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Excellent fall moisture has resulted in early planted wheat getting off to an excellent start. Stored soil moisture should carry the crop well into the spring. Grazing potential should be the best it has been in a number of years. However, fall rains have also delayed the harvest of summer crops. This has forced a postponement of wheat planting in those fields that were to be double cropped. The question that is now being asked is how well will late planted wheat yield?

Yield Potential of Late Planted Wheat

Dryland Wheat

Dr. Merle Witt conducted a dryland wheat planting date study near Garden City, Kansas, over a seven year period from 1985 to 1991 (Figure 1). The ideal planting date for the Garden City area is considered to be October 1st, which is very similar to what we consider the ideal planting date for the Texas Panhandle. The ideal planting date will be a little later as you move south. In the Garden City trial the seeding rate was 90 lb/acre and the variety planted was TAM 107.

Grain yield generally declined with each monthly planting delay. When wheat was planted in December, average over a seven year period, grain yield was reduced approximately 38% compared to an October 1st planting date. When planting was delayed until January, grain yield was reduced approximately 45%. There was a considerable amount of variation between years. Declining yields with delayed planting were associated with a delayed, shorter grain-filling period and declines in seed size, test weight, number of heads per square foot, number of kernels per head, and number of kernels per plant.

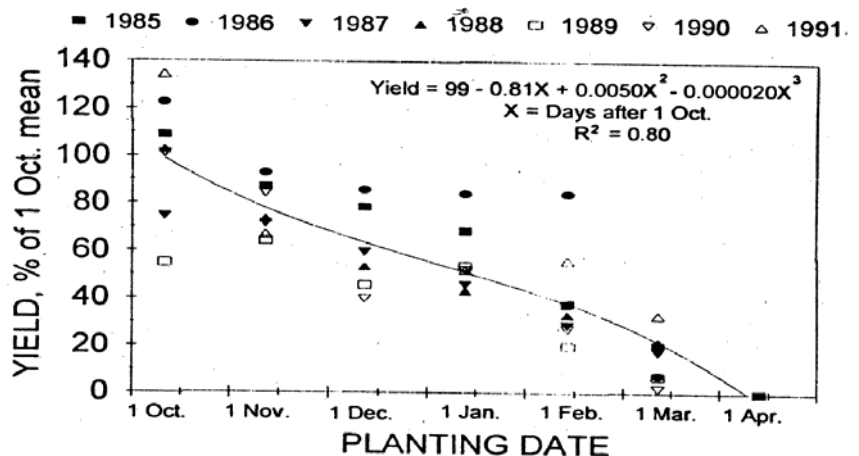



Fig. 1. Yield as a percentage of 1 October planting date mean. Points are the results for each year and line is the fitted cubic equation relating percentage yield to days after 1 October.

Irrigated Wheat A five year study was conducted near Bushland, Texas, at the Texas Agricultural Experiment Station to determine planting date and seeding rate impact on irrigated wheat yields. Planting dates were mid-October, November, and December to early January. Seeding rate ranged from 30 or 150 lbs per acre of TAM 110 wheat seed. Wheat was irrigated by furrow irrigation as needed. In four of the five years wheat yields were reduced considerably when planting occurred in December or early January (Table 1). Yield reduction compared to the October planting date ranged from 35% to 100% depending on the year. In 2002, yield was reduced 100% as a result of a poor stand due to the weather conditions at the time of planting. Only in the 1996-1997 growing season did the late planted wheat yield better than wheat planted in October. This was because of severe freeze injury to early planted wheat from a hard freeze that occurred in April.

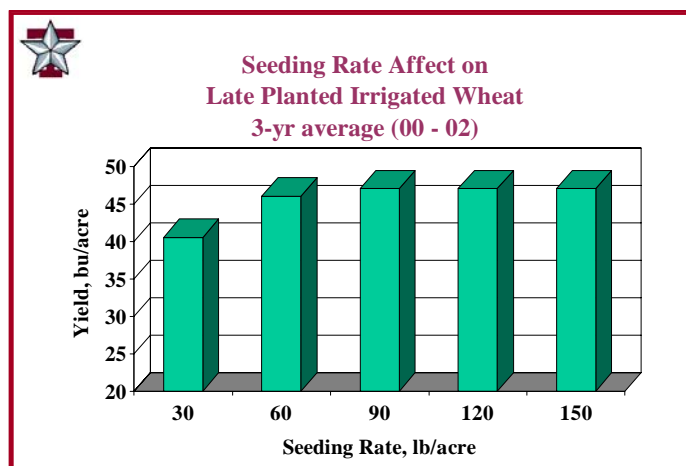


Planting date affect on irrigated wheat grain yield when averaged across seeding rates (30 – 150 lbs, TAM 110).

Planting Date	Growing Season				
	96 – 97	97 – 98	99 – 00	00 – 01	01 - 02
	----- Yield, bu/acre -----				
October	29.6 c*	84.6 a	62.0 a	67.6 a	69.3 a
November	50.1 a	70.1 b	50.0 b	39.7 b	68.1 a
Dec – E. Jan	46.8 b	54.9 c (35%)	25.0 c (60%)	41.2 b (39)	---- (100%)

* Small letters indicate statistical significance (P=0.05) between planting date yields within each growing season.

Increasing seeding rate in the late planted wheat did not improve yields (Figure 2). When averaged across three years there was no significant increase in late planted wheat by increasing seeding rate over 60 lb/acre. Average yield for December or early January planted wheat when seeding rate was at least 60 lb/acre was approximately 47 bu/acre.



Variety Selection

I do not believe the choice of variety is all that much of a concern, assuming wheat can be planted in the next three weeks. After that, vernalization (cool temperature required to initiate jointing) requirement may become an issue. This is especially true as you get into the Lubbock area where temperatures are generally warmer. If vernalization requirement is a concern, Jagger or Jagalene are two proven varieties that have short vernalization requirements.

Summary

Expect a significant reduction in wheat yield when planting date occurs in December or early January. Research in the Texas Panhandle and western Kansas suggest the reduction in yield will likely be at least 40%, although there are always those exceptional years. Increasing seeding rate may be of some benefit when planting late. However, research has shown increasing seeding rate to be only marginally effective. My suggestion is to plant 60 lb/acre of seed for dryland production and 100 lb/acre for irrigated. I do not believe increasing seeding rates any higher will have any significant impact on grain yield. Planting quality seed will also help in wheat establishment when planting under less than optimum conditions.

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