

## 2020 YEAR IN REVIEW

### 2020 AN AGRONOMIC YEAR TO REMEMBER?

The year of 2020 will not be forgotten for quite some time for many reasons; a global pandemic, a highly contested Presidential election, a hurricane season for the record books and many other reasons. We will leave the summary of those events up to your own research, here is the 2020 growing season from an agronomic perspective.

The 2019 growing season brought us limited heat units and excessive moisture that built upon the very wet 2018 harvest season. Coming into 2020 many areas were still inundated with saturated soils with little to no frost in the ground. The winter of 2019-2020 brought above average temperatures and sporadic precipitation. These saturated winter conditions and cooler temperatures caused some heaving of alfalfa plants and localized winterkill. Below average precipitation in early spring caused dry soils that saw some new seeding alfalfa fields to struggle with germination. Delayed herbicide applications in 2019 also caused some crop injury issues with 2020 new seeding alfalfa fields.

May brought more of the same cool temperatures and about average moisture. Field conditions were

favorable for tillage and planting operations; however, variable soil temperatures caused some stand establishment issues. On April 15<sup>th</sup> 6-inch soil temperature in Waupaca was around 32° where the 10-year average is closer to 40°. Early May was more of the same with soil temperatures swinging from 50° to 40° and back in the span of a week. This caused uneven and sporadic emergence in corn and soybeans. At the Research and Learning Center in a “Flag Test” that tracks corn performance based on emergence timing showed nearly a 30 bushel per acre difference in yield between the first emerging plant and the plants that emerged 48 hours later. These inconsistencies in emergence could be seen throughout the season, especially in no-till and corn on corn situations.

During the vegetative growth stages for corn and soybean, the weather conditions were exceptional. Above average heat and moisture pushed plants along quickly. Even with early season stresses the critical developmental time from V4-V6 in corn saw some of the best growing conditions of the season.

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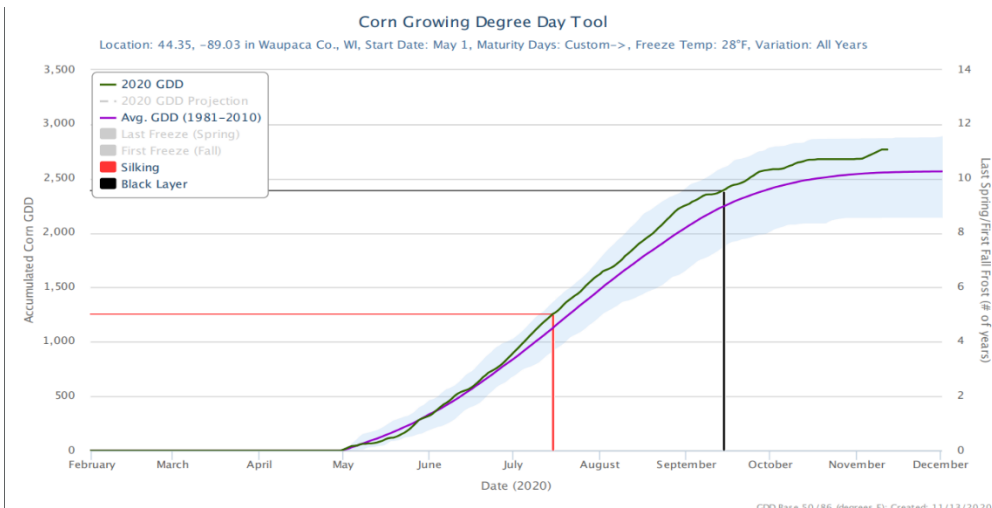
## WALKING FIELDS

### PLOTS & UNIVERSITY TRIALS

Late in November the University of Wisconsin Corn Hybrid Performance Trial results were published. Others like Michigan State have also published trial results. Legacy Seeds maintains an extensive plot system for corn grain, corn silage and soybeans. There is a lot of data from 2020 available through your local District Sales Manager.

We have all encountered that grower who takes one plot location or the university trial results as gospel and only uses that information to make their seed selection decisions. As plot data and university trials are being distributed keep a few things in mind.

Prioritize plots with similar management to your own in a close geography. Consistency throughout the plot also indicates that field variability did not affect performance. Error on the side of using plots with common varieties or checks that account for field variability. Replication of varieties also helps to account for any field or environmental variabilities. One of the most important things to consider is the growing season. With very different weather conditions the past few growing seasons, using multiple years of data to evaluate a product will yield the best results. Do not let one big yield number or a poorly managed location change your opinion of a product. Do the proper research to find the best fit for your acres.



# 2020 YEAR CONT.

## 2020 A YEAR TO REMEMBER?

There were many weather patterns from the south during this vegetative part of the growing season which brought some disease and insect pressure to our area. Pollination of corn took place about a week ahead of average around late July in most areas. Stress was low during pollination with adequate soil moisture.

The grain fill period for both corn and soybeans brought stress to many areas. Conditions were very dry for the most of August. Waupaca received less than an inch of rainfall from the 1st to the 26<sup>th</sup> of August. Overall moisture was 1-2 inches below the 30-year average of 4 inches for the month. This stress showed in the poor filling of the top pods in soybeans and plants shutting down in the worst areas. Plants ran out of moisture to finish pod fill resulting in some lost yield, test weight and bean size. Corn also suffered from this drought stress; severity depended on planting date with later planted areas suffering more. September accumulated precipitation was also below the 30-year average by about 50% throughout most of Wisconsin and temperatures were also well below average. The below average temperatures showed more of an impact on the corn crop.

The above average heat in June and July had corn reaching physiological maturity nearly two weeks ahead of normal. However, there were some three to four day stretches of below average temperatures near and shortly after black layer in mid-September. These cooler temperatures extended the grain fill period in corn which led to more kernel depth and test weight in most cases. These cooler temperatures continued into the October harvest season. Harvest moistures were surprisingly lower than expected in many areas, not because of the drying conditions but because of how early black layer was reached. Sporadic snowfall was enough to slow down harvest but only by a few days in most areas. Early November brought some unseasonably warm temperatures which helped to give producers an opportunity for fall field work or to dry down any grain left standing. The vast majority of corn and soybeans had been harvested in Wisconsin at this point with corn at 87% harvested and soybeans at 98% harvested as of the middle of November.

Overall, in Waupaca the total accumulated GDD's over the 2020 growing season were at 2,818 on Nov 22nd, 146 GDD's ahead of the 30-year average. Total moisture for the season was at 29 accumulated inches, slightly above the average of 27 inches.



## THE GOOD, BAD & UGLY

### WHAT WORKED WELL IN 2020 AND WHAT DID NOT

Here are some of the Good, Bad and Ugly for the 2020 growing season.

**The Good;** Corn hybrids that flower later for their maturity performed well because of the ideal vegetative growing conditions and at pollination. Because of the above normal accumulation of GDD's, heat driven hybrids also excelled. Offensive soybean varieties performed well in a year with little moisture and disease stress. Value added products, such as seed treatments, biologicals, fungicides, etc showed a consistent return on investment in 2020.

**The Bad;** Tough emergence environments, like no-till or corn on corn really struggled to get a consistent stand established. Later maturity soybeans took the brunt of the dry weather in August. Without much disease pressure, improved plant health sometimes turned into increased harvest moisture.

**The Ugly;** Early Southern storms brought insect, leafhopper and others, and some disease pressure, Tar Spot, to the area. Delays in 2019 herbicide application showed up as injury in 2020 alfalfa new seedings.

## 2020 AND BEYOND

### 2021 MANAGEMENT DECISIONS

With 2020 varying drastically from the past few growing seasons, be cautious about management decisions in 2021. Good fall fieldwork and soil moisture has allowed many to make soil amendments with lime or fertilizer or at very least to pull current soil samples. This fall has allowed many to address the past years' compaction issues. Utilize this opportunity since '18 and '19 did not give us this chance. In 2021 be aware of defensive characteristics of products, especially soybeans, since there was little disease pressure in 2020. Be cautious about adjusting maturity too late because of the additional GDD's in 2020. Unfortunately, 2019 still has not left us yet. Be aware that in many cases in 2021 crops will be rotated back to the same acres they were on in 2019. Recall stresses in those areas. These could include weed pressure, soil compaction and disease pressure like White Mold, Northern Corn Leaf Blight and Anthracnose.

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