Effect of Planting Time on Dry Matter and Seed Yield of Fenugreek

Saugat Baskota1 and Anowar Islam1

Introduction
Fenugreek is a leguminous plant used for food, spices, tea, and medicinal purposes, as well as animal feed. Fenugreek stimulates milk production of dairy animals, has excellent forage quality (comparable to alfalfa), and is non-bloating to grazing animals. But limited information is available on fenugreek cultivation and management, especially in respect to time of planting and its effect on growth.

Objectives
The objectives were to determine the effect of planting time on dry matter yield and seed production of fenugreek.

Materials and Methods
The experiment was conducted at the Laramie Research and Extension Center (LREC) under irrigated conditions from May to October 2015 and 2016. The study was laid out in a strip-split randomized complete block design with three replicates. Fenugreek seeds were planted on three different dates each (treatments): in 2015, May 18, June 1, and June 18; in 2016, May 5, May 19, and June 3. Seeds were inoculated with Rhizobium bacteria prior to seeding, and the seeding rate was 30 pounds/acre. Fenugreek cultivars used for this study were Tristar, F96, F75, LRC3375, and LRC3708.

In 2015, plots were harvested August 19 for dry matter (DM) and October 10 for seed yield. In 2016, the harvest was September 6 for DM and November 15 for seed yield.

Results and Discussion
In 2015, the greatest DM (1,232 lb/ac) and seed production (181 lb/ac) were in the plots planted on May 18 (Figure 1). Likewise, in 2016, the plots planted on May 19 produced the greatest DM (3,250 lb/ac) and seed yield (682 lb/ac) (Figure 2). Across three planting times, average DM and seed yields were greater in 2016 (2,401 versus 1,056 lb/ac) than in 2015 (372 versus 121).

The difference in DM and seed yield was likely due to high natural precipitation in June and October 2015 (2.81 and 2.67 in, respectively), which significantly reduced the plant count per plot and caused shattering of seeds (when seeds are dispersed). This indicates that planting time has a great effect on plant growth and, ultimately, seed production.

Factors like temperature and precipitation are important for crops to perform at highest potential. Results in 2015 and 2016 showed that temperatures around 45–50°F and precipitation less than 1 inch during seeding was suitable for fenugreek cultivation. Results suggest that the second to third week of May might be a good time to plant fenugreek for optimum plant growth and yield in the Laramie area and similar environments.

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Contact Information
Saugat Baskota at sbaskota@uwyo.edu, or Anowar Islam at mislam@uwyo.edu or 307-766-4151.

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Figure 1. Dry matter (DM) and seed yield production of fenugreek at different planting times in 2015.

Figure 2. Dry matter (DM) and seed yield production of fenugreek at different planting times in 2016.

1Department of Plant Sciences.