

ESTABLISHING ALFALFA IN SILAGE CORN

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According to recent agricultural statistics, alfalfa was planted on 0.44 million acres and harvested from 2.2 million acres and corn silage was planted and harvested from 1.0 million acres per year in Wisconsin. Because both crops are often grown in rotation, alfalfa could be interseeded at corn planting to serve as a dual-purpose crop for providing groundcover during corn silage production and forage during subsequent growing seasons. Unfortunately, this system has been unworkable because competition between the co-planted crops often leads to stand failure of interseeded alfalfa. Recent Wisconsin studies demonstrated that properly timed foliar applications of prohexadione-calcium on appropriate alfalfa varieties increased plant survival of interseeded alfalfa by up to 300%. When successfully established, first year dry matter yield of interseeded alfalfa was two-fold greater than conventionally spring-seeded alfalfa. Other studies revealed that interseeded alfalfa reduced fall and spring runoff of water and phosphorus by 60% and soil erosion by 80% compared to cropland containing only corn silage residues and weeds. Once established, alfalfa is also known to be highly effective for reducing nitrate leaching into groundwater. Assuming an average establishment success rate of 80%, a 5% reduction in corn silage yield, and a prohexadione application cost of \$40 per acre, a preliminary economic analysis suggests alfalfa establishment by interseeding followed by full alfalfa production the following year could improve net returns of producers by about 30% (\$130 per acre) compared to alfalfa conventionally spring seeded after corn silage. These improvements in crop yields and profitability and in soil and water conservation are powerful incentives for continuing work to develop reliable and workable corn-interseeded alfalfa production systems for use on farms in Wisconsin and other northern states where alfalfa cannot be successfully established in the fall after corn silage harvest.

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