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Mirepoix Farm

GREENHOUSE AND FOOD PROCESSING CASE STUDY



AGRICULTURE MIREPOIX FARM

PREMIUM QUALITY, BIO-DIVERSE ORGANIC PRODUCE

Mirepoix Farm is located in Prince Edward County, one of Ontario's most fertile growing regions with a rich agricultural history since the late 1800's. Owned and managed by Timothy Noxon, Mirepoix Farm is dedicated to bio-intensive organic growing and hand-crafted production methods to create a range of premium quality products. These products include classic culinary herbs, sauces and condiments. All growing methods and products are Certified Organic through Ecocert Canada according to the Canadian Food Inspections Agency's (CFIA) Canadian Organic Standards. Mirepoix's mission is to provide professional chefs and consumers alike, the very best ingredients as the building blocks to create great food experiences.

Mirepoix Farm strives to reduce its carbon footprint by growing as many ingredients as they can and sourcing others from local producers. In addition they strive to use environmentally friendly methods and technology throughout their food growing and processing operations. In 2015 Timothy installed an Aclarus ozone water treatment system to provide both premium drinking water and sanitization without the use of chemicals.

Timothy Noxon is a co-recipient of the Ontario Premier's Award for Agri-Food Innovation Excellence, as well as Slow Food Canada's Local Food Hero Award.

Mirepoix Farm depends on high-quality produce to create its premium culinary products. Many of the ingredients are grown on the farm from specially cultivated seedlings. These seedlings are propagated in an on-site greenhouse and then typically moved outdoors to complete the growing cycle. Once harvested, produce is cleaned and sanitized prior to food processing in the commercial kitchen. The finished products are also packaged and bottled on site.



Image: Mirepoix Farm hot sauces are top quality thanks to the organic, environmentally friendly peppers grown on their farm.



GREENHOUSE AND PROCESSING

Greenhouse operations require clean, environmentally friendly high quality water for a crop production and food processing.

Fast Facts

CLIENT

Mirepoix Farm

LOCATION

Prince Edward County, ON, Canada

DATE

2015

CONTAMINANTS

High Iron, iron bacteria, sulphur, organics, sediment & colour.

FLOW RATE

15GPM, Groundwater Treatment system



MIREPOIX FARM DEPENDS ON HIGH-QUALITY PRODUCE TO CREATE ITS PREMIUM CULINARY PRODUCTS.

Many of the ingredients are grown on the farm from specially cultivated seedlings. These seedlings are propagated in an on-site greenhouse and then typically moved outdoors to complete the growing cycle.



Image: Timothy Noxon, Owner and Manager of Mirepoix Farm

Client Needs

The farm uses a combination of municipal and on-site well water which is stored in a large cistern. They required a multi-level treatment solution to provide drinking water, food and surface sanitation, food process water as well as irrigation for seedlings in the greenhouse and outdoors. Timothy was seeking an environmentally friendly, chemical-free solution to provide both drinking water and sanitation. He was aware that ozone is compliant with the Canadian Food Inspection Agency for food and surface sanitation.

In 2015, Timothy contacted Aclarus. "I was impressed with Aclarus' depth of ozone water treatment knowledge. They were eager to answer all my questions and work with me to engineer a solution that addressed all my needs. They were, and still are, consistently responsive and easy to work with."

THE ACLARUS SOLUTION

Aclarus worked with Mirepoix Farm to determine key factors like the flow rate of the water, the treatments required and ultimately the required ozone "dose" and system design that was necessary to meet their needs.

After installation the farm used the ozonated water for its primary needs – producing premium drinking water, cleaning and sanitizing the commercial kitchen, processing the fresh produce and herbs, growing seedlings in the greenhouse and irrigating produce in the fields.

The Aclarus system has delivered the benefits Timothy anticipated ...premium water quality and sanitation without the use of expensive and dangerous chemicals. Over the past years he has noted another very significant benefit. The seedlings that are propagated using the ozonated water grow significantly faster and bigger which is a big boost to their bottom line.

Technical Specifications

- ≡ 15GPM Flow Rate, 20g/hr Ozone Generator with HMI&PLC Control Panel
- ≡ AirSep 6LPM Oxygen Generator, Super-saturation injection system
- ≡ 80gal contact tank, automatic air-vent, flow-switch activated;
- ≡ 3 x Ozone Monitors for separate CIP/Cleaning Locations (2ppm for sanitation, 1ppm for washing, 0ppm for drinking)
- ≡ Automatic Backwash Sediment Filter, Activated Carbon Filter (replaceable)



THE BENEFITS

The Aclarus system resulted in a superior water treatment solution with a number of benefits to MirePoix Farm:



SAFE, CHEMICAL FREE AND ENVIRONMENTALLY FRIENDLY

Organic produce is grown, and processed without the use of toxic chlorine.



COST EFFECTIVE

Costs about 5 cents per 1000 litres of water treated, significantly less than other treatments.



A BETTER TREATMENT

Disinfects and removes harmful mineral content, microplastics and micro-organisms more effectively.



NO DISRUPTIONS TO BUSINESS

Water is treated with ozone as it flows for use throughout the farm operations.



EASY INSTALL AND MAINTENANCE

Easily installed, easy to use, takes up little room, and is modular for easy maintenance and service.



FOOD SAFE COMPLIANCE

Canadian Food Inspection Agency (CFIA) and the (FDA) for food and surface sanitization.



Wow, the seedling roots are incredible! The quality and vigor of the seedlings grown in the greenhouse resulting from higher concentrations of dissolved oxygen is amazing. We have experienced bigger and better seedling growth in a significantly shorter period of time. The seedlings are more robust, resulting in better quality crops and increased yields given we now have more growing cycles throughout the year.

- Timothy Noxon, Owner and Manager - Mirepoix Farm



WHY ACLARUS?



Ozone is a superior chemical-free disinfectant effective at treating the most complex water problems including the following:

Pathogens

- Bacteria (E. coli, Streptococcus, Cholera, Pseudomonas, Mycobacterium)
- Virus (Adenovirus, Legionella, Rotavirus, Salmonella, influenza, hepatitis, polio)
- Cysts; (Giardia, Crypto, Cyclospora, E. Dispar)

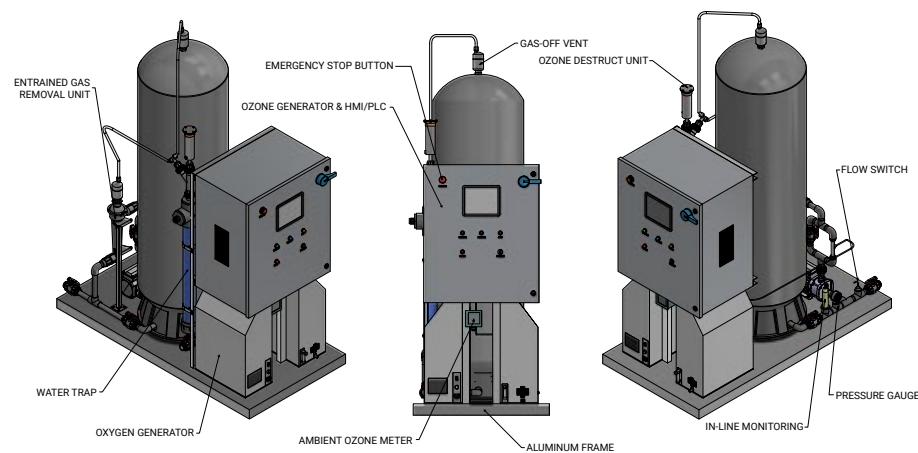
Contaminant

- Metals (Iron, Manganese, Sulphur, Lead, Arsenic)
- Organics (Biofilm, Algae, Tannin, Colour, NOM)
- Inorganic's (Cyanides, COD)

Contaminants of Emerging Concern

- Pharmaceuticals & Personal Care Products
- Hormones, Antibiotics, Medications
- Estrogen, Sulfamet, Oxycodone, Ibuprofen, Triclosan
- Amphetamines, Cocaine, Opioids
- PFAS (per & Polyfluoroalkyl Substances - Teflon)
- Micropollutants & Microplastics

ACLARUS TYPICAL SYSTEM DESIGN & FEATURES





ACLARUS[™]
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GET IN TOUCH



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