Digester Type Performance Comparison

Best Okay Poor

	Two-Stage Linear Vortex™	Complete Mix	Covered Lagoon
More biogas means more D3-RIN revenues per cow Biogas output per milking cow (avg ft^3/day)	115	80	50
Design generation Assumes all designs are periodically updated	3rd	2nd	1st
Plant longevity (avg years) Steel tanks and flexible membranes degrade faster than concrete	30+	15-30	5-10
Lowest cost per MMBtus output/time A key indicator reflecting a positive ROI			
Preferred by farmers DVO is their choice because of easy maintenance and quality byproducts			
Can process 100% of food/organic waste Covered lagoon systems MUST bypass dairy solids (this is not a "feature")			
Performance is not "seasonal" Covered lagoon performance varies widely and is dependent upon the weather			
Ability to divert all VS from lagoon storage DVO offers post-digester treatment that improves CI scores (dairies also benefit)			
Processes more dairy waste than any other DVO processes manure from over 400,000 milking cows			
Flush, scrape and vac-collection dairies served Every modern dairy design is represented by DVO farmers			
Superior animal bedding quality Greatly influences herd health and milk quality			
No composting of solids needed Bypassed solids from covered lagoons and complete mix must be separately composted			
Pathogen destruction (e-coli, salmonella, etc.) Harmful bacteria that causes mastitis and other problems for cattle and humans			
Odor and weed-seed destruction Complete digestion means more effective odor, vector and weed seed control			
Methane emissions avoided per cow DVO avoids the methane from solids composting and unspent liquid that bypass digester			
Green House Gas (GHG) impacts avoided Composting emits some methane and also creates nitrous oxide (310x worse than CO_2)			
Renewable power generated per ton of waste More biogas per ton means more power generated per ton too			
Positive carbon footprint Higher operating efficiency/kW generated, longevity and thorough digestion			
Digester is certified "Newtrient Recognized" By independent dairy organization "Newtrient, LLC"			
Efficient, optional ammonia recovery step Ammonia recovery is a proven method to greatly reduce ammonia emissions from lagoons			
Suitable for co-generation (e.g., food waste and manure) Active mixing is required for most offsite organics			