WISCONSIN– Alfalfa Yield and Persistence Program Update

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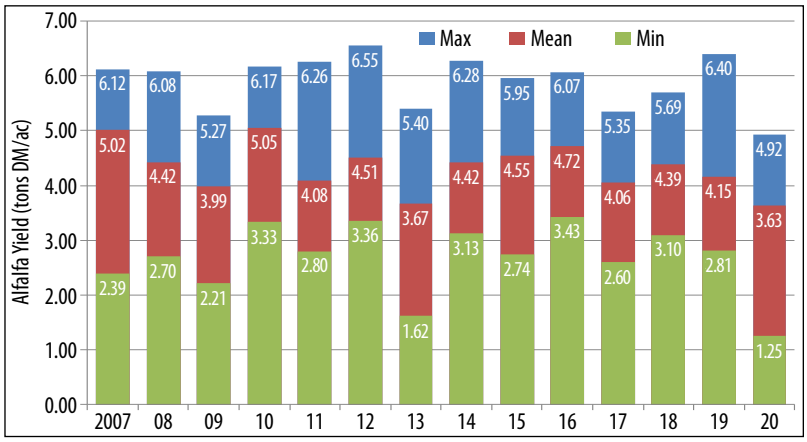
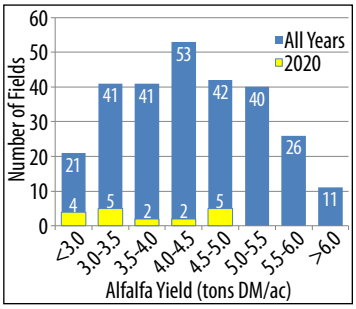
UWEX Team Forage initiated the Wisconsin Alfalfa Yield and Persistence (WAYP) Program in 2007 with two objectives. First, verify alfalfa yield and quality harvested from production fields over the life of the stand beginning with the first production year (year after seeding). Second, quantify changes in stand productivity as fields age. Over 14 years, production data has been collected/summarized from 115 fields in 16 counties. This represents 275 site years, 6,964 acres, and over 63,800 tons of alfalfa DM. All loads harvested on each field were weighed and two samples collected from each cutting to determine DM and quality. No special management was required. This has been an MFRP project since 2009.

Figure 1. WAYP alfalfa yield by year (2007-2020).



In 2020, 18 fields were measured. The season began slowly with 1st cut averaging 4 days behind normal, a delay that continued through subsequent cuts. Alfalfa DM yield averaged 3.63 tons/ac, the lowest year in the study. Cold spring weather and winterkill contributed a record low 1st cut yield, but also led to record forage quality. No fields yielded >5.0 tons/ac, while 4 fields yielded <3.0 tons DM/ac. Yield distribution by cut was 48% - 1st, 27% - 2nd, and 26% - 3rd in the 3-cut systems and 32% - 1st, 25% - 2nd, 23% - 3rd, and 21% - 4th in the 4-cut systems. Quality parameters averaged over all fields and cuttings in 2020 were the best or nearly the best seen: CP – 22.4%, NDF – 36.4%, NDFD – 57.5%, RFQ – 206 points, Milk/ton – 3,312 lbs.

Figure 2. WAYP yield distribution (2007-2020).



A new analysis summarized total stand yield for 111 fields. Fields kept for 4 seasons averaged 18.1 tons/ac with a range of 11.8-21.9, while 3-season fields ranged 8.9-18.1 with an average of 13.4. It is interesting that the range represented a doubling of yield from low to high.

The WAYP Program is designed to provide a unique look at what is happening at the farm level. As more fields are entered and years pass, the reliability of information increases. Environmental conditions have had a profound influence on yield with no two years being exactly alike. This project would not be possible without the cooperation of farmers and UWEX educators to collect data. We plan to continue with new fields being added in 2021. Interested in participating? Contact your UWEX office or Mike Bertram at mbertram@wisc.edu. View a full report under the "Members Only" research tab at midwestforage.org.