Soil Regeneration in Cavan, ON

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- Established 1902, 6th generation family farm
- Formerly 900 sow hog operation (farrow-wean)
- 500-acre Diverse Operation
  - Market Garden
  - Cash Crop (Corn, Soy, Wheat, Oats, Barley)
  - Forages, Hay, Woodlots, Grasslands
  - Compost Facility
  - Commercial Passive Solar Greenhouse
  - Livestock
  - Organic Maple Syrup

2

Norm Lamothe

- **Full-Time Farmer**
- **Entrepreneur**
  - Co-founder: Deveron Corp. (TSXV: FARM)
    - Leading North American Ag Tech Startup
  - Aviation Background
    - International Aircraft Brokerage & Flight School
- **Educator**
  - Food and Farming Program (Durham College)
  - Community Involvement
  - Agriculture Advocate

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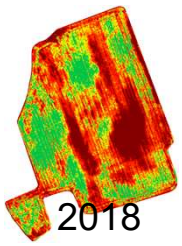
Our Journey



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Soil Regeneration

- Our Philosophies Include:
  - Increased Rotations
  - Minimum Tillage*
  - Extensive Use of Cover Crops
  - Organic Soil Amendments
  - Rotation Grazing (New)
  - 3D - Data Driven Decisions

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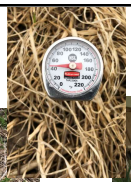
Soil Testing



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Soil Testing

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Off-Farm Amendments

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Compost

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Cover Crops

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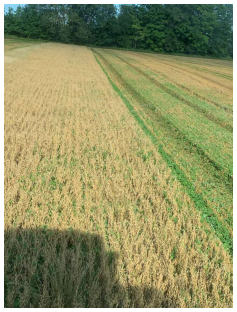
Cover Crops



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Precision Agriculture

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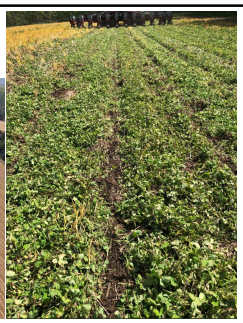
Pushing The Limits



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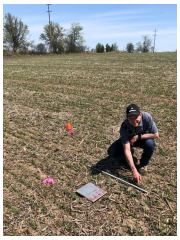
Learning as we go

- There are no quick fixes in ag
- Set realistic expectations
- Embrace technology - data is your friend
- Accept failures as learning opportunities
- Measure, measure, measure



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Research Farm

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Climate Legacy

- Our Philosophies Include:
  - Carbon Footprint Reduction
  - Carbon Sequestration Program
  - Conversion of Waste to Energy
  - Journey to Net Negative
  - Electrify Everything
  - Promotion of Diversity

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Our Partners

ONFARM
ONTARIO SOIL NETWORK
REGENERATION CANADA
AL
DEVERON
A New Level of Farming
FARMERS FOR CLIMATE SOLUTIONS
EFAO
ECOLOGICAL FARMERS ASSOCIATION OF ONTARIO
YEN
Great Lakes
OSCIA
ONTARIO SOIL NETWORK

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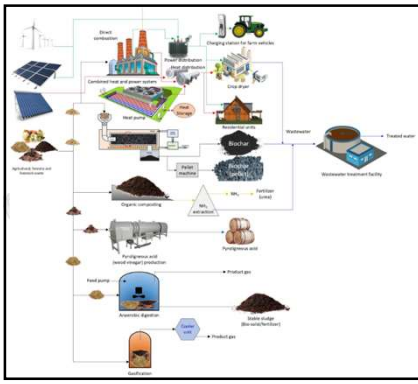

Our Future

- Circular Economies
- Conversion of Waste to Energy Biproducts
- Forest Biomass Recovery Program
- Fertilizer Substitutes and Commercial Biproducts

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2019 – Phase 0.0

Biochar Feasibility Study

- Goal: determine the financial feasibility of commercial production of biochar for use in agriculture
- Result: not feasible
- Launch of "Catching Carbon"

Catching Carbon

Moving forward together towards a greener more sustainable future. 21

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2024 – Phase 1.0

Forest Biomass Recovery Launch

- Partnership Discussions with Ontario Woodlot Association
- Testing/purchasing equipment
- Contracts
- Training/Licensing
- Rebranding/social media/ advertising
- Plan/schedule future harvest thinning operations with the OWA and participating landowners
- Planning/funding/equipment for Phase 2 – biochar production

Moving forward together towards a greener more sustainable future. 22

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Harvester/Forwarder Vimek 404 T8 Duo

Vimek 404 T8 DUO unites the best of both worlds.
It combines a harvester and a forwarder in one machine.
Efficiency in small-scale forestry is important

Vimek-harvester-404T8DUO-en.pdf

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Harvester/Forwarder Vimek 404 T8 Duo

It is a dual-purpose compact, lightweight, and versatile machine designed specifically for thinning operations. Capable of cutting forest biomass up to 300mm (12 inches) in diameter, it is extremely fuel efficient and nimble for its size. It is capable of processing materials and within minutes can be fitted with a grapple and forwarding trailer for harvest collection.

Professional and lightweight forestry equipment specifically for forest thinning since the 1980s. It is a job-specific piece of equipment for operating in tight spaces and ideally suited for smaller plantations and dense areas.

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Excavator Mecalac 8MCR

Mecalac 8MCR, a compact, powerful, versatile, and fast maneuvering multi-use machine. Produced in France and distributed by a dealership in Ontario. Proven track record and very efficient fuel consumption. The Mecalac will be equipped with a rotator grapple used to pick up logs and debris in tight spaces, as well as a tree sheer gatherer for quick removal and gathering of smaller trees and brush.

The machine will be equipped with a log trailer to act as a second forwarder for material removal. Lastly it will be used to gather up and stockpile unmarketable materials and subsequently be used as the primary feeding tool for the woodchipper.

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Chipper – Vermeer 1800 XL

The Vermeer 1800 XL is a highly productive 18" capacity drum-style chipper. Its powerful dual feed wheel system driven via (2) 32.3 CID hydraulic motors provides around 4,480 pounds of pulling power and the standard hydraulic lift cylinder enhances performance by providing additional down pressure reducing chainsaw work. 360-degree hand crank discharge chute with end chip deflector height adjustable.

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Windrower Sittler Compost Windrow Turner 512

Made in Canada, PTO driven beater, can operate on tractors in the 85-100 hp range. Water hookups standard. Ideal for medium to large farm, municipal and industrial composting

Reliable, efficient, economical, low-maintenance, and long-lasting. Extra-hardened, replaceable steel blades are uniquely positioned on the compost drum to allow for complete blending right to the base of the windrow. Material from the outside is brought inward and from the bottom to the top forming a peak position, allowing the windrow to have a chimney effect for ideal CO2/oxygen flow.

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Compost Extractor Hiwassee Continuous Flow Bio-Extractor 700 GPL

Durable casters make this unit easily movable, and the compact frame conveniently fits through any standard door. Unlike other extractors requiring an industrial grade 230-volt electrical connection, a single 115/120-volt electric feed is all that is needed to power our Bio-Extractor. The stainless-steel construction and high-quality components combined with expert workmanship, provide unmatched strength and durability. Every component of the Bio-Extractor has been designed to protect microbiology during the extraction and liquid transfer processes. Best of all, there is no waste from the extraction process as the solid byproducts can be recycled into a composting system or used for high-quality potting soil.

-Continuous Flow Rate: 700 GPH.
-Electrical: Single 120-volt outlet, UL Listed Control Panel
-Dimensions: 30W x 48L x 70H inches, Fits through a standard door, 340 pounds

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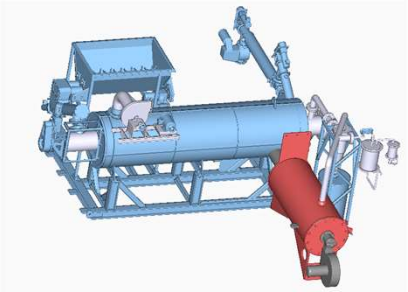

2025 – Phase 2.0

Biochar Production

- Design/Engineering Spring 2024
- Fabrication Summer 2024
- 2 tonne/day biochar production
- Pyroligneous acid production
- CHP opportunities
- Anticipated production 2025
- 2025-2026 field trials and research with OSCIA
- Annual CO2e sequestration potential = 1,400 tonnes/year

Moving forward together towards a greener more sustainable future.

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Our Partners – Catching Carbon

Ontario Ministry of Natural Resources and Forestry

Ontario Ministry of Agriculture, Food and Rural Affairs

Catching Carbon

CRIBE | nextfor

OSCIA

ABRI·TECH Avenir Bioénergétique Sustainable Bioenergy

NRC·CNRC Canada NRC Industrial Research Assistance Program

Ontario Woodlot Association Est. 1992

Township of Cavan Monaghan

Sustainable Canadian Agricultural Partnership

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