Extension
UNIVERSITY OF WISCONSIN-MADISON
OUTAGAMIE COUNTY

# Agriculture Report
## April 2021

Greetings Producers,

One year ago, as the pandemic was beginning, I asked you to focus on **W**hat's **I**mportant **N**ow (**WIN)**. We have all seen the world change since then. While life has not fully returned to normal for some of our friends, family, etc…, the hope is that over the coming months our new normal will be more defined. Little has changed for many of you as farmers. The cows still needed to be milked, the crops needed to be planted, managed, and harvested, and of course bills needed to be paid. Let's hope milk prices improve this year.

We enter the spring of 2021 with many farms still not completely satisfied with their alfalfa forage supplies. Articles in this newsletter detail why that is still the case. Evaluating your alfalfa fields too early or too late may result in hasty decisions, I have seen alfalfa stands that looked near death in April only to recover in May; however, the opposite is true also, fields that appeared ok in April, later needed to be rotated. Evaluating every alfalfa field on your farm for winterkill has become standard practice these past few growing seasons. Additional info is available at **https://fyi.extension.wisc.edu/forage/files/2014/01/StandEvaluationFOF.pdf** and **http://bit.ly/UWAlfalfaStands**.

PEAQ/Scissors Clip will be conducted by the Outagamie Forage Council again this year, the same way it always has, with the cooperation and support of many individuals. Thanks in advance to Knutzen Crop Consulting, Dairyland Seeds, and Tilth Agronomy for their support of the program along with the host farms of Sugar Creek Farms, Neighborhood Dairy, Birling's Bovines, and Larrand Dairy. Samples will be collected on Monday and Thursday, with results posted on Tuesday and Friday at **https://fyi.extension.wisc.edu/scissorsclip/** or available through voicemail at (920) 832-4769, beginning in May when the alfalfa is ready.

Farm Management Zoom programs are still available in April at Farm Ready Research Webinar Series – Division of Extension (wisc.edu). We still receive inquiries about Pesticide Applicator Training (PAT) for 2021. If you had an expiring license, DATCP has extended your ability to purchase and apply products for one more year beyond the five-year licensure period. The latest information on PAT from DATCP and UW is available at **https://outagamie.extension.wisc.edu/updatedpat/**. As spring field work arrives, there continues to be a significant amount of stress across the agricultural sector. The University of Wisconsin, Division of Extension farm stress related resources are available at **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. Stay safe and healthy!

*Kevin Jarek*
Crops and Soils Agent

3365 W Brewster St, Appleton, WI 54914
920-832-5121 | outagamie.extension.wisc.edu

# Event Announcements

## Breakfast on the Farm Special Announcement!!

By Kelly Oudenhoven, Secretary, Outagamie County Dairy Promotion

Over the past 33 years, the Outagamie County Dairy Promotion Board along with many wonderful host farms, have had the gracious opportunity to bring the Breakfast on the Farm event to life every year. Our ultimate goal is for attendees to experience farm life up close and personal, by being able to walk around the farm, see first hand where cows eat, sleep and are milked along with being able to visit with the host family. Our vision for our host family is for them to be able to showcase their farm to the public and make it a truly enjoyable experience for them.

Last year, we were on track for our 34th Annual Breakfast on the Farm when Covid-19 started to appear. As things progressed out of our control, we made the heart wrenching decision to postpone for everyone's safety.

For anyone that has planned a large event, the planning process starts many months to a year in advance. When we started to meet virtually to plan this coming years event, there were many questions that we simply couldn't answer. To pull off an event of our size, as we normally serve 6,000-8,000 people, it takes roughly 250+ volunteers over the course of 3 days to set up (tents, tables, chairs, fences, exhibits, signage), cook, serve, clean, drive tractor, explain areas of the farm and then the massive clean up and take down afterwards. Most of our volunteers come from 4-H Clubs, FFA Chapters, Youth Sports Teams, Civic Organizations and businesses. As of right now, many 4-H Clubs are not allowed to volunteer at large events. With needing MORE volunteers to help clean high-touch areas, we simply wouldn't have the people to help make it an enjoyable experience. As we started to realize we would need more tents, chairs and tables to accommodate the social distancing standards, we also realized that we would have less help, which means longer lines and more wait time for attendees.

Lastly, the Breakfast on the Farm is truly a once in a lifetime event for our host farms. In the last 33 years, each farm has only hosted once. So, after much discussion with our host farm, Van Rossum Dairy Farm, we have decided to POSTPONE the 2021 Outagamie County Breakfast on the Farm event until 2022.

We will continue to promote the wonderful dairy industry by doing multiple giveaways on our Facebook page along with helping at various events throughout the year. Please continue to watch our page for your chance to win!

## Heart of the Farm, Coffee Chat Series Recordings Available

**How to Read and Understand Your Milk Check**
Speaker: Mark Stephenson, Director of Dairy Policy Analysis and Center for Dairy Profitability and the University of Wisconsin-Madison, Division of Extension

Are you confused about what is printed on your milk check and what all the components are? Are you having difficulty reading your statement and knowing if the payments, particularly the premiums paid, are on par with what other producers are receiving?

Dr. Stephenson will review where the numbers on your milk check come from and what they mean to your operation.

Recording:

**https://www.youtube.com/watch?v=QvRHfOLUQGE**

Powerpoint:

**https://fyi.extension.wisc.edu/heartofthefarm/files/2021/02/My-Milk-Check.pdf**

**Developing your Farm Product Brand**
Speaker: Jenni Gavin, Gavin Farms, Reedsburg, WI

Ever wanted to brand and market your farm's product? Jenny Gavin will discuss how she and her husband developed a brand and began to market their beef directly to consumers. They just opened a farm store where they market their beef as well as other local food products.

Jenni is very excited to share their story, how they created their brand and what it has looked like for them to market their beef locally.

Recording:

**https://www.youtube.com/watch?v=NN9_rjDkTG8**

# 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/](https://classes.fvtc.edu/)**

## Appleton Agriculture Center

| Class # | Date | Day | Time | Register |
|---|---|---|---|---|
| 40079 | 6/28/21-7/2/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | Registration opens 5/3/21 |

## Chilton Regional Center

| Class # | Date | Day | Time | Register |
|---|---|---|---|---|
| 40080 | 7/12/21-7/16/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | Registration opens 5/3/21 |
| 40081 | 7/19/21-7/23/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | |

## Clintonville Regional Center

| Class # | Date | Day | Time | Register |
|---|---|---|---|---|
| 34510 | 4/5/21-5/3/21 | Mon & Wed | 4:30 pm – 7:30 pm | Register Now! |
| 40082 | 6/7/21-6/11/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | Registration opens 5/3/21 |

## Waupaca Regional Center

| Class # | Date | Day | Time | Register |
|---|---|---|---|---|
| 40083 | 6/21/21-6/25/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | Registration opens 5/3/21 |
| 40084 | 6/28/21-7/2/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | |

## Wautoma Regional Center

| Class # | Date | Day | Time | Register |
|---|---|---|---|---|
| 50273 | 8/2/21-8/6/21 | Mon - Thurs Friday | 9:00 am – 3:30 pm Scheduled Test Time | Registration opens 5/3/21 |

# Event Announcements

## 2021 Agriculture Outlook Forum

You can find all the videos from the 2021 Ag Outlook Forum online.

**https://renk.aae.wisc.edu/2021-agricultural-outlook-forum/**

The program was presented by Renk Agribusiness Institute.

**https://renk.aae.wisc.edu/**

If you have any questions about the content, please contact Sarah Grotjan **Sarah.Grotjan@wisc.edu**

## Badger Crop Connect

Programs presented by UW-Madison Division of Extension every second and fourth Wednesday at 12:30 pm through September.

April 14: Planting field conditions and planter set-up with Francisco Arriaga and Brian Luck
April 28: Wheat fungicides with Damon Smith & TBD
May 12: Corn update with Joe Lauer & insect update with Bryan Jensen
May 26: Soybean update with Shawn Conley & TBD

Register: **https://go.wisc.edu/bccspring2021**

# Dairy & Livestock

## Determining Dairy Farm Profitability When Using Beef Semen

Written by Sandra Stuttgen, A part of the Beef × Dairy program

Advances in dairy reproduction coupled with improvements in calf management have made it possible for many dairies to sort their heifers and cows for breeding to dairy or beef. The best dairy genetics on the farm may be bred to dairy sires to reach future herd production goals, while the dairy genetics of lessor value to the farm may be bred with beef sires. Producing dairy x beef cross calves has the potential to increase market value of these calves compared to straight bred dairy bull calves.

Victor Cabrera, Ph.D., Professor, UW-Madison Division of Extension Specialist in Dairy Farm Management and Wen Li, MS Student have developed an online decision tool a farmer may use for making profitable decisions about mating to beef. As part of the Dairy Management Tools (**https://dairymgt.info/**), the Premium Beef on Dairy Program is designed to illustrate the profit expected according to semen breeding strategies. The program is based on the total number of replacement females needed and the opportunity to obtain premium dollar from dairy and/or beef calves.

The Premium Beef on Dairy Program User's Manual (**https://livestock.extension.wisc.edu/files/2020/11/The_Premium_Beef_on_Dairy_Program.pdf** )describes how this online spreadsheet calculates the Income from Calves Over Semen costs (ICOSC, $/month) as an indicator of farm profitability when using beef semen (combined with sexed and conventional semen) in a dairy reproduction program. This tool calculates the Female Calf Balance (head/month) from the following calculation:

female calves per month = female calves required for herd replacement subtracted from the female calves produced by the defined semen strategy

The tool may be found at **https://DairyMGT.info** -> Tools -> Reproduction ->Premium Beef on Dairy Program.

# Dairy & Livestock

## Dairy Situation and Outlook, March 18, 2021

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

Dairy product prices have strengthened during March and have been higher all month than averages for the month of February. On the CME 40-pound cheddar blocks averaged $1.5821 per pound for February started March at $1.625, reached the current high of $1.80. Cheddar barrels averaged $1.4442 per pound in February started March at $1.42, reached a high of $1.5525 and but have fallen back to $1.49. Dry whey averaged $0.5426 per pound in February started March at $0.5575 and reached the current high of $0.6125. Dry whey has strengthened steadily since September when it was around $0.33 per pound. This strength had added nearly $1.60 to the Class III price. With these improvements in dairy product prices the March Class III price will near $16.30 compared to $15.75 for February.

CME butter prices showed strong strength in March. Butter averaged $1.3859 per pound in February started March at $1.6350, reaching a high of $1.715 and is now $1.71. Nonfat dry milk which averaged $1.1137 per pound in February started March at $1.1425, reached a high of 1.175 and is now $1.165. With these improvements in prices the March Class IV price will be near $14.35 compared to $13.19 in February.

Milk prices for the remainder of the year are uncertain. But there are positive signs for milk prices. Restaurants in some states are being allowed to expand in door dining and some schools are allowing the partial return of students. This is already showing improvement in food service sales which is positive for butter and cheese prices. Hopefully by fall restaurants and schools will be operating more to normal. Dairy exports are forecasted to stay relatively strong for nonfat dry milk/skim milk powder with exports higher than a year ago for butter and whey products. Butter, cheese, and nonfat dry milk/skim milk powder prices are very competitive to other major dairy exporters. Port congestions, container shortages, and labor shortages stemming from trade imbalances created by the pandemic undercut dairy exports last year. This situation is expected to improve.

On the downside stocks levels are relatively high and need to be worked down. The latest stock report showed January 31st stocks of butter up 33% from a year ago, American cheese stocks 3% higher, total cheese stocks also 3% higher, nonfat dry milk stocks 8.8% higher and dry whey stocks 7.1% higher. Expected improved domestic sales and dairy exports will help draw down stocks.

Milk production for the remainder of the year will be a major factor affecting the level of milk prices. USDA revised January milk production to be 2.4% higher than a year ago. February milk production adjusting for 29 days in February a year ago showed milk production was 2.0% higher. Milk cow numbers started to increase month to month back in July of last year. February cow numbers increased another 3,000 to 81,000 more than a year ago or 0.9% higher. Adjusting for 29 days in February a year ago milk per cow as 1.2% higher. Thus, milk production continues at a relatively higher level putting downward pressure on milk prices. Nine of the 24 selected states had less February milk production than a year ago and 10 had fewer milk cows. Indiana led all states with the relatively highest increase in milk production with an increase of 10.5%, followed by increases of 9.7% in South Dakota, 5.8% in Minnesota, 5.3% in Texas, and 4.9% in Colorado. California had an increase of 2.1%, Wisconsin 3.2%, Idaho 0.4%, Michigan 3.8%, and New York 1.7%.

USDA latest forecast has milk cow numbers averaging 57,000 head or 0.6% higher than a year ago with milk per cow 1.2% higher resulting in 1.8% more milk for the year. This is a lot of milk considering last year was leap year. Favorable milk prices will require improved domestic sales and strong exports.

Current Class III dairy futures have recently weakened some but are still fairly optimistic. Class III futures reach the low $18's by June and stay in the low 18's through November before falling to the $17's for December. These prices provide some opportunity for dairy farmers to protect more favorable milk prices with Class III futures or options or using the Revenue Protection program. With feed prices higher than a year ago protecting milk prices is important. USDA is not as optimistic about prices. Their latest forecast has Class III averaging just $16.75 for the year compared to $18.16 last year. The level of government purchases of cheese, butter and fluid milk is not likely to be at the level of last year to support milk prices. The fifth round of the Farms to Families Food Box program expires in April. There remain other government programs where dairy products will be purchased for school lunch and food banks. Price forecasts will no doubt change as the level of milk production, domestic sales and dairy exports unfold.

## How Does Agriculture Fit Into the Covid-19 Vaccination Schedule?

Kevin Jarek, Crops and Soils Agent – Extension Outagamie County

**Full disclaimer upfront**... many parts of this article are taken verbatim from the sources cited below. I do not want to deviate from the exact language provided by Outagamie County and the Wisconsin Department of Health Services (DHS). Many of you may already be aware of this information, but I have had conversations with some farmers and agricultural professionals over the past few weeks who were not aware of where agriculture fits into the plans/ schedule.

If after reading this, you have questions or are looking for more information, you can visit **http://bit.ly/OCCovidInfo**. The Outagamie County site then links you to the state Department of Health Services (DHS) website at **https://www.dhs.wisconsin.gov/covid-19/vaccine-about.htm**.

**When can I get the COVID-19 vaccine?**
COVID-19 vaccine is being distributed to Wisconsin residents in a phased approach. Vaccine supply is limited, and vaccinations are targeted to specific groups of people with a higher risk for COVID-19 infection. We ask that if you can work from home or do not have to interact with the public, please let your fellow Wisconsinites that have a higher risk of exposure to COVID-19 get vaccinated first.

While some groups became eligible for the COVID-19 vaccine on March 1, vaccine providers may prioritize previously eligible groups before newer groups. Based on the amount of vaccine doses available, it may take months for all newly eligible groups to get vaccinated. Every community is different. Some places may be able to start vaccinating your group earlier than others. But everyone will eventually have the opportunity to get vaccinated.

**COVID-19: Am I Eligible for the Vaccine?**
Everyone will be eligible at some point; however, at the time of this writing, we have reached the seventh ranked priority group which is classified as "Some public facing essential workers." This group includes the "Food Supply Chain."

Currently eligible groups in priority order
1. Frontline Health Care Personnel
2. Residents and staff in skilled nursing and long-term care facilities
3. Police and fire personnel, correctional staff
4. Adults ages 65 and older
5. Educators and child care
6. Individuals enrolled in Medicaid long-term care programs
7. Some public facing essential workers

**Food supply chain**
• ***Agricultural production workers, such as farm owners and other farm employees.***
• Critical workers who provide on-site support to multiple agricultural operations, such as livestock breeding and insemination providers, farm labor contractors, crop support providers, and livestock veterinarians.
• Food production workers, such as dairy plant employees, fruit and vegetable processing plant employees, and animal slaughtering and processing employees.
• Retail food workers, such as employees at grocery stores, convenience stores, and gas stations that also sell groceries.
• Hunger relief personnel, including people involved in charitable food distribution, community food and housing providers, social services employees who are involved in food distribution, and emergency relief workers.
• Restaurant workers.

Continued on page 7

## How does Agriculture Fit into the Covid-19 Vaccination Schedule?

Continued from page 6

### Where is the Vaccine Available?

If you are now eligible for a vaccine, you can visit the map (seen at right) to determine which locations are providing the vaccine.

This map is intended to help Wisconsinites more easily find and connect with vaccine providers in their area. It is also meant to provide a snapshot of where vaccine is being sent across the state.

Important details about the map:

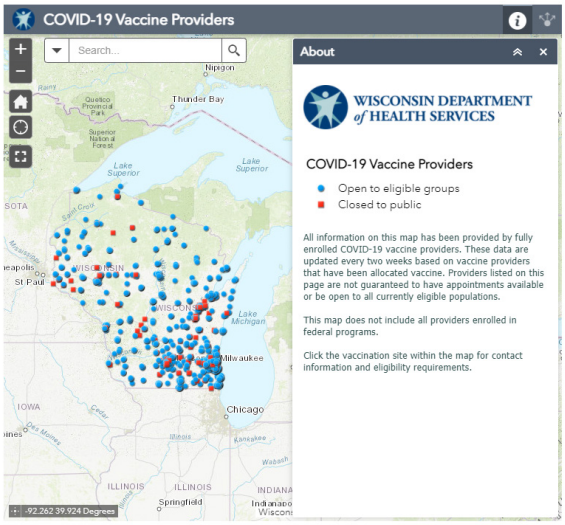
- All vaccinations are by appointment only and each vaccine provider manages its own schedules and appointments.
- Some providers are only open to specific eligibility groups. Please visit the provider's website or contact them before going in to confirm vaccination location and hours, that vaccine doses and appointments are available, and that you are eligible for a vaccine.
- The map is updated every two weeks. Therefore, vaccine providers listed below may have already administered or allocated their supply.
- Please be patient. There is a limited amount of vaccine, so it may be difficult to get an appointment. All vaccine providers are working hard to administer vaccines safely, efficiently, and equitably.

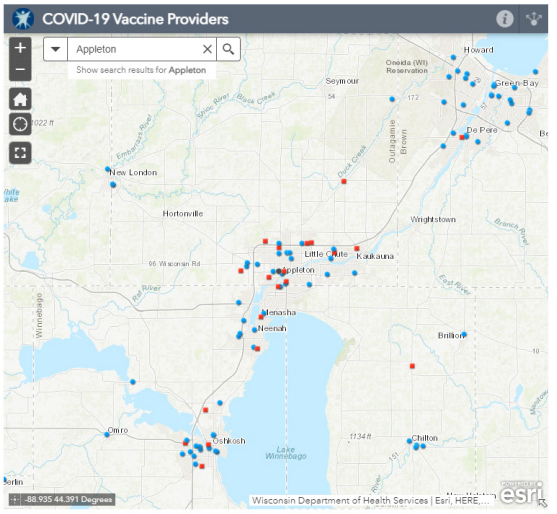
When you get to the map, the blue dots represent locations that are open to the public, while the red dots represent sites that are not open to the public.

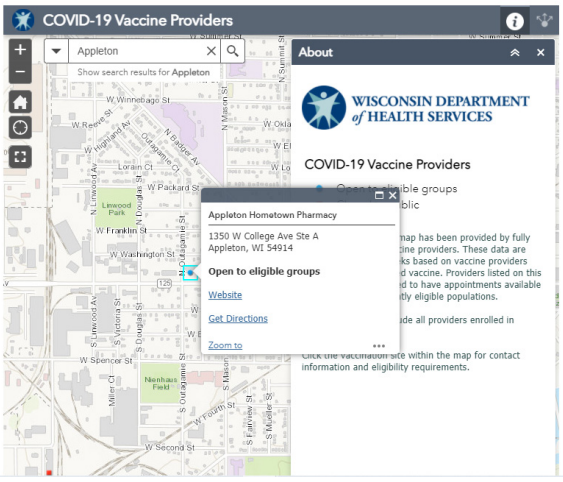
When you click on a blue dot, it will provide you with information about that provider and inform you if they are open to the eligible groups.

You can also call with questions about the COVID-19 vaccine.
Call 844-684-1064 (toll-free).

*Maps Source – Wisconsin DHS - https://www.dhs.wisconsin.gov/covid-19/vaccine-map.htm*



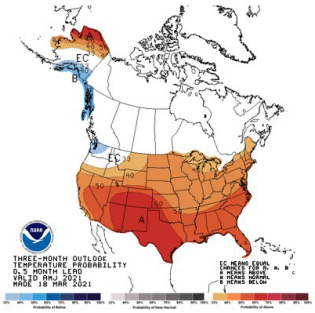



# How NOAA 90-Day Predictions May Affect First Crop Alfalfa Harvest and More…

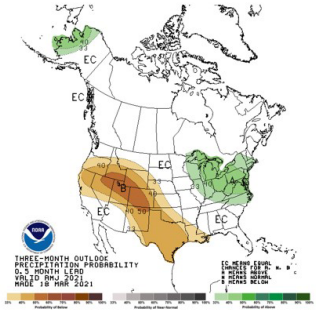
Kevin Jarek, Crops and Soils Agent – Extension Outagamie County

*Maps Source: National Oceanic Atmospheric Administration - https://www.cpc.ncep.noaa.gov/products/predictions/long_range/*

April, May, June 2021 Temperature Outlook Map



April, May, June 2021 Precipitation Outlook Map



## What Has Remained the Same?

In past issues of this newsletter I have always been sure to remind people that "models can and do change." Well, let's start with what has been consistent, the National Oceanic Atmospheric Administration (NOAA) has been predicting above normal temperatures for Wisconsin this spring for several months. The most recent maps suggest that not only will Wisconsin experience an increased probability of accumulating more growing degree days (GDD's) if the higher than normal temperatures manifest themselves, but so will 99% of the United States. In fact, the only part of the country to be designated as having an enhanced probability of lower than normal temperatures is northwest portion of Washington state in the Pacific Northwest.

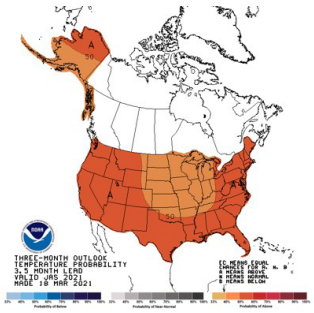
## What Has Changed?

Roy Eckberg, NOAA and NWS (National Weather Service) meteorologist confirmed the "wet weather cycle" that began in 2013. He indicated that these cycles generally last 7-10 years. NOAA 90-day precipitation maps just a few months ago noted that there was up to a 50% increased probability for many parts of Wisconsin to have above normal rainfall. The most current map above has seen that percentage drop to 33-40% while northwestern parts of the state have an EC (equal chance) to go either way. Bottom line, if the 'updated' models are correct, this may be the year we see the weather cycle begin to change. After eight full years, this weather cycle will have run its course which would place it squarely in the normal length of these patterns.

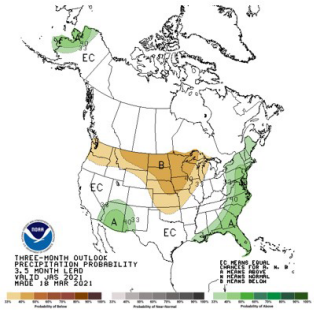
## So What?

It has been a while since we have had a need to visit the U.S. Drought Monitor maps below. Yes, one could note that as of this writing Wisconsin currently is not classified as experiencing a "drought;" however, one may want to take note that more than 90% of the state is 'abnormally dry.' Our neighbors to the south and west are not faring so well. At first glance it becomes clear the most severe drought conditions, classified as 'Exceptional,' are hundreds of miles away. One may miss the fact that northwest parts of Iowa are already experiencing conditions that place them in an 'Extreme' drought category before planting has begun. Drought Monitor maps from several months ago illustrate the creeping nature of these droughty conditions making their way from west to east…

July, August, September 2021 Temperature Outlook Map



July, August, September 2021 Precipitation Outlook Map



## How May this Affect First Crop and Subsequent Cuttings of Alfalfa?

We are off and growing in some alfalfa fields the first week of March 2021. While the usual suspects like dandelions were already greening up, so was the alfalfa… well, some of it… all of the following photos were taken from alfalfa fields in Eastern Outagamie County on March 6, 2021. More time is needed for an accurate assessment.

There are two general observations one would be able to make if the above predicted conditions manifest themselves in 2021. First, cool, wet weather after corn/soybean planting delayed first crop alfalfa harvest for many last year. Fortunately, the cooler temperatures resulted in the plant's maturity not advancing as rapidly as it may have if we had experienced normal or above normal temperatures. The result was we had first cutting alfalfa harvested the first week of June that still tested 190 Relative Forage Quality (RFQ) and higher. Yes, some of this is absolutely attributed to the enhanced genetics and extended quality traits of some of the alfalfa varieties now utilized by producers; however, if the temperature prediction maps hold true, one may need to monitor your alfalfa maturity more closely as quality may change more rapidly in 2021 than what was observed in 2020. You can track forage quality changes during spring growth at the UW-Madison Division of Extension website located at **https://fyi.extension.wisc.edu/scissorsclip/**.

Continued on page 9

## How NOAA 90-Day Predictions May Affect First Crop Alfalfa Harvest and More…

Continued from page 8

### Planning for Alfalfa Forage Needs in 2021

The last three years have definitely taken a toll. Some farmers planted winter cereal grain crops last fall for the first time, while others have been growing these alternative forages annually to help augment their forage and feed supplies. It may be important to spend a little time determining what your carryover alfalfa supply will be, using realistic values to estimate how many tons of DM (dry matter) you expect to harvest in 2021, and look for any in-season opportunities to acquire alfalfa forage as needed. The best way to plan for any potential purchases is by conducting a feed inventory. A detailed video explaining the full process is available from retired Biological Systems Engineer Dr. Brian Holmes at **https://dairymarkets.org/FIT/**. In addition, the fact sheets below contain the information needed to estimate supplies for silo, bag, bunkers, and piles.

**https://go.wisc.edu/y21l45**
**https://go.wisc.edu/ej17t3**
**https://go.wisc.edu/k22x8n**
**https://go.wisc.edu/913i88**

Alfalfa-Breaking Dormancy/Green up

Alfalfa-No Signs of Broken Dormancy

Alfalfa-Potential Crown/Traffic Damage

As we examine hay prices over the past several months, Prime Quality (151 RFV/RFQ) alfalfa large square bales have remained relatively steady in the $200/ton range. It is not uncommon for hay prices to soften once we have certainty that the 2021 crop is greening up. As indicated earlier with the photos above, at the time of this writing, it is too soon to make definitive statements about this year's crop. The drought monitor map and NOAA outlook maps are simply information one may use as they determine what direction hay prices may move in the coming months if these models are accurate.

**Upper Midwest Hay Price Summary by Quality Grade**

| *Hay Grade* | *Bale type* | *---------- Price ($/ton) ----------* | | |
|---|---|---|---|---|
| | | Average | Minimum | Maximum |
| **Prime (> 151 RFV/RFQ)** | Small Square | $257.00 | $210.00 | $300.00 |
| | Large Square | $197.00 | $85.00 | $285.00 |
| | Large Round | $138.00 | $80.00 | $175.00 |
| **Grade 1 (125 to 150 RFV/RFQ)** | Small Square | $166.00 | $130.00 | $224.00 |
| | Large Square | $154.00 | $75.00 | $230.00 |
| | Large Round | $128.00 | $60.00 | $190.00 |
| **Grade 2 (103 to 124 RFV/RFQ)** | Small Square | | No Reported Sales | |
| | Large Square | $122.00 | $75.00 | $175.00 |
| | Large Round | $90.00 | $50.00 | $120.00 |
| **Grade 3 (87 to 102 RFV/RFQ)** | Small Square | | No Reported Sales | |
| | Large Square | $105.00 | $60.00 | $140.00 |
| | Large Round | $77.00 | $45.00 | $120.00 |

### At the end of the day…

If I or anyone else could completely and accurately predict the weather, well, let's just say I would probably find one way or another to monetize that particular skill set. If at the conclusion of the growing season, the NOAA models and outlook(s) are completely wrong with their forecast(s), the worst thing that can happen is you will have taken preemptive action and preventative measures to place your dairy and livestock operation in a position where you have limited exposure to sudden or unfavorable changes in forage/feed prices. A decade ago, corn silage sold for $78 and $80 per ton in August of 2011 and baled hay prices in the spring of 2013 were at levels I do not want to repeat. There are a never-ending set of demands that compete for one's attention this time of year. Taking some time on a rainy day to consider what the data is suggesting about possible outcomes for the 2021 growing season may be time well spent.

# Factors to Consider While Assessing Your 2021 Winter Wheat Crop Stand and Spring Nitrogen Timing

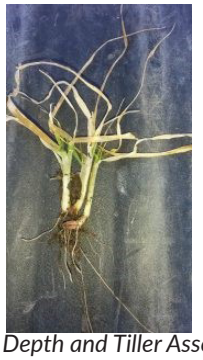
Shawn Conley, Soybean and Small Grain Specialist, UW-Madison

*Arlington Winter Wheat Variety Trial – Roadside Assessment*

As we begin to contemplate spring and the 2021 winter wheat growing season, many growers and consultants alike are beginning to venture out and across their winter wheat fields to assess winter injury and nitrogen timings. Though it is a bit premature to make any rash decisions regarding crop destruction, here are a few considerations for assessing your spring 2021 winter wheat stands.

- As you look across your wheat landscape vibrant green patches will be interspersed with drab brown areas. The brown areas do not necessarily indicate those plants are dead.
- Growers and consultants can either reassess in a week or pull plants from the field and place in warm environments. Milk houses and kitchens work perfect. Root regrowth will appear from the crown and will appear as vibrant white roots as shown below.
- If plants do not recover our critical threshold for turning over a field is 12 to 15 live plants per square foot. Below this threshold (< 12 plants per square foot) is an automatic replant decision.
- In regards to N application timing for winter wheat that decision is pretty darn simple. Research from Dr. Carrie Laboski's program indicates that the optimal time to apply nitrogen to wheat in WI is green-up regardless of tiller count.
- Also remember that wheat grain in itself is only part of the revenue you capture with winter wheat. The price of winter wheat straw remains strong. Please consider that revenue stream before any replant decisions are made.
- If you decide your wheat crop is not worth keeping (i.e. you can tell your neighbors you planted a planned cover crop last fall) please remember to terminate it a minimum of two weeks before you establish your next cash crop.

*In Field Stand Assessment*



*Planting Depth and Tiller Assessment*

*Spring Root Regrowth in Winter Wheat*

# What Did We Learn from the 2020 Wisconsin Alfalfa Yield and Persistence (WAYP) Project Results?

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

Images Source: WAYP 2020 Summary Report - https://fyi.extension.wisc.edu/forage/files/2021/03/2020-WAYP-Summary.pdf

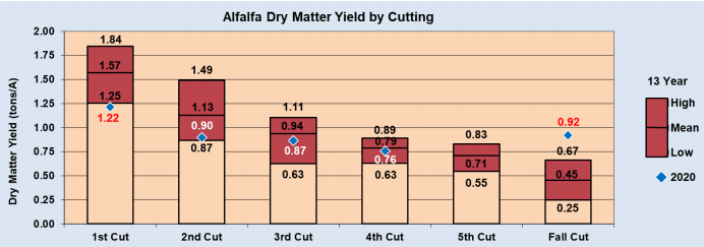
I do not have to tell anyone that we have had some challenging times with alfalfa as of late. The value of having historical data as a result of the Wisconsin Alfalfa Yield and Persistence (WAYP) project is that we can take a step back, take a breath, and prevent recency bias from leading us to arrive at an incorrect conclusion. We are all prone to subjective or anecdotal observations influencing how we may think about any number of topics. When started in 2007, the WAYP had two simple objectives…

1. To verify the yield and quality of alfalfa harvested from production fields over the life of the stand beginning with the first production year (year after seeding).

2. To quantify decreases in stand productivity of alfalfa fields as they age.

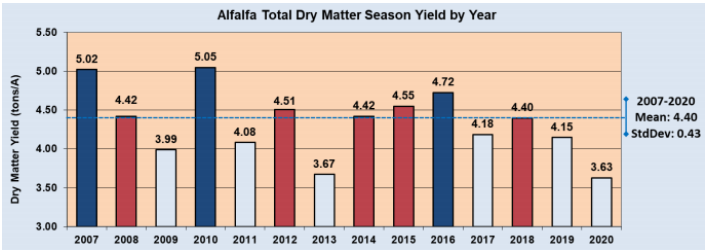
### 2020 Growing Season Dry Matter Yields by Cutting

Let's start by examining how the 2020 crop performed in comparison to the historical mean TDM/A (tons of dry matter/acre) yield. On average, first cutting resulted in 1.22 TDM/A. This was significantly below the mean of 1.57 TDM/A and set a record average low yield for first cutting TDM/A over the length of this project. Second, third, and fourth cuttings would also yield below the historical mean; however, unlike first cutting, none of them fell below the previously established average low yield for those individual cuts.



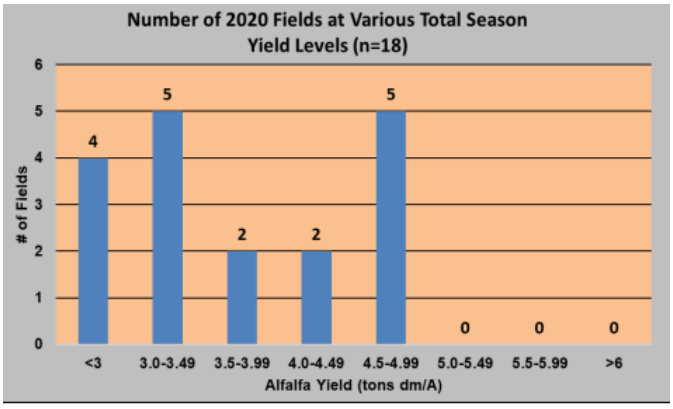

### Alfalfa Total Dry Matter Season Yield by Year

Over the fourteen years of collecting data for this effort, there are only two years where the TDM/A yield for the season averaged above 5 TDM/A. The first year of the project (2007) had a final average yield of 5.02 TDM/A and 2010 came in slightly higher at 5.05 TDM/A for the season. The closest we have been since was 2016 when participating farms reported 4.72 TDM/A five years ago. It has been more than a decade since we have observed average on-farm yields above 5.0 TDM/A as a part of this effort. Not only is it concerning that the recent trend has been downward, but for many it is not surprising that we set an all time low of 3.63 TDM/A for total season yield in 2020. The previously established low mark of 3.67 TDM/A occurred during the cold, wet year of 2013 when many alfalfa fields suffered significant winterkill similar to what we have experienced the past few years. It is somewhat disconcerting that we have only reached the mean average total season yield twice (2016, 2018) in the past five years and only exceeded it once (2016).




### Distribution of 2020 Total Season Dry Matter Yields

When you set a record low total season annual yield as we did in 2020, there are not going to be many fields above the historical mean of 4.40 TDM/A. Only five of the eighteen fields recorded more than 4.50 TDM/A while only seven fields yielded at least 4.0 TDM/A. Eleven of the eighteen (61.1%) project fields yielded 3.99 TDM/A or less, while nine of eighteen (50.0%) produced less than 3.50 TDM/A. Alfalfa yields left a lot to be desired in 2020.



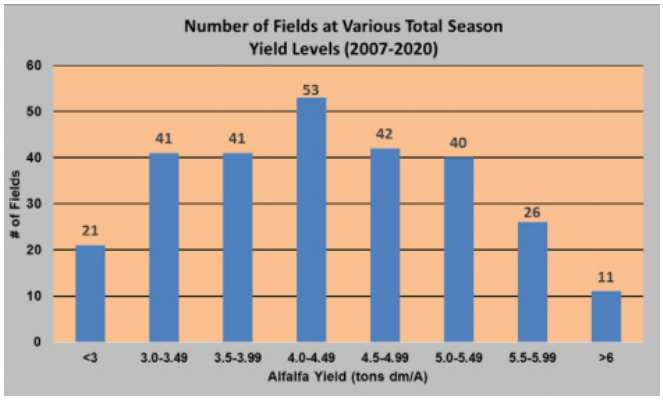

Continued on page 12

## What Did We Learn from the 2020 Wisconsin Alfalfa Yield and Persistence (WAYP) Project Results?

Continued from page 11

### Distribution of Historical Total Season Dry Matter Yields

When I have been asked by farmers and agricultural professionals to identify the most commonly occurring alfalfa yield across the state of Wisconsin, I have identified 4.0-4.5 TDM/A. As the chart below illustrates, my proclamation has been accurate. As depicted by the graph, we have farms where total season yields have exceeded 6.0 TDM/A; however, one must also acknowledge we have nearly twice as many fields that yielded less than 3.0 TDM/A. While one can argue that 43.2% (119/275) of the fields resulted in 4.50 TDM/A or higher for total season yield, that means the other 56.8% (156/275) of the time over-the-scale measured on-farm yields were less than 4.50 TDM/A. Using data cited earlier, we have averaged above 4.50 TDM/A only once in the past five years (4.72 TDM/A, 2016). Therefore, it is always advantageous for both buyers and sellers who may be pricing alfalfa for the season to make every attempt to weigh the wet feed harvested, collect multiple samples during harvest, determine an average DM content, and then calculate final TDM/A yields.

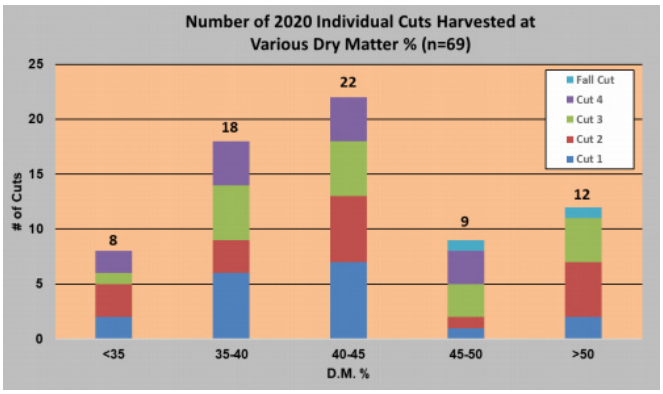



### Evaluating Alfalfa Quality Measurements

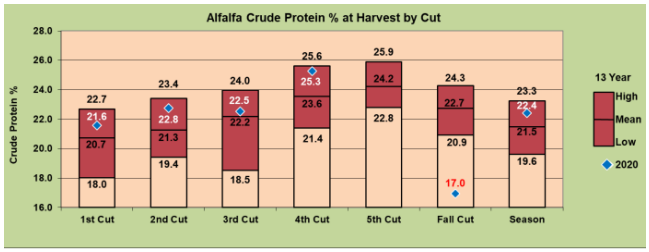
Dairy nutritionists look at four values on any feed analysis report to get a first impression of the quality of the forage they are going to be working with. Those items include:

- Dry Matter (DM)
- Crude Protein (CP)
- Neutral Detergent Fiber Digestibility (NDFD) 30-hour, 120-hour, 240-hour or TTNDFD
- Relative Feed Value (RFV), Relative Forage Quality (RFQ), or Milk Per Ton (MPT)

Let's start with DM. Attendance to a number of professional development events over the past two decades has resulted in a consistent message for those who manage your rations. If we have to err on the side of caution, we want our corn silage to be a little wetter than need be, but we want our haylage to be a little drier than need be. Harvesting alfalfa at an ideal DM of approximately 40-45% (55-60% moisture) was accomplished on a large scale due to some friendly weather windows that opened for many during the 2020 growing season. Despite areas experiencing flooding early on, followed by droughty conditions later in the season, the DM % of the alfalfa haylage forage harvested during 2020 was acceptable for most.




While we did not set any new individual cutting records with Crude Protein (CP) levels in 2020, they were exceptional with first, second, third, and fourth cuttings all registering values above the mean. The only blemish was the low CP value for alfalfa harvested as a part of a late fall cutting which came in significantly lower than the previously established low for alfalfa harvested at that time of the year. Overall, most farmers were very satisfied with CP levels for the season.

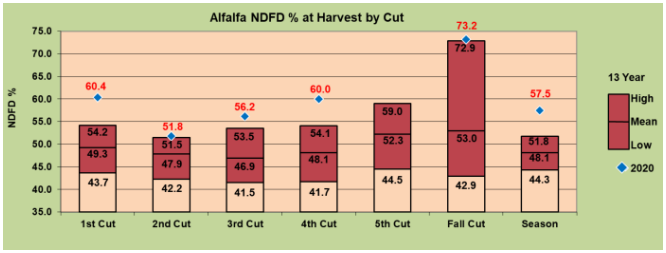



Continued on page 13

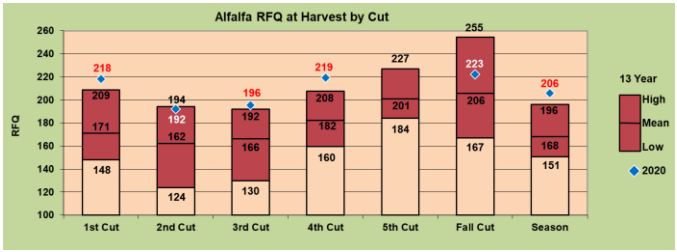
## What Did We Learn from the 2020 Wisconsin Alfalfa Yield and Persistence (WAYP) Project Results?

Continued from page 12

Neutral Detergent Fiber Digestibility (NDFD) levels were literally "off the charts" in 2020. Not only did we set new single season records for first, second, third, and fourth cuttings, a late fall cutting broke the previous record resulting in a clean sweep for the season. The NDFD average for the season (57.5) eclipsed the previous high (51.8) value by 5.7 percent. 2020 produced the most digestible alfalfa over the 14 years of collecting data for this on-farm effort.

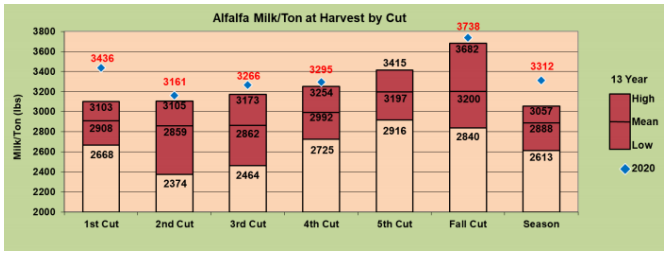



Relative Forage Quality (RFQ) also set records across first, second, third, and fourth cuttings in 2020. As expected, this resulted in a new season high mean of 206 RFQ, an increase of 10 points over the previous season high of 196 RFQ. The combination of harvesting alfalfa at the ideal DM, combined with above average protein levels all season long, in addition to the most highly digestible alfalfa crop ever harvested as a part of this effort all contribute to the record setting RFQ levels illustrated below.




When it is all said and done, it should be no surprise that we ended the season with the highest recorded Milk Per Ton (MPT) means across every single cutting that was harvested during the 2020 growing season. There are a lot of factors that need to line up just right for a set of circumstances to present themselves in terms of growing degree days (GDD's), timely precipitation, limited insect and disease pressure, and of course cooperative weather during harvest to achieve these results. The new record season mean of 3,312 lbs. MPT is an increase of 255 lbs. MPT over the previous high mark of 3,057 lbs. MPT. What more can be said about the quality of the 2020 alfalfa crop other than it was historical.

### Final Thoughts




Author Charles Dickens may have written A Tale of Two Cities in 1859, but his famous quote "It was the best of times, it was the worst of times…" from this historical novel seems it was written specifically to describe the conditions farmers faced in Wisconsin when growing and harvesting the 2020 alfalfa crop. Never have we harvested alfalfa with the record-breaking quality characteristics that have been outlined above, nor have we ever had an alfalfa crop produce record low yields all in the same year.

Unfortunately, there is a reason when farmers are selecting alfalfa varieties, yield is still considered the number one trait. While MPT is nice, Milk Per Acre (MPA = DM Yield X MPT) can tell us more about the overall ability of that harvested alfalfa to contribute to overall farm income or what some might call "bulk tank economics." We do not want to diminish how incredible the quality of the 2020 alfalfa crop was. Unfortunately, in too many cases, quality was not enough to overcome the impact of the record low yields that were realized on many farms across the state.

If we want to better understand the heavy influence DM yield and MPA has on the overall profitability of alfalfa stands, I will ask you to review the article Are You 'Gambling' with the Real Costs of Damaged Alfalfa Stands. We track an alfalfa field from Outagamie County that was a part of the WAYP. Newly seeded in 2017, first, second, and third full production year data was collected for 2018, 2019, and 2020. While we can overcome DM yield loss by managing for higher quality, there is a point where when we fall below a critical mass of yield, no matter how high the quality of the forage, it is near impossible for the stand to justify continuing as a part of the rotation. This information may be useful as you evaluate your alfalfa fields for 2021.

# WEED RESISTANCE

## DOCUMENTED WEED RESISTANCE IN WI – 2019

| Group | Herbicide Site of Action | Weed species | Year (1st case) |
|---|---|---|---|
| 1 | **ACCase** inhibitors | Giant foxtail | 1991 |
| | | Large crabgrass | 1992 |
| 2 | **ALS** inhibitors | Kochia | 1995 |
| | | Eastern black nightshade | 1999 |
| | | Giant foxtail | 1999 |
| | | Green foxtail | 1999 |
| | | Waterhemp ‡ | 1999 |
| | | Giant ragweed | 2013 |
| | | Common ragweed | 2013 |
| | | Palmer amaranth* | 2014 |
| 5 | **PS II** inhibitors | Common lambsquarters | 1979 |
| | | Smooth pigweed | 1985 |
| | | Kochia | 1987 |
| | | Velvetleaf | 1990 |
| | | Palmer amaranth* | 2019 |
| 9 | **EPSP** | Giant ragweed | 2011 |
| | | Horseweed | 2013 |
| | | Palmer amaranth* | 2013 |
| | | Waterhemp ‡ | 2013 |
| | | Common ragweed | 2018 |
| 14 | **PPO** inhibitors | Waterhemp ‡ | 2016 |
| 27 | **HPPD** inhibitors | Palmer amaranth* | 2014 |

* indicates multiple resistance to ALS, EPSP and HPPD inhibitors
‡ indicates multiple resistance to ALS, EPSP and PPO inhibitors

## AVOID HERBICIDE RESISTANCE IN WEEDS

- ✓ **Always start with a clean field.** Use burndown treatments or tillage in combination with preemergence and postemergence herbicides.
- ✓ **Rotate herbicides and use the recommended rate.** Mix and rotate multiple herbicide sites of action with overlapping weed spectrums. Use the full recommended rate, correct spray height and application timing for the hardest to control weed.
- ✓ **Rotate crops.** Use diverse crop rotations; three or four crops in rotation provide more resistance protection than two. Where possible, use crops with different life cycles.
- ✓ **Use mechanical weed control methods.** Rotary hoe and/or cultivate to complement herbicide treatments where appropriate.
- ✓ **Scout regularly for weeds.** Know your weeds! Respond quickly when herbicide resistance is suspected and control escaping weeds as needed. *Do not allow them to produce seed.* Pay attention to field borders and headlands.
- ✓ **Practice prevention.** Do not move weed seed around. Clean all farm equipment prior to moving from fields/farms with resistant weeds to other fields/farms.

## SIGNS OF HERBICIDE RESISTANT WEEDS

- ✓ Weed species is labeled for control, and application was made at correct weed height.
- ✓ There were no herbicide application errors.
- ✓ Environment was favorable for good herbicide performance.
- ✓ Only one species escaped control.
- ✓ Weed is healthy while neighboring weeds of the same species have died.
- ✓ Respraying did not control the weed.
- ✓ Weed was not controlled in the same patch in the past and the patch is getting larger.
- ✓ Weed was not controlled by different herbicides with the same site of action in the past.
- ✓ The same site of action has been used frequently.

## Adjuvant rate conversions

| | | Spray volume (GPA) | | |
|---|---|---|---|---|
| | | 20 | 15 | 10 |
| Adjuvant rate | Amount/ 100 gallons | Adjuvant rate per acre | | |
| 2% | 2 gallons | 3.2 pints (51.2 ounces) | 2.4 pints (38.4 ounces) | 1.6 pints (25.6 ounces) |
| 1% | 1 gallon | 1.6 pints (25.6 ounces) | 1.2 pints (19.2 ounces) | 0.8 pint (12.8 ounces) |
| 0.5% | 2 quarts | 0.8 pint (12.8 ounces) | 0.6 pint (9.6 ounces) | 0.4 pint (6.4 ounces) |
| 0.25% | 1 quart | 0.4 pint (6.4 ounces) | 0.3 pint (4.8 ounces) | 0.2 pint (3.2 ounces) |
| 0.125% | 1 pint | 0.2 pint (3.2 ounces) | 0.15 pint (2.4 ounces) | 0.1 pint (1.6 ounces) |

## Field sprayer calibration equations

$$\text{Speed (mph)} = \frac{\text{Distance (in feet)} \times 60}{\text{Time (in seconds)} \times 88} \qquad \text{GPA} = \frac{5{,}940 \times \text{GPM (per nozzle)}}{\text{mph} \times W^*}$$

*W stands for nozzle spacing for broadcast application or spray width for single nozzle or band applications.

## Conversions

| | |
|---|---|
| Celsius = (Faranheit - 32) x .55 | 1 pound/acre = 1.12 kilogram/hectare |
| 1 tablespoon = 0.5 fluid oz | 1 square mile = 640 acres |
| 2 tablespoons = 1.0 fluid oz | 1 acre = 43,560 square feet |
| 32 fluid ounces = 1 quart | 1 mile = 5,280 feet |
| 128 fluid ounces = 1 gallon | 1 mile/hour = 88 feet/minute |

# INSECT PEST TREATMENT THRESHOLDS

## FIELD CORN TREATMENT THRESHOLDS

| | |
|---|---|
| **Armyworm** | One or more armyworms on 75% of the plants or 2 armyworms on 25% of the plants. Average armyworm length must be ≤ 1 inch to merit treatment. |
| **Black cutworm** | 2–5% of plants damaged and larvae are ≤ 6th instar. Use the head capsule gauge below to determine instar. |
| **Corn leaf aphid** | 50% or more of the plants have > 50 aphids per plant. Plants are in the late-whorl to early tassel stages. |
| **Corn rootworm beetle** | For pollination protection: Treat before 70% silking if silks are clipped to within ½ inch of husk. For root protection: Following corn, treat when counts average 0.75 beetles per plant during the egg laying period of mid-Aug. to early Sept. of the previous year. Following soybean, treat corn if yellow sticky trap catches average more than 1.5 Western corn rootworm beetles/trap/day during the egg laying period of Aug. to early Sept. |
| **European corn borer (ECB)** | ECB has two generations per year in most of Wisconsin. Peak spring moth flights occur at 630 GDD. Peak summer moth flights occur at 1700 GDD. Use the worksheets in UWEX publication A3646 *Pest Management in Wisconsin Field Crops* to determine if treatment for ECB is justified. |
| **Japanese beetle** | Treat if corn is pollinating and there are >3 beetles/ear and silks being clipped within ½ inch of ear tip. |
| **Two-spotted spider mite** | Control may be necessary when 15–20% of the leaf area is covered with colonies and moderate damage is noted and hot, dry conditions are expected to continue. The greatest benefit of miticides normally occurs prior to dent stage. Thorough corn leaf coverage is necessary for control. |
| **Western bean cutworm (WBC)** | Scout 20 consecutive corn plants at 5 locations in a field to obtain a representative field sample. Treat if 5% of sampled plants have egg masses and/or small larvae. |

No established thresholds for seed corn maggot, white grubs, wireworms, hop vine borer or slugs.

## ALFALFA TREATMENT THRESHOLDS

Avoid insecticide applications within 7 days of cutting

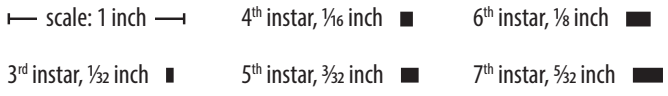
| | |
|---|---|
| **Alfalfa blotch leafminer** | 30–40% of leaflets showing pinhole feeding. |
| **Alfalfa plant bug**<br>**Tarnished plant bug** | 3 per sweep on 3 inch or shorter alfalfa.<br>5 per sweep on alfalfa taller than 5 inches. |
| **Alfalfa weevil** | 1st cutting: 40% or more of stems showing feeding and prior to one week of harvest.<br>2nd cutting: 50% or more of stems showing feeding. |
| **Meadow spittlebug** | 1 nymph per stem. |
| **Pea aphid** | Minimum of 100 aphids per sweep. |
| **Potato leafhopper** | 0.2/sweep on 3 inch alfalfa.<br>0.5/sweep on 6 inch alfalfa.<br>1/sweep on 8–11 inch alfalfa.<br>2/sweep on alfalfa taller than 12 inches. |

## SMALL GRAINS TREATMENT THRESHOLDS

| | |
|---|---|
| **Armyworm** | 3 armyworms per sq. foot. |
| **Bird-cherry aphid**<br>**Oat aphid**<br>**English grain aphid**<br>**Corn leaf aphid** | Delay planting until September 15th.<br>Seedlings: 30 aphids per stem.<br>Boot to heading: 50 aphids per stem. |
| **Cereal leaf beetle**<br>**Wireworm** | 1 larvae per flag leaf. |
| **Greenbug** | Seedlings: 20 aphids per stem.<br>Boot to heading: 30 aphids per stem. |
| **Grasshopper** | Treat if grasshoppers average 20 per sq. yard on field edges or 8 per sq. yard for a field average. For most effective control, apply when grasshoppers are small. |

**HEAD CAPSULE GUAGE for black cutworm**

To determine the instar stage of larvae, hold the head between thumb and forefinger, and place on the closest corresponding ruler.



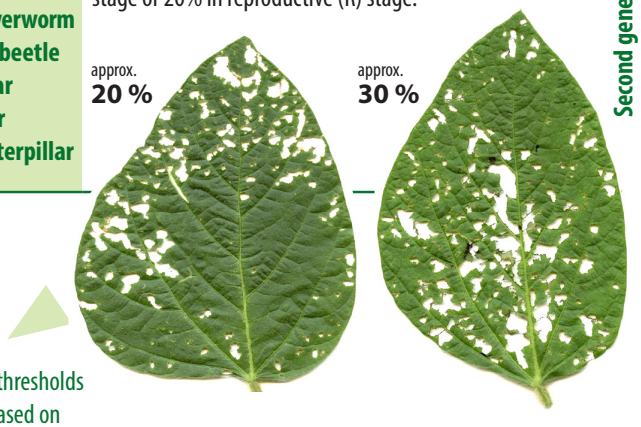

**Stalk borer** thresholds based on corn price and expected yield

Thresholds based on $13.00/acre control costs and 80% control with insecticides. (Adapted from Erin Hodgson, Iowa State University.)

| | $3/bu | | | | $4/bu | | | | $5/bu | | | | $6/bu | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | - - - Expected yield bu/a - - - | | | | - - - Expected yield bu/a - - - | | | | - - - Expected yield bu/a - - - | | | | - - - Expected yield bu/a - - - | | | |
| **leaf stage** | **150** | **175** | **200** | **225** | **150** | **175** | **200** | **225** | **150** | **175** | **200** | **225** | **150** | **175** | **200** | **225** |
| **1** | 5.8 | 4.9 | 4.3 | 3.8 | 4.3 | 3.7 | 3.2 | 2.9 | 3.5 | 3.0 | 2.6 | 2.3 | 3.0 | 2.5 | 2.2 | 1.9 |
| **2** | 7.1 | 6.0 | 5.3 | 4.7 | 5.3 | 4.5 | 4.0 | 3.5 | 4.2 | 3.6 | 3.2 | 2.8 | 3.5 | 3.0 | 2.7 | 2.4 |
| **3** | 9.3 | 8.0 | 7.0 | 6.2 | 7.0 | 6.0 | 5.3 | 4.7 | 5.6 | 4.8 | 4.2 | 3.7 | 4.7 | 4.0 | 3.5 | 3.1 |
| **4** | 9.9 | 8.5 | 7.4 | 6.6 | 7.4 | 6.4 | 5.6 | 5.0 | 5.9 | 5.1 | 4.5 | 4.0 | 5.0 | 4.3 | 3.7 | 3.3 |
| **5** | 11.3 | 9.7 | 8.5 | 7.6 | 8.5 | 7.3 | 6.4 | 5.7 | 6.8 | 5.8 | 5.1 | 4.5 | 5.7 | 4.9 | 4.3 | 3.8 |
| **6** | 19.8 | 17.0 | 14.9 | 13.2 | 14.9 | 12.8 | 11.2 | 9.9 | 11.9 | 10.2 | 8.9 | 7.9 | 9.9 | 8.5 | 7.4 | 6.6 |
| **7** | 54.7 | 46.9 | 41.1 | 36.5 | 41.1 | 35.2 | 30.8 | 27.4 | 32.8 | 28.2 | 24.6 | 21.9 | 27.4 | 23.5 | 20.5 | 18.2 |

## SOYBEAN TREATMENT THRESHOLDS

| | |
|---|---|
| **Soybean aphid** | Avoid treating soybean aphid when they first appear. Scout fields weekly to find rate of population increase. Count number of aphids on 20–30 plants per field. Check upper leaves and stems where aphids congregate. Continue scouting through the R5 pod stage. Treat when approximately 80% of the field has reached an average of 250 aphids per plant and the population is actively increasing. This threshold applies to R1–R5. Treating after R6 has not been shown to increase yield. |
| **Green stinkbug** | Treat when adults and/or nymphs reach 1 per foot of row during pod fill. If "narrow rows", threshold is 40/100 sweeps. |
| **Two-spotted spider mite** | Treatment may be warranted if: Mites are present between bloom (R1) and pod fill (R5). 15% or more leaf area on plants are discolored and stippled with leavings yellowing. Live mites are present. Hot, dry weather is expected to continue. |
| **Potato leafhopper** | 2 per plant with ≤ 3 trifoliate leaves. R1-R2: 6 per plant on flowering soybean. R4: 13 per plant on soybean at full pod. |
| **Seed corn maggot** | No established thresholds. Monitor degree days to avoid peak flight periods (360 DD, 1080 DD, base 39º F). |
| **Grasshopper<br>Green cloverworm<br>Japanese beetle<br>Wooly bear caterpillar<br>Thistle caterpillar** | Treat when defoliation reaches 30% in vegetative (V) stage or 20% in reproductive (R) stage. |




Defoliation thresholds should be based on leaves sampled from the entire plant, not just the upper leaves. Also, keep in mind that estimating leaf damage in the field is a subjective observation, not an exact measurement; just getting it in the 'ballpark' is acceptable.

### Additional pest management resources

**UW Wisconsin Crop Manager:** https://ipcm.wisc.edu/wcm/

**UW Corn Agronomy:** http://corn.agronomy.wisc.edu

**UW Field Crop Disease:** http://badgercropdoc.com

**UW Insect Diagnostics:** http://labs.russell.wisc.edu/insectlab/

**UW Plant Disease Diagnostics:** https://pddc.wisc.edu

**UW Soybean Research:** https://coolbean.info

**UW Weed Science:** http://www.wiscweeds.info

**DACTP Wisconsin Pest Bulletin:** http://datcpservices.wisconsin.gov/pb/index.jsp

### Bean leaf beetle thresholds based on soybean price and control cost

**Overwintering adults** (per soybean plant)

| | VC growth stage | | | V1 growth stage | | | V2 growth stage | | |
|---|---|---|---|---|---|---|---|---|---|
| **Control** | **$6** | **$8** | **$10** | **$6** | **$8** | **$10** | **$6** | **$8** | **$10** |
| $5/bu | 2.4 | 3.2 | 4.0 | 3.7 | 5.0 | 6.2 | 5.9 | 7.8 | 9.8 |
| $6/bu | 2.0 | 2.7 | 3.4 | 3.1 | 4.1 | 5.2 | 4.9 | 6.5 | 8.1 |
| $7/bu | 1.6 | 2.2 | 2.8 | 2.5 | 3.2 | 4.2 | 3.9 | 5.2 | 6.4 |
| $8/bu | 1.2 | 1.7 | 2.2 | 1.9 | 2.3 | 3.2 | 2.9 | 3.9 | 4.7 |
| $9/bu | 0.8 | 1.2 | 1.6 | 1.3 | 1.4 | 1.2 | 1.9 | 2.6 | 3.0 |
| $10/bu | 0.4 | 0.7 | 1.0 | 0.7 | 0.5 | 0.2 | 0.9 | 1.3 | 1.3 |

**First generation adults** (per 20 sweeps)

| **Control** | **$7** | **$8** | **$10** | **$12** | **$15** |
|---|---|---|---|---|---|
| $5/bu | 23.0 | 26.2 | 32.6 | 39.0 | 48.6 |
| $6/bu | 19.3 | 22.0 | 27.3 | 32.6 | 40.6 |
| $8/bu | 14.6 | 16.6 | 20.3 | 24.6 | 30.6 |
| $10/bu | 11.8 | 13.4 | 16.6 | 19.8 | 24.6 |
| $13/bu | 9.2 | 10.5 | 12.9 | 15.4 | 19.1 |

**Second generation adults** (per 20 sweeps)

| **Control** | **$10** | **$11** | **$12** | **$13** | **$14** | **$15** | **$16** | **$17** |
|---|---|---|---|---|---|---|---|---|
| $7/bu | 4.45 | 4.89 | 5.34 | 5.78 | 6.22 | 6.67 | 7.11 | 7.56 |
| $8/bu | 3.89 | 4.28 | 4.67 | 5.06 | 5.45 | 5.84 | 6.22 | 6.61 |
| $9/bu | 3.46 | 3.8 | 4.15 | 4.50 | 4.84 | 5.19 | 5.53 | 5.88 |
| $10/bu | 3.11 | 3.42 | 3.73 | 4.05 | 4.36 | 4.67 | 4.98 | 5.29 |
| $11/bu | 2.83 | 3.11 | 3.40 | 3.68 | 3.96 | 4.24 | 4.53 | 4.81 |
| $12/bu | 2.59 | 2.85 | 3.11 | 3.37 | 3.63 | 3.89 | 4.15 | 4.41 |
| $13/bu | 2.39 | 2.63 | 2.87 | 3.11 | 3.35 | 3.59 | 3.83 | 4.07 |
| $14/bu | 2.22 | 2.45 | 2.67 | 2.89 | 3.11 | 3.33 | 3.56 | 3.78 |

Source: Dr. Erin W. Hodgson, Extension Entomologist, Iowa State University

## SOYBEAN CYST NEMATODE (SCN)

### How to collect soil samples for testing

**1. Use a soil probe or narrow-bladed trowel or shovel.** Take cores close to plants at a depth of 8–10 inches. Discard the upper 2 inches of soil, especially if it is dry. Be sure to include plant roots.

**2. Submit one sample for a 10-acre field or for a suspected area within the field.** Sample from plants in the margins of suspected area, not from their centers. Collect in a zigzag pattern across the field. Collect from areas of similar soil texture and cropping history. If different crops were grown or there is markedly different soils within a field, sample separately.

**3. Take soil and roots from 12–20 plants and mix into one sample (1–2 pints of soil).** Place in a sturdy plastic bag (or soil sample bag), fasten the open end securely and label accurately with an indelible marker. Keep the samples out of the sun and don't let them dry out.

**4. Mail as soon as possible (early in the week to avoid delays in transit).** Mail to the Plant Disease Diagnostic Clinic,1630 Linden Drive, University of Wisconsin, Madison, WI 53706. Consult with your county extension agent about private laboratories that conduct SCN analyses.

# FUNGICIDE MANAGEMENT

## GUIDELINES FOR FUNGICIDE RESISTANCE MANAGEMENT

- ✓ **Choose hybrids/varieties adapted** for your region; resist the temptation to "push" relative maturity or maturity group for your region.
- ✓ **Plant disease-resistant** hybrids/varieties whenever possible.
- ✓ **Maintain** proper soil fertility.
- ✓ **Avoid sites** with a history of high disease pressure.
- ✓ **Utilize** a crop rotation that fits your area and field history.
- ✓ **Scout** fields on a regular basis, noting incidence and severity of diseases. Use this information to develop a field history for future disease management decisions.
- ✓ **Tank mix** high-risk fungicides with fungicides that have different modes of action, are active against the targeted disease(s), and have similar lengths of residual activity.
- ✓ **Do not use** reduced rates of fungicides.
- ✓ **Alternate** or tank mix fungicides with different modes of action when multiple applications are required.
- ✓ **Apply fungicides preventively** or early in the disease cycle and when a disease threat is warranted.
- ✓ **Avoid curative** fungicide applications, especially with high-risk fungicides.
- ✓ **Monitor weather conditions in-season;** warm dry weather does not promote disease development. You might be able to avoid having to make a fungicide application altogether in some years.
- ✓ **For more information,** consult University of Wisconsin Extension publication: A3878, *Fungicide resistance management in corn, soybean, and wheat in Wisconsin*.

NPM
April 2020

This publication is available from the Nutrient and Pest Management (NPM) Program.
For copies, contact us:
email (npm@hort.wisc.edu);
phone (608) 265-2660 or visit our website (ipcm.wisc.edu)



College of Agricultural & Life Sciences
UNIVERSITY OF WISCONSIN-MADISON

## FUNGICIDE APPLICATION TIMING FOR CORN, SOYBEAN AND WHEAT

Below are some general guidelines for preferred timing of fungicide application, targeted pathogens and tools to help you make the decision to spray fungicide or not. For more information, consult University of Wisconsin Extension publication, A3646 *Pest Management in Wisconsin Field Crops*.

### THE LABEL IS THE LAW

**Always read and follow the pesticide label.**

Pay close attention to the maximum number of sprays allowed per season, recommended application rates and application timing for both target pest and plant growth stage.

### FIELD CORN

- ✓ **The best time to apply fungicide for foliar disease control in Wisconsin corn is during VT–R1 growth stages.**
- ✓ Use past history of disease, scouting information and weather forecasts to make the decision to spray or not.
- ✓ For diseases such as gray leaf spot and northern corn leaf blight, scout the lower canopy prior to the VT growth stage. If symptoms of these diseases are present on the lower leaves on 50% or more plants, there is a history of these diseases in the field, and weather is warm, wet/humid, then a fungicide might be warranted to protect the upper leaves.
- ✓ Other factors to consider are the susceptibility of the hybrid being grown, the presence of previous crop corn residue and supplemental irrigation.

**VT:** The last branch of the tassel is completely extended; silks have not emerged from the ear sheaths. **R1:** The silks are visible outside the husks.

### SOYBEAN

- ✓ **Fungicides should be applied between the R1– R4 growth stages based primarily on the risk for white mold and foliar disease such as frogeye leaf spot.**
- ✓ Use past field history to gauge the risk of white mold and foliar disease.
- ✓ Use the Sporecaster smartphone app to make the decision to apply fungicides for targeting white mold.
- ✓ Scout during bloom (R1–R3) to make a decision to apply fungicide for foliar disease control. Make the decision to spray for foliar diseases if symptoms are present and weather is warm, wet/humid.

**R1:** One open flower anywhere on the main stem. **R2:** An open flower at one of the two uppermost nodes on the main stem with a fully developed leaf. **R3:** 3/16 inch long pod at one of the four uppermost nodes on the main stem with a fully developed leaf. **R4:** 3/4 inch long pod at one of the four uppermost nodes on the main stem with a fully developed leaf.

### WHEAT

- ✓ **In Wisconsin, fungicide applications prior to Feekes 8 are generally not economically viable.**
- ✓ **Scout at the Feekes 8 growth stage** to gauge foliar disease pressure, especially from stripe rust. If active disease is present, a fungicide might be warranted at this time, especially if weather is forecasted to be wet.
- ✓ Plan to apply a fungicide at the **Feekes 10.5.1** growth stage or up to 5 days after the start of this growth stage to protect wheat against Fusarium head blight.

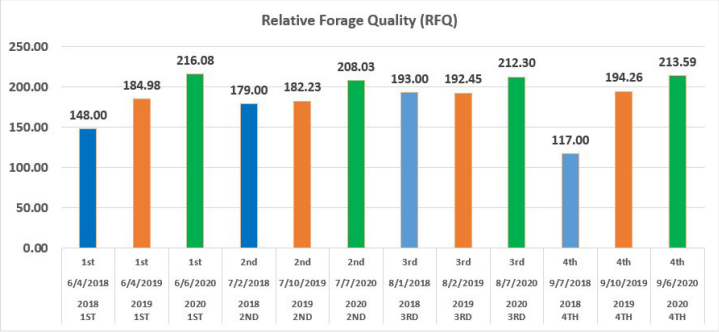
**Feekes 8:** Flag leaf is visible but still rolled up; it must be protected from disease or insect damage to ensure the plant's full yield potential. **Feekes 10.5.1:** Flowering begins; starting slightly above the middle portion of the head and continuing towards the top.

# Are You 'Gambling' with the Real Costs of Damaged Alfalfa Stands?

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

A substantial amount of less-than-ideal alfalfa acreage remained in production these past three growing seasons across Wisconsin. Widespread and significant winterkill, particularly in Northeast and East-central Wisconsin, provided farmers with few options other than to maintain those stands as they attempted to establish new alfalfa seedings to replace them. Having not been dealt many aces lately, farmers can learn a lot from a Kenny Rogers song, an on-farm data collection project that began in 2007, and Mother Nature about true cost of those decisions. Kenny Rogers knew "the secret to survivin' is knowin' what to throw away and knowin' what to keep."

The Wisconsin Alfalfa Yield and Persistence (WAYP) project, an ongoing collaboration between farmers, county agents/educators, and UW staff can illustrate exactly what has happened in some of those fields. An alfalfa stand that was newly established in 2017 in Outagamie County had yield and quality data collected during its full production years of 2018, 2019, and 2020. The first year of full production, 2018, resulted in two cuttings, second and third crop, being harvested at excellent Relative Forage Quality (RFQ), 179 RFQ and 193 RFQ respectively. Unfortunately, first and fourth cuttings that year were a different story, posting values of 148 RFQ and 117 RFQ, respectively. The dry matter (DM) yield for the season was 4.08 tons. Using the individual Milk per Ton (MPT) values for each cutting and multiplying by the corresponding DM yield, we were able to calculate the estimated Milk per Acre (MPA) of 11,341.69 lbs. of milk. Wet weather damage significantly affected the quality of the first and fourth crops. Measured yield was slightly below the WAYP mean of 4.42 tons DM/acre as the April 2018 blizzard damaged stands where the alfalfa had already broken dormancy. 2019 would have to be better, right?




Unfortunately, the "worst growing season in 50 years" was waiting for us. Alfalfa stands that were already stressed in 2018 suffered extreme winterkill, and emerged in 2019 with the most uneven growth I have ever seen in my career. Alfalfa sets buds in the fall for the coming spring growth; however, many of those buds were killed, and the plants had to start all over again, exasperating already diminished carbohydrate/stored food levels in the roots. While total yield on this field fell by 0.51 tons DM resulting in 3.56 tons DM for the season, the quality of the harvested haylage was outstanding. RFQ values of 184, 182, 192, and 194 resulted in 11,285.34 lbs. of MPA, a difference of only 56.35 lbs. less milk over the entire growing season compared to 2018. Timing of cuttings resulted in a loss of less than one hundredweight (cwt.) of milk. This proves strategic management and a little cooperation from Mother Nature can overcome yield loss from one year to the next. Much like the "gambler," could we hope to "break even" yet again in 2020?

**Haylage Report for Wisconsin Alfalfa Yield and Persistence (WAYP) Field in Outagamie County 2018 and 2019**

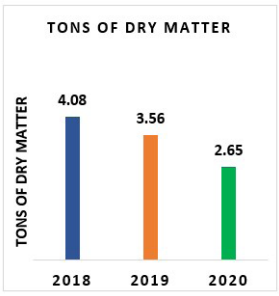
| | 2018 1ST | **2019 1ST** | 2018 2ND | **2019 2ND** | 2018 3RD | **2019 3RD** | 2018 4TH | **2019 4TH** | Changes from 2018 to 2019 (-Red) (+ Black) |
|---|---|---|---|---|---|---|---|---|---|
| **HARVEST DATE:** | 6/4/2018 | **6/4/2019** | 7/2/2018 | **7/10/2019** | 8/1/2018 | **8/2/2019** | 9/7/2018 | **9/10/2019** | |
| **Cutting** | 1st | **1st** | 2nd | **2nd** | 3rd | **3rd** | 4th | **4th** | |
| **Dry Matter (DM) %** | 37.97 | **46.33** | 31.49 | **35.99** | 46.32 | **47.59** | 43.81 | **42.67** | **3.25** |
| **Moisture %** | 62.03 | **53.67** | 68.51 | **64.01** | 53.68 | **52.41** | 56.19 | **57.33** | **(3.25)** |
| **Crude Protein %** | 20.30 | **15.96** | 24.10 | **21.20** | 25.50 | **22.99** | 22.50 | **24.45** | **(1.95)** |
| **Acid Detergent Fiber** | 36.30 | **32.60** | 31.60 | **32.01** | 26.70 | **29.36** | 37.20 | **30.35** | **(1.87)** |
| **Neutral Detergent Fiber** | 42.30 | **37.35** | 37.80 | **38.45** | 33.70 | **36.30** | 43.30 | **35.24** | **(2.44)** |
| **Neutral Detergent Fiber Digestibility** | 49.10 | **51.40** | 51.50 | **53.46** | 48.90 | **51.71** | 41.50 | **50.78** | **4.09** |
| **Relative Forage Quality-RFQ** | 148.00 | **184.98** | 179.00 | **182.23** | 193.00 | **192.45** | 117.00 | **194.26** | **29.23** |
| **Milk Per Ton (MPT) Lbs.** | 2,771.00 | **3,166.50** | 3,056.00 | **3,165.50** | 2,967.00 | **3,220.00** | 2,078.00 | **3,146.50** | **456.63** |
| **Wet Tons @ 55% Moisture** | 3.49 | **2.53** | 2.38 | **2.58** | 1.82 | **1.18** | 1.38 | **1.62** | **(1.16)** |
| **Dry Matter (DM) Tons** | 1.57 | **1.14** | 1.07 | **1.16** | 0.82 | **0.53** | 0.62 | **0.73** | **(0.52)** |
| **Milk Per Acre (MPA) Lbs.** | 4,350.47 | **3,609.81** | 3,269.92 | **3,671.98** | 2,432.94 | **1,706.60** | 1,288.36 | **2,296.95** | **(56.35)** |

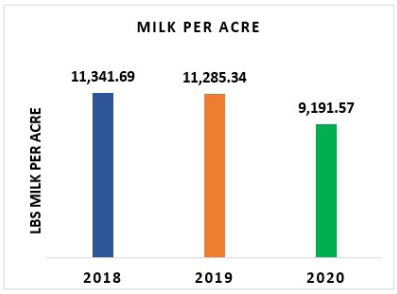
Wet weather pushed first cutting dates into June for the third straight year. However, cooler temperatures resulted in a slower rate of growth and maturity. In fact, we harvested the highest levels of RFQ from this field in 2020. RFQ values were 216, 208, 212, and 213 for first through fourth cuttings, respectively. Surely, regardless of the yield loss we would likely experience once again, we would be able to keep pace with the previous year's MPA, right? Not so fast. While our RFQ and MPT values were exceptional, the alfalfa plants themselves were stressed, damaged, and exhausted more than fully realized.

Continued on page 19

# Are You 'Gambling' with the Real Costs of Damaged Alfalfa Stands?

Continued from page 18




The 2020 DM yield fell to 2.65 tons for the season, a 0.91-ton DM reduction from 2019. The result, 9,191.57 lbs. of MPA for the season, a loss of 2,093.77 lbs. MPA from 2019 to 2020. Exceptional quality means very little if you do not have an adequate amount of DM yield to go with it. What does this equate to in terms of "bulk tank economics"? Well, 2,093.77 potential lbs. of milk equals 20.9377 cwts. of milk. If we use $16/cwt., that is $335 of lost milk revenue.

**Haylage Report for Wisconsin Alfalfa Yield and Persistence (WAYP) Field in Outagamie County 2019 and 2020**

| | 2019 1ST | 2020 1ST | 2019 2ND | 2020 2ND | 2019 3RD | 2020 3RD | 2019 4TH | 2020 4TH | Changes from 2019 to 2020 (-Red) (+ Black) |
|---|---|---|---|---|---|---|---|---|---|
| HARVEST DATE: | 6/4/2019 | 6/6/2020 | 7/10/2019 | 7/7/2020 | 8/2/2019 | 8/7/2020 | 9/10/2019 | 9/6/2020 | |
| Cutting | 1st | 1st | 2nd | 2nd | 3rd | 3rd | 4th | 4th | |
| Dry Matter (DM) % | 46.33 | 36.35 | 35.99 | 41.89 | 47.59 | 39.72 | 42.67 | 48.20 | (1.53) |
| Moisture % | 53.67 | 63.38 | 64.01 | 58.11 | 52.41 | 62.08 | 57.33 | 51.80 | 1.53 |
| Crude Protein | 15.96 | 23.12 | 21.20 | 27.49 | 22.99 | 20.54 | 24.45 | 20.65 | 1.79 |
| Acid Detergent Fiber | 32.60 | 31.52 | 32.01 | 29.99 | 29.36 | 29.47 | 30.35 | 30.36 | (0.75) |
| Neutral Detergent Fiber | 37.35 | 34.06 | 38.45 | 35.26 | 36.30 | 41.42 | 35.24 | 40.68 | 0.99 |
| Neutral Detergent Fiber Digestibility | 51.40 | 54.99 | 53.46 | 56.65 | 51.71 | 71.77 | 50.78 | 73.61 | 12.42 |
| Relative Forage Quality-RFQ | 184.98 | 216.08 | 182.23 | 208.03 | 192.45 | 212.30 | 194.26 | 213.59 | 24.02 |
| Milk Per Ton (MPT) Lbs. | 3,166.50 | 3,402.00 | 3,165.50 | 3,313.00 | 3,220.00 | 3,665.50 | 3,146.50 | 3576.50 | 314.62 |
| Wet Tons @ 55% Moisture | 2.53 | 1.18 | 2.58 | 1.91 | 1.18 | 0.82 | 1.62 | 1.98 | (2.02) |
| Dry Matter (DM) Tons | 1.14 | 0.53 | 1.16 | 0.86 | 0.53 | 0.37 | 0.73 | 0.89 | (0.91) |
| Milk Per Acre (MPA) Lbs. | 3,609.81 | 1,803.06 | 3,671.98 | 2,849.18 | 1,706.60 | 1,356.24 | 2,296.95 | 3,183.09 | (2,093.77) |

The lesson? "You've got to know when to hold 'em, know when to fold 'em". If you have stands that you suspect are marginal, ask yourself can you afford to lose $335 per acre in potential milk revenue from that acreage or should you possibly inter-seed a grass like Italian rye, rotate to corn silage, or plant another alternative forage crop? Here's hoping "there'll be time enough for countin' when the dealin's done".

You can download and review the 2020 Wisconsin Alfalfa Yield and Persistence (WAYP) project report available at **https://fyi.extension.wisc.edu/forage/files/2021/03/2020-WAYP-Summary.pdf**.

For more forage production and management related information visit **https://fyi.extension.wisc.edu/forage/**.

Extension
UNIVERSITY OF WISCONSIN–MADISON
OUTAGAMIE COUNTY

**April 2021 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**



## County Administration

| | |
|---|---|
| Thomas Nelson | County Executive |
| Jeff Nooyen | County Board Chair |
| Joy Hagen | County Board Vice Chair |

## Extension Education Committee

| | |
|---|---|
| Keith Suprise | Chair |
| Dan Rettler | Vice Chair |
| Daniel Melchert | Secretary |
| BJ O'Connor-Schevers | Member |
| Debbie VanderHeiden | 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 Gabrilska | 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**