



**HempTrain™**  
**Advanced Processing Plant**

# HempTrain™ Overview (Dry Processing)

September 2019



# Who we are?

- ▶ Leaders in innovative engineering, technology, manufacturing, and product development in the industrial hemp industry; part of an industrial group in business for over 30 years
- ▶ Team
  - ▶ Mike Pildysh, M.E., P.E. - President
  - ▶ Stephen Christensen, Ph.D., P.Chem. - VP & GM
  - ▶ Natalie McKenzie, M.A.Sc., P.E. - Process Engineer
  - ▶ Kurt Edwards, B.A.Sc., P.E. - Mechanical Engineer
  - ▶ Matt McKay - Engineering Technologist
  - ▶ Brittany McKell, BBA - Marketing Manager



# HempTrain™ Advanced Processing Plant

- ▶ The HempTrain™ Advanced Processing Plant is a complete decortication, separation, and industrial hemp processing solution
- ▶ Produces **green microfiber (GMF)**, intact long structural **bast fiber**, and size-specified **hurd** from dry feedstock
- ▶ Radically **reduces** harvesting costs!
  - ▶ See [dry processing whitepaper](#) for more information



# HempTrain™ Advanced Processing Plant

- ▶ Specifications for a HempTrain™ commercial module:
  - ▶ Includes:
    - ▶ Bale Opener
    - ▶ Processing Units
    - ▶ NFPA-Compliant Dust Collection
    - ▶ Electrical and Touchscreen Control
  - ▶ **Throughput:** ~2000 lbs/hr (approximately 10-12 million lbs/year), feedstock dependent\*
  - ▶ **Area Required:** <1500ft<sup>2</sup> (140m<sup>2</sup>)
  - ▶ **Machine Height:** 16' (5m) (19' required for installation)
  - ▶ **Machine Weight:** ~35,000 lbs (15,900 kg)
  - ▶ **Bale Window Opening:** 5'x6' (1.6m x 1.8m). Some bale configurations may require operators involvement in bale feeding.
  - ▶ **Hurd Fiber Particle Length:** From 1/8" (3mm) to 2" (50mm)
  - ▶ **Power Requirement:** ~85 kVA; 480V 3-Phase

\*Certain types of feedstock with a higher content of bast fiber (>15% w/w) and longer bast fiber in length (>3ft), as well as certain bale configurations may significantly affect the throughput capacity.



# HempTrain™ Advanced Processing Plant



# HempTrain™ - Production Streams & Potential Uses



## HempTrain™ Product Streams



Field Fiber  
Feedstock



FIBER

HURD

GMF



**NForce-Fiber™**  
NForce-Pro™  
For Concrete  
Reinforcement

**Composite Fiber**  
For Applications  
Requiring High  
Strength  
Reinforcement



**Hemp Mulch Pro™**

**Homonica™**  
Potting Mix

**Hemp  
Cat Litter**

**Hemp-Fresco™**  
Food Preservation  
Peds



**Hemp-Pak™**  
Nutrient Rich  
Soil Amendment

**Hemp-Scrub Extra™**  
For CBD Infused  
Skincare Products

**Hemp CBD-Fiber™**  
For Pet Health



Current CGT  
Product Lines  
(may require additional  
processing)



**HempTrain™**  
Advanced Processing Plant

# Markets

## ▶ Bast Fiber

- ▶ Concrete Fibre: \$3 billion in 2021<sup>1</sup>
- ▶ Other markets - composites, animal bedding, insulation, etc.

## ▶ Hurd Fiber

- ▶ Cat Litter: \$2.8 billion in North America<sup>2</sup>
- ▶ Small Dog Litter: 40 million small dog owners in the U.S.<sup>3</sup>
- ▶ Potting Mix: \$2 billion with 20-45% increase per year<sup>4</sup>
- ▶ Food Preservation: \$91 billion in fresh veg. sold in U.S., ~60% wasted<sup>5</sup>
- ▶ Other markets - hempcrete, insulation, mulch, composites, etc.

## ▶ Green Microfiber (GMF)

- ▶ Beauty Products: \$430 billion by 2022<sup>7</sup>
- ▶ CBD Oil: \$2 billion by 2020<sup>8</sup>
- ▶ Animal Supplements: \$580 million in 2016<sup>6</sup>
- ▶ Soil Amendment: \$500 million with 20-45% increase per year<sup>4</sup>

1 <https://www.marketsandmarkets.com/Market-Reports/concrete-fibers-market-122792577.html>

2 <https://www.prnewswire.com/news-releases/in-28-billion-cat-litter-market-small-dogs-present-a-big-opportunity-300546724.html>

3 <https://blog.marketresearch.com/blog-home-page/bid/251231/small-dogs-vs-big-dogs-pet-owners-choose-small-marketresearch-com>

4 <http://nbpostgazette.com/2018/02/09/growing-opportunity-for-startups-in-the-global-potting-mix-industry/>

5 <https://www.ibisworld.com/industry-trends/market-research-reports/wholesale-trade/nondurable-goods/fruit-vegetable-wholesaling.html>

6 <https://www.alliedmarketresearch.com/cosmetics-market>

7 <http://naturallysplendid.com/resources/2017/01/cbd-market-estimated-grow-2-1b-2020-report-finds-hemp-derived-cbd-estimated-account-450-million/>

8 <https://www.prnewswire.com/news-releases/united-states-pet-supplements-market-2012-2021-2017-report---research-and-markets-300459078.html>



# HempTrain™ : Envisioned Financial Forecast

	Year 1		Year 2		Year 3		Year 4		Year 5	
	Sales (1000 Lbs)	Revenue (\$1000)	Sales (1000 Lbs)	Revenue (\$1000)	Sales (1000 Lbs)	Revenue (\$1000)	Sales (1000 Lbs)	Revenue (\$1000)	Sales (1000 Lbs)	Revenue (\$1000)
% of full capacity	12%		24%		48%		80%		100%	
<b>Revenue (\$1000)</b>										
Bast fiber	180	\$180	360	\$360	720	\$720	1200	\$1,200	1500	\$1,500
Hurd	780	\$780	1560	\$1,560	3120	\$3,120	5200	\$5,200	6500	\$6,500
Green microfiber (GMF)	240	\$3,600	480	\$7,200	960	\$14,400	1600	\$24,000	2000	\$30,000
<b>Total</b>		\$4,560		\$9,120		\$18,240		\$30,400		\$38,000
<b>Expenses (\$1000)</b>										
Feedstock		-\$120		-\$240		-\$480		-\$800		-\$1,000
Labour		-\$250		-\$250		-\$250		-\$250		-\$250
Utilities		-\$30		-\$30		-\$30		-\$30		-\$30
Premises		-\$120		-\$120		-\$120		-\$120		-\$120
Overhead/Maintenance/ Marketing		-\$200		-\$400		-\$800		-\$1,000		-\$1,000
<b>Total</b>		-\$720		-\$1,040		-\$1,680		-\$2,200		-\$2,400
<b>Capital Expenditure (\$1000)</b>		-\$1,940								
<b>EBIDTA (\$1000)</b>		\$1,900		\$8,080		\$16,560		\$28,200		\$35,600

## Notes:

- 1) This is an example only. Actual values will depend on project/market specifics. Values are in Canadian dollars.
- 2) Input assumptions:

### **COSTS: OPERATION 5000 HOURS PER YEAR**

- 1) up-front capital: \$1,940,000
- 2) Labor: 2 operators x 5000 hours x \$25 per hour = \$250,000 per year
- 3) Utilities: 60 kilowatt x 5000 hours x \$0.10 kilowatt hours = \$30,000 per year
- 4) Premises: \$10,000 per month x 12 months = \$120,000 per year
- 5) Feedstock: \$200 per ton = \$0.10 per 1 lb of any product

### **PRICES:**

- 1) Fiber fraction: \$1.00 per lb (as feedstock for \$6-7 per lb products - i.e. reinforcement fiber, etc.)
- 2) Hurd fraction: \$1.00 per lb (as feedstock for \$5 per lb products - i.e. cat litter, etc.)
- 3) Green fraction: \$15 per lb (as 10% of the current market value of CBD in each 1 lb of the product, at documented 0.7% CBD)

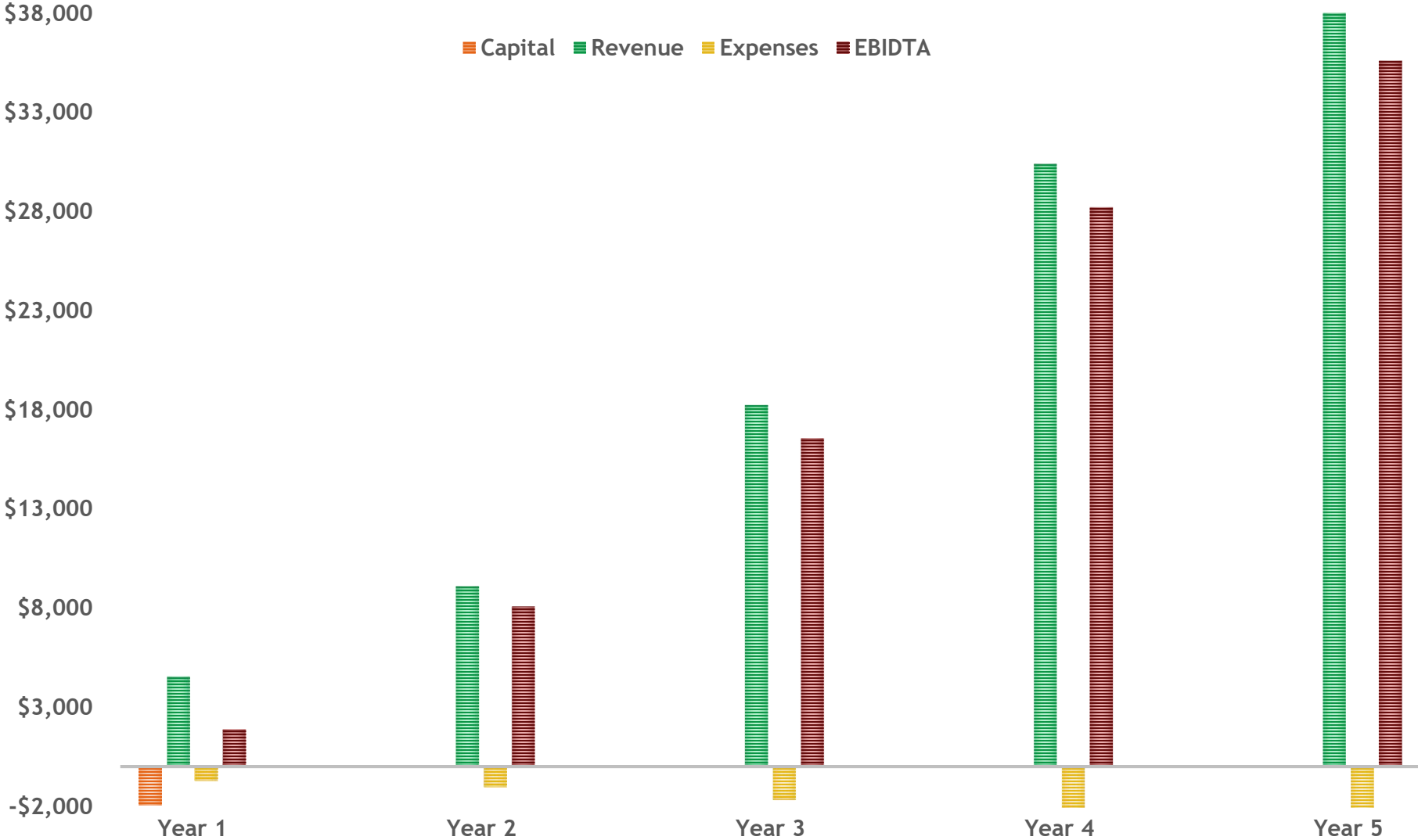
### **TOTAL ANNUAL OUTPUT CAPACITY:**

- 1) Bast fiber: 1,500,000 lbs (15%)
- 2) Hurd: 6,500,000 lbs (65%)
- 3) Green microfiber (GMF) - (CBD containing): 2,000,000 lbs (20%)





# HEMPTRAIN™: EVISIONED FINANCIAL FORECAST\*



\*NOTE: This is an example only. Actual values will depend on project/market specifics.

# Call to Action

- ▶ Purchase of HempTrain™ Advanced Processing Plant
  - ▶ CGT Proposal / Buyer Acceptance
  - ▶ Contract - signing & deposit of 50%
  - ▶ Demonstration of unit prior to shipment (at CGT Premises)
  - ▶ Payment of 50% balance
  - ▶ Shipment to buyer / Commissioning / Transfer of Ownership to Buyer / Training in Operation and Maintenance



# Contact Information

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If interested in what HempTrain™ can do to for CBD production, read “HempTrain™ for CBD: Drastic Capital and Operating Cost Reduction by Processing Fresh/Green Hemp” ([link](#))

