



**Extension**

UNIVERSITY OF WISCONSIN-MADISON  
OUTAGAMIE COUNTY

# Agriculture Report

## May 2022

Greetings Producers,

"May you live in interesting times"... is an expression that on the surface suggests your life is better filled with full, colorful, and meaningful experiences. However, when used ironically, I think most of us in agriculture would agree that a little bit more of less interesting or uninteresting times (peace and tranquility) may be a welcome break from all that is going on not only in our industry but the world as a whole right now.

The 10-day forecast calls for below normal temperatures with an enhanced probability for above normal precipitation. Patience will be key as we want to avoid placing any seed into cold, saturated soils and deal with the consequences of imbibitional chilling or cold injury. Getting the crop into the ground once is hard enough, planting twice given the uncertainty in the supply chain we continue to work through won't be acceptable.

Fertilizer prices and availability continue to be a moving target. Congratulations to those who were able to successfully contract or price products months ago. If there was ever a year to begin doing preplant nitrogen (N) tests or pre-sidedress N tests... this would be the year given the \$1.20-\$140 per unit cost of N right now. More N testing info is available at: [https://ipcm.wisc.edu/download/pubsNM/UWSoilNitrateTests\\_final.pdf](https://ipcm.wisc.edu/download/pubsNM/UWSoilNitrateTests_final.pdf). Work closely with your custom manure applicators (<https://outagamie.extension.wisc.edu/files/2022/04/Statewide-2021-Applicator-Directory-Final.pdf>) to maximize the increased value of your nutrients this year. Even with significantly higher input costs, particularly for fertilizer and pest management, budgets I have run in the past week still show the potential for 3 digit returns on some commodities. If prices do not deteriorate before new crops are harvested or marketed, despite the extremely high costs associated with planting and growing this year, there may be a profitable ending to this story. If Mother Nature does not intervene. Let's hope for an uneventful growing season in the coming months.

PEAQ/Scissors Clip will be conducted by the Outagamie Forage Council once again this year, the same way it always has, with the cooperation and support of many individuals. However, we will be piloting a new effort where we track the height, maturity, and quality of winter cereals intended for forage as well. Nutritionists need high quality forage to maximize returns and this is one way the OFC can help given the significant acreage of these crops in Northeastern and East-Central WI. More info on this topic inside this newsletter...

While the work on a farm is never done, on days when Mother Nature is unsettled, you can build upon your farm financial repertoire by viewing archived UW-Madison Division of Extension Farm Management zoom programs on your own schedule at: <https://extension.wisc.edu/agriculture/farm-ready-research/>.

When spring field work finally does get going, there will likely be a significant amount of stress across the agricultural sector given the potential planting delays some may experience. It is important to remember to take care of not just your family but yourself during this span when sleep deprivation isn't a possibility, it is a likelihood. The probability of an accident increases significantly when our attention span is limited and mental cognition compromised due to the stress our bodies are processing. The University of Wisconsin Division of Extension farm stress resources are available at: [https://farms.extension.wisc.edu/farmstress/?ss\\_redir=1](https://farms.extension.wisc.edu/farmstress/?ss_redir=1).

Remember to keep the safety of you and your family at the forefront in the coming weeks. Best wishes for a safe and productive planting season.

**Kevin Varek**

Crops and Soils Agent

3365 W Brewster St, Appleton, WI 54914  
920-832-5121 | [outagamie.extension.wisc.edu](https://outagamie.extension.wisc.edu)

# Upcoming Events

## May

- 11 Badger Crop Connect | 12:30 pm
- 25 Badger Crop Connect | 12:30 pm

## June

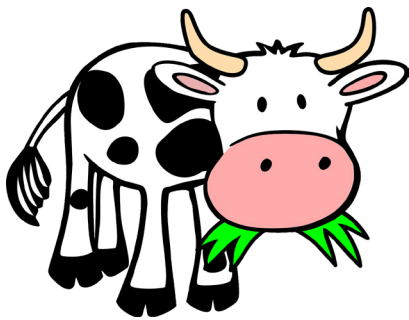
- 1 - 2 Four-State Dairy Nutrition and Management Conference | Grand River Center, Dubuque, IA
- 12 Breakfast on the Farm | 8 am - 12 pm | Van Rossum Farm, W134 County Rd UU, Kaukauna



The University of Wisconsin-Madison Division of Extension's Badger Crop Connect and UW Madison Nutrient and Pest Management Program will be hosting the third annual webinar series for the 2022 growing season. The purpose of this series is to provide agronomists, crop consultants and farmers with timely crop updates for Wisconsin. Registration is required for these free webinars.

May 11 | 12:30 pm: Joe Lauer & Shawn Conley, early season corn and soybean updates  
May 25 | 12:30 pm: Late corn and soybean updates

Register: <https://uwmadison.zoom.us/meeting/register/tJYtfu6pqD0tHtebnBoCqM7W7pZQI9JEvzVL>



Mark Your Calendar

Breakfast on the Farm

Sunday, June 12

Serving breakfast 8:00 am - 12:00 pm

This Year's Host: Van Rossum Dairy, LLC  
Mike and Mary Van Rossum  
W134 County Rd UU, Kaukauna

# Upcoming Events

## Four-State Dairy Nutrition and Management Conference

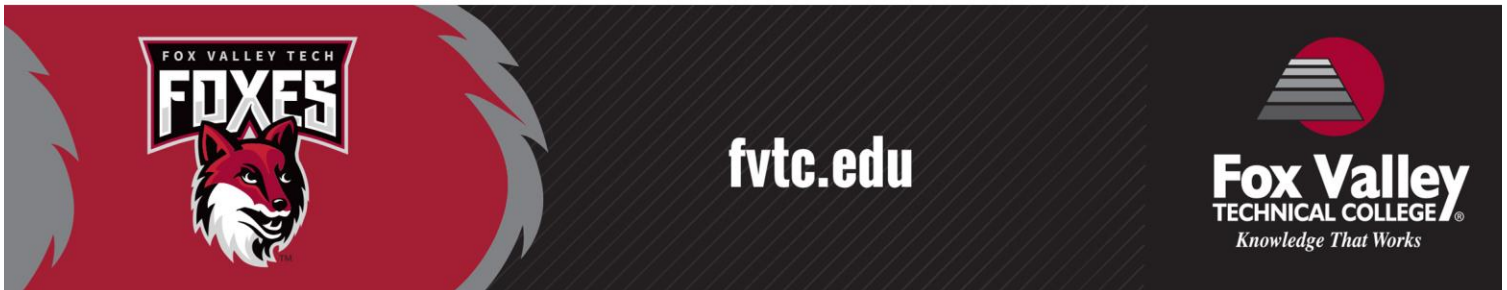
June 1 - 2 | Grand River Center, Dubuque, IA

Learn the latest information about dairy nutrition and management. This conference features information on improving transition cow performance as well as other pertinent information.

In addition to the educational program, there is a trade show with 50 companies exhibiting their latest products an evening reception and plenty of time to network with other participants. Continuing education credits are available. This conference is a collaborative effort of Iowa State University Extension, University of Illinois Extension, University of Minnesota Extension and University of Wisconsin-Extension.

For more information and to register, visit <http://fourstatedairy.org/> or contact Wisconsin Agri-Service Association, 608-223-1111, or Jim Salfer at [salfe001@umn.edu](mailto:salfe001@umn.edu) or 320-203-6093. The conference registration fee is \$150 until May 20. After May 20, registration is \$175.

See link for complete details and registration form: <http://fourstatedairy.org/registration.html>



## Farm Safety & Equipment Operation

Learn how to operate a tractor over 20 PTO horsepower, including how to connect and disconnect equipment and equipment parts.

For more information or to register please visit <https://classes.fvtc.edu/>

### Appleton Agriculture Center

Class #	Format	Date	Time	Register
65186	<b>In person Orientation</b>	Tuesday, May 10	5:00-6:00 pm	Registration opens February 12, 2022
	<b>Virtual Weekly Check-Ins</b>	Tuesday, May 17, 24, 31 June 7	5:00 -6:00 pm	
	<b>In person Class</b>	June 13 - June 16		Registration closes May 2, 2022
	All Students	June 13	9:00 am-3:00 pm	
	Group A Students	June 14	9:00 am-3:00 pm	
	Group B Students	June 15	9:00 am-3:00 pm	
	All Students	June 16	Scheduled Test Time	

# Upcoming Events

## Clintonville Regional Center

Class #	Format	Date	Time	Register
65188	<b>In person Orientation</b>	Wednesday, May 25	6:00-7:00 pm	Registration opens February 12, 2022
	<b>Virtual Weekly Check-Ins</b>	Wednesday, June 1 June 8, 15, 22	6:00-7:00 pm 5:00-6:00 pm	
	<b>In person Class</b>	June 27 - June 30		Registration closes May 16, 2022
	All Students	June 27	9:00 am-3:00 pm	
	Group A Students	June 28	9:00 am-3:00 pm	
	Group B Students	June 29	9:00 am-3:00 pm	
	All Students	June 30	Scheduled Test Time	

## Chilton Regional Center

Class #	Format	Date	Time	Register
70019	<b>In person Orientation</b>	Monday, June 6	5:00-6:00 pm	Registration opens May 1, 2022
	<b>Virtual Weekly Check-Ins</b>	Tuesday, June 14, 21, 28 July 12	5:00-6:00 pm	
	<b>In person Class</b>	July 18-21		Registration closes May 31, 2022
	All Students	July 18	9:00 am-3:00 pm	
	Group A Students	July 19	9:00 am-3:00 pm	
	Group B Students	July 20	9:00 am-3:00 pm	
	All Students	July 21	Scheduled Test Time	

## Waupaca Regional Center

Class #	Format	Day	Time	Register
70022	<b>In person Orientation</b>	Thursday, June 9	5:00-6:00 pm	Registration opens May 1, 2022
	<b>Virtual Weekly Check-Ins</b>	Tuesday, June 14, 21, 28 July 12	5:00-6:00 pm	
	<b>In person Class</b>	July 25-30		Registration closes May 31, 2022
	All Students	July 25	9:00 am-3:00 pm	
	Group A Students	July 26	9:00 am-3:00 pm	
	Group B Students	July 27	9:00 am-3:00 pm	
	All Students	July 28	Scheduled Test Time	

## Oshkosh S.J. Spanbauer Aviation & Industrial Center

Class #	Format	Day	Time	Register
70023	<b>In person Orientation</b>	Monday, June 20	5:00-6:00 pm	Registration opens May 1, 2022
	<b>Virtual Weekly Check-Ins</b>	Tuesday, June 28, July 12 July 19, 26	6:00-7:00 pm 5:00-6:00 pm	
	<b>In person Class</b>	August 1-4		Registration closes June 13, 2022
	All Students	August 1	9:00 am-3:00 pm	
	Group A Students	August 2	9:00 am-3:00 pm	
	Group B Students	August 3	9:00 am-3:00 pm	
	All Students	August 4	Scheduled Test Time	

# News from Others

## Wisconsin NRCS Announces Second EQIP Sign-up for 2022 Funding, Apply by May 20, 2022

Farmers and forest landowners interested in Environmental Quality Incentives Program (EQIP) need to apply by May 20, 2022, for a second round of funding in fiscal year 2022.

<https://www.nrcs.usda.gov/wps/portal/nrcs/main/wi/programs/financial/eqip/>

EQIP is a primary program available to farmers and landowners for farm and woodland conservation assistance, offering payments for more than 120 basic conservation practices. Last year in Wisconsin, the USDA Natural Resources Conservation Service (NRCS) invested \$33 million in conservation practices.

Although NRCS accepts applications year-round, please apply NOW for a second round of fiscal year 2022 funding. Applications are being taken at all USDA Service Centers in Wisconsin. In Outagamie County, applications are submitted to the USDA Natural Resources Conservation Service Center in Appleton, WI. Contact the office at 920/733-1575 ext 3 for more information. All eligible applications received by May 20, 2022, will be evaluated, prioritized and ranked for funding. The highest ranking applications are funded first. Farmers who are interested in practices that may require permits, such as manure storage or streambank restoration, should begin planning and seeking permits as soon as possible. Applicants with shovel-ready projects (designs completed and permit applications submitted) will receive a higher ranking in select fund pools.

EQIP includes special initiatives which focus on conservation financial assistance to Beginning Farmers and historically underserved producers, such as Tribes and minority groups. A practice of great interest in recent years is the seasonal high tunnel or hoop house for extending the growing season for farm market produce.

The Climate Smart Agriculture & Forestry initiative focuses on practices to reduce impacts of climate change, improve soil health, productivity, resiliency and profitability. An example of a practice that can achieve these goals is cover crops.

EQIP Conservation Incentive Contracts (EQIP-CIC) -- NEW for 2022 -- provides producers with financial assistance to adopt conservation activities with longer-term incentives for specific practices including cover crops, no-till, prescribed grazing and forestry practices.

Working Lands for Wildlife – Monarch: Financial assistance which targets the improvement of agricultural and forest productivity while enhancing wildlife habitat on working landscapes to specifically benefit the monarch butterfly, honey bees and other native pollinators.

Great Lakes Restoration Initiative (GLRI): The GLRI offers financial assistance to agricultural producers for implementing practices that improve water quality and benefit wildlife in selected watersheds. All of Outagamie County falls within the targeted watersheds for GLRI funding.

Landowners interested in applying for EQIP funding or to learn more about technical assistance and financial assistance available should contact their local NRCS office at the USDA Service Center for their county. The Appleton office is located at 3369 W. Brewster Street, Appleton, WI 54914.

USDA Service Center:

<https://www.farmers.gov/working-with-us/service-center-locator>

For more information, you may also visit [www.wi.nrcs.usda.gov](http://www.wi.nrcs.usda.gov)

Helping People Help the Land

USDA is an equal opportunity provider, employer and lender.

## Predictive Equations for Alfalfa Quality (PEAQ) Stick/Alfalfa Scissors Clip for 2022

Kevin Jarek, Crops and Soils Agent, Extension Outagamie County

Samples will be collected on Monday and Thursday, when the crop reaches a height and stage of maturity when it is reasonable to begin sampling with results posted on Tuesday and Friday at

<https://fyi.extension.wisc.edu/scissorsclip/>

or available through voicemail at (920)-832-4769.



# Dairy & Livestock

## Dairy Industry Survey

We invite you, as a professional working in or with the U.S. dairy industry, to participate in an online research study led by researchers from the University of Wisconsin-Madison and the University of Tennessee.

The goal of the study is to understand how dairy industry professionals view various dairy cow handling practices. This study is part of a larger USDA grant-funded project, "Building Public Trust in the Care and Handling of Dairy Cattle".

Your participation will entail taking a brief online survey (about 15 minutes) regarding your views on various dairy cow handling practices and scenarios shown in brief video clips.

If you are interested in participating in this study, please visit the following link: <https://go.wisc.edu/w53t11>

At the end of this survey, you will have the option to sign up for a 1-hour Zoom focus group session where you will have the opportunity to review and discuss the appropriateness of different dairy animal handling practices with a small group of other dairy industry professionals. The focus group will be recorded, but recordings will never be shared with anyone other than members of our research team for data analysis.

All data gathered from the survey and focus group will be de-identified to protect your identity.

Please email the principal investigator, Jennifer Van Os [jvanos@wisc.edu](mailto:jvanos@wisc.edu), if you would like more information. Thank you in advance for your valued contribution to our research!

## Dairy Worker Safety Resource Link

(Resources in Spanish)

<https://dairy.extension.wisc.edu/en-espanol/>

Topics:

- Ag Safety and Health
- Animal Well-Being and Herd Health
- Milk Quality
- Dairy Worker Training
- Videos on Ag Safety: Chemicals, Farm Tractors, Skid Steers

## New Cases of Highly Pathogenic Avian Influenza Identified in Three Counties

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) has identified new cases of highly pathogenic avian influenza (HPAI) in Columbia, Polk and Sheboygan counties. DATCP and the U.S. Department of Agriculture (USDA) are working with animal health officials in response efforts.

HPAI has now been found in seven domestic flocks across Wisconsin since March, when the virus was first confirmed in the state. The latest cases were identified in:

- Columbia County, backyard mixed species
- Sheboygan County, backyard mixed species
- Polk County, commercial poultry

"As avian influenza continues to affect poultry in Wisconsin and throughout the nation, we're reminding flock owners that strong biosecurity is our best defense against this devastating disease," said State Veterinarian Dr. Darlene Konkle. "We urge everyone working around poultry to increase their biosecurity measures and continue reporting signs of illness to help us prevent spread of the virus."

Depopulation efforts are underway at each of the three locations. Anyone who would like to report increased mortality or signs of disease among domestic birds can contact DATCP at (608) 224-4872 (business hours) or (800) 943-0003 (after hours and weekends). Signs of HPAI in infected birds include:

- Sudden death without clinical signs
- Lack of energy or appetite
- Decrease in egg production; soft, misshapen eggs
- Purple discoloration of wattles, comb, and legs
- Difficulty breathing
- Runny nose, coughing, sneezing
- Stumbling or falling down
- Diarrhea

### Additional resources

[https://datcp.wi.gov/Pages/Programs\\_Services/HPAIWisconsin.aspx](https://datcp.wi.gov/Pages/Programs_Services/HPAIWisconsin.aspx)

<https://www.dhs.wisconsin.gov/influenza/avian.htm>

<https://dnr.wisconsin.gov/topic/WildlifeHabitat/disease.html>

# Dairy & Livestock

## Dairy Situation and Outlook, April 20, 2022

By Bob Cropp, Professor Emeritus  
University of Wisconsin Cooperative Extension  
University of Wisconsin-Madison

Milk prices continue well above a year ago. The Class III price being above \$20 averaged \$5.27 higher January through March than a year ago. The Class IV price being above \$23 averaged \$10.30 higher January through March than a year ago. April prices will strengthen more. The Class III price will be near \$24.25, about \$6.60 higher than a year ago and the Class IV price will be near \$25.25, about \$9.80 higher than a year ago.

Higher Class III has been driven by higher cheese prices. Dry whey which was as high as \$0.8575 per pound back in February has been in the low \$0.60's and is now \$0.6350 per pound. This has the effect of lowering the Class III price by about \$1.30. But higher cheese prices have more than offset this. The 40-pound cheddar block price has been higher than March all of April ranging from \$2.2625 to \$2.3975 per pound and is now \$2.3350. The cheddar barrel price also averaged higher than March all of April ranging from \$2.2675 to \$2.44 per pound and is now \$2.3425. The higher Class IV price has been driven by higher butter and nonfat dry milk prices. Butter in April has ranged from \$2.71 to \$2.7825 per pound and is now \$2.72. Nonfat dry milk was \$1.85 per pound early April but has weakened some to \$1.7925.

Domestic sales of butter and cheese continue to run above year ago levels while fluid (beverage) milk sales have been running about 3% below a year ago. Sales are expected to continue above a year ago with food service improving as restaurants continue to return to more normal. However, inflation has reduced consumer spending power and could dampen domestic sales.

Read the rest of the report:  
<https://fyi.extension.wisc.edu/kewauneeag/files/2022/04/Dairy-Situation-and-Outlook-April-2022.pdf>

## Recorded 2022 Badger Dairy Insight Webinars Available

January 11 recorded session:  
**Successful pair-raising of calves**, Extension Dairy Welfare Specialist Jennifer Van Os:  
<https://go.wisc.edu/17uya8>

**How can we make disbudding easier?** UW River Falls Animal Welfare Professor Sylvia Kehoe:  
<https://go.wisc.edu/055z6l>

January 25 recorded session:  
**Data Money Improved decision-making by using integrated data streams-the Dairy Brain**, Professor and Extension Dairy Specialist, Victor Cabrera; Dairy Data Scientist, Liliana Fadul; and dairy farmer, Dan Diederich:  
<https://bit.ly/bdidairydata>

February 8 recorded session:  
**Connecting the dots--forage quality, nutritional management and feeding behavior**, Extension Dairy Nutritionist & Assistant Professor Luiz Ferraretto:  
<https://www.youtube.com/watch?v=nld9TMSgoeU>

**Pricing Corn Silage**, Wood & Clark County Agriculture Educator Matt Lippert:  
<https://www.youtube.com/watch?v=amkh2YulYiA>

March 1 recorded session:  
**Ins and Outs of Cocktail Forage Mixes for Dairy Rations**, Extension Dairy Specialists Luiz Ferraretto and Matt Akins:  
[https://youtu.be/jCl\\_9bOLXUE](https://youtu.be/jCl_9bOLXUE)

March 15 recorded session:  
**Use of high fiber forages to control heifer intake and growth**, Extension Dairy Specialist Matt Akins:  
<https://youtu.be/xLoFh7ftoe4>

**Weight or Wait**, Research Assistant Megan Lauber:  
[https://youtu.be/n\\_zD1vz1UAA](https://youtu.be/n_zD1vz1UAA)

**No Metrics-No Milk**, Extension Regional Dairy Educators Aerica Bjurstrom and Tina Kohlman:  
<https://youtu.be/9LLalzd5ko8>

March 29th recorded session:  
**The Randomness of Repro**, Extension Dairy Specialist Paul Fricke:  
<https://youtu.be/USZWY99EHrU>

**Beef x Dairy Sire Fertility & Analysis**, Extension Regional Dairy Educator Ryan Sterry presentation:  
<https://youtu.be/NXh3VslUI50>

# Crops & Soils

## Determining the Value of Standing Alfalfa in 2022

Kevin Jarek - UW-Madison, Division of Extension, Crops and Soils Agent - Outagamie County

Determining a “fair” market value for standing alfalfa during the 2022 growing season may be a challenge considering the highly favorable market conditions for corn and soybeans. As of April 2022, new crop corn is near \$7.00 per bushel for fall delivery while new crop soybeans are more than \$14 per bushel. *Opportunity cost* can be defined as the loss of a (potential) gain from other possible alternatives (rotating to a grain crop) when another alternative is chosen (keeping the existing alfalfa stand).

Due to the wide variation in corn and soybean yields from county to county and individual fields, each landowner will have their own unique circumstances to consider when evaluating opportunity cost. Yield estimates ([https://www.nass.usda.gov/Statistics\\_by\\_State/Wisconsin/Publications/County\\_Estimates/](https://www.nass.usda.gov/Statistics_by_State/Wisconsin/Publications/County_Estimates/)) are available for those who may not have actual production history (APH) records as buyers and sellers negotiate these issues. Landowners should consider both the economic and environmental impacts (long term crop rotation plans, erosion limitations, etc.) before they make any final decisions related to a particular alfalfa stand in 2022. Open and honest communication about both party’s needs is required for a successful negotiation this year.

The absence of daily quotes as compared to other agricultural commodities (grains) requires us to rely on the most recent hay market prices available at <https://cropsandsoils.extension.wisc.edu/hay-market-report/>. The three most significant factors to consider when determining the potential value for any individual cutting of alfalfa or the stand for the entire growing season include the following:

### Expected Dry Matter (DM) Yield in Tons per Acre

### Estimated Value of a Ton of DM

### Harvesting Costs

Ideally, one would be able to weigh all the forage being harvested from any individual cutting from a particular field. This is the best way to ensure both parties are treated fairly in any formal arrangement in which standing alfalfa is bought or sold. If a scale is available, multiple forage samples should be collected during the process of harvesting to determine an accurate value for the average dry matter (DM) content of the feed being sold.



Measuring alfalfa maturity stage and height

Once you have agreed upon a fair price or value for a ton of DM (may be with or without harvesting costs), you simply multiply the harvested tonnage by the agreed upon value per DM ton then adjust for harvesting costs. Unfortunately, not all farms have access to drive-over scales. However, making an effort to get at least one individual wagon or load weight from a state-certified scale at harvest will significantly improve the accuracy of any yield estimate made that does not include a scaled weight available.



Expected dry matter (DM) yield can be estimated by measuring alfalfa stand density or by utilizing multi-year on-farm data sourced from the Wisconsin Alfalfa Yield and Persistence (WAYP) program. The project is managed by the University of Wisconsin-Madison/Division of Extension. The 2021 WAYP summary can be viewed at: <https://arlington.ars.wisc.edu/wp-content/uploads/sites/115/2022/04/2021-WAYP-Summary.pdf>.

- 1) **Stand Density:** Alfalfa stands with an **average of 55 stems per square foot** are defined as not being limited and having full season yield potential. Due to the high variability in alfalfa stem counts



# Crops & Soils

evaluate stands to determine a realistic potential yield. WAYP project data can help you estimate DM yield derived from on-farm data collected over the past 14 years. Local growing conditions, alfalfa stand condition after overwintering, age of the stand, composition of the stand, soil texture/series, soil fertility, and soil drainage can all significantly impact alfalfa DM yields during any given growing season. It is not advisable to purchase standing alfalfa without taking each of these considerations into account before any final arrangement is agreed upon by all parties involved.

	stand density (stems/sq ft)	action	
	>55	stem density not limiting yield	
	40–55	some yield reduction expected	
	<39	consider replacing stand	

Source: Alfalfa Stand Assessment – Is This Stand Good Enough to Keep? – Dan Undersander, Forage Agronomist, UW-Madison

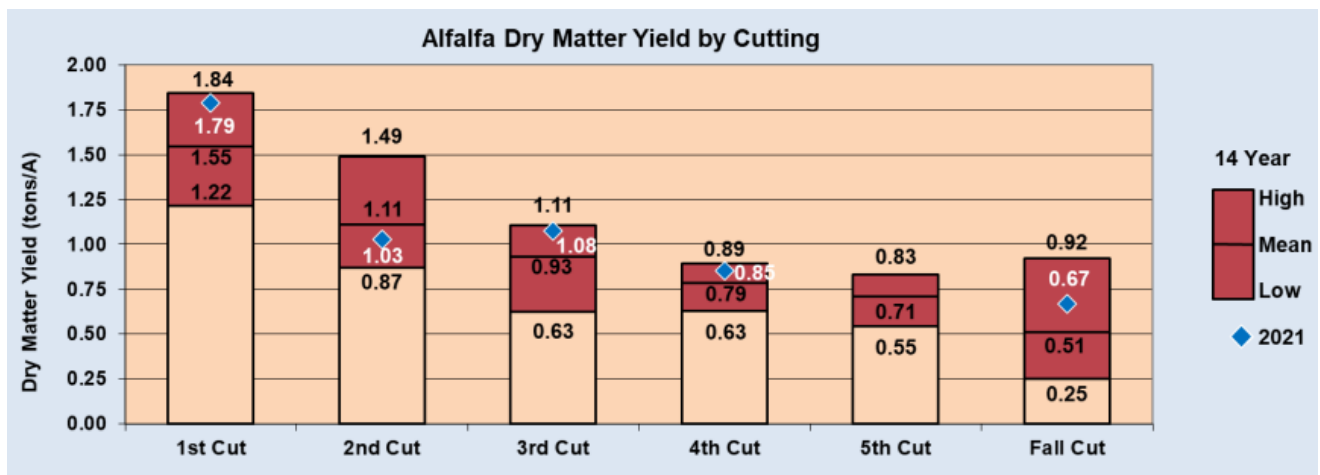
## 2) Percentage of Overall Season Yield Per Cutting as Determined by the WAYP Program On-Farm Data:

**3 cut system – 46% (1<sup>st</sup> crop) – 28% (2<sup>nd</sup> crop) – 26% (3<sup>rd</sup> crop)**

**4 cut system – 36% (1<sup>st</sup> crop) – 25% (2<sup>nd</sup> crop) – 21% (3<sup>rd</sup> crop) – 18% (4<sup>th</sup> crop)**

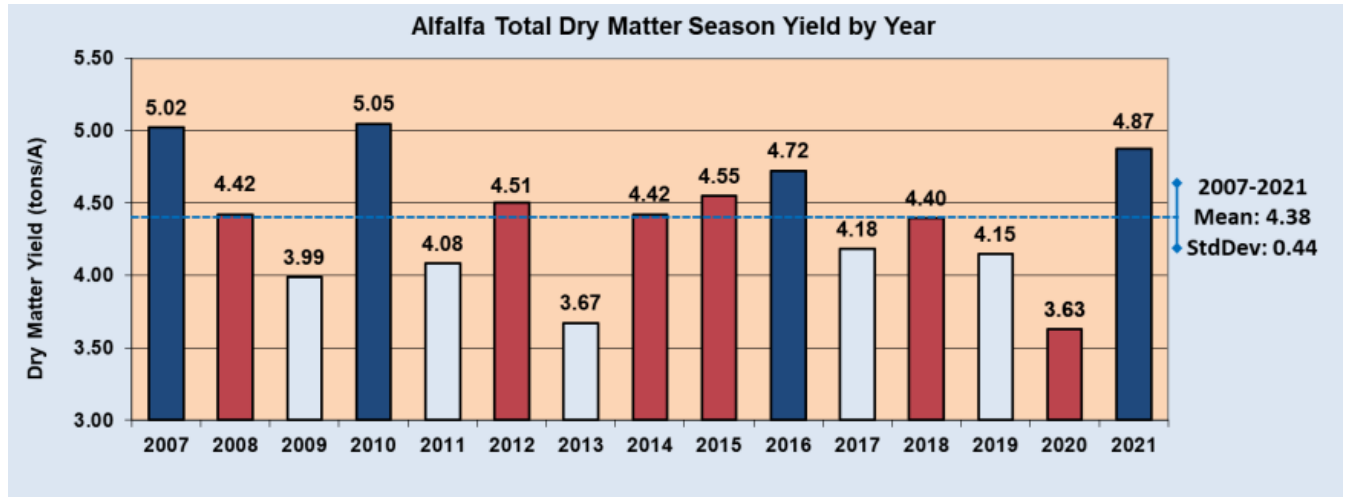
**5 cut system – 32% (1<sup>st</sup> crop) – 21% (2<sup>nd</sup> crop) – 18% (3<sup>rd</sup> crop) – 16% (4<sup>th</sup> crop) – 13% (5<sup>th</sup> crop/fall cut)**

WAYP data collection begins with the first full production year following new seeding. Fifth cutting and late fall cutting data was collected in years when available. It should be noted that four-cut systems represent the largest percentage of the data. The low, mean (average), and high values for DM yield over the life of the project are illustrated below. In addition, 2021 data is included so you can compare the most recent year's data to the other benchmark measurements established over the past 14 years. As evidenced below, 2021 was a particularly good year for yield with three of the first four cuttings yielding above the project mean. Above average temperatures during the month of October extended the 2021 growing season. As a result, a number of fall cuttings were harvested statewide that helped bolster forage inventories late last year and as we head into the 2022 growing season.



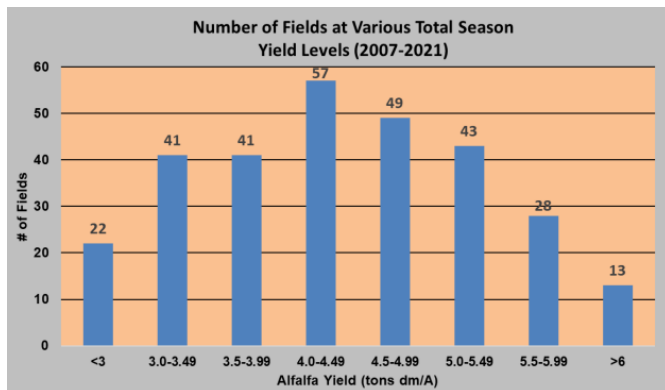
# Crops & Soils

- 3) **Total Season Yield:** The WAYP program has an observed yield range of less than 3.0 tons to more than 6.0 tons DM per acre. The most frequently observed yield has been **4.0-4.49 Tons DM per acre per year**. The following chart illustrates the annually observed mean of alfalfa DM yield in tons per acre from 2007-2021. The average yield of first through fourth crops over the project is 4.38 tons DM per acre. The 2021 growing season data resulted in a 4.87 tons of DM yield, third highest ever recorded.

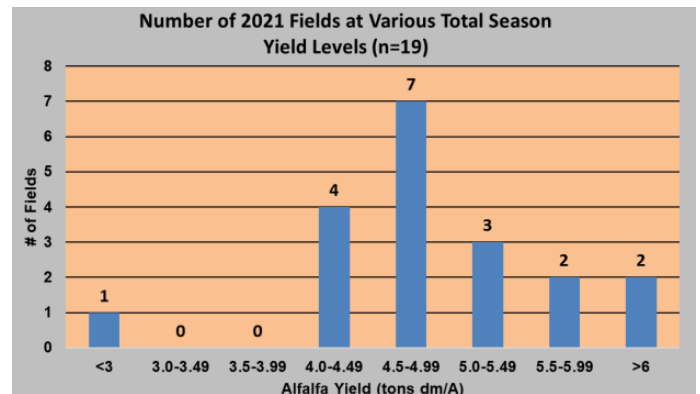


Source: Wisconsin Alfalfa Yield and Persistence (WAYP) Program Summary, 2021

## Dry Matter Yield Level Distribution from 2007-2021



## Dry Matter Yield Distribution 2021 Growing Season



Source: Wisconsin Alfalfa Yield and Persistence (WAYP) Program Summary, 2021

- 4) **Weather Risk and Field Losses:** Management practices applied to the site by the buyer during the cutting and harvesting of alfalfa will influence the final quality measurements. Purchased baled hay may have known, measured quality from a forage test. Alfalfa purchased standing in the field has unknown quality until after harvest due to weather risk, insect or disease pressure, advancing maturity, leaf shatter, and harvesting losses. These factors need to be considered and accounted for when determining the final price. An adjustment of 25 percent to the value of the alfalfa standing in the field may be considered a reasonable method to further account for the buyer's risk.



Merging alfalfa windrows before harvest

# Crops & Soils

## 5) Determining the Value of a Ton of DM Alfalfa



Small square bales being harvested in Outagamie County

Hay Market Demand and Price Reports for the Upper Midwest are located at <https://cropsandsoils.extension.wisc.edu/hay-market-report/> on the UW-Madison Division of Extension Crops and Soils website with updates posted regularly. The most recent report (**April 25, 2022**) indicates large square bales of Prime Quality (>151 RFV/RFQ) alfalfa averaged \$228.00 per ton. The value of a ton of DM is determined via the following calculations:

### Price for a Ton of DM

As baled hay, assume moisture of 15 percent which means it is 85 percent DM or **0.85**

$$\frac{\$228.00}{\text{as fed ton}} \times \frac{\text{as fed ton}}{0.85 \text{ ton DM}} = \frac{\$268.24}{\text{Ton DM}}$$

When is the last time you successfully harvested all your alfalfa without any weather damage? You may harvest four high quality cuttings, or four lower quality cuttings depending on the weather. Earlier we identified the difference between purchasing alfalfa that has already been harvested. It is a known quality. Standing alfalfa must be adjusted for both field losses and potential weather risk, both of which can significantly impact the quality of the harvested forage. **The buyer and seller can decide if they wish to use a factor other than 25%.**

If we use \$268.24 per ton DM and apply a 25% risk adjustment, we end up with a risk adjusted value for a ton of DM standing alfalfa as follows: (\$268.24 X 0.25 = \$67.06), \$268.24 - \$67.06 = **\$201.18 per ton of DM.**

- 6) **Harvesting Cost:** Expenses are based on the costs reported in the **Wisconsin Custom Rate Guide 2020** at <https://fyi.extension.wisc.edu/news/2021/05/12/2020-custom-rate-guide/> or the **2022 Iowa Farm Custom Rate Survey** at <https://www.extension.iastate.edu/agdm/crops/pdf/a3-10.pdf>. Estimated rates for individual field operations are identified below:

<u><b>Mowing and Conditioning per acre:</b></u>	<u><b>Windrow Merging per acre:</b></u>	<u><b>Chopping, Hauling, and Filling per acre:</b></u>
\$16.61 per acre, statewide average (WI - 2020)	\$14.00 per acre, statewide average (WI - 2020)	\$45.00 - \$65.00 per acre, \$55.00 average *
\$12-\$25 per acre, \$16.20 statewide average (IA - 2022)	\$10-\$15.25 per acre, \$14.30 statewide average (IA - 2022)	Visit the WI Custom Rate Guide for charges expressed in <i>dollars/hour</i> or <i>dollars/ton</i> to calculate costs using those posted values.

\*Estimated range based on farm data, 2020 WI Custom Rate Guide does not provide per acre cost.

# Crops & Soils

Using values cited earlier, one may spend \$17 per acre cutting and conditioning the alfalfa, \$14 per acre merging the alfalfa, and \$55.00 per acre (chopping, hauling, and filling - **adjust your costs as needed**) chopping, hauling, and filling an upright silo or a bunker silo resulting in \$86.00 per acre invested for each cutting. **Your harvesting costs may be higher or lower than those cited here**; however, this is what is used for this example. If you harvest four (4) cuttings, total harvest costs are \$344.00/acre for the season (\$86.00 X 4 cuttings = \$344.00). **If the buyer's harvesting costs are less, you can adjust downward. If the buyer's harvesting costs are higher, you can adjust upward.** While the landowner who established the alfalfa has the expense of the land, taxes, seed, chemical, and fertilizer, the buyer assumes the risk of field losses and weather damage exceeding the 25 percent quality adjustment discussed earlier.



Harvesting first cutting alfalfa haylage in Outagamie County

Once you have calculated or agreed upon the value of a ton of DM and has made a reasonable yield estimate, you may proceed. In this first example we used a 4.0-ton DM yield for the season at a value of \$201.18 per ton DM. Four (4) tons of DM X \$201.18 per ton DM = a final harvested value of \$804.72. After we deduct the cost of harvesting \$344.00, (4 cuts X \$86.00), we are left with the following:

Harvesting **4.0 tons of DM** total value would be \$804.72 less harvesting costs of \$344.00 = **\$460.72 residual**

1<sup>st</sup> Cutting = \$ 460.72 X 36% of total yield (1.44 tons DM) for the season = \$165.86

2<sup>nd</sup> Cutting = \$ 460.72 X 25% of total yield (1.00 tons DM) for the season = \$115.18

3<sup>rd</sup> Cutting = \$ 460.72 X 21% of total yield (0.84 tons DM) for the season = \$ 96.75

4<sup>th</sup> Cutting = \$ 460.72 X 18% of total yield (0.72 tons DM) for the season = \$ 82.93

Harvesting **4.5 tons of DM** total value would be \$905.31 less harvesting costs of \$344.00 = **\$561.31 residual**

1<sup>st</sup> Cutting = \$ 561.31 X 36% of total yield (1.62 tons DM) for the season = \$202.07

2<sup>nd</sup> Cutting = \$ 561.31 X 25% of total yield (1.13 tons DM) for the season = \$140.33

3<sup>rd</sup> Cutting = \$ 561.31 X 21% of total yield (0.94 tons DM) for the season = \$117.87

4<sup>th</sup> Cutting = \$ 561.31 X 18% of total yield (0.81 tons DM) for the season = \$101.04

Harvesting **5.0 tons of DM** total value would be \$1,005.90 less harvesting costs of \$344.00 = **\$661.90 residual**

1<sup>st</sup> Cutting = \$ 661.90 X 36% of total yield (1.80 tons DM) for the season = \$238.28

2<sup>nd</sup> Cutting = \$ 661.90 X 25% of total yield (1.25 tons DM) for the season = \$165.48

3<sup>rd</sup> Cutting = \$ 661.90 X 21% of total yield (1.05 tons DM) for the season = \$139.00

4<sup>th</sup> Cutting = \$ 661.90 X 18% of total yield (0.90 tons DM) for the season = \$119.14



# Crops & Soils

Harvesting **5.5 tons of DM** total value would be \$1,106.49 less harvesting costs of \$344.00 = **\$762.49 residual**

1<sup>st</sup> Cutting = \$ 762.49 X 36% of total yield (1.98 tons DM) for the season = \$274.50

2<sup>nd</sup> Cutting = \$ 762.49 X 25% of total yield (1.38 tons DM) for the season = \$190.62

3<sup>rd</sup> Cutting = \$ 762.49 X 21% of total yield (1.15 tons DM) for the season = \$160.12

4<sup>th</sup> Cutting = \$ 762.49 X 18% of total yield (0.99 tons DM) for the season = \$137.25

Harvesting **6.0 tons of DM** total value would be \$1,207.08 less harvesting costs of \$344.00 = **\$863.08 residual**

1<sup>st</sup> Cutting = \$ 863.08 X 36% of total yield (2.16 tons DM) for the season = \$310.71

2<sup>nd</sup> Cutting = \$ 863.08 X 25% of total yield (1.50 tons DM) for the season = \$215.77

3<sup>rd</sup> Cutting = \$ 863.08 X 21% of total yield (1.26 tons DM) for the season = \$181.25

4<sup>th</sup> Cutting = \$ 863.08 X 18% of total yield (1.08 tons DM) for the season = \$155.35

Harvesting **6.5 tons of DM** total value would be \$1,307.67 less harvesting costs of \$344.00 = **\$963.67 residual**

1<sup>st</sup> Cutting = \$ 963.67 X 36% of total yield (2.34 tons DM) for the season = \$346.92

2<sup>nd</sup> Cutting = \$ 963.67 X 25% of total yield (1.63 tons DM) for the season = \$240.92

3<sup>rd</sup> Cutting = \$ 963.67 X 21% of total yield (1.36 tons DM) for the season = \$202.37

4<sup>th</sup> Cutting = \$ 963.67 X 18% of total yield (1.17 tons DM) for the season = \$173.46

Every cutting of alfalfa removes a significant amount of potassium (K) from the soil. A one-hundred-pound application of potash fertilizer (0-0-60 or 0-0-62) provides 60 or 62 lbs. of K<sub>2</sub>O per acre. If full alfalfa yield potential is to be realized, we need to replace the nutrients removed from the field during harvest. The UW Nutrient and Pest Management Fast Facts identifies the specific quantities of nutrients removed by various field crops and is available at <https://ipcm.wisc.edu/download/pubsNM/NutrientManagementFastFacts.pdf>.

## Summary

When a drive-over or state-certified scale is not available to measure yield, purchasing alfalfa by the cutting, or by the acre may be difficult given the widespread variability in fields. Focusing time and effort on the three most significant considerations when determining the value of standing alfalfa can help. The buyer needs to estimate as accurately as possible what the potential DM yield may be, and the seller needs to account for reasonable harvesting costs and field losses associated with getting the crop out of the field. As discussed earlier, the best option is always to weigh the crop as it is harvested and adjust for DM. However, when that is not an option, walking the fields, estimating stem counts per sq. ft., and assessing overall plant health may help all parties involved arrive at a fair value and avoid later conflict.

## Additional Methods for Determining the Value of Alfalfa – Is There an App for That?

Additional methods to calculate the value of standing alfalfa include an app that can be downloaded for **free** at <https://play.google.com/store/apps/details?id=com.smartmappsconsulting.haypricing>. Those with iPhones and iPads can download the app from the Apple Store by searching “Hay Pricing”.



Clippings – April 28, 2022

## ALTERNATIVE FORAGES: MORE NITROGEN NEEDED TO MAXIMIZE PROFITABILITY?

**Kevin Jarek, University of Wisconsin-Madison Division of Extension Crops & Soils Agent, Outagamie County**

While researching the quality of various alternative forage species being grown and harvested across Wisconsin, I and two other University of Wisconsin (UW) researchers also looked at fertility. We questioned how much nitrogen (N) may be needed by cocktail mixes – which may include legumes but are typically dominated by grass species – to maximize profitability. Our initial findings show cocktail mixes need more than the 130 lbs/acre of N recommended to reach their full profit potential.

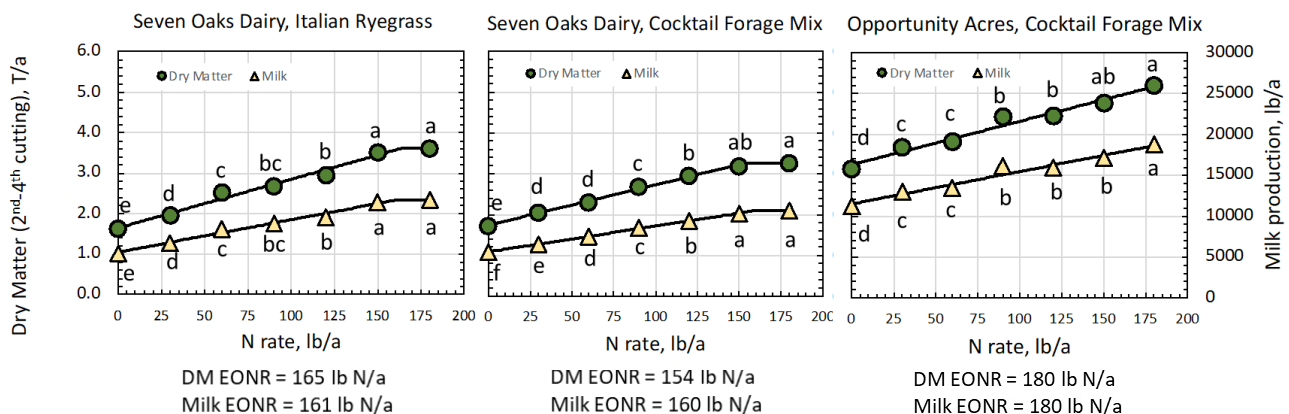
It must be pointed out, however, that alternative forages or cocktail mixes do not have N rate guidelines established like those for corn, soybeans, and grasses, among others, as specified in [A2809, Nutrient Management Application Guidelines for Field, Vegetable, and Fruit Crops](#). Research collaborator Carrie Laboski, former UW Soil Scientist, estimated a rate of 130 lbs/acre N for cocktail mixes based off the recommendation for established grass hayfields. The third member of our research team, John Jones, UW Soil Fertility/Nutrient Management Researcher, provided statistical analysis and support for the data below.

During the 2021 growing season, we established field trials to determine how accurate the 130 lbs/acre N recommendation may be. Three plots were established at Seven Oaks Dairy (Calumet County field site – MbA – Manawa Silt Loam) and Opportunity Acres (Oconto County field site – Solona-Ossineke Complex). Seven total N fertilizer rates (0, 30, 60, 90, 120, 150, and 180 lbs/acre) were applied to four replications at each location using a randomized complete-block design. Nitrogen applications were made after first, second, and third cuttings. Plots were planted on April 24 at the Seven Oaks Dairy site and May 7 at the Opportunity Acres site. Phosphorus (P) and potassium (K) were applied according to UW recommendations based on soil test results. Sulfur was applied at all locations at a rate of 17 lbs/acre at planting.

The cocktail mix included: 26.27% Firkin ITL Ryegrass, 21.34% Max ITL Ryegrass, 21.34% Hunter ITL Ryegrass, 6.45% Winterking Hairly Vetch, 6.45% Medium Red Clover, 6.45% Healy Berseem Clover, and 10.20% Coating Material. An Italian Ryegrass blend included: 29.55% Meroa Italian Ryegrass, 29.55% Firkin Italian Ryegrass, and 39.40% Hunter Italian Ryegrass. Seeding rates were 25 lbs/acre. Four cuttings were harvested from each plot site from July to November 2021. Second through fourth cuttings were analyzed in the data below as the first N application occurred after first cutting.



**A dedicated team of crop consultants and farmers established research plots testing varying amounts of nitrogen on alternative forages.**



As illustrated in the charts above, the left axis measures cumulative dry matter (DM) yield (tons/acre) for 2nd through 4th cuttings, while the right axis measures Milk Per Acre (DM Yield X Milk Per Ton = MPA). The Italian Ryegrass blend produced slightly more DM yield than the cocktail forage mix at the Seven Oaks Dairy site. The Economic Optimum Nitrogen Rate (EONR) indicates that N applications above the 154-165 lbs/acre do not provide an economic return, as yield begins to plateau or diminish as more fertilizer is applied. The EONRs for both DM yield and MPA are

# Crops & Soils

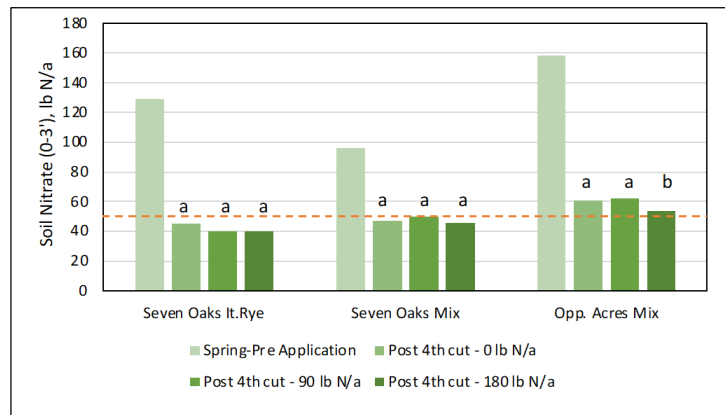
identified beneath each of the three graphs for each location/crop. We were not able to identify the EONR for the Opportunity Acres site as yield did not plateau; thus, the EONR was set at the highest N rate applied – 180 lbs/acre.

## Summary/Conclusions:

1. N fertilization had very little impact on forage quality when measured as Milk Per Ton (MPT).
2. Dry matter yield drives Milk Per Acre (MPA).
3. The Economic Optimum Nitrogen Rate for MPA was similar to the EONR for DM yield.
4. EONR was greater than the 130 lbs/acre guideline based off A2809 N recommendations.

**Environmental Considerations:** Water quality affects everyone in Wisconsin. Agriculture has been and needs to continue to be vigilant in protecting our natural resources now and for future generations. While phosphorous is our biggest nutrient concern in surface water, nitrates are our most significant concern for fresh groundwater aquifers. As a part of this research effort, we measured the soil nitrate levels at the sites we were evaluating before and after the project's first year of completion.

As illustrated in the chart at right, the dotted line at the 50 lbs/acre mark is what we consider to be the "background" level for the preplant nitrate test for corn (i.e., the amount of N over 50 lbs/acre should be considered an N credit). The profile soil nitrate levels in the spring were high. We had approximately 80 lbs/acre N credit (130 lbs/acre minus 50 lbs/acre) at the Seven Oaks Italian Ryegrass site, 45 lbs/acre N credit (95 lbs/acre minus 50 lbs/acre) at the Seven Oaks cocktail mix site, and 108 lbs/acre N credit (158 lbs/acre minus 50 lbs/acre) at the Opportunity Acres cocktail mix site. These results indicate an overapplication of N and/or dry weather the previous growing season and over winter.



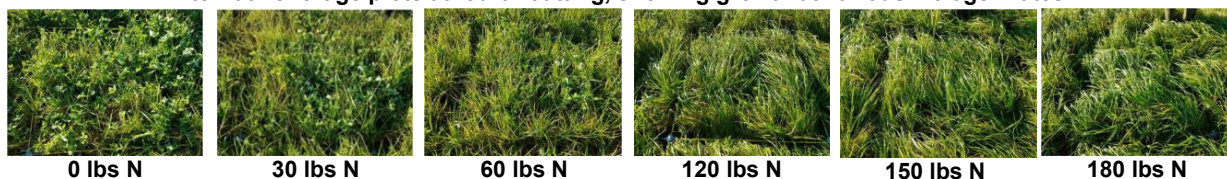
After fourth cutting was harvested, we observed soil nitrate levels less than or near the background levels. At Seven Oaks there was no significant difference in post 4th cut soil profile nitrate levels among the 0, 90, and 180 lbs/acre N rates for either the Italian Ryegrass blend or the cocktail mix. At Opportunity Acres, post 4th cut soil profile nitrate levels at the 180 lbs/acre N rate were significantly lower than the other two N rates sampled, but this difference is likely of minimal practical significance.

**Conclusions from first-year data** collected as a part of this Midwest Forage Association (MFA) sponsored project:

- The amount of N fertilizer needed on Italian Ryegrass or the forage cocktail mix including Italian Ryegrass was greater than the 130 lbs/a guideline based off A2809 N recommendations.
- N fertilizer had little impact on Milk Per Ton (MPT).
- N fertilizer rates that maximized profitable Milk Per Acre were similar to N rates that maximized profitable dry matter production.
- When N fertilizer is applied at rates near or less than the EONR, soil nitrate remaining in the profile after harvest is near background level.
- Additional data analysis will need to be conducted on N uptake, N use efficiency, and comparing N need, dry matter yield, and MPA compared to corn silage.
- Additional data analysis will compare the profitability of these forages to alfalfa.
- Study will be conducted again in 2022.

For information on the 2020 Outagamie Forage Council Forage Quality Survey Project, [click here](#). For more on the 2021 Evaluating Nitrogen Need of Alternative Forages to Maximize Profitability Project, [click here](#). Both projects were funded by the Midwest Forage Association (MFA) Midwest Forage Research Proposal (MFRP), and Dairyland Laboratories, Inc.

Alternative forage plots at fourth cutting, showing growth at various nitrogen rates





## Extension

UNIVERSITY OF WISCONSIN-MADISON  
OUTAGAMIE COUNTY

May 2022 Ag Newsletter  
3365 W Brewster St  
Appleton, WI 54914



## Extension

UNIVERSITY OF WISCONSIN-MADISON  
OUTAGAMIE COUNTY

**Phone Number**

**920-832-5121**

**Fax Number**

**920-832-4783**

**711 Wisconsin**

**Relay**

*An EEO/AA employer, University of Wisconsin-Madison Division of Extension provides equal opportunities in employment and programming, including Title VI, Title IX, the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act requirements.*

## County Administration

Thomas Nelson	County Executive
Jeff Nooyen	County Board Chair
Dan Gabrielson	County Board Vice Chair

## Extension Education Committee

Debbie VanderHeiden	Chair
Dan Rettler	Vice Chair
Dan Melchert	Secretary
Rich Lautenschlager	Member
Sarah Weinberg	Member

## Extension Staff

Amy Beck	Office Assistant
Joan Behle	Office Assistant
Kaitlin Bricco	Horticulture Educator
Miranda Dawson	FoodWise Nutrition Educator*
Karen Dickrell	Human Development & Relationships Educator
Christi Gabriliska	FoodWise Nutrition Coordinator*
Sarah Grotjan	Dairy and Livestock Educator
Vicki Handschke	Office Assistant
Kevin Jarek	Crops and Soils Agent
Mia Ljung	Community Development Educator
Ina Montgomery	Program Assistant
Hannah Phillips	FoodWise Healthy Communities Coordinator*
Alicia Schroeder-Haag	4-H Program Educator
Chris Viau	Area Extension Director*
MaryBeth Wohlrabe	Positive Youth Development Educator
Becky Zoglman	Education & Communication Specialist

*\*Serves Calumet, Outagamie, Waupaca and Winnebago Counties*

**Outagamie.Extension.wisc.edu**