (T_8) on par with foliar spray of vermiwash at 2% (T_4).

Days to 50% flowering and growth analysis parameters i.e., CGR, RGR and NAR did not vary significantly with different organic sources of nutrients.

The yield attributes *viz*., number of ear heads m^{-2}, number of grains ear $head^{-1}$, test weight, grain yield and stover yield were significantly enhanced with foliar spray of fulvic acid at 1% (T_8) compared to other organic treatments.

Grain yield was higher with foliar spray of fulvic acid at 1% (T_8) followed by top dressing of vermicompost at 5 t ha^{-1} (T_2) which are on par with foliar spray of fulvic acid at 0.5% (T_7), top dressing of vermicompost at 2.5 t ha^{-1} (T_1) and foliar spray of humic acid at 1% (T_6). Stover yield was higher with foliar spray of fulvic acid at 1% (T8) which was on par with top dressing of vermicompost at 5 t ha^{-1}(T_2). Protein content and post harvest soil status and physiochemical properties of soil did not vary significantly with different organic sources of nutrients. The nutrient uptake (N, P and K) by crop at 60 days to harvest stages was higher with application of foliar spray of fulvic acid at 1% (T_8) on par with top dressing of vermicompost at 5 t ha^{-1}(T_2).

The highest gross returns, net returns and B:C ratio were recorded with application of foliar spray of fulvic acid at 1 % (T_8) over other treatments.

bharath032@gmail.com

Efficacy of different insecticides against tomato fruit borer (*Helicoverpa armigera*) on tomato

Katroju Ravikumar
Acharya N. G. Ranga Agricultural University, India

Seven insecticides emamectin benzoate 5 SG @11 g a.i. ha^{-1}, emamectin benzoate 5 SG @ 22 g a.i. ha^{-1}, profenophos 50 EC @ 500 g a.i. ha^{-1}, profenophos 50 EC @1000 g a.i. ha^{-1}, spinosad 45 SC @ 100 g a.i. ha^{-1}, bifenthrin 10 EC @ 100 g a.i. ha^{-1} and *Bacillus thuringiensis* @ 25 g a.i. ha^{-1} were tested against tomato fruit borer (*Helicoverpa armigera*).

Among all the insecticides, profenophos (1000 g a.i. ha^{-1}) was found to be the most effective one with a maximum reduction in fruit borer population (65.20%), minimum per cent of fruit damage (28.80%) and maximum yield (26.43 kg/20 m^2). The next best treatment was bifenthrin @ 100 g a.i.ha^{-1} in which larval population was reduced by 64.51% and the 32.60% damaged fruits were recorded.

ravy.varam@gmail.com