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BROWSING vs CUTTING ALFALFA IN THE FALL

One year, old stands of Saranac alfalfa containing high or low root reserves had the complete top removed (cut) or the top 15-20 cms taken off (browsed) in late August, September or October in five successive autumns. The succeeding stands and yields clearly showed that browsing at anytime during the autumn did little harm. However, cutting at anytime and particularly near the critical date, caused extensive winterkilling and/or severe yield reductions.

Good persistence of alfalfa in Ontario is known to be associated with 30 cms (1 ft) or more of fall top growth and avoiding complete removal of such growth during the critical fall harvest period. However, farmers are sometimes confronted with what appears to be excessive fall top growth on alfalfa. It raises the question if early or late cutting or light browsing with cattle could be done during the autumn without serious deleterious effects.

A study has been conducted at the Elora Research Station over a five year sampling of winter conditions to examine such practices. In each year of the study, a one year old stand of Saranac alfalfa was subjected to four pasture-early bud harvests or three hay-early flower harvests prior to the application of the fall treatments. These summer harvests established alfalfa with low or high root reserves. The treatments on the fall regrowth of this alfalfa consisted of its complete removal (cut) or a simulated light grazing by removing 15-20 cm of the top (browsed) except in late August where the short recovery growth permitted the browse removal of only 5-10 cm. The cut or browsed treatments were applied on 26 August, 20 September and 15 October. Succeeding stand and yield information was collected.

The results of this study clearly showed that the amount and height of the fall top growth was very similar on the low and high root reserve alfalfa

(Table 1). Yields taken in three of the five years when the treatments were applied in the fall averaged 490, 1580 and 1440 kg/ha of dry matter for the August, September and October harvests, respectively. The final plant height was similar for the two root reserve levels in late October.

Autumn harvests in 1973 and 1974 caused severe thinning and marked yield reductions to the succeeding crop especially when carried out in mid-September on the low reserve alfalfa (Table 2). The low yields in 1976 were caused by midsummer drought. Cutting produced an average yield reduction of 28% below that obtained from browsing and 38% below that obtained from the uncut checks (Table 3). In every test, the low root reserve material produced lower succeeding yields than that from the high reserves.

It should be emphasized that mid-September cutting severely reduced the stand and yield that followed. If completely killed the low reserve alfalfa in two years out of the five and severely reduced the succeeding plant vigour and permitted heavy dandelion invasion in the other years.

Browsing a portion of the top growth at anytime during the autumn had little effect upon the succeeding crops of alfalfa. It produced about 95% of the succeeding uncut check yield and provided vigorous growth that resisted dandelion invasion.

Table 1. Plant height on October 26, three year mean.

Treatment	Height cm	
	low reserves	high reserves
Aug.26 cut	12	13
Aug.26 browse	24	25
Sept.20 cut	6	6
Sept.20 browse	19	18
Oct.15 cut	4	4
Oct.15 browse	20	20
Uncut check	22	25
Mean	15	16

Table 2. Yearly dry matter yields meaned over treatments in kg/ha from low and high root reserve alfalfa.

Year	Cut 1		Total	
	low	high	low	high
1973	3620	3920	6200	6810
1974	3710	4620	6740	9100
1975	3690	4180	9400	10,430
1976	4350	4530	6350	6620
1977	5270	5580	13, 670	14,360
Mean	4130	4570	8410	9530

Table 3. Total dry matter yields in kg/ha as affected by root reserve levels and fall treatments. Five year mean.

Treatment	Cut 1		Total	
	low	high	low	high
Aug.26 cut	3620	4140	7060	8430
Aug.26 browse	4300	4970	8890	10,100
Sept.20 cut	3270	3490	5410	7560
Sept.20 browse	4350	4460	9110	9800
Oct.15 cut	4140	4290	7800	8490
Oct.15 browse	4600	4860	8970	10,310
Uncut check	4610	5020	9970	10,590
Cut mean	3670	3970	6750	8160
Browse mean	4410	4760	8990	10,070
Reserve mean	4060	4400	8330	9330