Response of Forages to Fall Vs Spring Seeding Date in a Wet Hummocky Landscape

The prolonged wet period from 2010-2017, and the extremely dry spring conditions in 2018 and 2019 have made it difficult to establish spring seeded forages in recent years. Fall seeding forages may be a good alternative to spring-seeding for either wet or dry spring conditions. Under wet spring conditions, fall seeding forages may allow acres that were previously unreachable in the spring to be seeded and under dry spring conditions, fall seeded forages can take advantage of snowmelt and efficiently utilize early spring moisture. To determine which forage species could be successfully fall-seeded, a trial was conducted on a hummocky landscape near Prince Albert in 2017, 2018, and 2019.

Six different forage species including 3 legumes (cicer milkvetch, alfalfa, and sainfoin) and 3 grasses (hybrid bromegrass, meadow bromegrass, and timothy) were seeded at two different dates (fall and spring). This was replicated twice across two different slopes, allowing for comparison of upper, mid, and lower slopes. Fall seeded forages were seeded on October 28th, 2017 and spring seeded forages were seeded on May 17, 2018.

Previous studies suggest that grass forages tend to be more successful after a fall seeding versus legumes like alfalfa. This seems to be true with year 1 of this forage study. However, in the second year, there appears to be no difference between fall and spring seeded grass forages, except for timothy (Table 1). Timothy had higher percent cover when seeded in the fall for all landscape positions in year 1, and in the upper and mid-slope positions for year 2 (Table 1). Spring seeded alfalfa and sainfoin were more successful in certain landscape positions for year 1, but there were no differences in year 2. Cicer milkvetch appears to be more successful when seeded in the fall for both year 1 and 2. The only forage species that did not have higher percent coverage in the second year was sainfoin. Sainfoin appears to be less competitive, likely due to intolerance to salinity, which resulted in high weed populations. Funding for this project was provided by the Agricultural Demonstration of Practices and Technologies (ADOPT) Program.

Table 1. Final average percent cover of forage stands for spring or fall seeded forages across different landscape positions in August 2018 and 2019.

Forage Species	Final Forage Stands (% coverage)					
	Upper		Mid		Lower	
	Fall Seeding	Spring Seeding	Fall Seeding	Spring Seeding	Fall Seeding	Spring Seeding
Cicer milkvetch 2018	70	43	90	30	30	0
Cicer milkvetch 2019	100	90	95	70	100	90
Alfalfa 2018	68	90	65	68	25	78
Alfalfa 2019	100	100	100	100	100	100
Sainfoin 2018	78	78	60	60	60	93
Sainfoin 2019	75	25	55	40	65	90
Hybrid bromegrass 2018	90	5	85	28	55	53
Hybrid bromegrass 2019	55	100	95	85	75	80
Meadow bromegrass 2018	38	55	40	0	78	0
Meadow bromegrass 2019	100	100	100	100	90	100
Timothy 2018	80	23	48	30	83	50
Timothy 2019	90	35	100	60	80	100