Mesophilic Composting of Arctic Char Manure. (S03-adler173533-Poster)

Authors:

- P.R.Adler - *USDA-ARS, University Park, PA*
- L.J.Sikora - *USDA-ARS, Beltsville, MD*

Abstract:

Our objective was to develop the protocol for a land-based aquaculture solids management system that minimizes leaching of P to the surface water environment by storing solids on land rather than in water in off-line settling basins and is less resource intense than standard composting technology. Field plots were established with 2 C sources (wheat straw or oak sawdust) and 3 blocks. Manure was applied using a vacuum tank spreader modified for side discharge over the plots. The loading rate was about 1cm/week of arctic char manure (7-8% solids). The straw plots had a more open structure and were better aerated than the sawdust plots, but aerobic conditions were present at each application. Carbon was added at a rate to maintain a C:N ratio of about 25. Compost maturity was determined using the Dewar self-heating test and showed that the straw compost matured faster than sawdust compost. A layered mesophilic compost system may be a viable manure management system to store manure on land and replace off-line settling basins for fish farmers. In this system, solids would continue to be settled in the off-line settling basins but pumped onto straw nearby for storage and stabilization.

Corresponding Author Information:

Paul Adler
USDA-ARS
Building 3702, Curtin Road
University Park, PA 16802-3702

phone: (814) 865-8894
fax: (814) 863-0935
e-mail: pra10@psu.edu

Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 9:00-11:00 am
Poster Board Number: 2204

Keywords:

compost maturity, carbon, nitrogen, phosphorus