

SUCCESS STORIES

AQUA-AEROBIC SYSTEMS, INC.



FROM PRETREATMENT... TO REUSE

PLANT NAME/LOCATION: Lakeside Foods (Formerly Reedsburg Foods)/Reedsburg, WI

TYPE OF PLANT: Industrial/Food Processing

AERATION POND CAPACITY: 14.9 MGD (56,403 m³/day)

AQUA-AEROBIC PRODUCTS: (11) 40 HP and (4) 75 HP Aqua-Jet[®] Aerators

AQUA-JET[®] AERATORS PROVIDE EXCEPTIONAL PERFORMANCE DURING PEAK CANNING SEASON FOR CENTRAL WISCONSIN FOOD PROCESSOR

In 1975 Lakeside Foods, in Reedsburg, Wisconsin, required a new wastewater treatment system. The canning company had used a spray irrigation system but ponding was creating unacceptable runoff to the Baraboo River. The canning company contracted Mid-State Associates of Baraboo, Wisconsin to design and install an aerated lagoon system.



The new system included a primary aeration lagoon with a design capacity of 7.5 mgd, a secondary lagoon with a 7.4 mgd capacity, and a 15.4 mgd holding pond. Eight (8) 40 HP Aqua-Jet aerators were installed, six in the first lagoon and two in the second.

In 1985, after ten years of consistent production increase, Lakeside Foods' wastewater treatment system had once again reached capacity. Upon the Engineer's recommendation, the company implemented a production process that decreased

flow volume to the treatment plant. In 1992, (3) 40 HP Aqua-Jet aerator units were added to the existing aerated lagoons.

Mid-State's Dave Murphy explains that Lakeside requires a system that can handle the variable loads generated by food processing waste. *"Corn, for example, creates an especially high oxygen demand."* *"The starches and other organics from corn create an average BOD of 7500 mg/l, while peas average a BOD of only 3500 mg/l."*



In 2001, the plant purchased (4) 75 HP Aqua-Jet aerators for use in its first lagoon. The additional units provide the necessary oxygen for the plant's increased demands. With fifteen Aqua-Jet aerators now in operation, Lakeside Foods' wastewater treatment system efficiently handles the fluctuating biological demands placed upon it. Operators can easily maintain final effluent discharge limits throughout the entire canning season.

PRODUCTS

Aqua-Jet®
Surface Aerator

Aqua-Jet II®
Contained Flow Aerator

AquaABF®
Automatic Backwash Filter

MixAir®
Aeration System

AquaDDM®
Direct Drive Mixer-Blender

AquaSBR®
Sequencing Batch Reactor

AquaDisk®
Cloth-Media Filter

AquaDiamond™
Cloth-Media Filter

AquaDrum™
Cloth-Media Filter

ThermoFlo®
Spray Cooler

Aqua EnduraDisc®
Fine Bubble Diffuser

Aqua EnduraTube™
Fine Bubble Diffuser

Aqua CB-12™
Coarse Bubble Diffuser

Aqua CB-24®
Coarse Bubble Diffuser

AquaMB Process™
Multiple-Barrier
Membrane System

MSBR®
Modified Sequencing
Batch Reactor

SERVICES

Process and Mechanical
Engineering

Quality Manufacturing

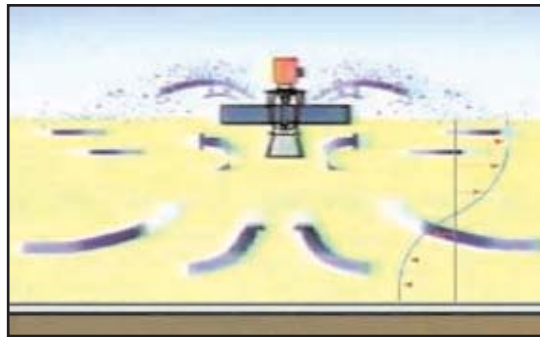
Aftermarket Sales &
Service

International Expertise

CONTACT US

Aqua-Aerobic Systems, Inc.
6306 N. Alpine Rd.
Rockford, IL 61111
Phone: 815.654.2501
Fax: 815.654.2508
www.aqua-aerobic.com

More than 25 years of operation in central Wisconsin's climate extremes attest to the durability of Aqua-Jet aerators. Eight of Lakeside Foods' eleven Aqua-Jet aerators have been in use since 1976, and all of the units remain in the lagoons year-round. The lagoons are allowed to freeze completely in the winter when the system receives no wastewater flow and, according to the Plant Operator, "The Aqua-Jets start right up in the spring."



The Aqua-Jet is designed for heavy-duty, continuous operation in a variety of wastewater applications including flow-through activated sludge, SBRs, lagoons and extended aeration systems.

Aqua-Jet aerators provide efficient oxygen supply yet help maintain solids in suspension. Many times, the Aqua-Jet aerator is used in combination with the AquaDDM® mixer where complimentary flow patterns of both units provide complete oxygenation and mixing.

To date, more than 30,000 Aqua-Jet aerators have been installed throughout the world representing more than 1,000,000 HP.

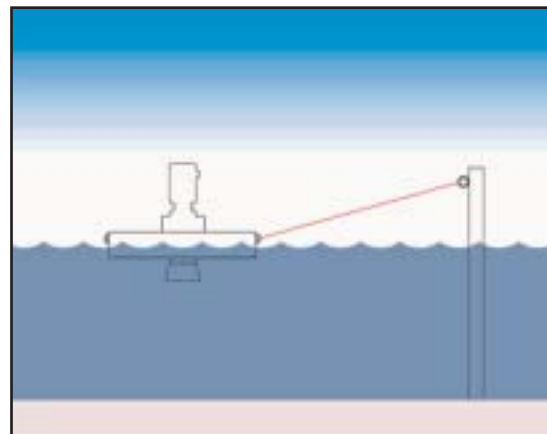
DESIGN CHARACTERISTICS/PERFORMANCE

Loading	Current Influent	Current Effluent	Permit Effluent
Avg Flow mgd	.30	-----	-----
Peak Flow mgd	.50	-----	-----
BOD₅ mg/l	7500 (corn)	40 (corn)	15 (weekly)

Temperature in the winter months averages 20° F and in the summer months averages 70° F.

AQUA-JET® AERATOR ADVANTAGES:

- Available in 1-150 HP
- Vibration controlled design
- Superior oxygen transfer
- Low maintenance
- Propeller design provides non-clog operation and greater efficiency
- One-piece shaft design means no couplings and no submerged bearings
- Lower initial cost, and less expensive to install than gear reduced (slow speed) units
- Endura® Series motor available - 5 year no maintenance



Aerators at Lakeside Foods are cabled from float to float and then secured to mooring posts on the shoreline of the lagoon as shown above.