Experience With Pasture Lambing During Severe Weather

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Pasture lambing has been identified as a means of allowing significant flock expansion to occur without a major outlay of capital for sheds, or a significant increase in labour requirements. In addition to avoiding capital costs for facilities, feed costs can be reduced since the maximum nutrient requirements of the ewe (early lactation) occur when the pasture is at its maximum growth stage. While pasture lambing is perhaps best suited to large flocks on a once-a-year lambing system, it can also be used to some extent with accelerated flocks.

Pasture lambing is quite different from shed lambing in that the ewe must deliver the lambs on her own and the lambs must be able to get up and get colostrum without assistance. Therefore, the flock must be composed of young healthy ewes with good udders and good maternal instincts. It seems likely that very prolific ewes would not be desirable for pasture lambing. The flock needs to be in good body condition at lambing so the lambs have the reserves to get started.

Two factors present significant levels of risk when pasture lambing. The first is predators. As farm managers, we can reduce the risk of predators by using a combination of control methods, primarily electric fence and guard animals. The second factor cannot be controlled and that is weather conditions. While one should time the onset of lambing to periods when the weather is suitable for lambing, unusual wether will occur from time-to-time and this can present a serious risk to lamb survival. In the discussion below, we describe lambing on 3 pasture lambing flocks and 1 barn lambing flock during 1998.

Methods: The ewes involved in the pasture lambing trials were of two backgrounds: the mature ewes were mostly 2 and 3 years old with a strong Suffolk influence and lesser percentages of Dorset breeding; the second group was yearlings which had Suffolk, Dorsett, and Rideau Arcott in their background. All rams used were either Rideau, Dorsett, or crossbred rams. The mature ewes were bred to begin lambing near May 20, 1998 while the ewe lambs were bred to begin lambing near June 1, 1998.

The mature ewes were divided into three groups, a control group of 20 ewes (Group 1) which lambed indoors, and two pasture groups (Group 2 and Group 3). Group 2 ewes (45 head) lambed on a 5 acre pasture that had several deep gullies and a small wooded area, while Group 3 ewes (50 head) lambed on a 8 acre field which was flat and had no windbreaks or shelter. Both pastures were primarily bluegrass. The yearlings (92 head - Group 4) were lambed on a 10 acre pasture that was flat but had a thick hedgerow on the east side and buildings to the south.

Lambing was managed by checking the fields 3 times per day (approx. 7:00 am, 1:00 pm and 8:00 pm). Lambs born since the last field check were observed for their ability to nurse and to assess the ewes mothering. If the lamb appeared thrifty, it was caught and processed (ear tag, ring docked, ring castrated, Vitamin AD, E-Sel). A paint mark on the rump was applied to processed lambs. The flocks were checked more frequently during harsh weather. Lambs that were judged to be hypothermic or otherwise unhealthy were brought inside and raised on milk replacer.

Results:

Weather Conditions: The beginning and end of the pasture lambing period were characterized by warm temperatures and low precipitation (Figure 1). However, for 7 days starting May 30, temperatures dropped and frequent, sometimes heavy rainfall occurred. The weather was perhaps most severe on June 2, when the average temperature was only 4°C and over 1.5 cm of rain fell. In addition, strong northwest winds occurred throughout this 7 day period. Obviously these conditions are quite severe for early June and lamb survival was a concern.

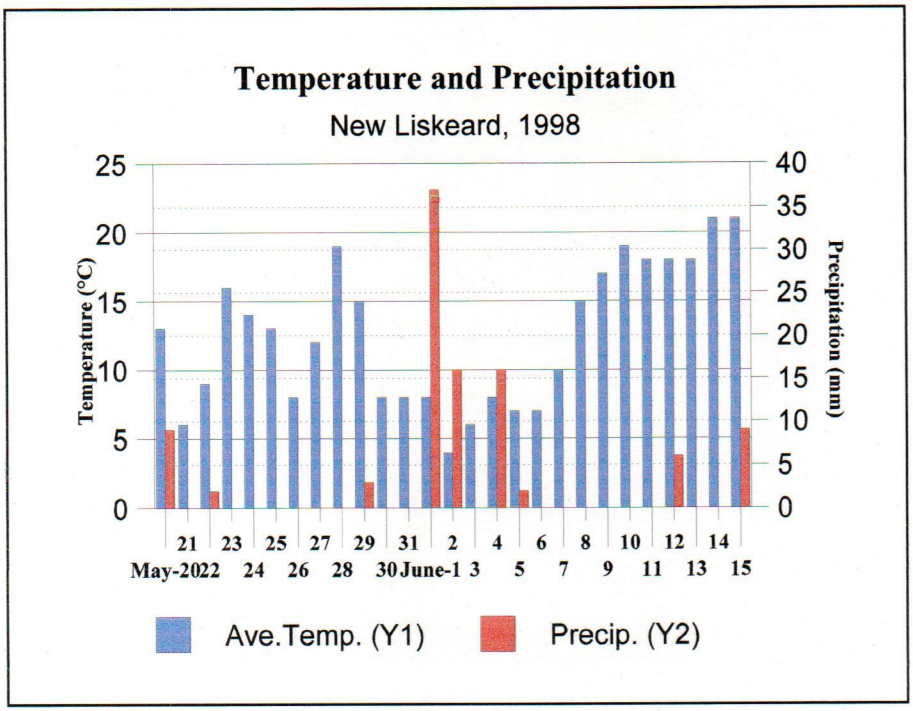

Figure 1. Temperature and precipitation at New Liskeard during pasture lambing period (May 20 to June 15, 1998).

Comparison of Lambing Groups: Lambing percentages were relatively high for the mature ewes (Table 2). Although the ewes in groups 2 and 3 were randomly sorted, group 2 ewes had a higher percentage of triplets than the group 3 ewes. The ewe lambs dropped mainly singles with 30% of the ewes having twins.

Table 1.Description of Lambing Groups and Lambing Percentages.

Group	# of Ewes	% Single	% Twin	% Triplet	% Lamb Crop
1 Control	26	15	73	12	196
2 Mature	45	13	62	24	213
3 Mature	50	24	70	6	182
4 Ewe lambs	92	70	30	0	130

Lamb Survival and Growth

In all groups, some lambs had to be removed from their dams and raised artificially. The rate of artificial rearing was lowest for the barn lambing group and about equal for the three pasture lambing groups (Figure 2). The vast majority of lambs raised on milk replacer were removed from the pasture during the period of cold, wet weather. In 1997, when the weather was more normal, no lambs had to be removed from the pasture.

The control group had a mortality of 5.9% up to 50 days of age (Figure 2). Mortality includes all lambs that died including still born. Over the past 5 years, mortality among groups of ewes lambing inside has ranged from about 3.5% to 12%, with the higher values associated with more prolific breeds lambing during the winter. Among the groups of ewes lambing outside, the ewes in the field that provided natural shelter had a mortality rate of 10.4%, the ewe lambs had a mortality rate of 10.2%, and the mature ewes lambing on an exposed area had a mortality of 20.9%. It is clear from these results that access to some form of natural shelter is critical if prolonged foul weather hits during the peak of lambing.

The unadjusted 50 day weights were similar for all groups. In this and previous years, we have found the average daily gain of pasture born lambs to be higher than that of lambs born inside in April then pastured over the summer.

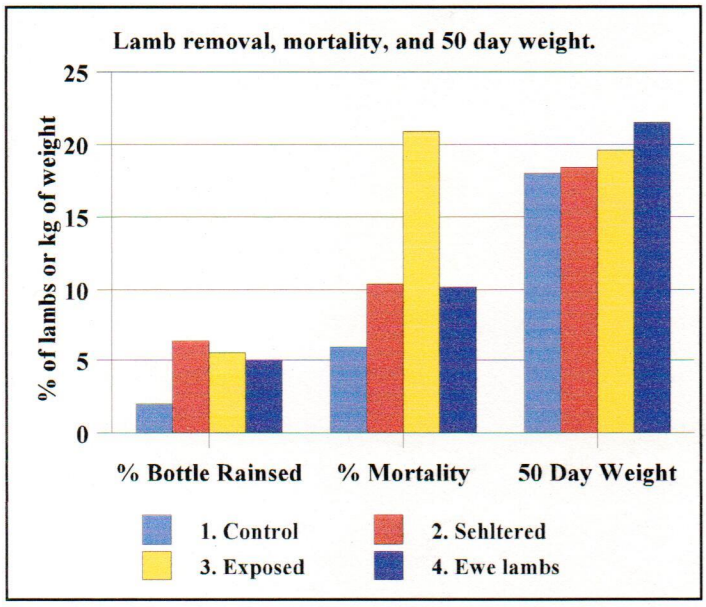

Figure 2. Percent of lambs artificially raised, percent dead, and unadjusted 50 day weights of lambs from ewes in one barn-lambing and three pasture-lambing groups.

Lamb Crop Raised

The barn lambing group and the mature ewes lambing on a sheltered pasture both raised about a 180% lamb crop (Figure 3). This figure does not include lambs that were raised on milk replacer. The mature ewes lambing on an exposed pasture only raised a 140% lamb crop due to the much higher lamb mortality in that group. The ewe lambs raised approximately a 110% lamb crop.

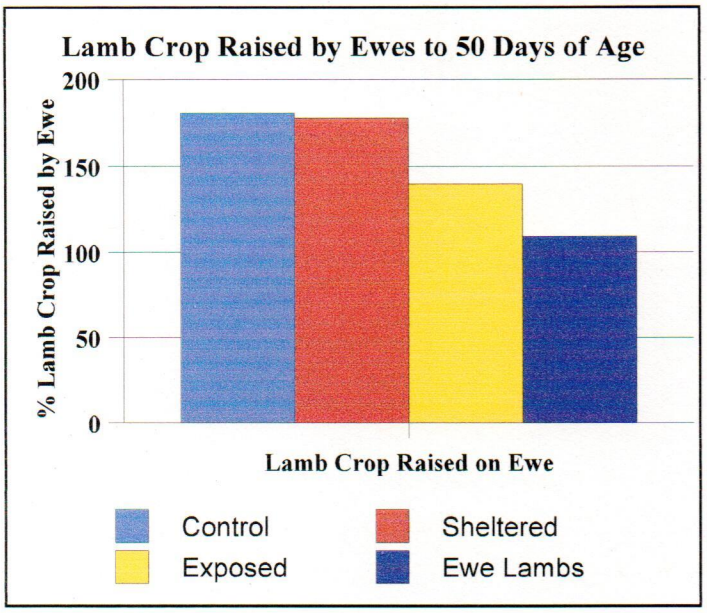

Figure 3. Percent lamb crop raised by the ewes to 50 days of age from 1 barn-lambing groups and three pasture-lambing groups.

Summary and Interpretation

Under severe weather conditions, ewes lambing on a pasture that offered natural protection from wind (but not rain) had a lamb mortality rate about half that of ewes lambing on an exposed pasture. The mortality rate of the group on the sheltered pasture was slightly higher than our target maximum of 8 to 10%, but still reasonable when the severe weather and higher than expected number of triplets are considered. It is clear that while pasture lambing flocks do not necessarily need continuous access to sheltered areas, a contingency plan should be in place to allow for wind protection as required. In our case, several deep cut gullies in the pasture provided an excellent windbreak which the ewes and lambs used frequently during harsh weather. Given that pasture lambing in Ontario would normally occur in late May and June, wind protection should normally only be needed when unusually cold and wet conditions occur.

While we did not compare different ewe breeds, it was apparent that there are differences in mothering ability among ewes even in a relatively uniform flock. It seems likely that after several years of pasture lambing and culling based on pasture lambing ability, one could develop a flock that would be better able to lamb unassisted in both good and bad weather.

While a economic assessment of pasture lambing has not been done to date, it was quite clear that labour was reduced since feeding the ewes was not part of the daily routine. Other labour savings resulted from not using (and cleaning) lambing pens, or having to sort ewes and their lambs into hardening pens. During the most severe weather, frequent pasture checks were made,

which increased labour over that anticipated, but during fair weather three checks of the flock per day plus processing time was sufficient. The other major savings in variable costs would be related to feed costs since no supplemental feed other than salt, mineral and water was required.