**What do you think is causing the pit foaming?**

<table>
<thead>
<tr>
<th>Additives</th>
<th>Aggressive agitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agitating</td>
<td>Agitating above manure level</td>
</tr>
<tr>
<td>Agitating</td>
<td>Agitating above the manure</td>
</tr>
<tr>
<td>Agitation</td>
<td>Agitating above the manure level.</td>
</tr>
<tr>
<td>Agitation</td>
<td>Agitation above liquid level</td>
</tr>
<tr>
<td>Agitation</td>
<td>Agitation above manure levels (spraying on top)</td>
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<tr>
<td>Agitation</td>
<td>agitation on been done right.</td>
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<tr>
<td>Agitation</td>
<td>agitation on the surface</td>
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<tr>
<td>Agitation</td>
<td>Agitation too fast</td>
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<tr>
<td>Agitation</td>
<td>Agitation, fermentation</td>
</tr>
<tr>
<td>Agitation</td>
<td>Agitation, power washing</td>
</tr>
<tr>
<td>Agitation</td>
<td>Agitation/some</td>
</tr>
<tr>
<td>Agitation</td>
<td>Agitator jets above pit level.</td>
</tr>
<tr>
<td>air/agitation</td>
<td>All guessing. Rumors says DDGs in feed. I don't believe it, farmers have fed DDGs for years. Only last couple of yrs had trouble.</td>
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<tr>
<td>Anaerobic activity in pit.</td>
<td>All the stirring of manure from pump is what creates the foam in the hot pit</td>
</tr>
<tr>
<td>Bacteria and pathogens</td>
<td>Build up of chemicals from pit additives, in pits that have not been agitated at all/properly when liquid was pumped out? Just a thought.</td>
</tr>
<tr>
<td>Better agitation/feed/and faster pumping operation</td>
<td>Can you approve an additive that will &quot;knock down&quot; the foam?</td>
</tr>
<tr>
<td>Bigger pumps and distillers in feed</td>
<td>Changes in feed</td>
</tr>
<tr>
<td>Build up of chemicals from pit additives, in pits that have not been agitated at all/properly when liquid was pumped out?</td>
<td>Changing feed rations/using more DDG's</td>
</tr>
<tr>
<td>Chemical reaction to something</td>
<td>Changing in feed additives</td>
</tr>
<tr>
<td>Chemical reaction to something</td>
<td>Cheap feed additives</td>
</tr>
<tr>
<td>Common denominator seems to be DDGs.</td>
<td>DDCs</td>
</tr>
<tr>
<td>DDGs</td>
<td>DDCs</td>
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<td>DDCs</td>
</tr>
</tbody>
</table>
DDGs and feed rations changes
DDGs and phytase
DDGs and pit additives
DDGs ethanol by product
DDGs ethanol by product
DDGs feed
DDGs feeding more than 20% in feed
DDGs in feed and methane gas
DDGs in feed
DDGs in feed
DDGs in feed
DDGs in feed
DDGs in feed
DDGs in feed
DDGs in feed
DDGs in feed along with lower phosphate levels due to phytase use.
DDGs in feed diets
DDGs in feed not enough pit ventilation to help with air flow or enough air flow to help remove gases.
DDGs in the feed
DDGs in the feed
DDGs in the feed and other feed additives.
DDGs lots of it
DDGs or possibly pit additives.
DDGs pit additives
DDGs sulfur in feed rations
DDGs the amount of bacteria in the DDG's breaking down at a much faster rate than the pit will handle which causes foaming. I don't understand why no one has figured out what is making the barns blow up. I think it's the corn distillers that makes foam u
DDGs the amount of DDG those hog industry are feeding due to cost.
DDGs usage
DDGs used in feed at high rates.
DDGs used in livestock feed
DDGs, pit additives
DDG's/bakery by-products/BT corn. Possibly phytase, it has to be something in pigs diet.
DDG's? Heard this from other applicators
Different feed additives and distillers grains
Different feed formulations.
Distillers
Distillers
Distillers
Distillers
Distillers DDGs
Distillers grain
Distillers grain
Distillers grain
Distillers grain and bakery products
Distillers grain in feed
Distillers grain in feed - yeast action
Distillers grain in hog feed
Distillers grains
Distillers grains and feed ration changes.
Distillers grains in feed
Distillers in feed
Do not know
Don't have all the information yet.
Don't have that problem
Don't know
don't know
Don't know
Don't know
Don't know
Don't know
Don't know

Don't know

Don't know

Don't know

Don't know

Don't know

Don't know.

Don't know.

Don't know.

Don't know.

Don't know. 10 yrs experience, most foam ever seen in all types of pigs (farrow to finish)

Dry only

Ethanol by-products

Excessive agitation and nozzle above surface of manure.

Excessive agitation - nozzle above manure - increase in distillers in feed

Extra methane gases.

Feed

Feed

Feed

Feed

Feed

Feed

Feed

Feed additives

Feed additives

Feed additives

Feed additives

Feed additives

Feed additives

Feed additives and pit additives

Feed additives, DDG's

Feed additives, improper ventilation

Feed additives/by products

Feed additives

Feed additives, DDG's, pit additives

Feed and agitation

Feed and chemicals

Feed and too much water.

Feed change

Feed DDG

Feed in water

Feed ingredients

Feed ingredients

Feed ingredients

Feed ingredients

Feed ingredients maybe

Feed ingredients more reactable w/ change in water temps or change of temp cold breeze ect???

Feed ingredients not being digested fully. Bacteria and the decomposition of the manure and feed.

Feed ingredients, additives and pits

Feed ingredients, DDG's

Feed ingredients, environmental effects

Feed ingredients, poor owner management, too many solids

Feed mixture, chemicals from smell are making foam worse

Feed nutrients or differing microbes between pits

Feed producers are using

Feed Products

Feed ration

Feed ration/DDG's

Feed rationing

Feed rations

Feed rations

Feed rations
Feed that is fed to animals. Something has changed in the way hogs are fed.

Feed varieties
Feed?
Feed???
Feed--DDGs
Feeding DDGs
Feeding DDG’s
Feeds

Foam started after DDGs came into feed rations

Food value
Gas???
Gases from stirring it up.
Gases, too much water flow or too fast.
Gasses (Need more info)
Gluten in feed

Government conspiracy, global cooling, Share Effect
Have no idea
High content of water, feed make-up, atmospheric conditions
High levels of bakery products in the feed.
higher energy rations
Higher levels of DDG’s/bakery products

Hog feed
I believe its is the change in the feeding ration. That hog owners are changing which is changing in the pigs digestion.
I don’t know
I don’t know
I don’t know
I don’t know
I don’t know. Nothing constant. The best guess maybe DDG’s.
I heard DDGs
I pump a lot of deep pit barns & liquid levels have been down due to the cool season and farmers haven’t had to use sprinklers to cool buildings or animals another suggestion could be over agitation
I think it’s the change in feed, there feeding a product DDGs and I think that part of it. (DDGs comes from ethanol plant)

Improper manure management.
Inadequate ventilation and methane gas.
Increase feed
Increase use of DDGs
Increased bacteria activity, different bacteria colonies, increased surface tension--increased fiber in diet and other dietary changes.
Increased DDGs in feed.
Increased microbial activity in pit.
It appears to be the increased use of DDG’s in the feed.
Lack of pit remedies to keep pits from crusting and foaming.
Lack of ventilation
Last coupled of years, more water ratio to solids
maybe feed ingredients
Maybe too much agitating
Methane
Methane
Methane
gas
Methane gas mixing with air.
Mix of feed
Mixing pit stirring--furnace lighting
More cleaning by customers
More distillers by products in feed
More water in pits
NA open lagoons
Natural cause of mixing
New buildings
New ingredients that are put in hog feed and then in waste
no
no comment
No idea
No ventilation
Not enough ventilation
Not enough ventilation
Not really sure
Not seen any foaming
Not sure
Not sure
Not sure
Not sure
Not sure
Not really sure I have not been employed here before.

Not sure-combination of DDGs and pit additives???
Not sure—feed ingredients?

Not ventilating enough when cleaning

nozzle of pump needs to be under liquid. IF nozzle is blowing on top, it will make foam.

Nozzle of pumping straying on the top of the manure.

Over agitating and feed ingredients possibly

Over agitation

Over agitation

Over/improper agitation

People adding chemicals to help with nutrients and smell

Pig feed changes

Pit additives because of anaerobic activity due to microbial excretion.

pit pumps

pit pumps

Pit remedies

poor management of building

Possible feed additives, chemical byproducts or reaction. I do not know why its getting worse.

Possible feed additives/washdown agents

Possible feeding of DDG’s

Possibly pit additives

Possibly the use of DDGs used in feed more than used in past.

Pressure

Products in the feed.

Propellers

pump blowing across top of manure in pit

Pumps running too fast; DDG’s

Rations, different microbes

Something in the feed

Something in the feed and how the hog is digesting.

Splashing poo

Stir the pit I think causes foaming due to high pressure

stirring

Stirring on top

Stirring too fast or too long.

Temp influx—cool pit manure mixing in warmer air( oxygen introduction)

Temperature changes, cold water washout

The feed.

The feeding of DDG’s in the feed

The feeding of DDG’s in the feed

The increase use of distillers in feed

Too much agitation

Too much agitation

Too much agitation!

too much agitation/distilled feed

Too much methane being released when stirred up

Too strong of agitation, feed ingredients

Top spot dumping above pit level. RPM of pump should be fluctuated periodically

Type of feed

Undecided

Unsure

Using DDGs in the feed

Ventilation

water

Water and feed used

Water DDG’s

Water waste-I have 3 sites that produce more manure than the other 25 sites that I have. These are the only 3 sites tha produce foam. Brian Schreck/Summit Farms/641-373-0030

Water when agitating

What they are feeding the animals

Yeast from years of feed or glutens

Yeast or other fermentation ingredients in ethanol byproduct DDGs used to make pig feed.