

MINNESOTA-"Annual" Alfalfa in Rotations

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During the 1980's, a non-dormant alfalfa variety, Nitro, was developed by USDA-ARS and University of Minnesota scientists for use as an annual N-fixing crop in Midwest cropping systems. Non-dormant alfalfas are routinely used in milder winter climates of California and the Southwest but lack winterhardiness to reliably overwinter in Minnesota. Nitro alfalfa is no longer available to purchase, but other non-dormant alfalfas are marketed in Minnesota as "plow-down" or "green manure" crops.

We are re-evaluating forage and N yield potential of currently marketed non-dormant alfalfas compared to Nitro and Cuf-101, an older non-dormant variety. In fall of 2016, a currently marketed non-dormant alfalfa had root and crown yields of 1.35 tons/ac and N yield of 79 lbs/ac with a total season forage biomass yield of 3.88 tons/ac. Root and crown yields of Nitro and Cuf-101 averaged 0.83 tons/ac and N yield was only 50 lbs/ac. Biomass yields averaged 3.90 tons/ac. Results indicate potential of alternative non-dormant alfalfas to be used in rotations.