No-Till and Conventional Till Comparisons of Wheat, Barley and Pea Varieties. (C03-guy143856-Poster)

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Abstract:

Variety performance differences are not well researched in tillage systems. This study compares variety performance of spring wheat, dry pea, and barley in a replicated conventional tillage (CT) and no-till (NT) comparison near Genesee, Idaho in 2000 and 2001. Averaged across varieties, yield was lower in NT than CT in 2000 for all three crops. Delayed emergence and weed effects were contributing factors to the reduced yields. In 2001, yields were not different between tillage systems and averaged 5175 kg ha-1 for wheat, 6070 kg ha-1 for barley and 2950 kg ha-1 for dry pea. However, in 2001, wheat test weight, seed weight, and harvest index were higher in NT than CT; while seed protein, plant height, and crop biomass were lower in NT and CT. Reduced early growth in NT due to cooler conditions probably contributed to reduced biomass and plant height. Then a longer grain filling period in NT, as observed by staying greener longer before harvest, contributed to lower protein and higher test weight, seed weight and harvest index. The growing environment appears to be different in NT and should be managed to optimize production and variety performance. Studies continue for 2002.

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