TECHNOLOGY PROVIDER
TECHNOLOGY INFORMATION REQUEST

Technology/Service:	GEA Houle - Vertical Dewaterer		
Information by:	Jeramy Sanford	**Date:**	August 24, 2018

COMPANY INFORMATION

Company:	GEA Houle Inc.		
Phone:	819-477-7444	**Web Site:**	http://www.gea.com/
Address:	4591 Boulevard St-Joseph	**City:**	Drummondville
State:	QC, Canada	**Zip Code:**	J2B 6W3

TECHNICAL CONTACT

Name:	Jeramy Sanford
Phone:	630-453-8867
Email:	jeramy.sanford@gea.com
Address:	1880 Country Farm Dr.
City:	Naperville
State:	IL
Zip Code:	60563

DEMONSTRATION SITE CONTACT

Site Name:	Provided upon request
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?

Vertical dewaterer for manure solids separation

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

The vertical dewaterer is the first step in manure dewatering utilizing low electrical horsepower

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

SYSTEMS	NUMBER OF SITES	SIZE OF INSTALLATIONS
Dairy	>50	varied
Pork		
Municipal		

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

500 to 4,000 cows

Does this technology have a 12-month record of reliable performance on at least three dairy farms?

Yes

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

Worldwide

Input and output of your unit/system – do you have a mass balance analysis?
If a mass balance is available, please include below or attach as a separate document.

Mass balances analysis is available. See company representative. Input and output vary by equipment type.

Input material description and characteristics:
For example: raw manure, digestate, screened digestate, suitable non-farm feedstocks, other.

Raw manure
Digestate
Screened Digestate

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

This equipment dewaters the full volume of manure from on-farm collection systems. This is the first step to fiber reuse for bedding or composting

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

Mature with ongoing improvements

Any weather constraints? **Yes** ☑ **No** ☐ *If so, please describe.*

Locate the system in a non-freezing building

Any bedding constraints? **Yes** ☑ **No** ☐ *If so, please describe.*

Use of this equipment with sand bedding is not recommended.

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

Dry matter in solids ranges from 14% to 18%. Liquid as low as 3.5%.

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?

Is this process scalable and to what extent (top and bottom limits)? **Yes** ☑ **No** ☐ *If so, please describe.*

The process is scalable for any size dairy farm

Do you have a known scaling factor? **Yes** ☑ **No** ☐ *If so, please describe.*

Preset process limits on the equipment

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.

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

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.

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

3HP motor

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

All electrical fee types

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.

Does this system require any special plumbing? **Yes** ☑ **No** ☐ *If so, please describe what is required.*

Drain and feed fittings

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

Stands available GEA.

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

This equipment dewaters manure for futher treatment. This is the first step to fiber reuse for bedding or composting

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.

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

Assembled on site

Is this system portable or configured in such a way that it could be easily transported for use in several locations?
Yes ☐ **No** ☑ *If so, please describe.*

Has your technology been accepted by the NRCS and is it included into a practice standard? **Yes** ☑ **No** ☐
If so, please describe if necessary.

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?

None

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

GEA supplied control panel

What is the usable life of the system?

10 years+

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

See company representative

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

Basic mechanical aptitude.

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.

Bearings rebuild, regular greasing, and screen maintenance

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.

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

CODE	NRCS DESCRIPTION	CHECK ALL THAT APPLY
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	☐
588	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.

The current list price is of the Vertical Dewaterer with regulator tank is $56,700 (Canadian Dollars). Contact a local dealer for accurate pricing with shipping and exchange.

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.

The Vertical Dewaterer uses a 3HP motor for electrical consumption. Electricity costs are about $1,700/yr. (Canadian) and typically calculated on a 24/7 (51 weeks) run time. Depending on installation type a bearing housing rebuild $3-4,000 will happen 12-18 months. Screens and augers will last 3-5 years.

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

Through the dealer network

Is the system available for lease? **Yes** ☑ **No** ☐ *If so, please describe.*

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?

On year manufacturer warranty

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

Value proposition – Vertical dewatering reduces fiber in the manure stream. It will reduce liquid manure volume 5-15%. Removing fibers allows less food for bacteria so odor is diminished. This is the first step to fiber reuse for bedding or composting.

Would you be willing to provide a location for a site visit by Newtrient? **Yes** ☑ **No** ☐ *If so, please provide location.*

Optional, contact company representative

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:	
Company Location:	
Contact Name:	
Contact Information:	

Reference 2

Company Name:	
Company Location:	
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?

quasar is able to support the entire dairy industry by digesting other organic material and not just utilizing manure management technology.