

## **TURF – LEGUME MIXTURES: N FERTILITY AND N<sub>2</sub> FIXATION**

**JoAnn Lamb**  
**USDA-ARS, Adjunct Associate Professor**  
**Department of Agronomy and Plant Genetics**  
**University of Minnesota**

### **Summary**

Fertilizer costs have risen dramatically over the past few years. New inexpensive approaches are needed to address the N nutrient requirements of turf species. Growing N<sub>2</sub>-fixing legumes with grasses to provide nitrogen would be a low cost option, but most legumes do not tolerate weekly mowing and do not persist in mixture with turfgrasses. Breeding programs at the University of Minnesota and the USDA-ARS Plant Science Research Unit in St. Paul, MN have recently completed two cycles of selection for mowing tolerance in alfalfa (*Medicago sativa* L.), birdsfoot trefoil (*Lotus corniculatus* L.) and kura clover (*Trifolium ambiguum* M. Bieb.). In spring 2008 the original legume parent populations as well as populations selected for mowing tolerance in all three legume species were established in mixtures with fine fescue (*Festuca* spp.) and Kentucky bluegrass (*Poa pratensis* L.) in a replicated trial at the University of Minnesota's TROE Center in St. Paul MN.

Plots will be monitored for legume species persistence and turf quality.