



**Technology/Service:** Sand Bedding Recovery

**Information by:** Steve Pearce

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**COMPANY INFORMATION**

**Company Name:** DariTech, Inc.

**Phone:** 360-354-6900

**Web Site:** www.daritech.com

**Address:** 8540 Benson Rd

**State:** WA

**City:** Lynden

**Zip Code:** 98264

**TECHNICAL CONTACT**

**Name:** Steve Pearce

**Phone:** 206-417-1472

**Email:** steve@daritech.com

**Address:** 8540 Benson Rd

**City:** Lynden

**State:** WA

**Zip Code:** 98264

**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?**

Sand Cannon and OneShot sand separators

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

Recovers sand bedding for reuse

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

	Number of Sites	Size of Installations
Dairy	20+	200-4,000 cows
Pork		
Poultry		

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

Works well anywhere.

**Location of farm(s)?**

Throughout North America and Europe

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

200-4,000

**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.*

**Input material description/characteristics:**

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

Sand laden dairy manure

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

All sand laden manure

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

Mature, has been in service since 2010.

**Any weather constraints?**  Yes  No *Please describe.*

**Any bedding constraints?**  Yes  No *Please describe.*

For sand bedded dairies

**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.*

Overall ratio of solids/liquid effluent dependent on starting moisture percentage of liquid manure

**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)?** *Please describe.*

Modular system, add multiple units as needed for size of dairy

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

**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.*

5hp compressor

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

0.5-1 gpm per sand separator for final rinse

**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.*

Yard hydrant or similar

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

All equipment run with electric motors

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

3phase preferred, single phase possible

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

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

Elevations of poured concrete need to be correct

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

We provide complete manure systems for dairies regardless of flush/scrape or type of bedding.

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.*

Skid mounted, unloaded off truck and wired 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 *Please describe.*

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

*Describe if necessary.*

Pumps, separators, concrete, buildings. etc

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 are always on dealer shelf.

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

DT Automation ETL listed PLC control panel with remote access with PC or smartphone

What is the usable life of the system?

Depends on maintenance practices at the dairy, everything is repairable

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

N/A

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

Good farm hand

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.*

Grease, inspect for wear and tear

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	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.*

From \$200,000 to \$500,000+, dependent on size or number of units

**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.*

All dependent on level of care with maintenance. Sand is abrasive, parts wear out. Good attention to detail replaces wear items before they create expensive problems

**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.*

**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?*

1 year parts and materials

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

Recovers a high rate of good quality sand with low horsepower and wear

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

*If so, please provide location.*

Pacific Northwest, Wisconsin, Michigan, New York, Canada, others



**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**

<b>Company Name:</b>	Not authorized to publish customer contact info, please call on case by case basis
<b>Company Location:</b>	
<b>Contact Name:</b>	
<b>Contact Information:</b>	

**Reference 2**

<b>Company Name:</b>	
<b>Company Location:</b>	
<b>Contact Name:</b>	
<b>Contact Information:</b>	

**Reference 3**

<b>Company Name:</b>	
<b>Company Location:</b>	
<b>Contact Name:</b>	
<b>Contact Information:</b>	

**Reference 4**

<b>Company Name:</b>	
<b>Company Location:</b>	
<b>Contact Name:</b>	
<b>Contact Information:</b>	

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