



**AGRIMENT SERVICES INC.**  
WASTE MANAGEMENT CONSULTANTS

P.O. Box 1096  
Beulaville, N.C. 28518  
Phone: (252) 568-2648  
Fax: (252) 568-2750

2/18/04

Dear Interested Party,

We at Agriment Services Inc, realize that Bioremediation is not a **cure all** to the sludge problems we face in North Carolina. However, bioremediation can be used as a maintenance/management tool to **improve** the current Anaerobic Lagoon Systems. Taking in account all the new issues concerning sludge, it is practical to assume that producers will look for alternative methods when managing sludge. Therefore, it is practical to believe that producers will look to ways to **reduce the potential for their systems to build sludge**. Sludge accumulates when the lagoon loses the capacity to properly organically breakdown the waste stream. This usually occurs with age and when the lagoon loses its capacity to regenerate the natural occurring bacteria that provide the breakdown potential. As a result, the lagoon becomes less efficient to breakdown the waste loads and the result is sludge accumulation. We realize that in order to effectively manage sludge, **prevention** of this scenario is the key.

We have reason to believe that our process can drastically **improve** the current anaerobic action in the lagoon systems. Our bioremediation program can effectively **reduce** the sludge blankets and improve the quality and nitrogen content of the sludge and the lagoon liquid. The bioremediation program we have in place counteracts the following: waste shock loads, disinfectants, cleanouts, and antibiotic usage, all of which can lower the efficiency level of the current lagoon system. Our system will create a stable medium for the lagoon system to function to its **maximum** capability and **reduce** the potential for exponential sludge generation. Anaerobic swine sludge can be up to 95% organic. This organic matter can be broken down further given the proper biological environment. The in-organics will be trapped in remainder of the biomass that can no longer be organically consumed. Example, if before this technology you had X amount of copper and zinc in five feet of sludge you would after several years of the program have X amount of copper and zinc in 2 feet of sludge. However you would have 3 more feet of storage and treatment capacity returned to the lagoon system. Our system has positive impacts on phosphorus but nothing of substance at this time. Of course, the phosphorus would be attached to the biomass and metals in the two feet of sludge remaining in the scenario above. We are currently researching different strains of bugs that hopefully may address the phosphorus issue in some greater capacity.

Conventional sludge removal involves the most environmentally sensitive action that can be undertaken on a swine farm. In addition, it is very expensive and may reduce the capability of lands currently in the waste utilization plan to uptake nutrients. This is one of the main reasons we have invested our time and money to look to this alternative. It is important that you know this process has a **positive** impact to our current systems and does not **hinder** the anaerobic lagoon system but should be considered as an operation and maintenance tool.

We at Agriment Services know that there will be hundreds of products and salesmen promoting their products as sludge eaters, nitrogen reducers, and odor reducers etc. I would

encourage industry folks to look for **technical competence** and test these individuals by asking a few questions:

1. Have you done a sludge evaluation on my specific site?
2. Have you performed any waste analysis or sludge analysis on my specific site?
3. Do you know the thickness of the average sludge blanket is in my specific lagoon?
4. Do you know how much water column is above the sludge blanket?
5. Do you have any idea of how to get the solids in suspension?
6. Do you have any idea of how to eliminate dead zones in my specific lagoon?
7. Do you have any idea of how effective your product will be in my specific lagoon?
8. What is your experience with anaerobic lagoons?

We at Agriment Services have had experience with this technology dating back to 1995. I would challenge these individuals and if they could not answer these simple questions, our suggestion would be to not use their products. An analogy would be a Doctor trying to cure an illness without ever seeing the patient. We understand with all the sludge surveys to be conducted to satisfy the new NPDES permits, more attention to alternatives is inevitable. Please give us an opportunity to address the sludge issues with site-specific biological programs. As always we are committed to “remaining in compliance” and addressing issues as an **industry friendly** company.

If you have any further questions please feel free to give me a call.

With Kind Regards,

Ronnie G. Kennedy

Ronnie G. Kennedy Jr.  
President of Operations  
Agriment Services, Inc.

Visit us on the Internet at: [www.AgrimentServices.com](http://www.AgrimentServices.com) or email us at [asi@coastalnet.com](mailto:asi@coastalnet.com)