Dry Bean Planting Dates

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The 2012 crop season in North Dakota began early, providing the opportunity to timely plant crops and to plant some crops earlier than normal. As an example, dry bean planting began early in 2012, starting during the mid-third of May. This prompted NDSU field trials to explore if dry bean seed yield and quality can be positively impacted with early planting compared to the normal planting period (last 10 days of May through first week of June) or later.

Planting date trials were conducted during 2012-15 at Carrington plus one trial at Prosper in 2012 with pinto ('Lariat'), navy ('Avalanche') and black ('Eclipse') market classes of dry bean. Table 1 lists trial planting dates by year. Averaged across trials (and years), pinto and navy bean seed yield generally increased as planting was delayed (Table 2), while early and normal planting periods provided higher black bean yield. Averaged across trials and market types, the normal and late planting periods tended to have slightly higher yield compared to early planting. Also, averaged across three trials conducted during 2013-15 and market types (data not shown), seed size was similar between early and normal planting dates.

Table 1. Dry bean planting dates, Carrington and Prosper, 2012-15.

			Planting Dates		
Year	Location	Market type(s)[1]	Early	Normal	Late
2012					
	Carrington	pinto and black	17-May	30-May	13-Jun
		pinto	11-May	22-May	5-Jun
	Prosper	pinto	16-May	25-May	6-Jun
2013					
	Carrington	pinto	24-May	3-Jun	13-Jun
2014					
	Carrington	pinto, navy and black	23-May	5-Jun	18-Jun
2015					
	Carrington	pinto, navy and black	13-May	27-May	12-Jun

[1]Pinto: Lariat; Navy: Avalanche; Black: Eclipse.

Table 2. Dry bean yield response to planting periods, Carrington and Prosper, 2012-15.

		Seed Yield (cwt/acre)		
		Planting Period[2]		
Market type/variety	Trial number[1]	Early	Normal	Late
Pinto/Lariat	6	21.1	21.0	22.1
Navy/Avalanche	2	16.1	16.6	17.4
Black/Eclipse	3	19.8	20.3	18.6
average		19.0	19.3	19.4

[1]Pinto: Carrington = 2012 (2 trials), 2013-2015; Prosper = 2012. Navy: Carrington = 2014-15; Black: Carrington = 2012, 2014-15.

[2]Early: May 11-24; Normal: May 22-June5; Late: June 5-18.

The crop seasons of 2012 and 2015 were 'early' (cool-season crop planting generally beginning in April) while 2013 and 2014 were 'late' (crop planting beginning in May). Table 3 summarizes dry bean seed yield during the early growing seasons. Average market type yield response varied among planting periods with only black bean showing increased yield with early planting. Averaged across market types and trials, the normal planting period tended to have higher yield compared to early or late planting during the early crop seasons.

Table 3. Dry bean yield response to planting dates during early crop seasons, Carrington and Prosper, 2012 and 2015.

		Seed Yield (cwt/acre)		
		Planting Period[2]		
Market type/variety	Trial number[1]	Early	Normal	Late
Pinto/Lariat	4	22.4	22.7	23.7
Navy/Avalanche	1	12.2	16.1	15.5
Black/Eclipse	2	22.0	21.5	19.2
average		18.9	20.1	19.5

[1]Pinto: Carrington = 2012 (2 trials) and 2015; Prosper = 2012. Navy: Carrington = 2014-15; Black: Carrington = 2012, 2014-15.

[2]Early: May 11-17; Normal: May 22-30; Late: June 5-13.

In summary, the dry bean research conducted during four years, including two years each of crop seasons with early and late crop planting start times, with three market types planted during early, normal and late planting dates, indicates the current normal planting period used by farmers remains viable.