CHAPTER 47

Stockpiling Tall Fescue for Winter Grazing by Beef Cows in Interior BC

Don Thompson and Doug Veira

PHOTO BY D. McCARTNEY

Stockpiling forage is the practice of accumulating forage biomass during the late summer and fall and grazing it after the growing season to reduce the cost of overwintering beef cattle (Riesterer et al. 2000). Tall fescue has been used in the USA for stockpiling and winter grazing because it maintains its leaf structure and quality well after killing frost. A field study in Quebec demonstrated that tall fescue was suitable for stockpiling in northern regions, but there have been no grazing trials conducted in Canada to document cattle performance (Drapeau et al. 2007). Thus a trial was conducted at the Kamloops Research Unit in British Columbia where cow weight gains were compared between grazing stockpiled tall fescue pasture and the traditional practice of feeding hay.

The tall fescue variety *Courtenay* was subjected to two hay cuts and the remainder of the year's growth was stockpiled. The pasture was fertilized yearly with 250 kg N/ ha (220 lb/ ac) as urea in three applications. Second cut tall fescue hay harvested in the first week of August was fed to a control group of cows in a feedlot.

Stockpiled tall fescue pasture accumulated about 3700 and 5900 kg/ha (3300–5260 lb/ac) dry matter in the falls of 2000 and 2001, respectively. The greater accumulation of forage in the fall of 2001 had poorer quality, due to warmer temperatures, while the hay quality was consistent across years (Table 1). In 2000, ADF levels were much lower for tall fescue pasture than for the hay, suggesting higher digestibility for pasture. In 2001, pasture had somewhat poorer forage quality compared to the hay (less CP and greater ADF). Although tall fescue had stopped growing by mid-October, the leaves were still green and had not senesced (Fig. 1).

The trial was started in mid-November and ran for 6 weeks in 2000 and 9 weeks in 2001. The pregnant Hereford

Table 1. Forage quality of tall fescue stockpiled pasture and hay in 2000 and 2001.

	Pasture		Hay	
	2000	*2001*	*2000*	*2001*
Crude Protein (%)	11.9	10.4	11.2	12.0
Acid Detergent Fiber (%)	28.4	36.6	35.3	35.8

Figure 1. Stockpiled tall fescue pasture mid-October, 2000, Kamloops, BC.

Figure 2. Cow grazing stockpiled tall fescue through snow, December 2000, Kamloops, BC.

cows were provided with a frost-free waterer and wind fences for shelter. The animals were restricted to a 10-m (33 ft) wide strip of grass every two days. The cows grazed the tall fescue readily, even when covered with at least 20 cm (8 in) of powdery snow (Fig. 2), but intake suffered when the snow crusted. At the same time the fescue hay was fed in a feedlot. In 2000, hay intake was restricted to 14 kg/head/day (31 lb/day). This was estimated using Total Digestible Nutrient (TDN) values needed for maintenance and fetal growth.

Average cow weight gains in 2000 are shown in Figure 3. Weight of cows in the feedlot first increased then remained constant, reflecting restricted intake at a higher plane of nutrition. It likely took the cows on stockpiled pasture time to adapt to the new pasture feed as they were transferred from poorer quality range vegetation. After the lag period, cow weights continued to increase for about another 20 days before levelling off. In 2000, average daily gain during the trial was 1.3 kg (2.9 lb) on pasture compared to 0.4 kg (0.9 lb) on hay. The difference was likely due to less restricted intake on pasture and better forage quality.

Average cow weights recorded in 2001 are show in Figure 4. As in 2000, there was a lag period as the cows adapted to the feed after grazing poor quality range grass. Cows on fescue pasture responded similarly to the previous year with rapid gain as they adapted to the more nutritious feed and then slowed down after 35 days on feed. For the group fed hay, weight increased similarly to those on pasture until 23 days, but showed no sign of levelling off until about day 50. In 2001, over the duration of the trial, cows gained an average of 0.7 kg (1.5 lb) per day on pasture compared to 0.9 kg (2.0 lb) per day on hay. In 2001, cattle were given free choice of hay, unlike the previous year when intake was restricted. This led to greater gains with hay.

Conclusion

We demonstrated it was possible to stockpile considerable quantities of high quality tall fescue pasture for winter grazing in interior BC. Cows can be kept on stockpiled tall fescue as late as mid-January, given favorable snow conditions. Tall fescue pasture is especially useful to restore condition of pregnant cows (in second trimester) moved from rangeland where forage quality is often poor. While the amount and quality of stockpiled pasture varied considerably between years, cow weight gains were similar to those fed second cut tall fescue hay in the feedlot.

References available online at www.farmwest.com

Don Thompson Agriculture and Agri-Food Canada, Lethbridge, AB, Canada | don.thompson@agr.gc.ca

Doug Veira Agriculture and Agri-Food Canada, Agassiz, BC, Canada

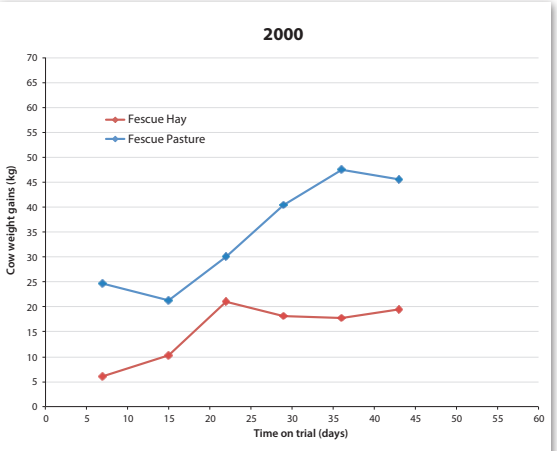

Figure 3. Gains of cows fed tall fescue pasture or hay in the winter of 2000.

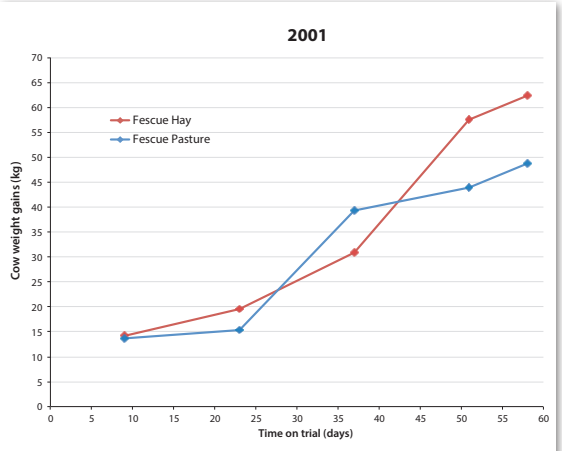

Figure 4. Gains of cows fed tall fescue pasture or hay in the winter of 2001.