

## **UGC - Minor Research Project**

### **Reducing Environmental Pollution through Management of Biodegradable Waste By Vermitechnology, Characterization of Vermiwash and Its Suitability For Land Application in Rural and Backward Areas**

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#### **SUMMARY OF PROJECT**

The present research work is an successful attempt, and a step taken towards reducing the environmental pollution of air and soil, through utilization of biodegradable organic waste of plant origin and its conversion into an eco-friendly and commercially important product i.e. Vermicompost and the vermiwash. The biodegradable organic waste in the form of nuisance terrestrial weeds thriving in the botanical garden of N.S.Science and Arts College, Bhadrawati, district Chandrapur were successfully utilized and converted into vermicompost a useful product of farmers utility, with mass propogation of earthworm variety *Eisenia fetida* for distribution in rural and backward region of Bhadrawati tehsil of Chandrapur district during 2 year's span i.e. 2012-2014.

Laboratory scale vermiwash unit of 50 litre capacity is designed and fabricated in the N.S.College laboratory and the vermiwash is obtained and characterized for its physico-chemical characteristics and different useful micro-organisms. The nitrogen fixing and phosphate solubilising bacteria were quantitatively analyzed in the vermiwash. Twenty different physico-chemical parameters were analysed in vermiwash prepared at laboratory scale. The presence of nitrogen and phosphate shows that the product is useful for enhancing plant growth as evident from the field level investigations.

Also the field level experimentation on 3 different plant varieties demonstrates its potential practical utility in increasing the plant growth when applied at specified dilutions.

The importance of vermicompost and vermiwash is spread to local communities and farmers of Bhadrawati region through their orientation and counseling for overall crop improvement in rural and backward region of Bhadrawati.

The present practice of reducing the environmental pollution, coupled with the production of vermicompost and vermiwash will definitely conserve our precious natural resources and also minimize the pollution problem locally, if adopted by all the farmers properly and in a systematic manner.



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