

**It's the Pits**

**Manure Pit Foaming Escalating**

According to Dr. David Schmidt, from the Department of Bioproducts and Biosystems Engineering at the University of Minnesota, only isolated incidents of foaming were reported prior to 2009. That, however, has changed drastically. The outlook for this summer and fall looks rather bleak when it comes to manure foaming. With the escalation of pit foaming this summer, more and more concerned producers face reduced pit capacity as the season continues. Pit foaming can range from a couple inches to over four feet in depth. When pit capacity is reduced, foaming management becomes even more difficult. Since foam is primarily methane gas and lighter than air, it rises into the barn space above the pit, which creates potentially harmful conditions for humans and animals.



**Cause of Foaming**

We know that diet modifications made in the last five years have shifted the microbial community present in the manure, which has led to more foaming occurrences. One likely cause may be higher levels of crude protein in the diet with the feeding of DDGS. Also research has shown that when pigs are fed DDGS, they tend to consume 15 to 20 percent more water, which, in turn, fills pits faster.

Certainly, in the commercial waste management area, an increase in waste protein has been documented as a cause of foaming. Ongoing research continues to study the cause and look for the most effective solutions to foaming.

**Gas Hazards in Managing Foaming Pits**

When pumping or agitating foaming pits it is critical to completely ventilate the pit and barn. Pit foam contains high levels of methane, which if not handled properly, can lead to fires or explosions. Also, trapped gases under the foam, such as hydrogen sulfide, can cause health or death concerns.

**Effective Ways to Handle Foaming in Pits**

In the past year, ProfitPro has tried a variety of products and methods to control foaming in pits, and, to date, has found that:

1. A producer must agitate to reduce foam in the pit. The agitation process must bring liquid over the top of the foam to have any impact. Tractor agitation and small sewage pumps placed in pit load outs have been used. Just the agitation process, as described, will reduce foam.

2. Producers need to use an effective manure bioaugmentation program. When foaming issues are present, the treatment rate must be increased. The key is to populate the pit with non-foaming microbes and treat heavily after pit pump out.
3. Defoamers or oils will help take the foam down with good agitation. However, sometimes it stays down, and sometimes producers have to agitate again to hold the foam down. Our, experience shows that without agitation the defoamers or oils will not help reduce the foam.

**No Easy Answer to Pit Foam**

According to Dr. Schmidt, about 28 percent of hog barns have foaming issues and those numbers are likely to increase. Although most foaming incidents have been reported in Iowa and Minnesota, new reports indicate an increase in Nebraska, Missouri, Illinois and Ohio as well.

*Based on current data, the only commonality is that foaming issues, thus far, have only been found in swine finishing barns.* Barn type and age, ventilation system, genetics, pit depth and feed supplier has not shown a pattern for non-foaming or foaming situations.

Furthermore, the Ontario Ministry of Agriculture, Food and Rural Affairs' (OMAFRA) research shows no indication of manure samples from foaming pits being radically different than other swine pit manure.

Therefore, the only difference appears to be the higher quality diet found in the nursery barns or sow units, which, to date, have not reported foaming issues.

Although there is no "cure" for foaming yet, and no one can predict when it will or won't happen, ProfitPro has products to help knock down foam. Additionally, ProfitPro's Manure Management system utilizes effective strategies to help prevent foam development.

For more information on ProfitPro's **Manure Management Service** call **1-888-875-2425** or go to [manuremaster.com](http://manuremaster.com)

**FREE Manure Management Teleconference**  
scheduled for **August 4, 2011** from 8 to 9 pm CDT on  
**"Pit foaming and what to do about it"**

For more information, go to [manuremaster.com](http://manuremaster.com).  
Dial the toll free number 1-866-225-3498 just before 8 p.m. (CDT) and enter the security code 7159 # (pound key).