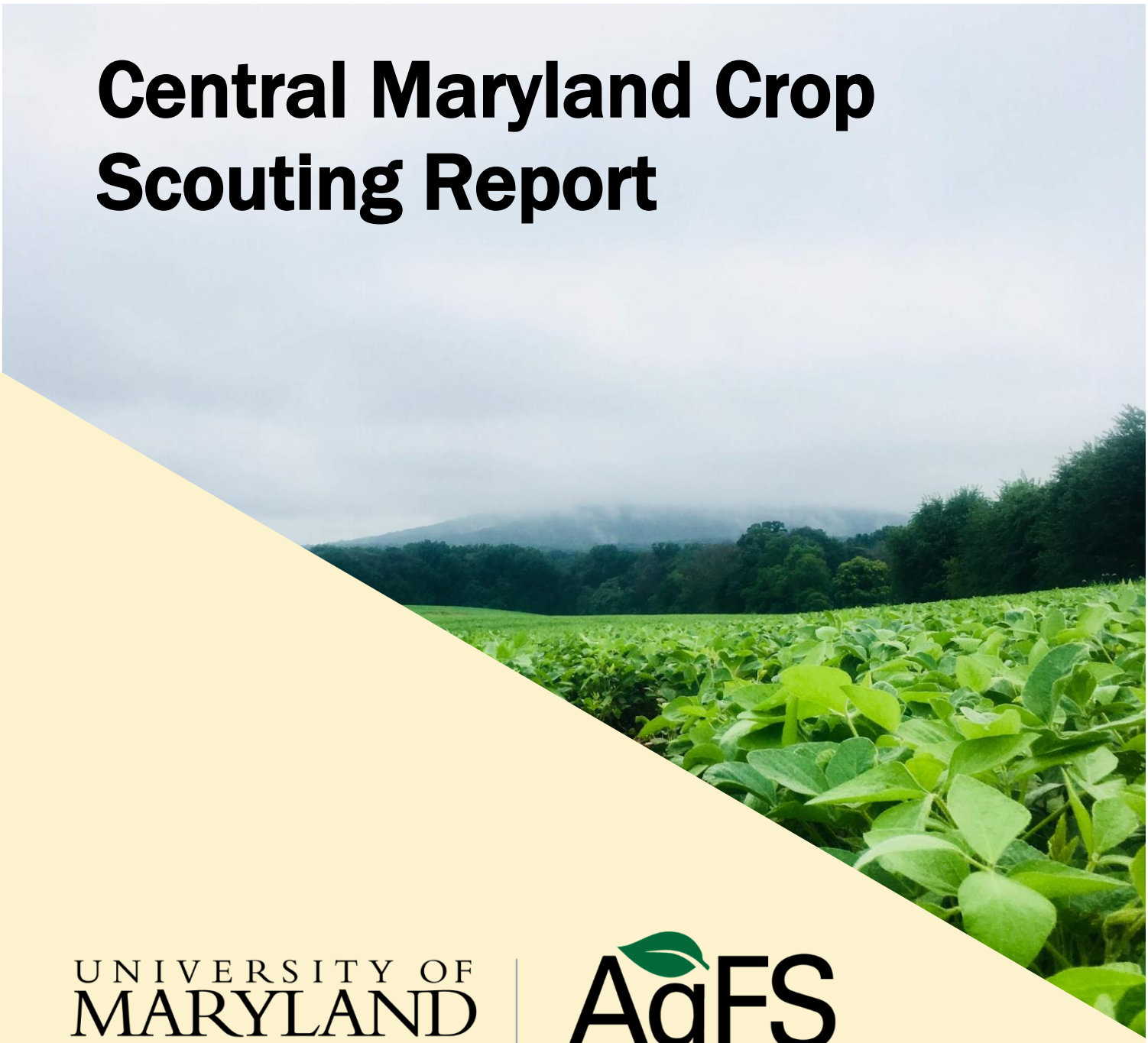
Central Maryland Crop Scouting Report



UNIVERSITY OF MARYLAND EXTENSION | AgFS Agriculture & Food Systems

2023 Ninth Edition
Week Ending 7/9/2023

Introduction

Happy Wednesday! Welcome to the Ninth installment of the Central Maryland Crop Scouting Report from the University of Maryland Extension. Agriculture Agents in Frederick, Howard, and Montgomery Counties are offering free agronomic crop scouting for growers in Central Maryland. These reports will be available to the grower, providing a field-scale report of the observations and recommendations to address any potential concerns observed. These reports are compiled and summarized to provide a general overview of observed trends for all readers of the report.

In this, the Central Maryland Team has decided to release these reports on Monday in an effort to supply additional forward-looking thought processes and ensure additional time to compile crop conditions.

Growers and agronomists; feel free to provide any observations or trends you have come across while scouting–we appreciate your involvement and participation.

Finally, if you would like to have an Agriculture Agent with UME come to scout your fields, please visit https://go.umd.edu/CMD-IPM-Scouting to complete the Google Form, or contact any one of the Ag Agents:

UME - Frederick: Mark Townsend, Agent Associate. mtownsen@umd.edu, (301) 600-3578

UME - Howard: Nathan Glenn, Agent Associate. nglenn@umd.edu, (301) 375-0260

UME - Montgomery: Kelly Nichols, Agent: kellyn@umd.edu, (301) 590-2807

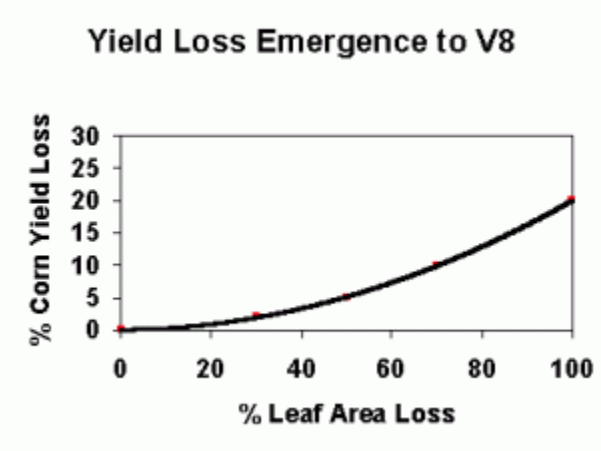
Frederick County

Wheat:
Estimated yields appear to be average to above average given our notably fair winter and spring. Beware of sprouted wheat and low falling numbers at the elevators. More reports of low falling numbers have emerged from local mills as we near the later stages of wheat harvest.

Briefly, falling number is a measure of the time it takes for a plunger to reach the bottom of a flour and water mixture; a high falling number means that it takes more time for the plunger to reach the bottom of the tube because it is traveling through a more viscous (thicker) material and is an indication of baking quality. The thickness of the mixture is a function the starch content in the grains. Alpha amylase, a starch-degrading enzyme, is produced when wheat/small grain seeds begin to germinate. With this, sprouted wheat contains higher levels of alpha amylase, which lowers levels of starch, and therefore yields a lower falling-number that could result in rejected loads or significant price-docking at grain buyers.

In practice, keeping falling numbers in check is a matter of harvest timing. The longer a harvestable crop sits in the field when coupled with a few rainfall events, the greater the potential for falling number reductions.

Corn:
Much of the corn crop appears in good condition. However, some regions have received intermittent rainfall at very best. Therefore, there are acres with drought stress lingering. Some early planted corn is shooting tassels in regions of the field, while the majority of the corn acres in Frederick County are in the later vegetative stages (V9 +).



Drought's effect on yield is well documented in many papers and factsheets from various Universities. A terrific resource on this topic is from NC State at the following web address: https://corn.ces.ncsu.edu/corn-production-information/the-impact-of-early-drought-on-corn-yield/ (Right image from the same source).

In the resource, it is important to note that though there is some observed reduction in yield from early season drought, a 20% yield reduction would require a nearly an 80-100% reduction in leaf area in VE – V8 corn.

This being said, the real danger to yield as a result of moisture stress comes later in the season as corn moves beyond V8 and into tasseling and reproductive stages. To some extent, this is good news as rains are projected in the near term.

Scouted fields had generally low weed pressure as weeds appear to be suffering from the drought as well. Most predominant pressure came from Canada thistle, pokeweed, hemp dogbane and young johnsongrass.

One agronomist report noted the presence of Southern Corn Rootworm. The observant agronomist noticed some plants leaning to one side, or "goose-necking" as the symptom may be called. After careful inspection, root and crown feeding became noticeable along with nymph and adult southern corn rootworm beetles (see image below):

SCRW is of primary concern on non-treated, conventional, minimal tillage managed acres. The pest may have up to two generations per year. The larval stages is the primary concern in regards to root feeding and seedling development. However, the adult beetles may also feed on foliar tissue, as well as silks affecting pollination.

Growers are advised to maintain a watchful eye of any observed populations of root worm pests. Additionally, growers may consider rotation away from continuous corn, or integrating a spring tillage pass to reduce larval feeding, as well as populations 3 weeks before planting.

Soybeans:

Soybeans appear in moderate condition. There appears significant variability in scouted fields across the county, even when comparing fields of similar management style, varieties, and planting dates. Earlier planted soybeans are entering the first reproductive stage (bloom emergence), while the majority of the soybean acres in the county are still in the late vegetative stages (V7-12).

Percentage Defoliation*

Soybean growth stage	Market price - $5/bu Cost of treatment $6/A	$8/A	$10/A	$12/A	$14/A	Market price - $6/bu Cost of treatment $6/A	$8/A	$10/A	$12/A	$14/A
V1-2	40-50	45-55	50-60	45-55	55-65	35-45	40-50	45-55	45-55	50-60
V3-4	40-50	45-55	50-60	55-65	55-65	40-50	45-55	45-55	50-60	50-60
V5-6	45-55	45-55	50-60	55-65	55-65	40-50	45-55	50-60	50-60	50-60
V7+	40-50	40-50	45-55	50-60	55-65	35-45	40-50	40-50	45-55	50-60
R1	25-35	30-40	35-45	40-50	40-50	25-35	25-35	30-40	30-40	35-45
R2	20-30	25-35	30-40	35-45	35-45	20-30	25-35	25-35	25-35	30-40
R3	15-25	20-30	20-30	25-35	25-35	10-20	15-25	20-30	20-30	20-30
R4	10-20	15-25	15-25	20-30	20-30	10-20	10-20	15-25	15-25	20-30
R5	15-25	15-25	20-30	20-30	25-35	10-20	15-25	15-25	15-25	20-30
R6	15-25	20-30	25-35	25-35	30-40	10-20	20-30	25-35	25-35	30-40

Percentage Defoliation*

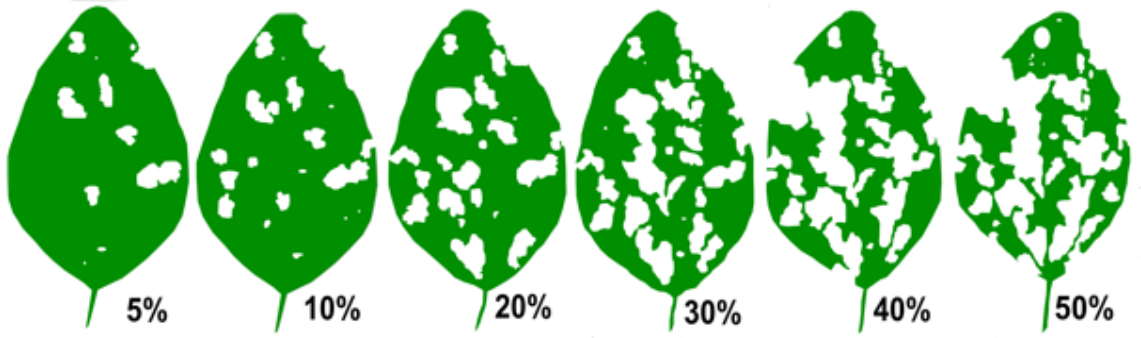
Soybean growth stage	Market price - $7/bu Cost of treatment $6/A	$8/A	$10/A	$12/A	$14/A	Market price - $8/bu Cost of treatment $6/A	$8/A	$10/A	$12/A	$14/A
V1-2	35-45	40-50	40-50	40-50	45-55	30-40	35-45	40-50	40-50	45-55
V3-4	35-45	40-50	45-55	45-55	45-55	35-45	40-50	40-50	40-50	45-55
V5-6	40-50	45-55	45-55	45-55	50-60	40-50	40-50	45-55	45-55	45-55
V7+	35-45	35-45	40-50	40-50	45-55	35-45	35-45	40-50	40-50	45-55
R1	20-30	25-35	30-40	30-40	30-40	20-30	25-35	25-35	30-40	30-40
R2	15-25	20-30	25-35	25-35	25-35	15-25	20-30	20-30	25-35	25-35
R3	10-20	15-25	15-25	15-25	20-30	10-20	15-25	15-25	15-25	20-30
R4	10-20	10-20	10-20	15-25	15-25	5-15	10-20	10-20	15-25	15-25
R5	10-20	10-20	15-25	15-25	20-30	10-20	10-20	15-25	15-25	15-25
R6	15-25	15-25	20-30	20-30	25-35	10-20	15-25	20-30	20-30	20-30

* The defoliation level needed before a control is applied will vary somewhat depending on insect numbers and stage of development, growing conditions, variety grown, expected yield, economic factors, and plant population counts. All of these factors must be taken into consideration when making control decisions. The defoliation figures are shown as a range in each category. This range is included so that limiting factors can be considered. When few limiting factors are present, the control decision value will normally be at the higher end of the scale. Under some circumstances or conditions management guidelines given above may need to be adjusted. Based on 50 bushels per acre yield.

Japanese beetle populations continue to increase. Japenese beetle typically emerge around 1100 GDDs (Base 50, accumulation from Jan 1.) with the pest continuing to emerge through 2200 GDDs. In this, we are currently in the early to mid-point in this cycle at 1400 GDDs. Continue scouting for Japanese Beetle. The following chart from Perdue University Field Crop IPM does well to describe the IPM action thresholds for Japanese Beetle in Soybeans.

Generally, it is advisable to act between 20-30% defoliation of soybeans. However, the above chart provides a more dynamic approach.

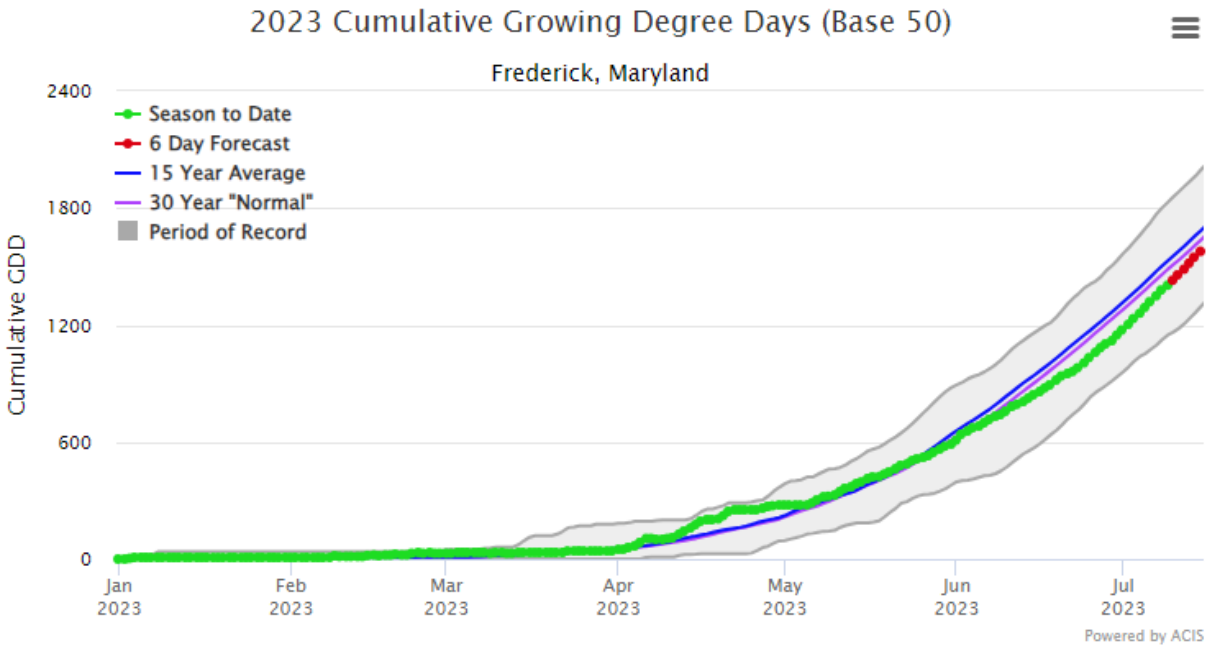
As always, the image below illustrates relative defoliation of soybeans.

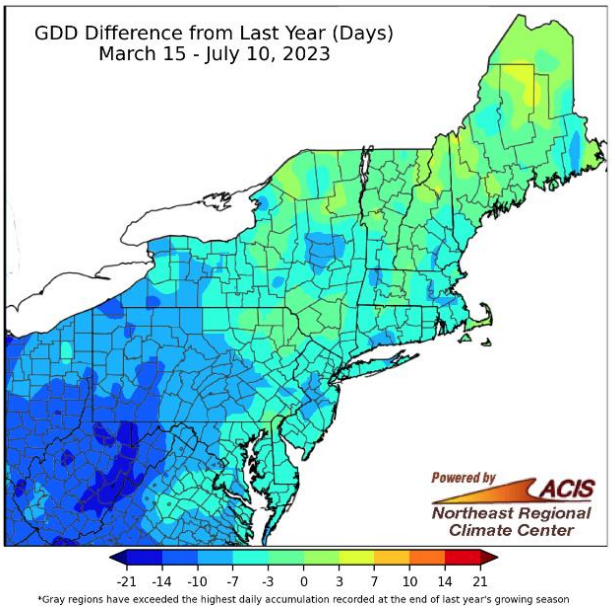


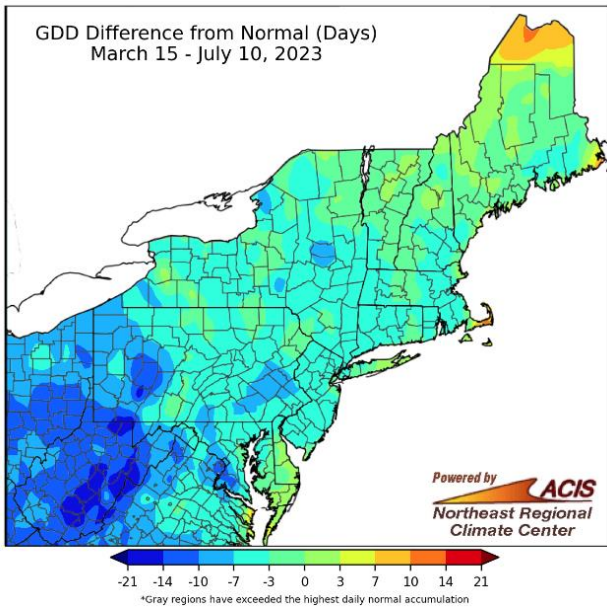
–Mark Townsend, Agriculture Agent Associate.

Weather

Since last week, we accumulated 171 GDD. This brings the seasonal total (Jan 1st to July 9th) to 1404 GDD. The chart below from the Climate Smart Farming GDD Calculator (http://climatesmartfarming.org/tools/csf-growing-degree-day-calculator/) set to Frederick, MD illustrates that we are still below the 15-year average and at the 30-year average in terms of GDD accumulation even with the rapid accumulation of GDDs we have observed given our hot and humid conditions.







Ambient Weather Network (https://www.ambientweather.com) hosts publicly available weather data from privately owned weather stations. Our region has a good many of these stations, which proves valuable for the following analysis. However, do note that these data are not generated from vetted sources, but rather are from a cohort of private citizen offering their weather data for others consumption. In this, there could be differences in positioning, equipment, and other variables that could affect accuracy.

Station:	"Picnic Woods, Jefferson"	Station:	"JEREG-WS5000, Mount Airy"
Precip Date	Daily Accumulation	Precip Date	Daily Accumulation
7/7	0.07	7/3	0.3
7/9	0.39	7/7	0.37
		7/9	0.05
Total	**0.46**	Total	**0.72**

Station:	"Mark Manor, Adamstown"	Station:	"Cactus3, Thurmont"
Precip Date	Daily Accumulation	Precip Date	Daily Accumulation
7/3	1.32	7/7	0.4
7/9	0.07	7/7	0.03
		7/9	0.13
Total	**1.39**	Total	**0.56**
Station:	"Johnsville1, Union Bridge"	Station:	"Keystone Farms, Keymar"
Precip Date	Daily Accumulation	Precip Date	Daily Accumulation
7/3	0.67	7/3	0.09
7/4	0.05	7/7	0.66
7/7	0.71	7/9	0.6
7/9	0.21		
Total	**1.64**	Total	**1.35**
Station:	"Frog Hollow, Myersville"	Station:	"My Weather Station, Ijamsville
Precip Date	Daily Accumulation	Precip Date	Daily Accumulation
7/3	0.36	7/3	1.01
7/4	0.37	7/9	0.07
7/5	0.29		
7/9	0.32		
Total	**1.34**	Total	**1.08**

Regardless, the left image is a summary of the most recent precipitation at selected locations throughout Frederick County, MD.

The region experienced some variability in accumulation, however all drop was a welcome drop.

The 10-day ECMWF forecast predicts accumulated precipitation totals nearing between 2-3”: