Forage Research Updates *Compiled and edited by Paul Peterson, University of Minnesota*

South Dakota - Glyphosate-Tolerant Alfalfa: Seeding Six Pounds Per Acre is Enough

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Regardless of weed control method, seeding rates of glyphosate-tolerant (GT) alfalfa >6 lbs/ac did not improve weed control, alfalfa yield, total forage (alfalfa + weeds) yield, or forage quality. This is according to recent results of 2-year field trials across 6 states.

Higher costs of GT vs. non-GT alfalfa have raised questions about seeding rates. The 6-state trial was initiated to determine if glyphosate herbicide, in combination with GT alfalfa, could improve persistence, productivity, or forage quality when seeding alfalfa at a reduced rate. GT alfalfa was seeded into conventionally-tilled seedbeds at rates of 6, 10, 14, and 18 lbs/ac pure live seed in spring 2006. Three herbicide treatments were applied: i) glyphosate, ii) a non-glyphosate herbicide and iii) no herbicide. Lower seeding rates had less alfalfa plant death than higher seeding rates. There were no differences in plant density by the fall of the year after seeding regardless of seeding rate or herbicide treatment. Results showed that seeding rate had no effect on forage quality (CP, ADF, and NDF) or weed content at any harvest.

Only at first harvest in the seeding year did the 6 lbs/ac seeding rate produce less alfalfa forage (~225 lbs/ac less) than other rates. Compared to using no herbicide, using herbicide during alfalfa establishment increased alfalfa yield, but decreased weed and total forage yield by ~3,000 and ~1,000 lbs/ac, respectively, in seeding year. In both the seeding year and year after, using herbicides resulted in less weed and greater alfalfa yield than when no herbicide was used, indicating that weed control is an important management factor in obtaining vigorous, high-yielding stands.