# Soil Coverage by Residue in Diverse Crop Sequences under No-till. (S06-merrill115048-Poster)

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## Abstract:

Crop residues protect soil health and prevent soil erosion. Cover was studied in a central North Dakota crop sequence study under no-till in which all combinations of 10 crops (safflower, sunflower (Sun), flax, spring wheat (SpW), barley (Bar), canola, crambe, dry bean (DBn), dry pea (DPe), and soybean (SBn) were evaluated by seeding in strips one year and in perpendicular strips the following year. Cover was determined at 100 points per plot after spring seeding. For sequences of SpW followed by diverse crops (2 reps in time), cover levels were highest after SpW and Bar (89% to 100%) and lowest after DBn (78%); SBn (78%); Sun (70%); and DPe (60%). Cover was much lower after back-to-back sequences of pulse and Sun crops than if headed by SpW, as shown by spring 2001 measurements after 1999-2000 sequences: SpW/DPe, 68%; SpW/Sun, 66%; DPe/Sun, 40%; Sun/Sun, 35%. Our measurements were taken in years of average to above-average rain. Under conditions of relative drought, even no-till management will not prevent unacceptably low coverage levels and greatly increased soil erosion hazards from occurring on soil and land seeded to back-to-back sequences of lower-covering crops.

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## **Presentation Information:**

Presentation Date: Tuesday, November 12, 2002 Presentation Time: 2:00-4:00 pm Poster Board Number: 1727

Keywords: Soil cover by crop residues, Crop residues, Soil erosion protection, Soil health protection