

The Business and Marketing of Hemp

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AGRICULTURAL & APPLIED ECONOMICS
College of Agricultural & Life Sciences



Division of Extension
 University of Wisconsin-Madison



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1

Overview of Topics Addressed

- Hemp marketing study by UW River Falls Ag Econ faculty funded by Renk Agribusiness Institute
 - Barriers faced by growers
 - Grower costs and returns, economic impact of hemp
 - Crop insurance for 2020: WFRP
- Hemp prices and situation
- My thoughts for future of Wisconsin hemp industry
 - Similarities with other WI specialty crops
 - Oversupply and consolidation, leadership

2

The Economics and Marketing of Hemp in Wisconsin



- Shaheer Burney and Amber Remble
assistant professors, UWRF Ag Econ
- DATCP 2018 data on almost all growers & processors
 - 63% CBD & hemp flower, 22% seed/grain (food, oil) and 8% fiber (bast and hurd)
- Summer 2019 survey, 140 growers & processors
 - Grower and processor: common issues after 2 seasons
 - Hemp yields, prices and returns
- Expect white paper out later this fall

3

Common Issues Growers Reported

- Lack of grower network
- Weather
- Seed availability
- Labor availability
- Lack of equipment
- Difficulty obtaining formal financing

Burney and Remble

4

Lack of grower network

- Finding buyers or finding good buyers
- Community of growers, processor and retailers for questions about growing, processing or selling hemp products
- Relied on social media and online forums, but wanted something more organized and cohesive

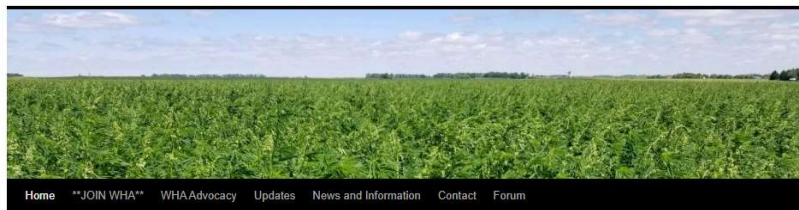
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5

Industry Associations Appearing

Wisconsin Hemp Alliance

<https://www.wishemp.org/>



<https://wihfma.org/>

ABOUT US FARMERS MANUFACTURERS DONATE VOLUNTEER WORK WITH US TEST RESULTS

6

UW hemp research and outreach

- UW Extension <https://fyi.extension.wisc.edu/hemp/>
- Crop management and agronomics
- Buyer-seller listing
- Webinars
- Field days
 - CBD Hemp Field Day, Sep 13, 1-5 PM, West Star Organics, 2555 West Star Road, Cottage Grove



7

Wisconsin Agricultural Outlook Forum

Save the Date!

January 28, 2020

UW-Madison Campus

renk.aae.wisc.edu/ag-outlook-forum/

Renk Agribusiness Institute
UNIVERSITY OF WISCONSIN-MADISON

Morning: Ag Situation and Outlook

Afternoon: **The Business of Hemp**

Cost: \$25 (includes lunch)

<https://renk.aae.wisc.edu/ag-outlook-forum/>

8

Weather

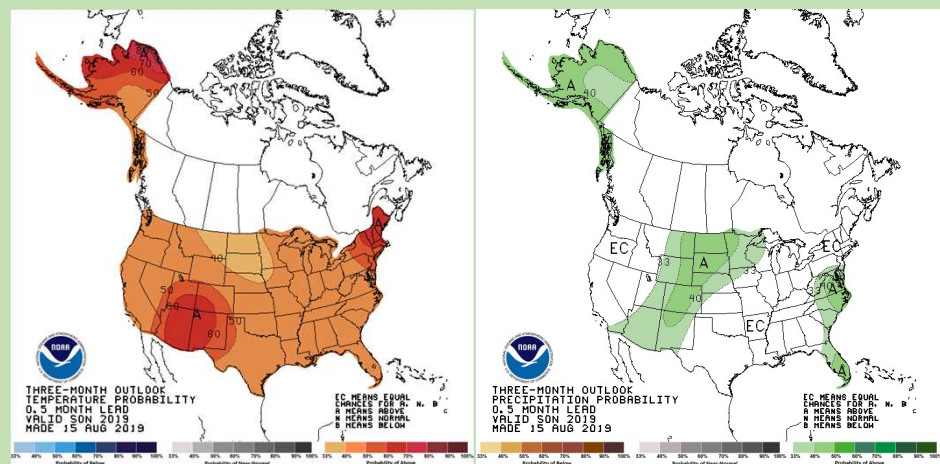
- Wet weather at/near harvest created problems in 2018
- Crop losses from damage and short harvest window, difficulty drying the hemp, grey mold (botrytis) and weeds
- Frost for some
- 2019: wet start, harvest weather = ???
- **Welcome to Farming!**

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9

Three-Month Outlook: likely warmer than average, maybe wetter (8/15)

https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1



10

Whole Farm Revenue Insurance

- Available for 2020 hemp “if they are part of Section 7606 state or university research pilot” (everyone?)
- Multi-peril, so covers losses from weather
- Whole Farm Revenue Protection (WFRP) will be initial crop insurance for hemp
 - Need more data before create a hemp specific policy
- Review how WFRP works
- <https://www.rma.usda.gov/Policy-and-Procedure/Insurance-Plans/Whole-Farm-Revenue-Protection>

11

Whole Farm Revenue Insurance

- Insure Farm Revenue based on your tax records
- Guarantee 50% to 85% of your average revenue (with adjustments) reported for taxes
 - Based on tax returns, so need 5 years of farm tax returns (exceptions for beginning farmers and tribal entities)
 - Indexing and other ways to increase coverage for an operation that has been expanding/growing
 - Combine with other crop insurance policies, including NAP policy from FSA
 - Need records and paperwork, sales date March 15
 - <https://legacy.rma.usda.gov/policies/wfrp/2017/comprehensivevetraining.pdf>

12

Whole Farm Revenue Insurance

- WFRP Fact Sheet:
<https://www.rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Whole-Farm-Revenue-Protection-2020>



- Buy from a crop insurance agent by March 15, 2020
- They all sell the same policy for the same price
- Need records and paperwork, so call agent and set appointment, start early

13

Seed/transplant availability

- Finding certified and reputable seed sellers
- Confidence in the types of seed available
- Transporting seed from outside WI
- Finding mold resistant varieties
- High seed/transplant cost

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14

Hemp acres have grown quickly

Year	US <i>Permitted</i> Acres
2016	9,770
2017	25,713
2018	78,176
2019	511,442

- Where are all of the seeds and transplants going to come from?
- High prices + short supply = opportunity for fly-by-night sellers

<https://www.votehemp.com/u-s-hemp-crop-report/>

State	2017 Acres	2018 Acres
Colorado	9,700	21,578
Hawaii	1	2
Illinois	0	1
Indiana	5	5
Kentucky	3,271	6,700
Maine	30	550
Massachusetts	N/A	21
Minnesota	1,205	710
Montana	542	22,000
Nebraska	1	0.5
Nevada	417	1,881
New York	2,000	2,240
North Carolina	965	3,184
North Dakota	3,020	2,778
Oklahoma	N/A	445
Oregon	3,469	7,808
Pennsylvania	36	580
South Carolina	N/A	256
Tennessee	200	3,338
Vermont	575	1,820
Virginia	87	135
Washington	175	142
West Virginia	14	155
Wisconsin	N/A	1,850
Total	25,713	78,176*

15

WI Hemp Seed/Transplant Sellers

- WI seed/transplant sellers must register with DATCP, so list available
- More than 40 seed and 5 transplant suppliers

DATCP Home > Industrial Hemp Seed and Transplant Sources Licensed to Sell in Wisconsin

Industrial Hemp Seed and Transplant Sources Licensed to Sell in Wisconsin

These companies sources for hemp seed, clones and transplants. All the seed sources are licensed by the Department of Agriculture, Trade and Consumer Protection. The clone and transplant sources are listed below the seed sources. We have provided links to those offering websites.

DATCP-Licensed Hemp Seed Sources			
Business Name	Contact person	Phone	Email

- Caveat Emptor: "Buyer Beware"

16

Labor availability, Equipment

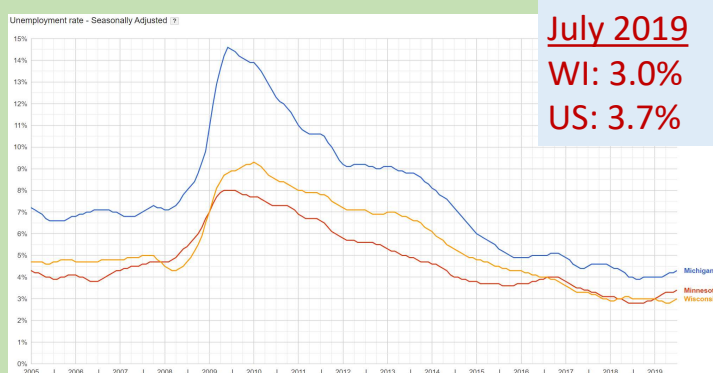
- Half of growers mentioned manual labor as major consideration in growing hemp
- Planting and harvesting: lots of manual labor using lots of hand tools
- Weeding and trimming during season
- Greenhouse production
- Larger farms use more mechanization
- Growers adapt or create their own equipment

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17

Labor Shortages Common

- Worker shortage becoming a bigger and bigger problem for agriculture, manufacturing and business in Wisconsin and the Midwest



18

Labor on small WI vegetable farms

- Labor is 50+% of their cost of production
- Varies greatly among farms and across years
- Controlling labor costs important for profitability

----- Hours of labor per 100 m of row -----					
Crop	2010	2011	2012	Avg	CV (%)
Beans	5.9	16.1	11.2	11.5	78%
Broccoli	2.3	1.6	8.2	3.3	182%
Carrots	6.9	6.9	10.2	7.9	100%
Garlic	6.9	8.9	8.9	8.2	48%
Lettuce	9.8	5.3	14.1	8.2	86%
Onion	4.3	6.2	10.8	7.2	115%
Potatoes	7.9	5.2	5.6	6.2	93%
Spinach	6.9	5.6	3	5.2	57%
Tomatoes	11.8	22.6	5	17.1	73%

12 farms
for 3 years

Source: Silva
et al. 2017

19

Difficulty obtaining formal financing

- Obtaining operating or start-up loans difficult from formal credit system
 - Waiting for federal regulatory uncertainty to settle
 - Market uncertainty
- Many hemp operations are self financed
 - Means less formal financial analysis of business plans and expected returns
- Expect more bank collaboration with federal rules published this fall and crop insurance availability
 - Expect banks to ask you to buy crop insurance

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20

Economics of Hemp: Preliminary

	CBD-Floral	CBD-Biomass	Seed/Grain	Fiber
Yield (lbs/ac)	1,100	1,500	1,025	7,788
Price (\$/lb)	\$61 (@10%)	\$28 (@7%)	\$0.70	\$0.07
Revenue (\$/ac)	\$67,100	\$42,000	\$717	\$545

Source: Burney and Remble preliminary report

- These are 2019 expected yields as WI moves to more established industry yields after 2018 start
 - Reported yields vary greatly across growers, lower in 2018 due to weather, many 1st time producers
- Prices: vary greatly and limited WI data for fiber and seed/grain

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21

Economics of Hemp: Prices

	CBD-Floral	CBD-Biomass	Seed/Grain	Fiber
Price (\$/lb)	\$61 (@10%)	\$28 (@7%)	\$0.70	\$0.07

H E M P BENCHMARKS®		U.S. Wholesale Hemp Price Benchmarks				
		August 2019				
Product	Units	Apr 2019	May 2019	June 2019	July 2019	Aug 2019
Biomass (0 – 25k pounds)	\$ / %CBD / pound	\$4.46	\$4.05	\$4.02	\$3.91	\$3.80
Biomass (25k – 100k pounds)	\$ / %CBD / pound	\$3.72	\$3.70	\$3.61	\$3.41	\$3.10
Biomass (100k – 1M pounds)	\$ / %CBD / pound	\$3.66	\$3.59	\$3.57	\$3.27	\$2.96
Biomass (1,000,000+ pounds)	\$ / %CBD / pound	\$3.46	\$3.42	\$3.52	\$3.32	\$2.95
Dry Flower (Bulk)	\$ / pound	\$326	\$320	\$349	\$352	\$414
Clones	\$ each	\$5.95	\$5.70	\$5.42	\$5.13	\$4.67
Industrial Seeds	\$ / pound	\$1.83	\$2.39	\$2.68	\$7.21	\$8.60
CBD Seeds (Non-Feminized)	\$ / pound	\$5,938	\$3,833	\$3,611	\$3,490	\$2,460
CBD Seeds (Feminized)	\$ / pound	\$25,347	\$23,716	\$24,491	\$25,504	\$24,600
Crude Hemp Oil	\$ / kilo	\$4,661	\$2,409	\$2,066	\$2,238	\$2,310
Refined Hemp Oil	\$ / kilo	\$7,197	\$6,599	\$5,628	\$5,451	\$5,475
CBD Isolate	\$ / kilo	\$6,077	\$5,552	\$4,811	\$4,574	\$4,478

\$4x7%
= \$28

CO, OR

???

<https://www.hempbenchmarks.com/>

22

Cost of Production and Returns

- Grower survey asked about cost of production
 - Did they include the costs of their labor and management effort?
 - Did they have a formal accounting budget?
- CBD: \$9,000-\$12,000 per acre
- Non-CBD: \$2,000-\$11,000 per acre if < 10 acres and \$400 per acre if > 10 acres
 - Corn commonly \$600-\$700 per acre (full costs)
- Suggest a lot of money can be made on CBD, while seed, grain and fiber are like the rest of farming

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23

The Economics and Marketing of Hemp in Wisconsin

- Grower Concerns
 - Lack of grower network
 - Weather
 - Seed availability
 - Labor availability
 - Lack of equipment
 - Difficulty obtaining formal financing
- Grower Returns depend on yield/quality (weather) and prices
- Welcome to Farming!



Shaheer Burney and Amber Remble
UW- River Falls, Agricultural Economics

Burney and Remble

24

My Thoughts on Hemp in WI

- Lots of similarities with other WI specialty crops
 - Potatoes, cranberries, ginseng, vegetables, organic dairy
 - Over supply, low prices, consolidation, global competition
- *“Never underestimate the capacity of agriculture to oversupply any market”* -- It will happen to hemp
 - Make hay when the sun shines (good times will not last)
- Success requires grower and processor leadership
 - Balance between Traditional and Progressive
- Integrate into the state’s ag groups and leadership
 - Lessons to learn from them, don't reinvent the wheel

25

Oversupply in Agriculture

- Developing markets and creating demand will be key issues for success of hemp nationally & locally
- Need to develop and market new products or ally with those who are
 - Struggle of all WI specialty crops
 - Entrepreneurship and new ideas, but moves slowly
- Research is slow and costly and marketing is expensive and can be ineffective
 - Look for allies/collaborators and ways to leverage funds

26

Hemp in Food

- Wisconsin has a lot of food processing
 - Cheese and cheese products
 - Potatoes and Vegetables
 - Institutional/prepared foods
- What foods could be enhanced by hemp?
 - We see ginseng and cranberries in many foods, Why not hemp or CBD?



27

Hemp in Health & Beauty Products

- Madison area has pharmaceutical and med-tech start ups. Can hemp ride on that expertise?
- All the big companies are global
- Strategy: let others develop new products, then buy the little company and sell new product globally
- Some have VC funds they use to facilitate or ferment growth of new ideas, then buy the good ones
 - Same thing happens in foods



28

Hemp Fiber in Wisconsin

- Not many fabric mills left in the USA, 24 listed here:
https://www.apparesearch.com/world_clothing_industry/united_states/fabric_mills_usa.htm
- Locations: None in the Midwest
- South: SC, NC, GA, AL, **TN**
- West: CA, OR, UT, **CO**
- East: **NY**, MA, **PA**, CT, RI
- TN a 10 hour drive from Madison, while PA, CO, NY 13-14 hours
- Industrial & manufacturing uses of hemp to build on our manufacturing base
 - Paper industry
- Hempcrete for insulated building materials for cold climates?
 - These all mean industry research (slow)
- Hurd for animal bedding?
 - WI has lots of dairy and beef cattle
 - What about horses?

29

Summary

- Expect white paper “The Economics and Marketing of Hemp in Wisconsin” (Burney and Remble) from Renk Agribusiness Institute at UW-Madison this fall
- Look to attend the Wisconsin Ag Outlook Forum Jan 28, 2020 at Union South on UW Campus, afternoon on “The Business of Hemp”
- Expect more formalization of Hemp institutions
 - Grower Associations, Crop Insurance, Ag Lenders, UW Extension programming, Research, USDA price reporting
- Remember to have some fun!

30

Thanks for your Attention

Questions?
Comments?

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