Cover Crop and Living Mulch Use in Pumpkin Production. (A08-greenland120829-Oral)

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Abstract:

Wide pumpkin rows leave the soil open for erosion. Cover crops help prevent erosion but don't grow through the winter in North Dakota. Crops are often harvested too late for cover crop establishment in the fall. Study objectives were to find cover crop/living mulch combinations that protect and improve the soil, don't reduce pumpkin yield, and are adapted to northern conditions. A barley cover crop was planted in early spring in 2001 and 2002 in 1.5-m wide strips alternating with 0.9-m wide strips left unplanted for planting pumpkins. Pumpkins were planted in mid-May. Barley was flailed at heading and a living mulch was planted in the barley stubble between the pumpkin rows. Living mulches used were: hairy vetch, rye, corn, soybean, vetch/rye, and corn/soybean. In 2001, marketable pumpkin yield was not reduced by any cover crop/living mulch combination. Living mulches did not suppress weeds much. Corn grew best, followed by soybean, hairy vetch, and rye (which did very poorly both years). At season's end, above-ground dry matter ranged from 4.9 Mg/ha (no barley; no living mulch) to 23.1 Mg/ha (barley cover crop; corn living mulch).

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