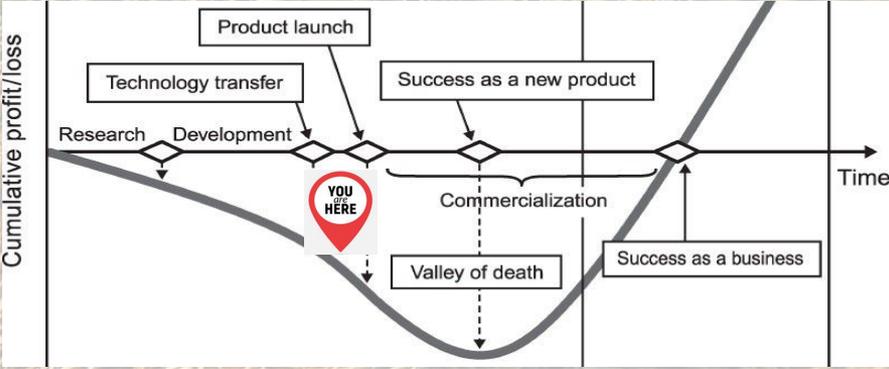
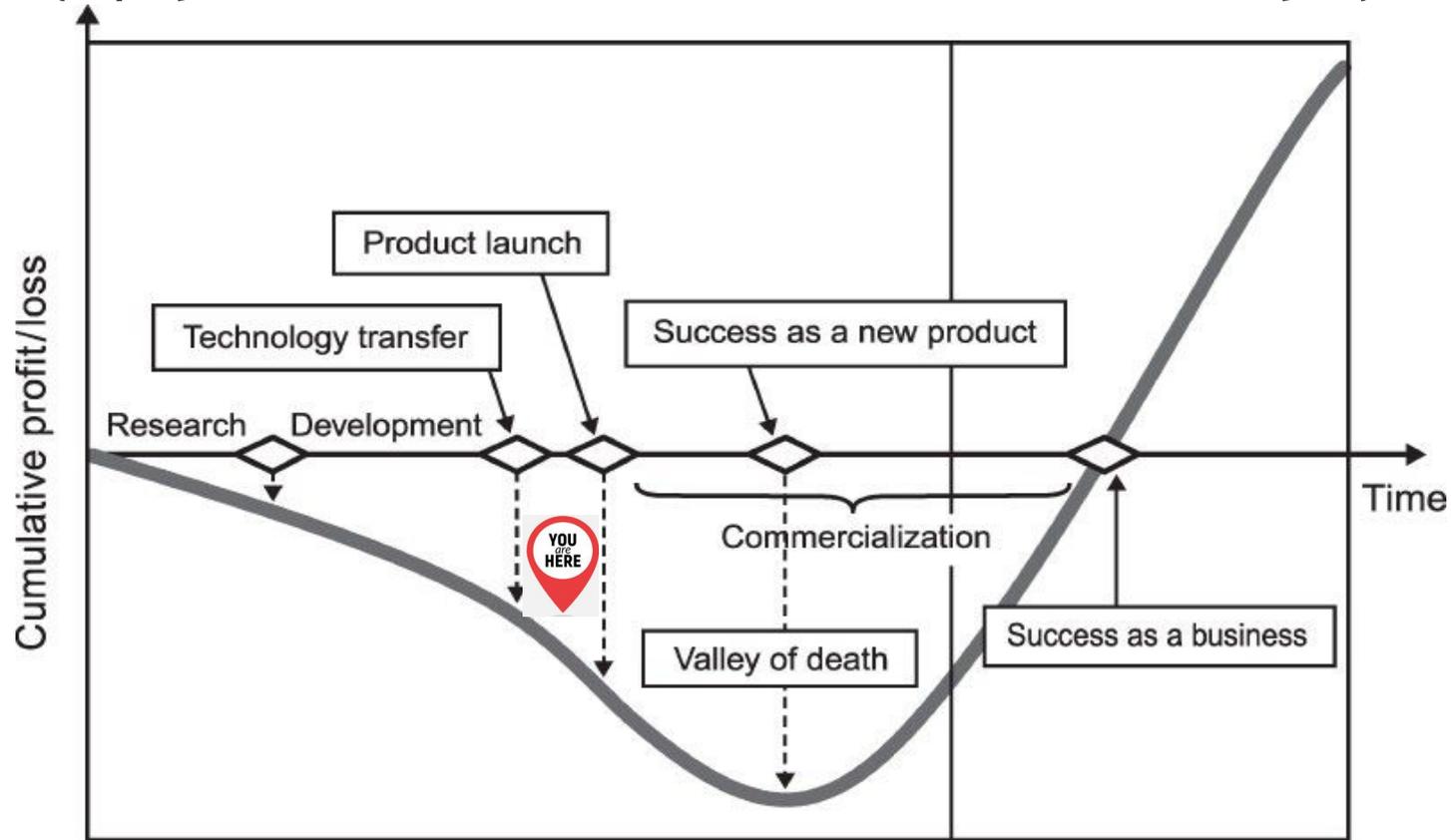


SF 1353: Expanding a CLC Value-Chain Development Fund

Colin Cureton | February 8, 2023



CLC crops/systems must leave lab and cross the “Valley of Death”



UMN Forever Green Commercialization: Core competencies

STRATEGY

- Wayfinding
- Setting the compass
- Navigating

CAPACITY

- Steward the innovation process
- Bridge the gap (IP, biz & mkt dev)
- Make the case
- Spark entrepreneurship

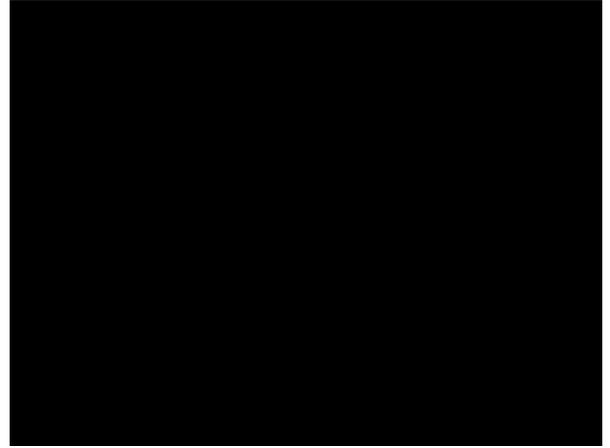
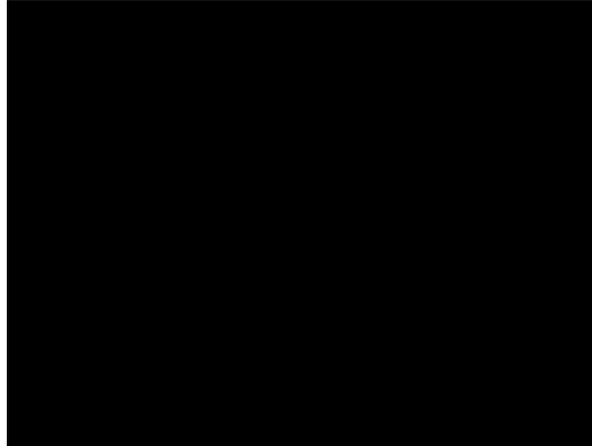
RESOURCES

- Benevolently broker...
- New technology IP
- Opportunities
- Relationships
- Expertise
- Good information
- Funding

POLICY & SYSTEMS

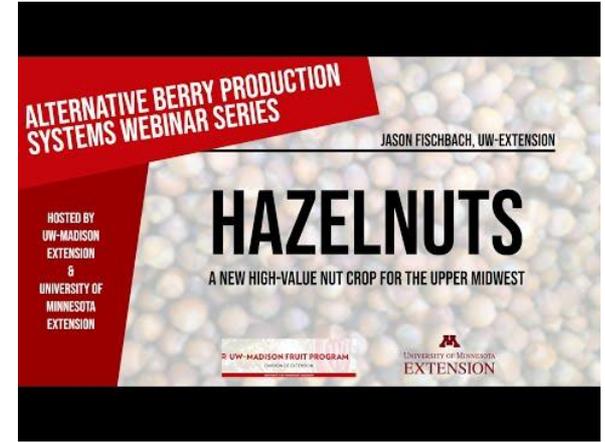
- Partnerships
- Pilots
- Policy
- LIFT

EXAMPLE:
RESOURCES |
Brokering
good
information



Crops need value-chains and markets to scale opps. for MN growers

- Public will benefit from CLC agriculture at-scale economically, environmentally, socially; has role to play
- UMN develops CLC crops, does not determine fate in mkt
- Early public investment will root these industries in MN, break through bottlenecks, and accelerate growth



CLC Value Chain Dev. Fund: Origins and progress

- Idea developed in partnership with CLC entrepreneurs in 2021
- Model is based on MN Renewable Development Fund, which invests in:
 - Start-up, expansion, and attraction of RE
 - Near-commercial + demo. scale RE projects
 - Increased market penetration of RE
 - \$150M in projects since inception
- \$10M bill in 2022, \$500k allocated
- Pilot in development with MDA
- Demand/need will far outstrip pilot

Policies to advance a market-driven transition to CLC agriculture in Minnesota



A bill for an act relating to agriculture; appropriating money for grants to certain agricultural

Continous Living Cover Supply Chain Investment

Minnesota Farmers Union

DEPARTMENT OF AGRICULTURE

BUSINESS DEV, LOANS, GRANTS ENVIRONMENT, SUSTAINABILITY PESTICIDE, FERTILIZER FOOD, FEED PL

DEVELOPING MARKETS FOR CLC CROPS

Continuous Living Cover Crops

Home > Developing Markets for CLC Crops

In 2022, the Minnesota Legislature provided funding to the MDA for grants to organizations in Minnesota to develop enterprises, supply chains, and markets for continuous living cover (CLC) crops and cropping systems in the early stage of commercial development. This includes, but not limited to, regenerative poultry silvopasture systems, Kernza® perennial grain, winter camelina, and elderberry. The MDA is in the process of developing this new grant program.

Four CLC crops
shovel-ready for
value-chain
development:
Kernza, winter
camelina,
hazelnuts,
elderberry



Shovel-ready CLC value-chain development projects

KERNZA

- On-farm mobile processing (pre-clean)
- Seed and grain processing
- Product development
- Market research and campaigns
- Market development

WINTER CAMELINA

- Entrepreneurship/business dev.
- Optimizing oil extraction
- LCA/Carbon Intensity (CI) scoring
- Aggregation and storage
- Feed market development

HYBRID HAZELNUTS

- Nurseries and micro-propagation
- Custom mechanical harvest
- 'Go-First' Farm Network
- Spin-off processing line

ELDERBERRY

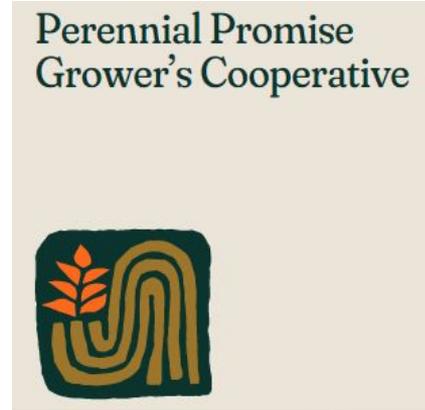
- IQF mobile processing unit
- Storage and distribution site
- Mechanical de-stemming
- New ingredient development
- Market development

OUTCOMES: New MN industries, CLC acres, products, exports, water quality, soil health...

Kernza | Progress, needs, opportunities

“Our products are are doing well in the market. We’re iterating fast and learning what works. The demand for what we are selling is there. Right now our main barrier to scaling-up markets for and so production of Kernza is a larger processing facility with all the certifications needed to serve larger food companies.”

-Christopher Abbott, Perennial Pantry



Winter camelina | Progress, needs, opportunities

“In the short term, you look at camelina as a good crop for biofuel, but it does not stop there,”...

The most promising crop of the future to the company right now is camelina, said Deng, and he calls it a “Cinderella crop” because it can be utilized as an oilseed crop as well as a cover crop.

Deng said that the Forever Green Initiative can help Cargill live up to its commitment to regenerative agriculture.”

Winter Camelina Contract Production Opportunity for Farmers



AGWEEK

MillbornSeeds

MBOLD
MINNESOTA: LEADING THE WAY
TO THE FUTURE OF FOOD

Hybrid hazelnuts | Progress, needs, opportunities

“After 15 years, we have our first high-performing hybrid hazelnut cultivars. The time is right to strategically launch a network of ‘Go First Farms,’ scale-up propagation, optimize mechanical harvest, and spin-off the processing line. \$800k CapEx would lay the base for this new industry in the Upper Midwest.”

-Hazelnut entrepreneur



Elderberry | Progress, needs, opportunities

"If we can stand-up our mobile IQF processing line, we'll have the volume and product specs needed to justify brick-and-mortar storage and distribution. We are seeing breakthroughs on ingredient development that will open up new uses. From there, markets can scale and we'll be off to the races.

-Midwest Elderberry Coop. President



A group of approximately 30 people, including men, women, and children, are gathered in a field of tall, green grass. They are mostly seen from the back or side, looking towards a farm building with several large silos in the distance. The sky is clear and blue. The text is overlaid on the lower half of the image.

Thank you for your
consideration of SF1353!

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