Applied Boron Did Not Increase Alfalfa Yield

Alfalfa is known for its high production and greater nutritional values. Alfalfa also takes up boron in larger amounts than other crops. When soil boron test levels are low at the beginning of the crop season, deciding whether to apply boron and in what quantity can be concerning.

In a recent *Agronomy Journal* article, researchers report on a two-year study in Creston, MT on ground with low soil boron. The response of alfalfa yield, forage quality, and petiole boron content to five B rates and three water regimes (rainfed, 50%, and 100% evapotranspiration) were quantified.

The team found that foliar-applied B did not increase yield and crude protein of alfalfa in either year, despite the indication of increased concentration of boron in the tissues as the boron application is increased. A similar trend was observed across moisture regimes. Boron concentration in tissues also increased as the level of available moisture increased regardless of boron. Also in this study, the yield of the 50% evapotranspiration was similar to 100% evapotranspiration.

The application of boron from a low initial soil B test may not be a critical agronomic management to prioritize. In-season field observation for B deficiency with confirmatory tissue tests can help manage alfalfa better.

*Adapted from Sapkota, A., E. Meccage, R.N. Stougaard, B. Bicego, and J.A. Torrion. 2019. Applied boron increases alfalfa petiole boron concentration across water regimes, not yield. Agron. J. 111. View the full article online at http://dx.doi.org/doi:10.2134/agronj2019.02.0085*