



Technology/Service:

Information by:

Date:

COMPANY INFORMATION

Company Name:

Phone:

Web Site:

Address:

State:

City:

Zip Code:

TECHNICAL CONTACT

Name:

Phone:

Email:

Address:

City:

State:

Zip Code:

DEMONSTRATION SITE CONTACT

Site Name:

Contact:

Title:

Phone:

Email:

Address:

City:

State:

Zip Code:

INITIAL TECHNOLOGY OVERVIEW

This information is to guide in the development of a more specific and detailed Technology Information Request. Please answer the following questions for each Technology or Service provided.

What is the name of the technology or service you provide?

Describe how this technology is used in a larger Nutrient Management System. Please be as detailed as possible.

This process utilizes chemicals to precipitate and flocculate phosphorus and fine solids. After the chemical addition, the coagulated solids are dewatered using a porous, inclined belt. Further dewatering of the sludge is completed using a screw press separator.

How many systems do you have installed on dairy farms or other livestock operations?

	Number of Sites	Size of Installations
Dairy	2	200-6,000
Pork	3	2,000+
Poultry		

Do you have a preferred region or area for the location of projects?

North America

Location of farm(s)?

North America

What's the smallest and largest farm using your system?

200
12,000+ (actual flow is similar to a 5,000 to 6,000 cow dairy)

Input and output of your unit/system – do you have a mass balance analysis?

If a mass balance is available, please attach or include as a separate document.

Mass balance available – Ron Skinner will be sending shortly

Input material description/characteristics:

For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.

Raw manure or digestate

Does the technology treat the full manure stream for a farm or a fraction of the stream?

In this case, the system does not treat the full stream, but that is management decision. Other projects treat the full stream.

Do you consider this a mature system or ongoing farm development?

Mature

Any weather constraints? Yes No *Please describe.*

Must be protected from freezing and the elements

Any bedding constraints? Yes No *Please describe.*

Sand removal necessary to protect equipment. Sand removal equipment provided by others.

Output materials description and characteristics:

Please include the % of the total stream for each material, i.e. 10% fiber and 90% screened liquid by weight.

Phosphorus cake – 20 to 30%
Liquid effluent – 70 to 80%

Do the Outputs of the process have a resale market identified? Yes No

If so under what brand name or who is the contract with?

No

Is this process scalable and to what extent (top and bottom limits)? *Please describe.*

3 available models, scalable through installation of multiple units

Do you have a known scaling factor? *Please describe.*

No

Does this technology require any air input? Yes No

What is the preferred air connection? *For example: psi, fitting size, air quality.
If not distributed by the system please list each connected device.*

N/A

Does this technology require any water input? Yes No *If so, please describe.*

Yes for polymer makeup and belt wash

What is the preferred water connection? *For example: psi, fitting size, water quality, gpm.
If not distributed by the system please list each connected device.*

Fresh water (doesn't need to be potable), 10 gpm @30 psi

Does this technology require any electrical input? Yes No *If so, please describe.*

What is the preferred electrical connection? *For example: phase #, voltage, full load amps.
If not distributed by the system, please list each connected device.*

3 phase 280 or 460 volt not more than 50 amps for larger units. Changes with unit size and number of units

Does this technology require any mechanical input? Yes No *If so, please describe.*

What is the preferred mechanical connection? *For example: horsepower, connection, rpms.
If not distributed by the system please list each connected device.*

N/A

Does this technology require any special plumbing? Yes No *Please describe what is required.*

No, simple pump connection. All special equipment is included in the skid mounted system.

Does this system require and special foundations or pads? Yes No *If so, please describe.*

Loading requirements for construction of floors and mezzanines available as part of a formal proposal.

Do you consider this technology part of a larger system that you provide? Yes No *If so, please describe.*

Skid mounted system from feed pump to output for liquid and solids. Need handling systems for separated liquid and solids.

Does your system require any other components that you do not provide or are not included in your proposal?

Yes No *If so, please describe.*

Potentially coarse solid separation, effluent transfer pump, and solids stacking mechanism

How is the system delivered to the site? *For example: skid mounted, assembled on site, constructed on site.*

Skid mounted

Is this system portable or configured in such a way that it could be easily transported for use in several locations?

Yes No *Please describe.*

Long View Dairy has a containerized version.

Has your technology been accepted by the NRCS and is it included into a practice standard? Yes No

Describe if necessary.

Unsure, NRCS funding has not been used on a project yet, but the technology should be fundable under current EQIP guidelines

Are there any unusable or hazardous byproducts of this process? Yes No

If so, please describe the product and recommended means of disposal.

What spare parts and redundant components are included with the system?

Spare parts and redundant components available but not included in the price of the system.

How is the system controlled and what are the components and capabilities of the control system?

The system is fully automated with the user interfacing with the HMI. Remote display and control is an option

What is the usable life of the system?

Usable life of the equipment is expected to be 15 years.

What is the salvage value at the end of the usable life?

Assumed to be scrap value, a few thousand dollars.

What is the educational and technical level of competence for the operation of the system?

Design to be operated by a high school graduate with moderate mechanical skills,
Remote assistance & support for troubleshooting is available

What level of maintenance is required for the system?

Please indicate if rebuilds or major components must be replaced and what the frequency is for these components.

Routine maintenance of the pumps, separator and belt are required. All routine service can be completed by farm staff

Are consumables used in the process? Yes No

Please provide the nature and purchase relationship for these consumables. For example: proprietary, special contract, generally available.

Yes, coagulant (ferric chloride or similar) and polymers are used to precipitate and aggregate phosphorus. Chemicals can be purchased from AL-2 or a local vendor.

Which of these NRCS codes would your technology be classified under? Check all that apply. Add if necessary.

CODE	NRCS DESCRIPTION	APPLIES
472	Access Control	
560	Access Road	
309	Agrichemical Handling	
371	Air Filtration and Scrubbing	
591	Amendments for the Treatment of Agricultural Waste	✓
366	Anaerobic Digester	
672	Building Envelope Improvement	
372	Combustion System Improvement	
317	Composting Facility	
554	Drainage Water Management	
375	Dust Control from Animal Activity on Open Lot Surfaces	
373	Dust Control on Unpaved Roads and Surfaces	
374	Farmstead Energy Improvement	
512	Forage and Biomass Planting	
561	Heavy Use Area Protection	
516	Livestock Pipeline	
590	Nutrient Management	✓
521A	Pond Sealing or Lining, Flexible Membrane	
533	Pumping Plant	
558	Roof Runoff Structure	
367	Roofs and Covers	
318	Short-Term Storage of Animal Waste and By-Products	
570	Stormwater Runoff Control	
606	Subsurface Drain	
635	Vegetated Treatment Area	
601	Vegetative Barrier	
360	Waste Facility Closure	
632	Waste Separation Facility	✓
313	Waste Storage Facility	
634	Waste Transfer	
629	Waste Treatment	
359	Waste Treatment Lagoon	

Can you provide an estimate of the capital required for the installation of this technology?

Please include all components and designate if provided by you or others.

\$200,000 to 300,000 for 200 cows
\$1 to 1.5 for 3,000 to 5,000 cows

Can you provide an estimate of the operational costs required for this technology?

Please include all costs and designate if provided by you or others.

Approx. \$0.02 to 0.4 per cow per day if >200 cows

Is there financing available for this system? Yes No *If so, what are the conditions for this financing?*

Is the system available for lease? Yes No *Please describe.*

Not typically

What sort of warrantee or guarantee do you provide with this technology?

Do you provide any performance guarantees or strictly defects in parts and materials?

Performance guarantees as well as material and workmanship

Explain how this system is unique or transformative and how does it improve upon or go beyond other technologies that are currently available.

Similar to other belt press technologies, potential lower operating and maintenance cost due to the simple belt/roller configuration.

Would you be willing to provide a location for a site visit by Newtrient? Yes No

If so, please provide location.

Technology References. Please provide customers with whom we can discuss this technology and its performance.
Include a company name, location, contact name and contact information.

Reference 1

Company Name:	Big Sky Dairy
Company Location:	Gooding, ID
Contact Name:	
Contact Information:	

Reference 2

Company Name:	Long View Farm
Company Location:	Gray Summit, MO
Contact Name:	
Contact Information:	

Reference 3

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Reference 4

Company Name:	
Company Location:	
Contact Name:	
Contact Information:	

Are there any other facts about this technology that you feel should be included in this document?