Great Lakes HOP & BARLEY CONFERENCE

February 28 - March 2 | Traverse City, Mich.

Impact Report, 2019

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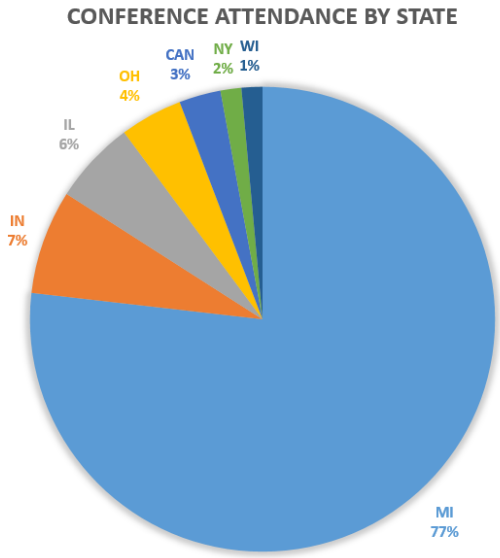
Overview

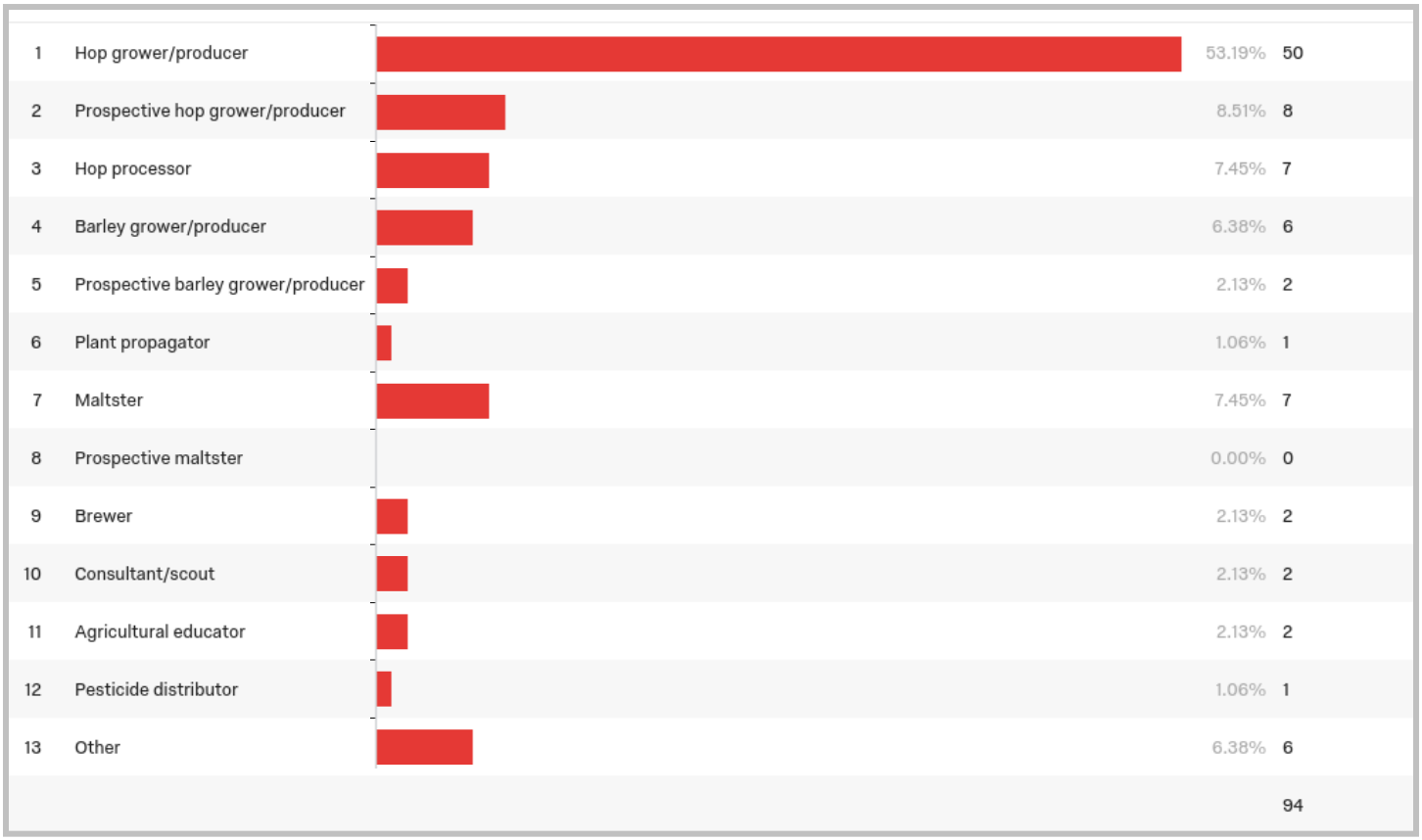
On February 28th-March 1st, 2019 the fifth annual Great Lakes Hop and Barley Conference (GLHBC) was held in Traverse City, MI. The event was coordinated by Michigan State University Extension (Rob Sirrine, Erin Lizotte, and James DeDecker), AgBioResearch, and the Michigan Brewers Guild (Scott Graham), and attracted 168 participants and 26 sponsors. The conference was sponsored by; Paper City Development LLC, Eurofins QTA, Ag Health Laboratories, Independent Barley & Malt, Inc., USDA/RMA, Gantec, Inc., HopsHarvester LLC, Sensortech Systems, Inc., Advanced Analytical Research - AAR Lab, Brookside Laboratories, Inc., GreenStone Farm Credit Services, Great Lakes Malting Co., Michigan Hop Products, Preformed Line Products, Alliance Analytical Laboratory, USDA Rural Development, Gillison's Variety Fabrication, Inc., Growth Products Ltd., Therma-Kleen, Michigan Farm Bureau, MSU Extension, Blue Lake Hops, Schmidt Farms of Auburn LLC, Mr. Wizard's Hop Farm, Morgan Composting Inc., Sandy Ridge Farms Inc, and Hopping it Up.

The GLHBC consisted of three primary sessions and two tours; a Hop and Barley Introductory Pre-Conference, a Hop Track, a Barley and Malt Track, and optional tours of MI Local Hops and Great Lakes Malting Company. Attendance reflected greater interest in hops than malting barley, with 75% of participants attending the Hop Track vs. 25% attending the Barley and Malt Track. The majority of attendees hailed from Michigan (77%), but eight other states and provinces were represented, including Illinois, Indiana, Massachusetts, Nebraska, New York, Ohio, Ontario, Virginia and Wisconsin. Male attendees represented 71% of the audience, females represented 29%.



County	Count	Percentage
Alcona	1	0.75%
Allegan	4	3.01%
Alpena	2	1.50%
Barry	3	2.26%
Bay	1	0.75%
Benzie	7	5.26%
Berrien	2	1.50%
Calhoun	5	3.76%
Chippewa	2	1.50%
Clinton	2	1.50%
Crawford	1	0.75%
Eaton	8	6.02%
Emmet	1	0.75%
Grand Traverse	9	6.77%
Gratiot	2	1.50%
Huron	2	1.50%
Ingham	10	7.52%
Ionia	4	3.01%
Kalamazoo	7	5.26%
Kent	4	3.01%
Livingston	2	1.50%
Macomb	8	6.02%
Manistee	1	0.75%
Mecosta	1	0.75%
Monroe	3	2.26%
Montcalm	1	0.75%
Muskegon	4	3.01%
Newaygo	3	2.26%
Oceana	2	1.50%
Osceola	6	4.51%
Otsego	1	0.75%
Ottawa	2	1.50%
Presque Isle	1	0.75%
Sanilac	4	3.01%
Shiawassee	1	0.75%
St. Clair	8	6.02%
Washtenaw	6	4.51%
Wayne	2	1.50%

Which of the following best describes your relationship to agriculture? (n=74)



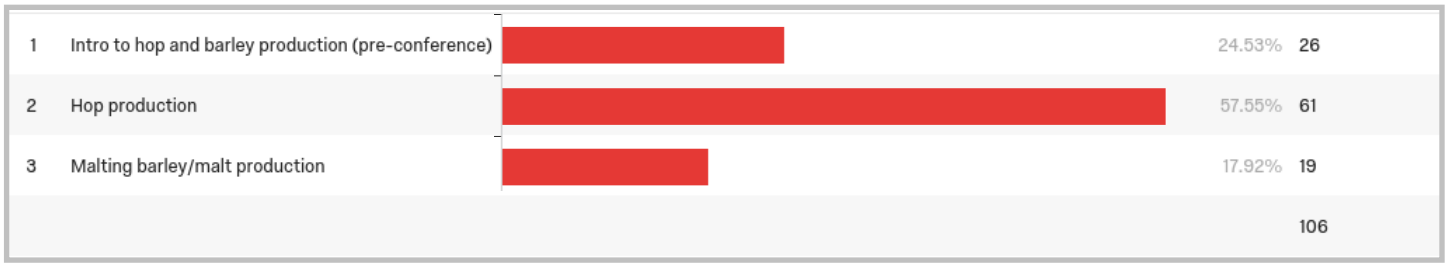
How many acres of agricultural land do you manage or directly impact? (n=67)

	Hops	Barley	Other
Total	2,716.98	8,112.70	2,895.25
Min	0.00	0.00	0.00
Max	2,200.00	7,600.00	760.00
Median	2.50	20.00	16.50

What was the estimated income from Ag products related to the brewing industry on your farm last year? (n=33)

	Income
Total	$1,043,500
Min	$0
Max	$200,000
Median	$5,000

Please indicate which session(s) you attended. (check all that apply) (n=33)



1	Intro to hop and barley production (pre-conference)	24.53%	26
2	Hop production	57.55%	61
3	Malting barley/malt production	17.92%	19
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Do you plan to do any of the following on the acreage you manage/impact based on the Great Lakes Hop and Barley Conference? (check all that apply) (n=70)

1	Use MSU resources online (e.g. MSUE News, hops.msu.edu, Enviro-weather, Facebook page, etc.)	21.15%	59
2	Use MSU research outputs (e.g. the barley variety trial, hop pest management research)	20.07%	56
3	Adopt practices or tools to increase yield, improve quality, or decrease inputs (e.g. soil testing nutrient management, harvest timing)	21.86%	61
4	Adopt technology or practices to improve post-harvest quality (e.g. post-harvest practices, drying, storage)	17.92%	50
5	Adopt practices to manage risk (better manage for pests of hop or barley)	19.00%	53
			279

Do you plan to do any of the following based on the resources and opportunities presented at the Great Lakes Hop and Barley Conference? (check all that apply) (n=57)

1	Begin cultivating malting barley or hops due to an increased understanding of the opportunities and resources	10.81%	12
2	Not cultivate malting barley or hops due to an increased understanding of the costs and risks	1.80%	2
3	Expand existing malting barley or hop acreage	26.13%	29
4	Develop a malt house due to an increased understanding of the opportunities and resources	0.90%	1
5	Not develop a malt house due to an increased understanding of the costs and risks	0.90%	1
6	Develop a hop processing enterprise due to an increased understanding of the opportunities and resources	14.41%	16
7	Not develop a hop processing enterprise due to an increased understanding of the opportunities and resources	0.00%	0
8	Improve your standing at a current job or apply for a new job	8.11%	9
9	Establish new business partnerships (brewers, maltsters or producers)	36.94%	41
			111

Top Research Priorities:

- Spray programs, what is effective
- Fertility planning and application and spray programs, what works?
- Small Farm Sustainability
- Scaling 'Best Practices"/ opportunities
- Marketing
- Nutrition Management
- Weed management practices / programs
- Marketing
- Disease control for "uncommon" diseases
- Improved choir tying, training, harvest, and less hired labor.
- Marketing to small brew pubs
- Growing quality Hops
- Fungicide/insecticide management
- Plant nutrition / protection
- Soil health / management
- Soil health / management
- Adjuvant use in sprays
- Hop Yard Construction and Supplies
- Soil health
- Agronomy of Hops
- Cleaning technologies, packaging
- Soil
- Yield increase
- Soil Science
- Marketing
- Soil Nutrition (High P and K Levels)
- Variety of barley / wheat selection
- Processing and harvesting challenges. Areas of infection and reducing food related bacteria
- Chemistry
- Pathogen
- Market/economic development of barley value chain
- Wheat Malting
- Continue research into many barley varities that perform well in Michigan
- Soil
- Consumer / brewer outreach

Top Research Priorities cont'd:

- Methods of fertilization and application of soil use
- Effects of the steps of processing o drying, bailing and pellets
- Nutrient management for Hops
- Definition, requirements, criteria of "top quality". need to see a lower level breakdown of the word "quality" for Hops.
- Marketing
- Chemical Programs
- Standing water in fields
- Hop construction
- Find more suppliers for the hop acreage expansion
- Fertigating design and operation
- Marketing analysis on small breweries
- Fertilizing and Nutrition
- Barley best practices / growing
- Barley - Best Production Practices
- N use in barley
- What is expected in a hop cert. of analysis

Other Comments:

- More equipment vendors
- It would have been good to have more vendors present. Tractor and implements, harvesting equip and parts, tools (moisture testing and other), inputs; coir, w-clips.
- Thank you, I really enjoyed everything
- Sensory portion was great
- Irrigation techniques and decision making, pesticide selection, waste stream management, companion planting to attract beneficial insects, building for insects like Japanese beetles
- Have none Malt representation in panel discussions - a small or large malt grower or produce for example
- This was a great well rounded conference. My favorite parts were the soil health & spider mite talks
- Every year I improve my skills / knowledge set ass a hop producer
- Great conference, good industry speakers too Michigan focused, if this is the great lakes conference
- Great job, worth the time and money
- MSU is the Midwest leader for hop research and info, keep it that way.
- Make speakers use microphones and repeat questions
- Number of active malting operations are small but would like to see presentations / discussions on malt house up-scale
- Other opportunities for hops? Medical grade hops? Homeopathy?
- Grant opportunities for small growers?
- Hop clean plant program? What is it and what do they do
- Hops & biofuel?"
- Great program
- Best of all conferences so far. Great for explanations are vital to know DM is controlled and efficacy of chemicals
- First time goer - really happy to see this side of the brewing industry. How important our farmers are is something often overlooked downstream.
- Great conference this year!
- End user education on buying local malt
- For Barley, need to educate end consumer for need of local
- Place a grain grower and Maltster on Saturday morning panel
- Not as many brewers in attendance as last year
- Great Conference
- Overall very good conference

Other Comments cont'd:

- Overall very good conference. I have been away for two years, mush more professional. The charts in almost all the presentations are poor. A person should be able to take the slide deck and understand the presentation. A lot of pics or tables with no meaning. Unless you were here. I make presentations for a living in my day job.
- I really enjoyed the panels. hearing others talk about experience. some of the talks were a little too detailed for example DNA/RMA. I think more general scientific talks are not beneficial and more identify and how to fix the problem would be better
- Need speakers to talk about small scale. I know this conference geared for large scale but i would guess, most people here are small. A lot of these talks don't apply to us. Seems like attendance his year was way down, that might be why.
- I wish the schedule had been posted online as it was presented in the program. It would have prepared me for travel arrangements better
- The panel talks at the end of the 1st day had valuable information, if future conferences had more of the "real" world, it would be very beneficial
- The introduction to Hops really wasn't. The discussion breezed over the into and jumped deep into the weeds