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@WiscWeeds 

UW-Madison Industrial Hemp Research Program Update *Grain Production*

Rodrigo Werle, PhD

Assistant Professor & Extension Cropping Systems Weed Scientist
Dept. of Agronomy, University of Wisconsin-Madison & UW-Extension

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UW Industrial Hemp - Team

Researchers

- Dr. Rodrigo Werle (Weed Management)
- Dr. Shelby Ellison (Plant Breeding)
- Dr. Carrie Laboski (Soil Fertility)
- Dr. Shawn Conley (Agronomy)
- Haleigh Ortmeier-Clarke (Agronomy)
- Nick Arneson (Agronomy)
- John Gaska (Agronomy)
- Dr. Damon Smith (Plant Pathology)
- Dr. Erin Silva (Organic Systems)
- Dr. Brian Luck (Crop Harvestability)
- Dr. Paul Mitchell (Market & Economic Analyses)
- Dr. Irwin Goldman (Plant Breeding/Horticulture)

Extension Educators

- Liz Binversie (Brown County Extension)
- Carl Duley (Buffalo Extension)
- Jerry Clark (Chippewa County Extension)

Supporters & Collaborators

- Drs. Bill Barker, Doug Reinemann, Patrick Robinson & Heidi Johnson (UW CALS & Extension Administration)
- Wisconsin DATCP
- Mike Bertram (UW Arlington Ag Research Station)
- Leah Sandler (Michael Fields Agricultural Institute)
- Bryan Parr (Legacy Hemp)

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<https://youtu.be/wJgXAW7ovII?t=143>

Shelby Ellison is new point person for UW–Madison’s industrial hemp research and education

June 24, 2019 |

Shelby Ellison will be the new point person for industrial hemp research and education at UW–Madison. She joined the Department of Horticulture as a faculty associate in June 2019. She has a PhD in genetics, with an emphasis in plant breeding and biodiversity, from the University of California, Davis.



Photo: Michael P. King

Ellison is working with a multidisciplinary team of scientists and extension agents to create a foundation of best production practices for industrial hemp in Wisconsin. As resources are created, they will be posted to the new UW–Madison Wisconsin Hemp website: <https://fyi.extension.wisc.edu/hemp/>. She will also develop UW–Madison’s first industrial hemp course, which will be offered in the Spring of 2020.

Ellison can be reached at slrepinski@wisc.edu for hemp-related inquiries.

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UW Agronomy Graduate Student

- Haleigh Ortmeier-Clarke



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<https://youtu.be/wJgXAW7ovII?t=199>

AGRONOMY/SOILS FIELD DAY

Wednesday, August 28, 2019



UW-Arlington Agricultural Research Station

SPONSORED BY
College of Agricultural & Life Sciences
Division of Extension

PROGRAM

8:00	Registration (\$0), coffee
8:30	FIELD TOURS
10:30	
12:00	Lunch Speaker: Mark Stephenson You can't change the direction of the wind, but you can adjust your sails—Navigating today's dairy industry Lunch provided by Sigma Alpha Agricultural Sorority (\$5 donation)
Lunch	
1:00	Industrial Hemp Research Plot Tour
2:45	Have a safe trip home!

Visit exhibits at registration, between tours and during lunch:
Nutrient & Pest Management Program, SnapPlus,
UW Soil & Forage Analysis Lab and Pesticide Applicator Training



To help us organize a successful event,
if you are considering attending
please complete a RSVP!

<https://go.wisc.edu/n4yrl5>

Certified Crop Advisors: 6.5 CEU credits requested

The Arlington ARS is located on Hwy. 51, about 5 miles
south of Arlington and 15 miles north of Madison.

N695 Hopkins Rd, Arlington, WI 53911

GPS coordinates: 43.300467, -89.345534

Watch for Field Day signs!

The College of Agricultural and Life Sciences will make a reason-
able effort to provide accommodations for participants with
disabilities when notified in advance. To request a disability accom-
modation, please contact ars_accommodation@cals.wisc.edu or
call 608-846-3761 ext. 101 at least 10 days in advance of event. Ef-
forts will be made to meet same day requests to the extent possible.

FIELD TOURS

8:30	10:30	Soil Fertility & Management
Can we conserve N from early fall manure applications?		Carrie Laboski
Comparing tillage practices for corn: Is there a difference in early crop development?		Francisco Arriaga
Fertilization on a budget		Andrew Stammer
Cover crops and nitrogen		Matt Ruark
8:30	10:30	Grain Production Systems
Corn plant population: The second most important management decision for moving off the yield curve		Joe Lauer
Crop rotation, cover crops, planting green and the microbiome: A gaggle of Coolbean Information!		Shawn Conley
A small grains variety selector tool		Madhav Bhatta
Kernza perennial grain: A new opportunity for Wisconsin farmers		Valentin Picasso
8:30	10:30	Pest Management
Herbicide resistance in Wisconsin agronomic crops		Rodrigo Werle, Mark Renz, Dave Stoltenberg
To Bt or not to Bt: Is that your question?		Bryan Jensen
Soybean cyst nematode coalition: What's your number?		Ann MacGuldwin
Disease management updates in Wisconsin agronomic crops		Damon Smith
1:00	Industrial Hemp Research Plot Tour	
UW researchers will share field observations and showcase organic weed management, conventional fertility, and variety trial studies focused on fiber and grain production. An update on cannabidiol (CBD) research will be provided.		Rodrigo Werle, Carrie Laboski, Shawn Conley, Shelby Ellison, Erin Silva, Damon Smith



Industrial Hemp Field Meeting (Chippewa Falls, WI)

The Chippewa County Division of Extension UW-Madison office will be hosting an industrial hemp field meeting on August 20 at the Chippewa County Field Plots from 12:30pm to 3:00pm. The field meeting will focus on industrial hemp agronomic and production practices related to producing industrial hemp for seed and fiber. Replicated research plots include seeding rates, nitrogen rate applications, and variety trials. A discussion of production for CBD oil is also planned.

Speakers at the event include Haleigh Ortmeier-Clarke UW-Madison Department of Agronomy Research Assistant; Division of Extension UW-Madison agents, Carl Duley, Buffalo County; Jerry Clark, Chippewa County, and Alissa Maier, Buffalo/Chippewa County Summer Intern.

There is no cost to attend the event. 2.5 Certified Crop Advisor continuing education credits will be available. The field is located east of the intersection of County HWY I and Seymour Cray Boulevard with the entrance to the field on Beach Drive. Field entrance coordinates are 44.951420, -91.348373.

For more information contact the Chippewa County Extension Office at 715-726-7950.

Event Location

The field is located east of the intersection of County HWY I and Seymour Cray Boulevard with the entrance to the field on Beach Drive. Field entrance coordinates are 44.951420, -91.348373.

Event Information

Date: August 20th, 2019

Time: 12:30pm - 3:00pm

Cost: Free

Contact: Jerry Clark, Chippewa
County Extension Office

Phone: 715-726-7950

Email: jerome.clark@wisc.edu

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<https://youtu.be/wJgXAW7ovII?t=333>

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UW Industrial Hemp - Grain Research

Agronomic Study – Conventional Systems

- 2 Varieties: X-59 & CRS-1
- 3 Seeding Rates: 20, 30 & 40 lbs/acre
- 3 Nitrogen Rates: 0, 60 & 120 lbs N/acre

Location: Chippewa and Columbia (AARS*) counties

Study: 10x30 ft plots, drilled, June 6, RCBD (4 reps)

Data: grain yield, THC

*Arlington Agricultural Research Station, Arlington, WI

Watch on YouTube: <https://youtu.be/wJgXAW7ovII?t=424>

UW Industrial Hemp – Grain Research

Variety Trials

- **15 varieties** (US, Canada, Ukraine, France & Germany): CFX-1, Picolo, Grandi, X-59, Hlesia, Hliana, Hlukhovskii, Fedora 17, Futura 75, Felina 32, USO 31, CFX-2, CRS-1, Katani and Anka. *UW & USDA S-1084 Group*

Locations: Chippewa and Columbia (AARS*) counties

Study: 10x30 ft plots, drilled at 30 lbs/acre, June 6, RCBD (4 reps)

Data: grain & fiber yield, THC

NEW PROJECT - Double Cropping: Industrial Hemp after Winter Wheat?

*Arlington Agricultural Research Station, Arlington, WI

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UW Industrial Hemp – Grain Research

Agronomic Study – Organic Systems (2019 & 2020?)

- Planting Time
 - Early (mid-May)
 - Late (mid-June)
- Row Spacing & Weed Management
 - 7.5-inch row spacing (drill) with tine weeding and rotary hoeing
 - 30-inch row spacing with tine weeding and rotary hoeing
 - 30-inch row spacing with tine weeding and rotary hoeing + inter-row cultivation

Location: Columbia County (AARS*), WI

Data: weed density & biomass, grain yield, THC

*Arlington Agricultural Research Station, Arlington, WI

2019 Hemp Seed Harvest Study

Dr. Brian Luck and Dr. Kevin Shinnars
Biological Systems Engineering

- 10 ac. plot at Arlington Ag. Research Station
- 1 seed variety
- 2 spacing treatments
 - 15" rows
 - 30" rows
- Harvest seed with a John Deere 9750 combine and MacDon Draper header
- Assess clean grain tank
- Assess seed loss through the machine (tarpaulin to catch chaff/seed at rear)
- Hand harvested yield measurements



Agronomic Trial



June 6



June 14



June 17



June 21



June 24



June 30

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?t=577](https://youtu.be/wJgXAW7ovII?t=577)

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July 8



July 12

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July 22



July 31

UW Madison, Department of Horticulture
CBD Research, Extension, Education
Dr. Shelby Ellison

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Research

- Iowa County CBD variety trial
 - T1, Super CBD, Cherry, Cherry 307, Otto Franklin, Wife
- Arlington Research Station
 - Pollen Flow Study
- UW Madison Greenhouse Feminized Seed Study
- WCIC Cannabinoid Testing
- Feral Hemp Collections
 - Have any information - please contact me at slrepinski@wisc.edu

Watch on YouTube:
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Extension and Education

- CBD Field Day – Sept. 13th West Star Organics
 - <https://www.eventbrite.com/e/cbd-hemp-field-day-tickets-66675384871>
- Hemp Economics Survey
 - UW River Falls, UW Renk Agribusiness Institute
 - http://uwrf.co1.qualtrics.com/jfe/form/SV_eRHhKD9NsnmNWuN
- National Hemp Research Goals Survey
 - Fall 2019
- New UW Madison Course
 - Hemp Cultivation and Breeding offered Spring 2020

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YouTube:
[https://youtu.be/
wJgXAW7ovII?
t=917](https://youtu.be/wJgXAW7ovII?t=917)**

Michael Fields Agricultural Institute

- Cultivar trials
- From seedling: Otto, Boax, CSW1, Socati, Authentic 17
 - Relief Now, Wulf
- From clone: FL 49, FL 58, FL 70, FL 71, FL 80

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Authentic

Watch on YouTube: <https://youtu.be/wJgXAW7ovII?t=1130>