



# **Commercial Hub Development American Elderberry**

***Sambucus nigra canadensis***

**May 2022**

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# 2022 MARKET COMPONENTS

**Proven Success on Small Scale < 5 acres, What About More?**

- ◆ **Fresh or frozen berries and flowers: packed & U-Pick**
- ◆ **Dried elderflowers: thousands of lb. imported**
- ◆ **Dried elderberries: at least 300,000+ lb. imported**
- ◆ **Lightly processed: juices, jams, jellies, and wines**
- ◆ **More processed: puree, bulk juice, syrup, nutraceutical inputs**
- ◆ **Highly processed berry: extracts, concentrates, powders**
- ◆ **Natural dyes made from elderberries for food or textiles**

# SMALLER SCALE OPTIONS

## LOCAL DIRECT

- ✦ **Requires frozen storage, ownership or access to processing**
- ✦ **Sell fresh or frozen flowers & berries to wineries, food co-ops / consumers: packed pail or 5 lb. freezer bags**
- ✦ **Make and sell farm-based value added products at farmers markets, online and/or in retail stores**
- ✦ **Growers partner in harvest and processing activities to share resources/expenses in selling to MEC hub**
- ✦ **MEC members can buy wholesale from the coop for their own production when their harvest is too small**
- ✦ **RHH packed pail: 4 gal./25 lb. same day destemmed & sanitized, frozen berries with <1% unripe berries, stems, etc.**

# “FLORABUNDA”

**MEC Minneapolis, 2018**  
(from Minnehaha Creek)

**3 years old**

**Determinate**

**Requires pruning**

**Massive, fragrant flowers**

**Berries do not ripen very evenly**



# ADAMS (2)

**Natura Farms - 2014  
Scandia, MN**

**1 year old**

**8-10 feet annual growth**

**Indeterminate**

**Large flowers**

**Berries ripen by cyme cluster/finger**

**Cut to the ground**

**Grows back when damaged**



# RANCH

## **West Branch Elderberry**

Orange City, IA

**2016 - 3 years old**

**6-8 feet annual growth**

**Determinate**

**Abundant flowers**

**Berries ripen evenly**

**Cut to the ground**

**Tolerates dryness and clay soils better**

**Strongly prefers open field and full sun and suffers in a partial sun understory location**



# COMMERCIAL BIG PICTURE - BERRIES

- ◆ 2017 Est. 30,000+ European acres & less than 1,000 in USA
- ◆ Compared to European *Sambucus nigra*, American elderberries taste better and have greater antioxidant variety with no meaningful levels of glycosides
- ◆ In 2017 elderberries are the #1 commercial berry in MO with 350+ acres.
- ◆ MN: 800 total fruit acres: growers expressed interest could add over 200 MN acres planted in elder & producing by 2025 - impact of specialty small fruits
- ◆ 4000-6000lb./acre & \$2.50-\$8/lb. for high to low volume, certified organic
- ◆ A native perennial, elder enrich the environment from soil to pollinators
- ◆ 2022 estimated 2,500-3,000 USA acres in production and growing rapidly
- ◆ Huge domestic interest in elderberry as a functional ingredient for a variety of foods & beverages, brews and wines - past USA sourcing undependable
- ◆ Current domestic demand still largely met by imports from Europe - price

# TECHNICAL CHALLENGES

- ◆ **Much still unknown horticulturally: determinant, indeterminate, primal cane fruiting, ripening, berry release, nutritional variation, unidentified cultivars**
- ◆ **Hand harvest, limited mechanical crop handling, destemming, packing, scaling up, coop education & organizational development**
- ◆ **Current UMO \$5 million USDA grant addressing much of the above**
- ◆ **Reduction of labor inputs will increase competitiveness & maintain profits**
- ◆ **Early stage tech development: \$ needed to design & build, test & improve**
- ◆ **MEC long term commercial success based on selling high volume elder berry & flower ingredients in order to keep industry farmer owned and led**
- ◆ **Mid-stage infrastructure not in place to scale up as of 2022**
- ◆ **MEC Plan: create decentralized production hubs near farms with coordinated marketing & distribution to secure long term, volume contracts with buyers**
- ◆ **Currently underway: planning grants, finance, production grants & ingredient process/specification development, secure supply agreements w/buyers**



# **EXTERNAL FACTORS THAT COULD RAISE AMERICAN ELDERBERRY DEMAND**

- ◆ **European inflation increases imported *S. nigra* prices**
- ◆ **War in Eastern Europe reduces *S. nigra* supply**
- ◆ **Transportation / freight costs**
- ◆ **US food ingredient prices are rising in general**
- ◆ **Accelerated shift in US bias to natural healing**
- ◆ **New research on elderberry health benefits**
- ◆ **Specific benefits found to mitigate “Long COVID” and unintended consequences of mass vaccination**

# COMMON PEST PROBLEMS



**Sawflies on Elder**



**Spotted Wing Drosophila  
(SWD)**

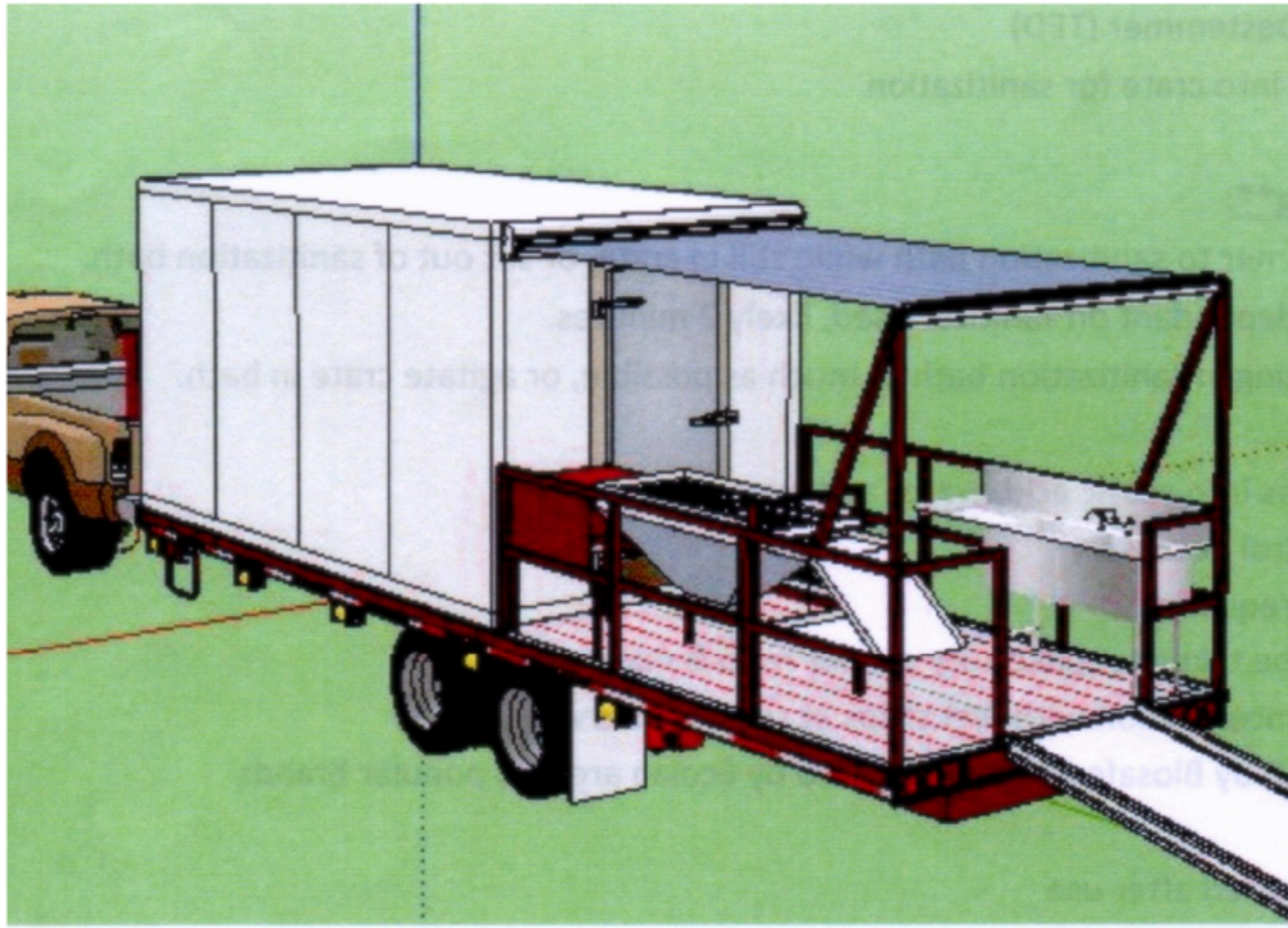
# TERRY'S DESTEMMER

- Used with a triple wash stainless sink, often mounted on trailer
- Usually two men working destemmer, one washing and two or more picking to process 300-400 lb./hour
- Price about \$10,000, runs on 220, need a tested water source



Cost of Stainless Steel?

# MOBILE FREEZER & PROCESSING



onFarm Storage Design  
Paul Hannemann

# WEST BRANCH ELDERBERRY

ORANGE CITY, IA

## FARMER PROCESSING HUB

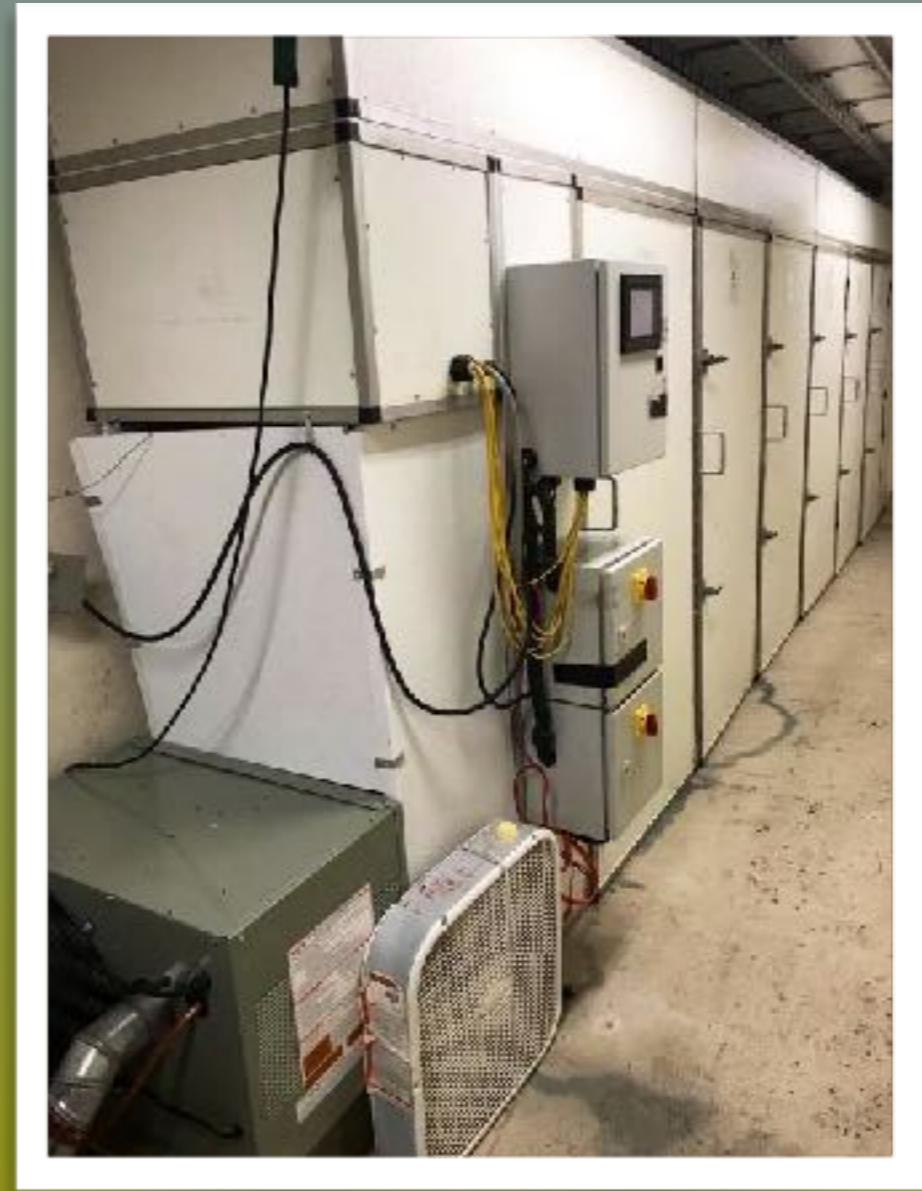
FLOWS LEFT TO RIGHT STARTING  
WITH A MODIFIED GRAPE  
DESTEMMER THROUGH WASH  
STATION, FAN AND CONVEYOR  
FOR DRYING AND QUALITY  
CONTROL, THEN INTO A LINED  
BOX OR 4 GAL. FOOD GRADE  
PAIL.



# WEST BRANCH ELDERBERRY

ORANGE CITY, IA FARMER HUB

THERMALLY DRIED BERRY PRODUCTION



COMMERCIAL KITCHEN IN TRAILER

# BOB GORDON

## Terry Durham

Hartsburg, MO

River Hills Harvest  
(original “hub”)

6-8 feet annual growth

Determinate

Abundant flowers

Decumbent cyme

Larges sweet berries

Cut to the ground

Berries ripen evenly on primal cane only



# MEC HUB STRATEGY

- ◆ **Berry production comes first, then supply contracts**
- ◆ **No MEC C-Distribution Rights shares without a hub**
- ◆ **Contracts ~ C share commitments (profit/loss sharing)**
- ◆ **Development staged for stable growth, fiscally viable**
- ◆ **First, bulk/IQF berry processing & frozen storage**
- ◆ **Ingredient format diversification, other fruits**
- ◆ **Decentralized and specialized ~ grower capabilities**
- ◆ **Flexible ownership/partnership structures ~ hub**



# HUB OPERATIONS

- ◆ **Grower price increased by cost of frozen storage & shipping**
- ◆ **Now, berries stored on farm or in cold storage warehouses**
- ◆ **Hub aggregation of bulk berries destemmed and packed only**
- ◆ **Hub high volume crop processing, packing & frozen storage**
- ◆ **Crop processing, storage, shipping & ingredient processing**
  - **Copacker alliance: bulk juice pressing (Arise Nutrition, LLC)**
  - **Single capability: IQF, freeze drying, thermal drying, puree, etc.**
  - **Multiple capability**
- ◆ **Hubs owned by farmer, MEC or partnered/JV with member**



# **MARKETING STRATEGY: CREATING & MEETING DEMAND**

- ◆ **Adequate supply of desired ingredient formats**
- ◆ **Justify premium pricing beyond local & cert. org.**
- ◆ **Physical & nutrient quality control - testing**
- ◆ **Reduce labor inputs w/improved processes**
- ◆ **Plan for steady production, dedicated labor**
- ◆ **Reduce transportation costs = reduce total cost**
- ◆ **Promote American elderberry at ingredient expos**

# 2022 MEC MN PROGRESS

- ◆ **2022-2024 MDA Specialty Crop Grant to support growers and supply MN buyers**
  - **Grower education and assistance**
  - **Develop certified organic production and processing**
  - **AURI berry quality assessment: ripeness & levels of 8 key nutrients, annual protocol**
- ◆ **Recently completed USDA Value Added Planning Grant**
  - **2022 cert. org. European IQF berries: \$3.00-3.60/lb. East Coast**
  - **2021 USDA VAPG Feasibility study of 5 berry ingredients**
  - **Each ingredient competitive if MEC pays \$2.50/lb. wholesale, cert. org berries**
- ◆ **Build a new MEC hub for berry processing/ingredient(s) and storage**
- ◆ **Apply for USDA Value Added Production Grant: 50% startup operations cost share**
- ◆ **Member: Regenerative Agriculture Alliance & Albert Lea processing facility share**
- ◆ **Increase horticultural and technical production research to reduce grower costs**

# MEC TRANSACTIONS

- ◆ **MEC buys and resells bulk frozen berries, bulk frozen juice, dried berries, dried flowers and freeze dried berries: price determined by grower**
- ◆ **After price, priority of sales is to members, then location**
- ◆ **Only A shares until buyer contracts in place means less grower risk**
- ◆ **C distribution right shares**
  - **One share = 1lb. of elderberries**
  - **C share growers set the pricing: \$2.00/lb. & 2.50/lb. certified organic**
  - **MEC committed to taking delivery of C share berries**
  - **Growers receive \$1.00/lb. upon delivery; rest before June 30**
  - **C share holders share in distributed profits & losses of MEC**

# **MEC 2022 INGREDIENT PRICES PAID TO GROWERS**

- ◆ **Buyer funds collected in advance, except brokers**
- ◆ **For bulk berries, a ~50 cent commission over grower price, grower paid after completion/delivery of berries**
- ◆ **Dried flowers: \$25-30/lb.**
- ◆ **Thermally dried berries: \$20/lb.**
- ◆ **Freeze dried berries: \$90/lb. (too much for high volume sales)**
- ◆ **Bulk frozen juice: \$35/gal. (too much for high volume sales)**
- ◆ **May 2022 berry prices dropping: \$3-3.50/lb., no high volume sales over 5,000lb. for Sept. 2021 - May 2022**

# ROADMAP FORWARD

- ◆ **Redesign and update website: MDA Jan. grant**
- ◆ **Secure financing for Delano hub (grants, nonvoting preferred shares?)**
  - **Repurposed building or new construction**
  - **Architectural & engineering plans**
  - **Secure grant, investment and/or favorable funding**
- ◆ **Engage full and/or part time staff: USDA VAPG**
  - **Facility Manager - includes financial reporting**
  - **Dedicated Sales Associate - includes account mgt.**
  - **Coop leadership training & culture**