

A Study on Composting of Aquaculture Sludge from Patapalem (SPSR Nellore) and its Suitability to different Crops

M Srikanth, G Ramachandra Rao, G V Lakshmi and I Usha Rani

Department of Environmental Sciences, APGC, Lam, Guntur, A.P.

ABSTRACT

The physico-chemical characteristics of aqua sludge collected from the bottom of aquaculture ponds in Patapalem, Nellore district (Andhra Pradesh), paddy straw from Live stock Research Station, Lam, Guntur and water hyacinth from Agricultural College Farm, Bapatla were used to make compost in various proportions and tested for their suitability as substrates in different crops. The sludge was acidic in nature and high in organic carbon, total nitrogen, phosphorous and potassium contents. The composting products with different combinations of aquatic sludge, paddy straw and water hyacinth were used to test the germination percent, height and weight of the three species of plants *i.e.*, *Cicer arietinum*, *Gossypium* species and *Vigna mungo*. The highest percent of germination, height and fresh weight of the plants were achieved at a ratio of 60:40 (aqua sludge: paddy straw) for sludge-straw composts, at a ratio of 60:40 (aqua sludge: water hyacinth) for the sludge-hyacinth composts and at a ratio of 70:10:20 (aqua sludge-paddy straw-water hyacinth) for sludge-straw-water hyacinth composts. Overall the results indicated that the sludge from aqua ponds has a potential to be used as compost material when mixed with either rice straw or water hyacinth.

Key words: *Aqua sludge, Compost, Bengal gram, Cotton and Black Gram, Paddy straw and Water hyacinth.*