

Sustainable Materials Workshop 2020

Perspectives from Canadian Bioproduct Startups



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Circular Bioeconomy

Converting food waste to energy, fertilizer, and bioplastics

Farm uses renewable energy from food waste

Reduce use of raw materials for energy and fertilizer

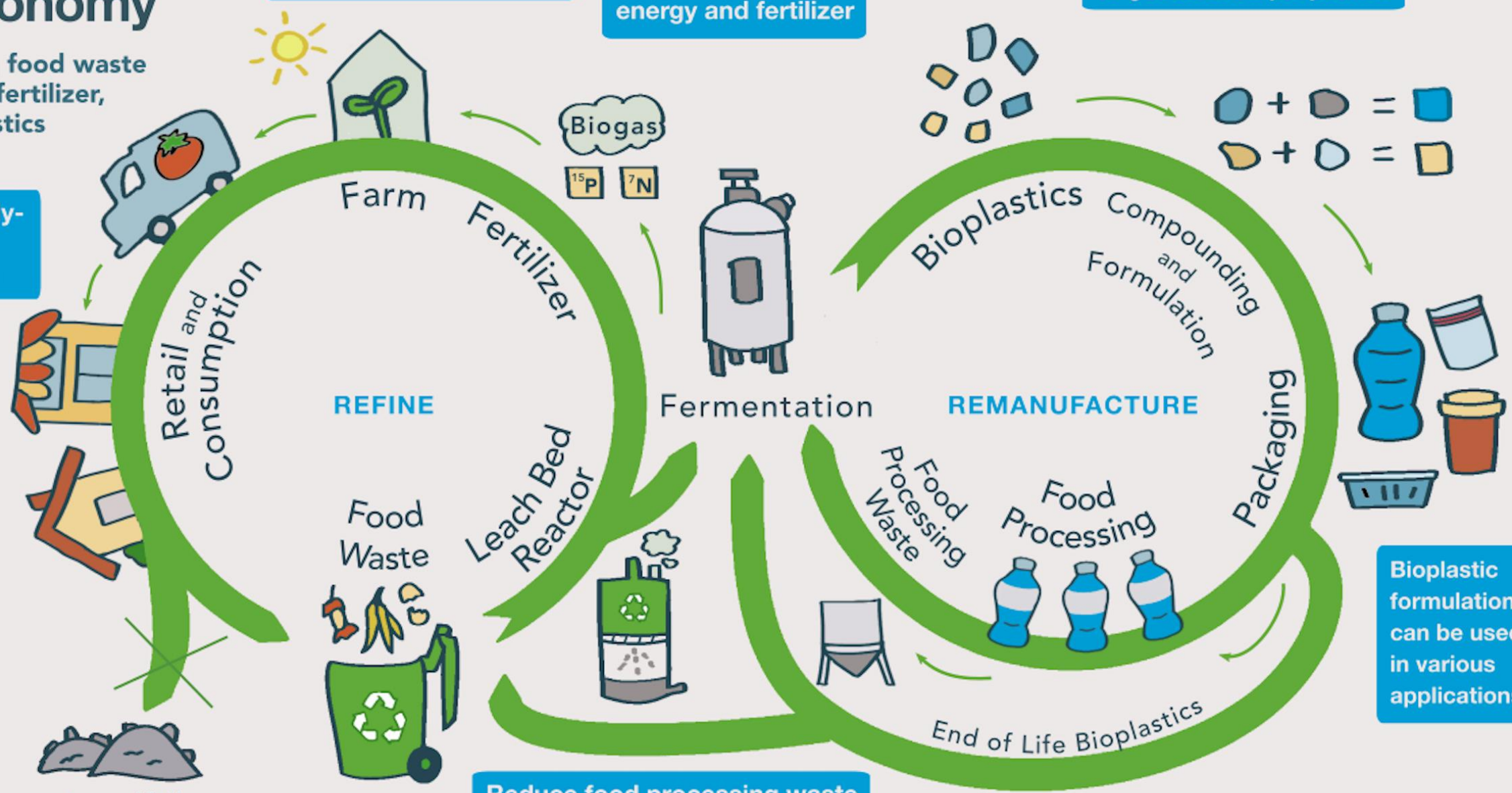
Polymers can be mixed to get desired properties

Sustainably-produced fresh food

Reduce cost of waste disposal

Bioplastic formulations can be used in various applications

Reduce food processing waste and cost of waste disposal



GLOBE 2020

What is Soyaoil®?

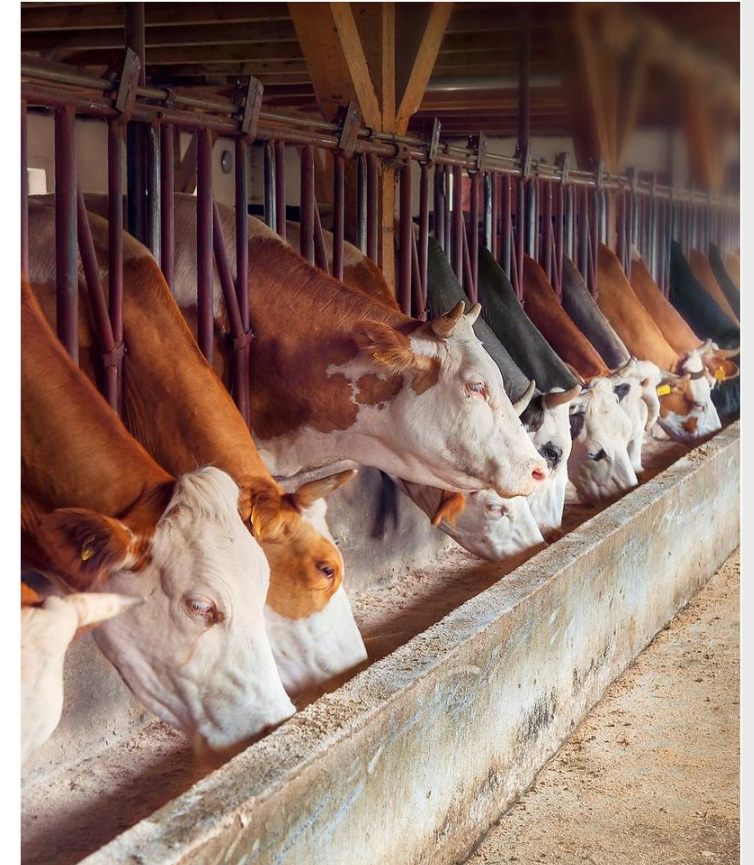
- Premium quality commercial paint and coating system.
- Zero VOC bio-sustainable technology.
- Made from 100% plant and mineral based ingredients.
- Long lasting durable waterborne alkyd formulation with cutting edge bio-based performance enhancing additives.
- Alkyd paint formulation outperforms latex paint formulation: Adhesion, durability, scrubability, flow and levelling, gloss levels, mold resistance.



 PLANT-BASED PAINT



- Use deep vein coal to produce protein feeds
- Net carbon negative
- Approved animal feeds with high protein bioavailability
- A blend of old and new IP



BioFusion_{LP}

We are proudly Canadian, located in Southern Ontario and operating under a limited partnership to manufacture three unique and disruptive liquid bio-technologies

Liquid bio-adhesive that turns gravel roads into pavement



GREENROADS[®]
CLEAN TECH - Transportation

PRODUCT MARKET

Secondary Road Stabilization
Estimated Market Size
Canada - 625,000km
USA: 2.6M km

PRODUCT CHARACTERISTICS

Deep strength solidification
Superior bonding bio-resin for asphalt regrinds
Superior bonding bio-resin for gravel
Water proof and non-leaching
Environmentally safe
Creates a surface comparable to cement

Liquid bio-mulch replacing ~50M acres of field plastic



SOILARMOR[®]
CLEAN TECH - Agriculture

PRODUCT MARKET

Replace field plastic
Estimated Market Size
Can/US - 5.3M acres
Global: 50M acres

PRODUCT CHARACTERISTICS

Natural soil cover protection
Promotes healthy soil rejuvenation
Prevents soil erosion(wind/rain)
Reduces Irrigation
Improves soil water retention
Weed suppression
Improved chemical effectiveness

Liquid bio-coating that turns waste rock into usable aggregate



LIQUIDTARP[®]
CLEAN TECH - Mining

PRODUCT MARKET

Acid Mine/Acid Rock Drainage(AMD/ARD)
Estimated Market Size
Annual budget for the prevention of AMD/ARD
CDN - \$100M & USA - \$775M

PRODUCT CHARACTERISTICS

Natural effective sealant for land reclamation
Natural effective sealant for AMD/ARD
Tolerant to heat & moisture
Water proof, wind resistant and non-leaching
Creates a sealed surface to stop oxidation
Environmentally safe for land and animals

Summary Points

- Canada has an active invention pipeline that often struggles to turn ideas into profit (innovation)
- Coordinated support from R&D, to pilot/demonstration, to investment to commercial scale is needed (eg: BCIP)
- Highly likely that investors will focus new funding on pre-COVID selections
- Assuring access to value-chain partners is key to efficient scale (manufacturing, formulations, testing, marketing)
- Need for focused and strategic policy/incentives when products are competitive in Price, Performance and Process to accelerate growth/adoption