

## How Late Can You Plant Winter Wheat in New York?

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Because of the dramatic increase in soybean acreage in New York (200,000 acres in 2005), a significant portion of the wheat acreage now follows soybeans in the rotation. The 2004 growing season was quite cool so many soybean fields were not harvested until late October. Many farmers opted not to plant winter wheat in late October or early November because of potential negative effects of the late planting date. We decided to compare winter wheat at a typical planting date (September 21) and a late planting date (October 29) to determine what the yield reduction would be with a 5 ½ week planting delay. We planted Caledonia soft white winter wheat at four seeding rates (1.5, 2.0, 2.5, and 3.0 bu/acre) on the two dates to also see if an increased seeding rate (beyond the recommended 2.0 bu/acre) can ameliorate some of the negative effects of a delayed planting date.

The 2004-2005 wheat growing season was atypical, especially during May and June (Table 1). Temperatures in the last 10 days of September and October were slightly above normal so the timely-planted wheat grew quite well and initiated tillering by November. Likewise, temperatures in November and December were slightly above normal so the late-planted wheat established itself reasonably well before the onslaught of winter weather.

A snow cover was present from mid-January until late March at Aurora so both the timely and late-planted wheat came through the winter in good shape. Green-up didn't occur until the end of March because of the cool March weather, but April was warm so wheat began the stem elongation phase in early May. May was exceptionally cold and dry so both the timely and late-planted wheat were quite short in stature. June turned hot and remained dry until the middle of the month. Abundant rainfall in the second half of June probably benefited the late-planted wheat more because its delayed development allowed it to be in the grain-filling period for a longer period under favorable moisture conditions

Surprisingly, yields did not differ between planting dates (Table 2). A planting date x seeding rate interaction did not occur, although regression analyses indicated maximum yields at 2.0 bu/acre for the timely-planted wheat and 2.4 bu/acre for the late-planted wheat (data not shown). The late-planting vs. the timely-planting date actually had higher test weight probably because it benefited more from the precipitation during the second-half of June.

It is difficult to draw any firm conclusions from one year of data, especially when May was one of the coolest and driest months on record and June was one of the warmest months on record. Nevertheless, it appears that wheat can be safely planted until late October in the Finger Lakes region when November and December temperatures are slightly above normal and there is adequate snow cover during the winter months. We will continue this study for two more years to determine if soft white winter wheat can yield reasonably well when planted in late-October.

<b>Table 1.</b> Average temperature, total precipitation, and total snowfall at the Aurora Research Farm during the 2004-2005 wheat growing season.						
Month	TEMPERATURE		PRECIPITATION		SNOWFALL	
	2004-05	30-yr mean	2004-05	30-yr mean	2004	
	°F		in.		in.	
September	65.0	62.1	4.13	4.21	-	
October	51.3	50.9	2.57	3.20	-	
November	42.1	40.4	2.28	3.36	1.0	
December	30.1	29.7	2.48	2.45	3.5	
January	21.9	23.7	3.23	1.92	36.0	
February	27.1	25.1	1.42	1.88	10.5	
March	30.3	33.8	2.03	2.50	20.0	
April	48.1	45.3	4.85	3.28	-	
May	53.5	57.6	1.0	3.17	-	
June	72.5	66.7	4.33	4.09	-	

<b>Table 2.</b> Grain yield and test weight of Caledonia soft white winter wheat planted on 21 September and 29 October at 1.5, 2.0, 2.5, and 3.0 bu/acre seeding rates at the Aurora Research Farm.			
Seeding Rate	PLANTING DATE		Yield (bu/acre)
	September 21	October 29	
Bu/acre	-----		-----
1.5	58		57
2.0	62		62
2.5	59		59
3.0	58		62
LSD 0.05 <sup>†</sup>	NS		
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	Test Weight (lbs/bu)		
1.5	58		59
2.0	57		60
2.5	57		59
3.0	57		60
LSD 0.05 <sup>†</sup>	0.5		

<sup>†</sup>LSD 0.05 compares means between planting dates.