



Phytopharma



Agenda

- Intro to Phytopharma
- Biomass Management
- Phytopharma Co-op
- Technology
- Phytopharma and the Prison



Mission Statement

Phytopharma's mission is to be the leader in the development of a sustainable hemp industry in Vermont. We will provide statewide access to best-in-class testing, analytic, processing, and product development facilities. Our goal is to provide small farms with access to the marketplace while allowing them to focus on seed-to-harvest. Phytopharma will market its products through various channels and will be a national showcase for Made in Vermont.



Biomass Management Hurdles

- Testing in the field
- Drying
- Extracting & Processing
- Testing final products



In the Field

- Up to 2,000 plants/acre
- Assume 1,000 plants/acre = Approx. ½ Ton dry biomass
- Assume 1,000 acres = 500 tons of biomass
- 1 Tonne of Biomass = 50-100kg of CBD

- Processing 1 Ton/day = 1 ½ years to process



Insufficient Processing Capacity



Hemp Co-op

WHY?



Milk : Cheese Model

Love Tree Farm



Love Tree Farmstead Cheese

Cave Brothers Farm



Cave Brothers Farmstead Cheese



Agri-Mark Cheese



Hemp : CBD Model

Love Tree Farm

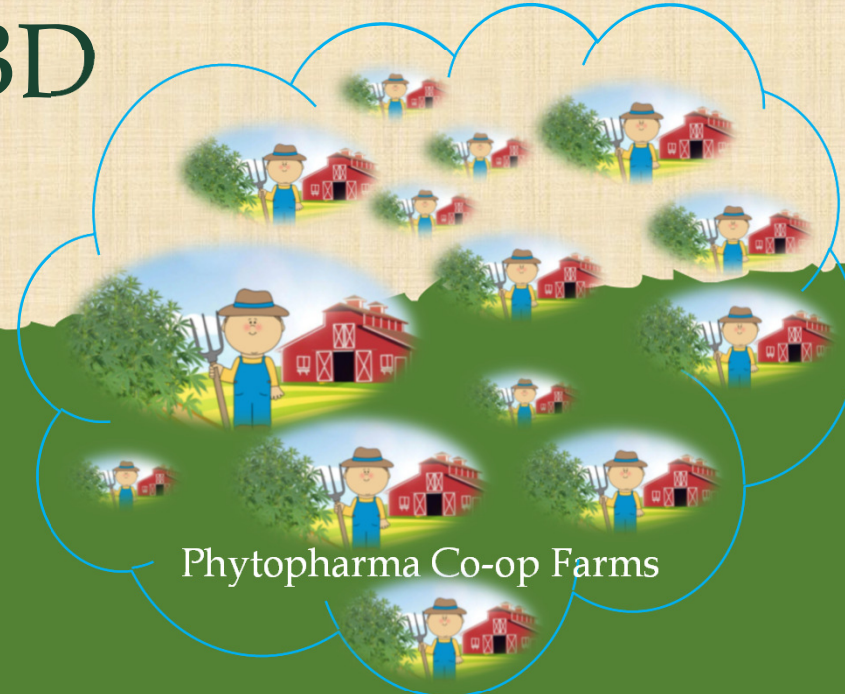


Love Tree
CBD

Cave Brothers Farm



Cave Brothers
CBD



Phytopharma Co-op Farms

Phytopharma
CBD



Hemp Co-op

- Members will receive market price for biomass
- Members will participate on a pro rata basis in the profitability of the Co-op
- Preferred pricing for all testing
- Knowledge transfer
- Clone and seed availability
- Co-op management of seasonal workers

*All services available for non-members



Quality Assurance-Quality Control

WHY?



Testing and Analysis Lab FDA Requirements?



Potency and Moisture
Qualification



Pesticide Testing



Mycotoxin
Contamination



Residual Solvents and
Terpene Analysis



Heavy Metals and Toxic
Element Prevention



ISO 17025 Testing Lab

- ISO Certification performed by third party testing org
- Insures that testing is being done by a scientifically accepted protocol
- Validates the calibrations on instruments
- Potential subcontracting services to the State



Testing Laboratory



Biomass



*Subject to State and local approval



Controlled Drying Facility

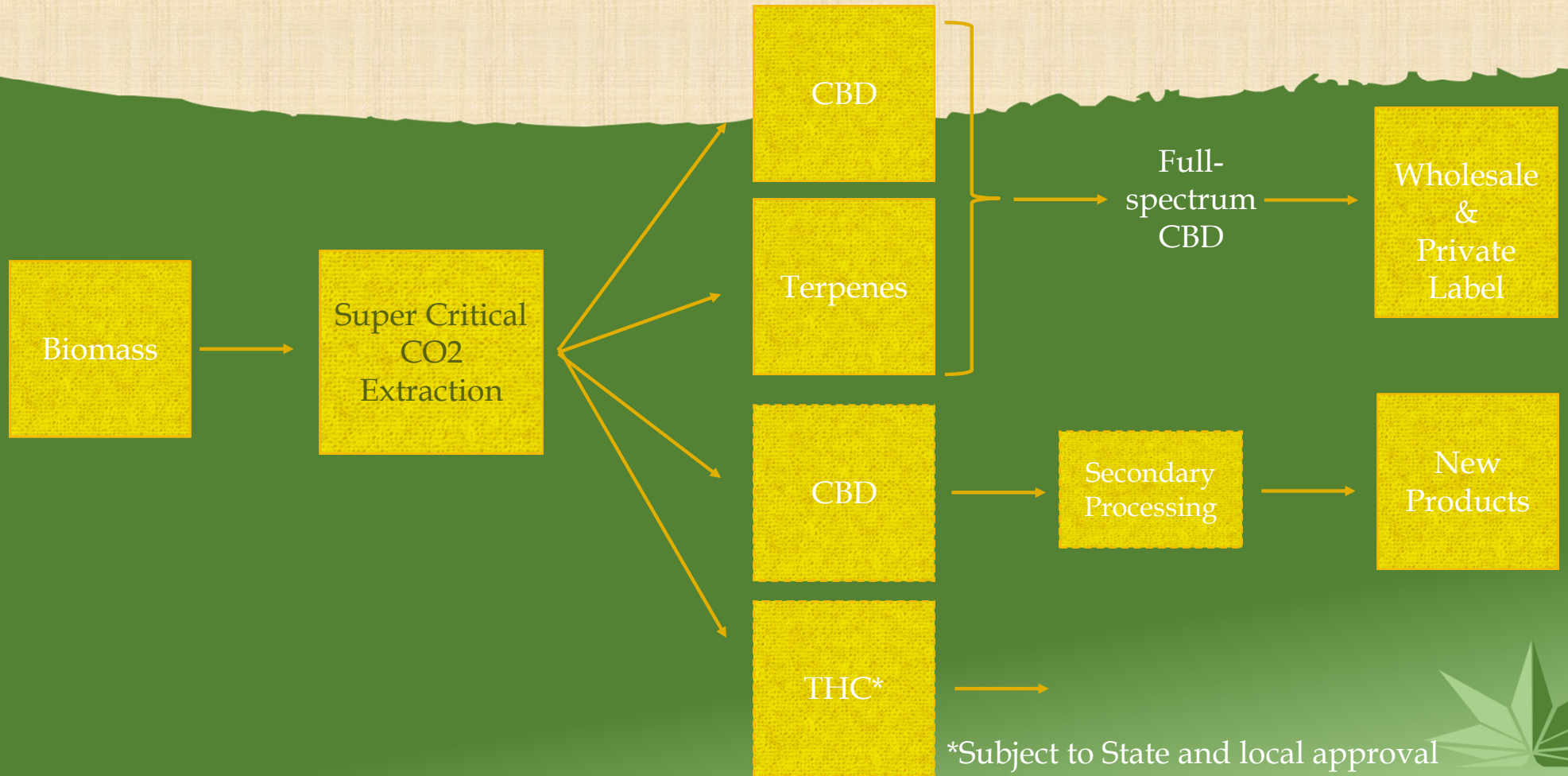
- Too hot or too long ... loss of valuable components
- Too moist potential for mold and infestation
- Drying Temperature and Humidity Control
- 2020 plan 3500#'s day
- Easily scalable



Temp & Humidity Control



Extraction



*Subject to State and local approval



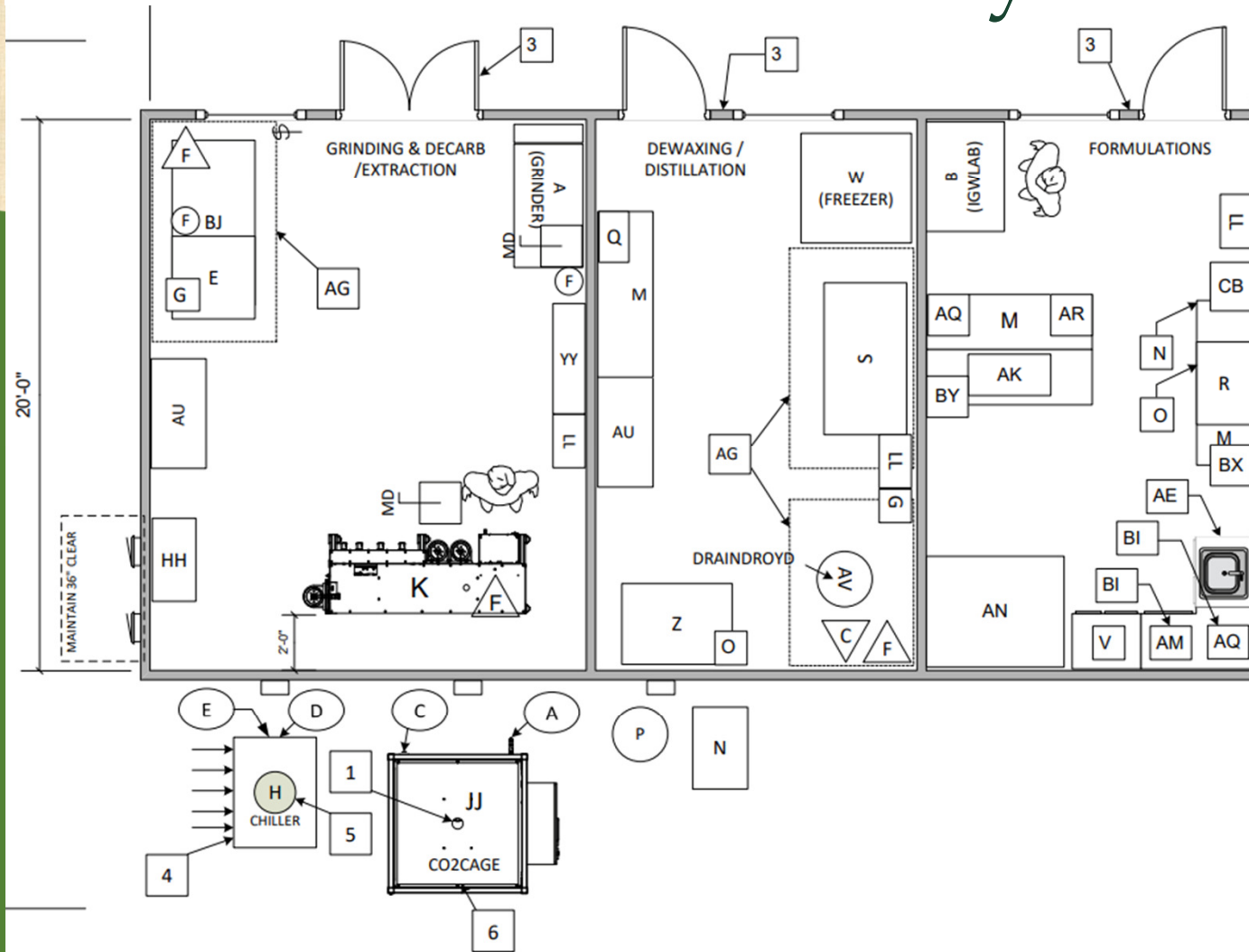
Size Reduction & Labor Saving



CO2 Extraction



Extraction Facility



Windsor Correctional Facility

WHY?



Windsor Correctional Facility

- Tillable acreage
- Greenhouse facilities
- Raw space for drying rooms
- Other buildings to house:
 - Offices
 - Analytic laboratory
 - Extraction laboratory
- High security in place
- Excellent regional location





Summary

- Phytopharma will enable the creation of a centralized Biomass Drying & Extracting facility to enable market access for small farms
- The Co-op would provide services, education, and training to assist small farms with market entry
- ISO Certified Lab could provide State wide testing for all purposes





Phytopharma

THANK YOU

