Forage Research Updates

WISCONSIN - Research Underway to Develop 2,4-D Resistant Red Clover Heathcliffe Riday, U.S. Dairy Forage Research Center

rowth regulator herbicides such as 2,4-D are used to control broadleaf weeds in pastures. Unfortunately, such herbicides also kill beneficial forage legumes in pastures. Although transgene-conferred herbicide-resistance is utilized in some crops such as glyphosate-resistant alfalfa, it is unlikely that transgenic breeding approaches will ever be used in clovers due to regulatory and commercialization costs. Therefore, breeding herbicide resistance using traditional selection approaches is attractive; it has proven successful in other crops, and it is evident in herbicide tolerant weeds that have become widespread in the United States.

Taylor et al. (1989) created a 2,4-D tolerant red clover germplasm for tissue culture. This population was adapted to the southern range of red clover. The objective of the study was to develop a northern range adapted 2,4-D resistant red clover. Increased 2,4-D resistance was observed in selected material compared to controls. Concurrent field work has been initiated to evaluate 2,4-D resistant material in a field setting using standard herbicide application rates and equipment.