Increasing solids and phosphorus removal from flushed dairy manure slurry systems using coagulants and flocculants. (S06-krumpelman144852-Poster)

Authors:

- B.W.Krumpelman - *University of Arkansas*
- T.C.Daniel - *University of Arkansas*
- F.G.Edwards - *University of Arkansas*

Abstract:

With present technology, CAFO flush slurry systems are not sustainable due to the environmental risk associated with the presence of excessive solids and phosphorus (P). The overall goal of this research is to develop and evaluate a systematic process for increasing the removal efficiency of solids and P from flushed dairy manure slurry systems. Aluminum and ferric chloride will be evaluated alone or in combination with a polyacrylamide flocculant to reduce the solids and P in manure slurry. The ideal coagulant/flocculant concentration will be identified using the time-to-filter test and tested on a laboratory-scale commercial solid separator to evaluate the removal efficiency of this evolving technology under field conditions. A primary screen will be used to screen out the larger particles and a secondary screen will be used to evaluate the effectiveness of the coagulation/flocculation technology, allowing parameter calculations of screen recoveries and filtrate retentions. Percent total solids, total P and metals (Al, Fe) recovered in the screened solids will be presented as well as percent total solids, total P, dissolved reactive P and total metals retained in the filtrate.

Corresponding Author Information:

Bernard Krumpelman
University of Arkansas
1900 North Garland #26
Fayetteville, AR 72703

phone: 479-251-1443
e-mail: bkrumpe@uark.edu

Presentation Information:

Presentation Date: Monday, November 11, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1441

Keywords:
Solids and Phosphorus Removal, Water Quality, Animal Slurry, Coagulants and Flocculants