Pinto bean response to planting dates and rates, Carrington, 2013.
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The field study was conducted at the NDSU Carrington Research Extension Center to examine the response of pinto bean to late-May and first-half of June planting dates, and planting rates. Experimental design was a randomized complete block with split-plot arrangement (whole plot = 3 planting dates: May 28, June 7 and 17; sub plots = 3 planting rates targeted to establish 50,000, 70,000 and 90,000 plants/A) with four replications. The dryland experiment was conducted on a conventionally-tilled Heimdal-Emrick loam soil. Fungicide-treated 'Lariat' was planted with a John Deere 71 2-row flex planter in 30-inch rows. Plants from plots with first and second plant dates were hand pulled and placed in windrows on September 12, and seed harvested with a plot combine on September 13. Plants from plots with the late plant date were hand pulled on September 23 and seed harvested on September 26.

Averaged across planting rates, physiological maturity date was similar with the first two planting dates and 9 days advanced compared to the late date (table). Plant lodging was slightly higher with the first plant date compared to following dates. Seed yield was highest with the late planting date compared to earlier dates. This may have been due to higher weed density and less timely POST weed control in the first two planting date plots compared to the last planting date. Averaged across planting dates, time of plant development and lodging was similar among planting rates. Established stand measured on June 28 were 63,080, 74,590 and 81,340 plants/A with the 3 corresponding planting rates. Seed yield tended to increase with increasing planting rates. Interactions for planting dates and rates were statistically non-significant for all measured agronomic and seed factors.

Table. Pinto bean response to planting dates and rates, Carrington, 2013.

Treatment	Plant[1]					Seed		
	Emerge	Flower	Stand	Physiological maturity	Lodge	Yield	Test weight	Size
	Jday		plt/A	Jday	0-9	lb/A	lb/bu	no./lb
Planting date:								
28-May	161	200	73,490	244	2.0	1667	57.3	1430
7-Jun	165	203	77,250	244	1.0	1799	57.5	1450
17-Jun	174	216	68,280	255	1.0	2292	57.8	1390
LSD (0.05)	1	2	NS	2	0.5	346	NS	NS
Planting rate (pls/A):								
60,000	167	207	63080	248	1.5	1823	57.7	1410
80,000	167	207	74590	248	1.0	1933	57.3	1440
100,000	167	206	81340	246	1.0	2002	57.7	1430
LSD (0.05)	NS	NS	8550	NS	NS	NS	NS	NS
mean	167	206	73010	247	1.0	1919	58	1425
CV (%)	0.2	1.2	13.9	1.1	64.2	21.9	1.9	5.6

[1]Stand taken June 28. Lodging scores (0=none and 9=plants flat) taken 8-9 days after physiological maturity.