Environmental Sustainable Compost Markets

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ENVIREM
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Envirem Technologies Inc.

- One of Canada's leading environmental companies
  - Largest volume compost company (> 500,000 tons / year)
  - Eight facilities in Maritime Provinces
  - Packaging in excess of 8 million bags / year
- Exporter of bulk and bagged horticultural growing mixes, manufactured topsoils, organic fertilizers, mulches and aggregates (Recipient of CME Export Award)
- Envirem are advancing R&D of composting science and associated organic processing technologies/end-products to open-up new professional markets

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Value-Added Horticulture Growing Medias and Organic Bio-Fertilizers

- **Envirem to invest in NB infrastructure to produce Bio-Products (i.e. value-added horticulture growing medias and organic Bio-Fertilizers)**
- **Awarded Atlantic Innovation Fund award to conduct a 4Yr R&D Project in 2009.**

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Growing Media
Value-Added Components for Peat Mixes

- New Brunswick Peat Mining Policy January 2007 includes no expansions to peat mining leases without “value-added” production
- Bans on Methyl-Bromide drive professional peat mix producers to utilize bark fines and compost additives to obtain equivalent fungus protection
- Envirem installing additional large scale dryer capacities to dehydrate compost and reduce density to 9 lbs/cu.ft. to be consistent with peat moss

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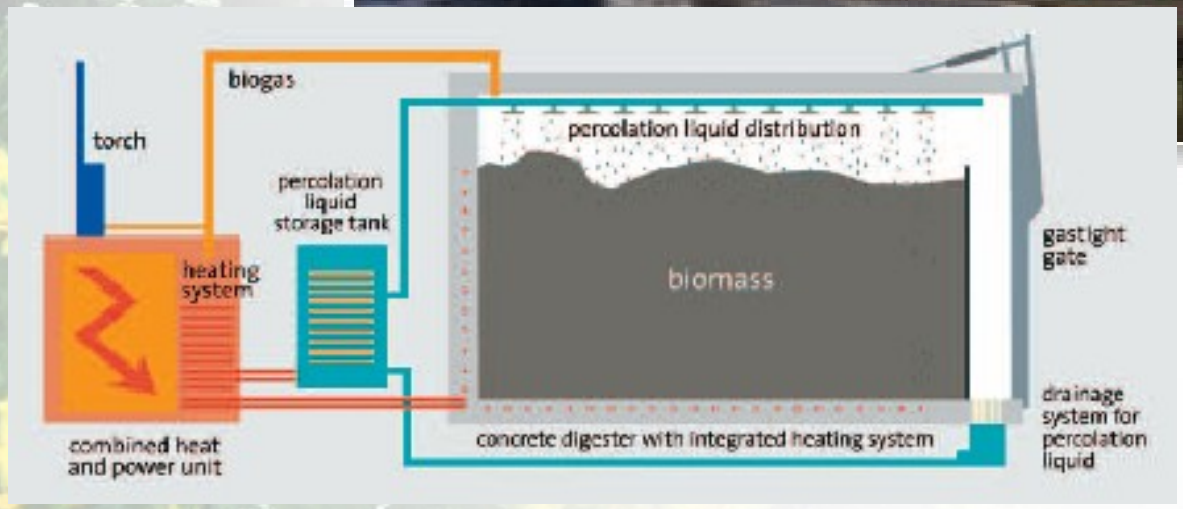
Capturing the Biogas Potential from Organic Residues

Envirem partnering with Harvest Power to install BEKON dry-fermentation technology

Biogas collection from initial phase processing presents opportunities for energy conversion and also heat supply for bio-fertilizer process



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Organic Bio-Fertilizers

Composts as Organic Bio-Fertilizers taking on increased interest from Agriculture (especially in light of recent price increases in chemical fertilizers):

- Research on-going at NSAC, Fredericton Research Station, Cavendish and McCain's Field Research Stations all provide confirmation of increased crop yields from organic inputs
- High-Value Crops in Potato, Blueberry, Cranberry, Orchard and Vegetable production transitioning to organic production

OMRI™ Listed

ACORN

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Value-Added Horticultural Professional Mixes

Envirem have existing capacity and are prepared to invest in additional capacity to support growth plans in Value-Added Peat Professional Mixes:

– Peat Substitutes

– Pine Bark Substitutes

– Perlite/Vermiculite Substitutes

– Organic Substitutes for Control Release Fertilizers

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Innovative Specialty Organic Products

Envirem is a leader in the production of innovative specialty organic products for retail, horticulture, turf and organic agriculture including:

– Dehydrated and screened composts to value-add horticultural mixes

– Pelletized, granulated and dehydrated composts and manures for topdressing and retails markets (may be with seed mixtures)

– Value-added blends of specialty pellets and granulation of peat, seafood blends, etc.

– Organic certified inputs (Canadian Organic and USDA-NOP via ProCert, OMRI Listed) for agriculture and consumer products

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Expanded NB Facility Infrastructure

Envirem have access to NB facilities and infrastructure to expand value-added products, consumer product line and specialty products

Envirem produce high volumes of consistent quality bark and forestry compost at Clarendon and Miramichi

– Envirem continuing research with Dr. D. Lynch, at NSAC and Dr. Jean Yves Daigle, at CZRI on the use of forestry compost to value-add horticultural mixes

– Envirem have years of experience producing economical dehydrated compost (various sizes) and pelletized compost through economical drying processes (biomass burners)

Innovative Specialty Organic Products

Envirem working together with Filtrexx to advance growing medias (dehydrated compost + fertilizer + seed) for erosion control products

FILTREXX INTERNATIONAL

ENVIREM TECHNOLOGIES INC.

Envirem Sponsored R&D

	Compost	Poultry Manure
Ttl N (g kg-1)	11.3	44.4
NH4-N (g kg-1)	1.7	6.1
Ttl P (g kg-1)	3.4	14.7
Ttl K (g kg-1)	0.4	18.9
C:N	21.6	8.7
DM (g kg-1)	33.0	97.6

Nova Scotia Agricultural College

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Envirem Sponsored R&D

- **Assessing CPB Control Options and N Fertility in Organic Potato Production**
  The project, undertaken in 2004 on a transitional organic site at AAFC Fredericton, had three objectives:
  - **Compare the efficacy of a potential organic insecticide (Entrust) to a bacterial insecticide (Novador) and to no insecticide,**
  - **Test the hypothesis that healthy, vigorous (well fertilized) plants have a better tolerance of insect pests such as the CPB**
  - **Compare the effect of three levels (0, 150, 300 kg total N ha-1) of organic fertilization (Nutriwave 4-1-2, Envirem Technologies, Fredericton, NB) on potato yield and plant biomass.**

- **Researchers**
  Gilles Boiteau, Agriculture and Agri-Food Canada, Fredericton, NB
  Derek Lynch, OACC, Department of Plant and Animal Sciences, NSAC
  Claude Berthélémé, NB Department of Agriculture, Fisheries and Aquaculture
- **Funding Sources**
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Production of Novel High Quality Horticultural Growing Media

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Introduction

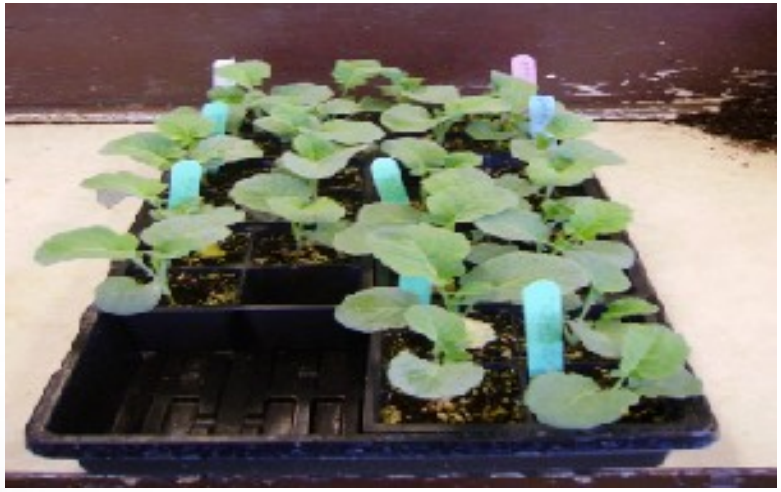
Novel Technology (dehydration) to process compost as an ideal substitute for peat and pine bark in growing media.

Objectives

- Quantifying and characterizing, the physio-chemical properties and the horticultural suitability of compost, peat and/ or pine bark growing media blends
- Assess media performance by characterizing vegetable transplant response in green house trials

Methodology

1. The physio-chemical properties (stability, pH, water holding capacity, EC, nutrient content) will be tested.
2. A series of greenhouse pot studies at NSAC (each a RCBD with 4 replicates) will be conducted.



Acknowledgments

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