

Wheat following soybean, corn, and wheat?

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As wheat prices continue to climb growers search for available land in which to plant their 2007–08 winter wheat crop. Yield data from a long term rotation experiment located at Arlington, WI indicated that wheat grain yield was greatest when following soybean (Table 1) (Lauer and Gaska, 2003-2006, unpublished). Yield of second year wheat (2003 column) was similar to wheat yields following corn for grain or silage. Third (2004), fourth (2005), and fifth (2006) year continuous wheat yields were dramatically lower than the other rotational systems. Our data suggests that growers should plant wheat after soybean first, then corn, and lastly wheat.

Table 1. Winter wheat grain yield following winter wheat, soybean, corn for grain, and corn silage.

Rotation	2003	2004	2005	2006	Average
	-----Winter wheat grain yield bu a ⁻¹ -----				
Continuous Wheat	56.3 ¹	47.0	41.8	45.0	47.5
Corn-Soybean- Wheat	66.3	51.0	71.8	74.0	65.8
Soybean-Corn (grain)- Wheat	55.7	42.0 ²	51.1	66.0	53.7
Soybean-Corn (silage)- Wheat	57.7	51.0	62.0	69.9	60.2

¹2003 marked the second year of the continuous wheat rotation treatment

²Poor stand establishment in the 2004 Soybean-Corn (grain)-Wheat rotation affected wheat yield.

If growers choose to plant second year wheat several management factors should be considered to reduce risk. First plant a different wheat variety in that second year that possesses a strong disease package. Under no circumstances should growers consider planting bin-run seed in second year wheat. Though 2007 was a relatively disease free year, some level of disease was likely present in your wheat field. By planting a different variety with strong disease resistance characteristics you can reduce the likelihood of early disease pressure and significant yield loss. Growers should also consider using a seed treatment in wheat following wheat. Please see the following link for seed treatment recommendations ([wheat seed treatments](#)). Be aware that seed treatments are not a cure all for all common diseases in continuous wheat systems (e.g. take-all). Growers should also consider increasing their seeding rate to 1.8 to 2.0 million seeds per acre in wheat following wheat systems. This will aid in stand establishment and increase the likelihood of a uniform stand going into the winter. Lastly, if using a no-till system, planting into a seedbed that is free of living volunteer wheat is important in reducing the incidence of Barley Yellow Dwarf Virus. Growers should consider a herbicide application to any living volunteer wheat prior to planting to prevent a “green bridge” for the aphids that vector this virus.