South Dakota - Alfalfa Seeding: Does Row Spacing Matter?

by Vance Owens, South Dakota State University

Row spacing in new alfalfa stands varies with equipment and individual preference. Seeding rates are often reduced as row spacing increases based on an assumption that increased competition within rows will reduce stand density over time. An experiment is being conducted at Brookings and South Shore, South Dakota, to determine the effects of different row spacings at a common seeding rate (18 lb/ac) on alfalfa yield and persistence. Experiments with two cultivars ('Hybriforce 400' and '6400HT') and 3 different row spacings (0, 6, and 12") were seeded in 2005 and 2006. The 0-inch row spacing was achieved via a Brillion-type planter.
Results from 2005 through 2006:

- Row spacing affected stand density in 8 of 11 instances.
- Row spacing affected yield in only one of five cuttings across sites.
- In general, during the establishment year, 0- and 6-inch rows had greater plant densities than 12-inch rows. But differences were sometimes insignificant, and tended to diminish the year after seeding.
- Plant densities 30 days after planting were greater in the 2005 than in the 2006 seeding, likely due to more timely spring rains in 2005.
- 6400HT generally had greater stand densities than Hybriforce 400 due to its smaller seed size; but cultivars had similar yields.

This research is continuing to determine responses as stands age and thin.

Table 1. *Plant density and DM yield of alfalfa planted at three row spacings at two locations in eastern South Dakota (Values averaged across two alfalfa varieties).*

Row Spacing (Inches)	Location 1			Location 2			
	Stand Density		DM Yield	Stand Density			DM Yield
	27 June 2005	22 Sept. 2005	14 Sept. 2005	27 June 2005	1 Oct. 2005	7 June 2006	7 June 2006
	----Plants/ft^2----		Ton/ac	----Plants/ft^2----			Ton/ac
0	78	56	1.01	33	25	18	2.33
6	92	65	1.01	59	62	25	2.21
12	56	50	0.97	41	27	15	1.89
LSD (0.10)	10	10	NS	18	13	4	0.32