

RYE IN A CELLULOSIC CORN SYSTEM

Michael Kantar* and Paul Porter

University of Minnesota

One of the major concerns with the push toward cellulosic ethanol is the removal of biomass from the system. A potential way to mitigate this loss as well as increase the total amount of biomass produced is to use a fall-planted cereal rye (*Secale cereale* L.) to provide fall ground cover as well as additional biomass in the spring, which can be harvested before planting corn. To investigate the potential of rye to produce biomass three studies were initiated. We first looked at the effect of five different fall planting dates ranging from late August to late October on the biomass accumulation. The dates were chosen to be a range of when growers could plant the rye. Since there has been little effort to breed rye for traits unrelated to grain, the second study investigated rye germplasm for differences in biomass accumulation in different rye cultivars and GRIN (Germplasm Information Network) accessions. Forty-four rye accessions were planted at two planting dates in order to evaluate the germplasm. The third study involves five name cultivars of rye planted on two different dates, representing a recommended planting date and a late planting date, to further evaluate varietal differences in rye. The varieties of winter rye used are Rymin, Homil 21, Vitallo, Spooner, and Aroostock.

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*Corresponding author: University of Minnesota, 1991 Upper Buford Circle, St. Paul, MN 55108;
Phone: (612) 910-3865; Email: kant0063@umn.edu