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Zooplankton (JUVENILE Fish FOOD) Production from Locally Sourced Plant and Animal Wastes

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Abstract

One of the basic challenges facing the production of fish resources is feeding. Food is most crucial at the early stage of development when specific food and care are required. Juveniles depend mainly on minute organisms: plankton for their survival. Various studies have identified live zooplankton as the best food for this stage. The global climatic changes, its consequent effect on life generally and the need to encourage organically produced food has resulted in the search for culture means that do not have adverse effect on the environment nor compete with man for the use of resources.

Poultry droppings, cow dung and cassava peels were fermented and dried. Dried materials were soaked in water at 0.057 mg/l for 2 days and then filtered to form culture media. Each of the media were inoculated with phytoplankton 24 hours prior to the inoculation with *Brachionus* and *Filinia* at 2 individuals/species/ml. Culture condition was maintained at $27.1 \pm 0.20^\circ\text{C}$ and 5 mg/l dissolved oxygen.

There were significant differences in the production of *Brachionus* from the different media ($p < 0.05$). *Brachionus* was observed to peak after every 4 days in all the media. The average population was 24000/l from poultry manure, 15000/l from cow dung and 10250/l from cassava peels. There were no significant differences in the production of *Filinia* ($p > 0.05$). *Filinia* peaks after 5 days at 18200/l from poultry manure, 10200/l from cow dung and 8000/l from cassava peels.

The study shows that nutrients from the culture media were able to generate enough phytoplankton that favours the growth of rotifera species at a density that compared favourably with the density from brewer's yeast and Mahua oil cake

Keywords: *Brachionus*, cassava peels, cow dung, *Filinia*, poultry droppings