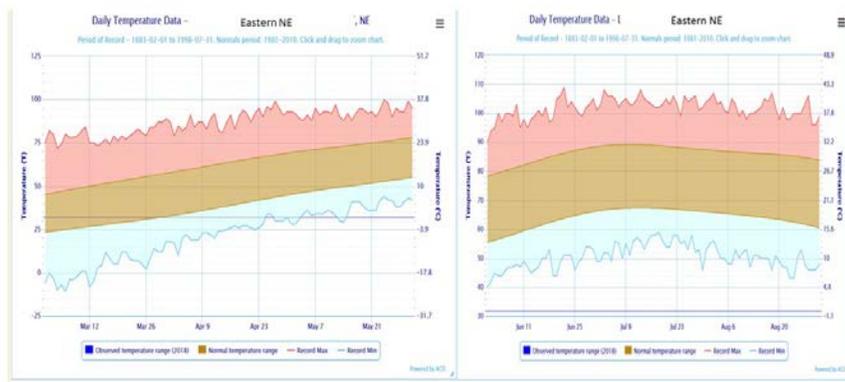


Preemergence herbicide failure September 6, 2018

The growing season in 2018 up until now has been challenging. Looking back on this summer, lawn care applicators and homeowners were mentioning “failure” of preemergence herbicides at a frequency greater than what I have seen in most years. I do not see this as herbicide failure as much as strange early season weather. Research indicates that crabgrass begins to germinate when the average daily soil temperatures reach 57 to 64 °F at a one-inch depth. That said, the greatest flush of crabgrass germination will not start until soil temperatures increase to 73 °F or above at a one-inch depth (Fidanza et al., 1996) and will continue until soil temperatures reach 95 F°. In my estimation, a relatively cool spring was good for herbicide degradation in the soil but not good for crabgrass germination. Then soils warmed up later than “normal”, resulting in the largest flush of germination occurring as the concentration of herbicide was declining. I believe that is why we saw a larger than normal flush of crabgrass later in the season. To avoid this in future years, consider tracking soil temperatures and delaying preemergence applications in the spring until temperatures are optimal for crabgrass germination. This will be much easier for single location consumers than lawn care operators who deal with a significantly greater number of locations. If products must be applied earlier than optimal due to client needs, then consider using a longer residual product containing prodiamine.

Reasons for reduced efficacy in preemergence herbicides were discussed in earlier *TurfInfo*'s posted on March 26, 2018 and April 16, 2018.



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Reference:

Fidanza, M.A., P.H. Dernoeden, and M. Zhang. 1996. Degree-days for predicting smooth crabgrass emergence in cool-season turfgrass. *Crop Sci.* 36:990-996.

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