

KNOERR, PAUL B., and KAREN A. RENNER, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824. Sugarbeet Production with a Winter Wheat Cover Crop.

Coarse-textured soils in Michigan's sugarbeet producing areas present a challenge in establishment and protection of sugarbeet seedlings from wind erosion damage. Research was conducted in 1995 and 1996 to compare sugarbeet production in conventional tillage to production in no-tillage and zone-tillage with a winter wheat cover crop. In no-tillage and zone tillage systems, glyphosate at 0.75 lb a.e./A, clethodim at 0.25 lb a.i./A, and sethoxydim at 0.29 lb a.i./A, alone or in conjunction with cultivation, were applied at various timings to control winter wheat. Sugarbeet populations, yield, sugar percentage, and net return were calculated for each treatment. Sugarbeet yield was reduced where winter wheat was controlled by cultivation only. Sugarbeet populations were greater in zone and conventional tillage treatments as compared to no-tillage treatments in 1995. In 1996 sugarbeet populations were greatest in conventional tillage treatments. Higher yield and net return occurred in conventional tillage treatments in 1995 and 1996 and in zone-tillage treatments in 1995 where a herbicide was applied for control of winter wheat.