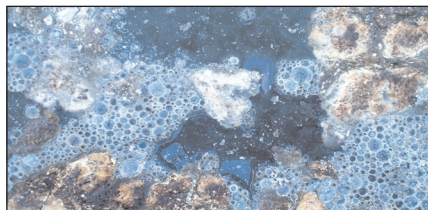


It's the Pits

Profiting from Bioaugmented Manure

Bioaugmented manure is manure that has been processed and converted from an odorous undigested manure into an enzyme-stimulated microbial plant food that is more liquefied and a more organic form that is biologically available for crops.

Bioaugmented manure can make a difference in your bottom line by providing many competitive advantages throughout your operation. And, when you consider the rising costs of commercial fertilizers and fuel, it is imperative to utilize every benefit as much as possible.



Partially bioaugmented liquid manure

Doug Rohlik from Belview, MN, a professional manure applicator and grower, adapted the ProfitPro vision five years ago and has seen improved profits in all segments of his operation. This year, Doug achieved over \$400 per acre net profit with only 3,000 gallons of bioaugmented manure per acre. This was corn-on-corn with a test weight of 60 lbs per bushel. His soybeans, in rotation with his bioaugmented manure applications on corn the previous year, gave a return of just under \$200 per acre net profit. To learn about Doug's experience with bioaugmented manure and view his 2010 corn and soybean budgets, go to www.profitproag.com.

Proper manure management has dramatically reduced the stress throughout his operation, put the fun back into the business and has taken him to a good profit position.

Competitive Advantages of Bioaugmented Manure

Agronomic

- Improves manure utilization
- Improves soil health
- Improves plant health
- Enhances crop value
- Lowers crop inputs
- Better crop residue decomposition
- Addresses environmental concerns
- Carbon credit options
- Green environment approach
- Probiotic approach
- Enhances feed value & quality

Enterprise

- Better animal performance
- Reduces vet cost
- Facility & equipment longevity
- Improves workers' environment
- Reduces utilities
- Fewer legal issues
- Reduces regulatory burden
- Improves neighbor relations
- Addresses manure issues
- Regains pit/lagoon capacity
- Reduction in pathogens
- Reduces potential risk/insurance claims

Question & Answer

How can lower application rates of bioaugmented manure give equal or better crop response than raw manure?

Untreated (raw) manure contains high salt levels and, when applied at high rates, can be detrimental to soil and plant health. Raw swine and dairy manure contains from 25 to over 100 pounds of salt per 1000 gallons. Soil with excessive salt levels results in a reduction of beneficial microbes, which is detrimental to good soil structure and health. With high soil salt levels, the crop has to exert more energy to uptake water and nutrients. This is often why crop yields, especially soybeans, decline with repeated application of higher rates of raw manure.

By bioaugmenting (predigesting) the manure, the salt levels drop to a manageable level and the nutrients are converted from an inorganic to organic form, which is less leachable and more readily useable by the plant. Thus, many growers drop the manure application rates per acre, which allows them to cover more acres and experience better yields and improved grain quality.

When it comes to plant nutrition, it's not the quantity of nutrients as much as the quality and availability of the nutrients to the plant. For example, 97.5% the weight of a plant above and below ground comes from four elements: 3% carbon (45%), oxygen (45%), hydrogen (6%) and nitrogen (1.5%). Note, these are all free to the

Essential Elements for Plants			
Element	Chemical Symbol	Form Available to Plant	% of Plant's Dry Weight
Macroelements			
Hydrogen	H	H ₂ O	6
Carbon	C	CO ₂	45
Oxygen	O	O ₂ , CO ₂ , H ₂ O	45
Nitrogen	N	NO ₃ ⁻	1.5
Potassium	K	K ⁺	1.0
Calcium	Ca	Ca ⁺⁺	0.5
Magnesium	Mg	Mg ⁺⁺	0.2
Phosphorus	P	H ₂ PO ₄ ⁻ , HPO ₄ ⁻	0.2
Sulfur	S	SO ₄ ⁻	0.1
Microelements			
Chlorine	Cl	Cl ⁻	0.01
Iron	Fe	Fe ⁺⁺ , Fe ⁺⁺⁺	0.01
Boron	B	BO ₃ ⁻ , B ₄ O ₇ ⁻	0.002
Manganese	Mn	Mn ⁺⁺	0.005
Zinc	Zn	Zn ⁺⁺	0.002
Copper	Cu	Cu ⁺ , Cu ⁺⁺	0.006
Molybdenum	Mo	MoO ₄ ⁻	0.00001

Source: Jackson, William. *Humic, Fulvic and Microbial Balance: Organic Soil Conditioning*. 1993. p 411

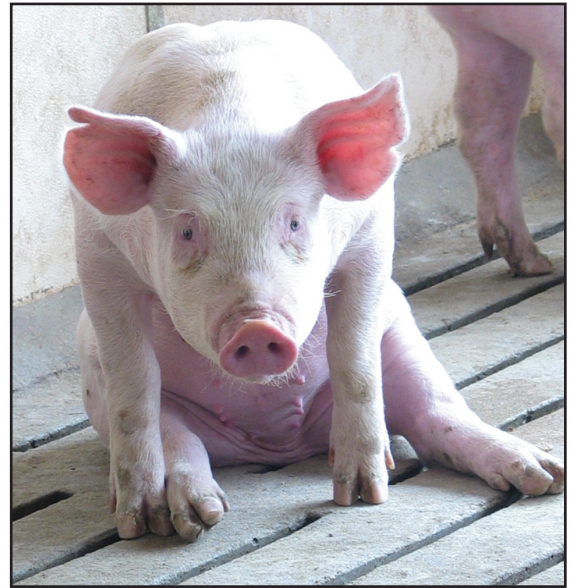
grower and comes from the air as CO₂ or nitrogen (N₂) or from water (H₂O).

Bioaugmented manure delivers quality nutrients that are more immediately available to the plant and less leachable in the soil environment.

Polly the Pig reminds you to check out ProfitPro's:

- Probiotic feed additive (swine & dairy)
- Unique manure bioaugmentation products
- Manure Management Service
 - ◆ ProfitPro's Manure Management consultant will add manure additives to your pit/lagoon and manage it to assure performance
- Educational events:
 - ◆ Winter conference & pre-conference
 - ◆ Tradeshows
 - ◆ Manure workshops in your area

for more information go to: www.profitproag.com



Polly the Pig™, Photo by ProfitPro, LLC

ProfitPro, LLC
408 S. 1st Ave., Albert Lea, MN 56007



Up Coming Events

ProfitPro Manure Management Meeting

January 21, 2011 - Nicollet, MN

IA Pork Congress, Des Moines, IA

January 26 - 27, 2011 . . .See us at Booth #200

MO Pork Expo, Columbia, MO

February 9, 2011 . . .See us at Booth #72

ProfitPro Winter Conference, Albert Lea, MN

Conference - February 17 & 18, 2011

Pre-Conference (Manure Management) Feb. 17th morning

ProfitPro Manure Applicators Meeting

February 23, 2011 (5 to 7 pm) - Hutchinson, MN

NE Pork Industry Day, Lincoln, NE

February 23, 2011 . . .See us at Booth #21

Central Plains Dairy Show, Sioux Falls, SD

March 30 - 31, 2011 . . .See us at Booth #C2

World Pork Expo, Des Moines, IA

June 8 - 10, 2011 . . .See us at Booth #TBD

Dr. Jim Ladlie will be one of the speakers on the
FREE Manure Management Teleconference
scheduled for **February 3, 2011** from 8 to 9 pm CST.

Profiting from bioaugmented manure will be the topic of discussion. You will learn how bioaugmented manure can make a difference in your bottom line by providing many competitive advantages throughout your operation. And, when you consider the rising costs of commercial fertilizers and fuel, it is imperative to utilize every benefit as much as possible.

For more information, go to manure.profitproag.com.
Dial the toll free number 1-866-225-3498 just before 8 p.m. (CST) and enter the security code 7159 # (pound key).

Check-out **Manure Management Service**
at manure.profitproag.com