MINNESOTA - Alfalfa Variety Response to Potassium Fertilization

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In a study at three locations that was established in 2011, the effect of potassium (K) fertilization beginning in the seeding year on the yield and quality of six alfalfa varieties was determined. The soils initially had soil K levels of about 100 ppm. In the year following seeding (2012), K fertilization had a small but significant effect on alfalfa yield (Figure 1). At one location (Lake City), K fertilization had a small negative effect on neutral detergent fiber digestibility and crude protein concentration. Relative alfalfa variety yield and quality was similar over all K rates. Pioneer 54V46 and HYBRIFORCE-2400 were among the highest yielding varieties at all locations. This research will continue in 2013 and 2014. This research was funded by the Minnesota Agricultural Experiment Station, Minnesota Agricultural Fertilizer Research and Education Council, and MFA.

Figure 1. K fertilization effect on alfalfa yield in the year following seeding.