

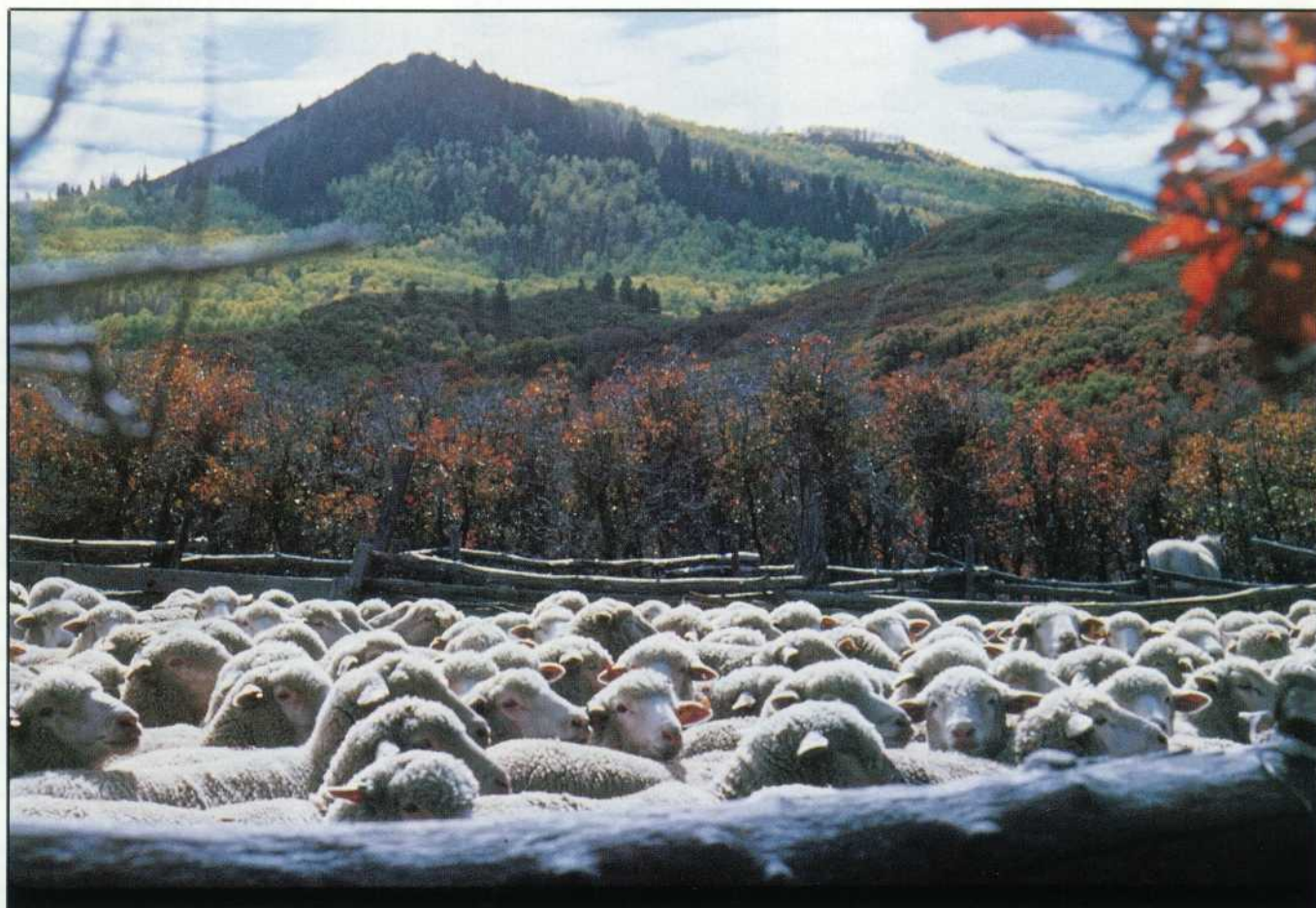
A GUIDE FOR SHEEP AND FARM LIFE

THE SHEPHERD

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Fall's A Comin'



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Comparison of Texel and Suffolk Rams as Sires

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Newfoundland Sheep: The Undiscovered Breed

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If you haven't heard of the Newfoundland sheep before, don't feel bad, you are not alone, 99.9 percent of the sheep breeders in North America don't know anything about them, either. I personally didn't know that such a breed of sheep existed before 1975. It was after I had presented a paper in a scientific meeting about the work we had been doing on developing a breed with long breeding season which we later called DLS, that the then Director of the Newfoundland Research Station of Agriculture Canada, Mr. Robert Chancey, told me that the sheep in Newfoundland were doing exactly that naturally. At first I did not believe that sheep at a latitude higher than where we were developing the DLS could do that naturally; secondly, I had never heard of a breed of sheep native to Newfoundland.

Mr. Chancey challenged me to compare my DLS with his native NFLD sheep, and I accepted the challenge. We set the place on a neutral grounds in Nova Scotia. He sent his best seven ewes and six of their lambs, I sent 11 of my better DLS which had proved themselves in Quebec. The test lasted five years; we tested the older ewes and their progeny. Neither the NFLD sheep nor the DLS showed extra seasonal activity in Nova Scotia, which we blamed on difference in management (extensive vs. intensive) and climate. We published the results, continued the development of the DLS and soon I forgot all about NFLD sheep. Until last month.

The research station at St. John's kept the progeny of the sheep sent to Nova Scotia for 15 years. Suddenly, I found

myself accompanying Dr. Julien Proulx, the newly-appointed Director of La Pocatiere Experimental Farm, on a plane heading for Newfoundland to advise Mr. Dale Sudom the present Director at St. John's, on what to do with these sheep. The change in Agriculture Canada research mandate with sheep and the restricted operation budget meant a decision had to be made on whether or not to keep the station flock any longer. While in Newfoundland I discovered the amazing facts about these sheep shaped for centuries by nature for Newfoundland. As I learned more about this breed, my appreciation of its potential increased and instead of condemning the flock I found myself writing this article to let all sheep breeders know about that unique breed.

Nobody seems to know from where or of what ancestry these sheep originated. It is believed that sheep brought by early settlers including remote ancestors of present day North Country Cheviot and Dorset horn were the origin of that breed with contributions from Leicester, Suffolk, Hampshire and Oxford breeds. Until recently, these sheep were not mixed with any other sheep for at least two centuries and through natural selection, i.e., survival of the fittest, they developed characteristics unique for sheep in the North American Continent.

Let me first give a brief description. Newfoundland sheep are hardy, with relatively long and narrow heads, long legs and well-developed bodies, resembling to a great extent their N.C. Cheviot ancestors. The wool is long and coarse and mostly white. Newfoundland sheep are

white in color, however, a few animals may have colored faces and legs. About 20 percent of the animals are completely black, and unlike other black sheep at birth which turn grey as they grow older, NFLD black sheep remain black. The inheritance of color in NFLD sheep is very strange, white ewes can give birth to black lambs, black ewes can give birth to white lambs, and black and white ewes can give birth to twins, one white and one black. Some animals are horned, a reminder that genes from the Dorset Horn are there, but the percentage of horned animals is rather small.

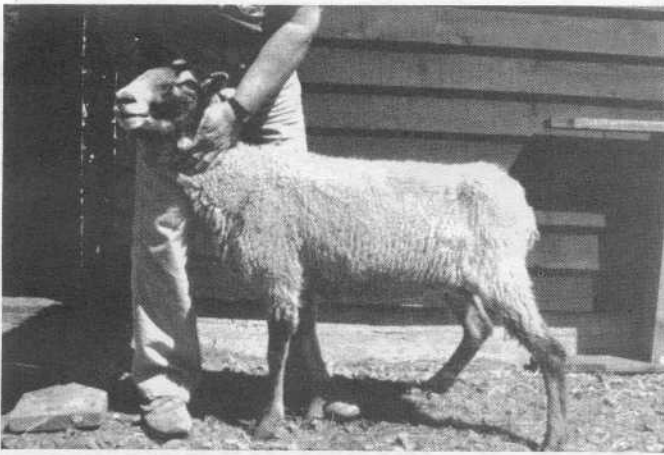
Hardiness and longevity are the most interesting traits in NFLD sheep. If you think that sheep in New Zealand are hardy since they produce alone on hillsides without help or extra feeding, you should go to Newfoundland to realize that these New Zealand sheep are actually living in luxury. First, the vegetation in New Zealand is much richer and the climate is much better than in Newfoundland. Secondly, NFLD sheep should produce twins almost every time or risk losing their lives which is not the case in NZ where twinning is often considered as an undesirable trait. Longevity is amazing in NFLD sheep; we saw two ewes, one 18 and one 14 years old, on one of the farms we visited. I could not believe my eyes on examining their teeth; they were all there and in good functioning condition except one which seems to have been lost by accident. The breeder told me that these ewes always gave him twins and since they can't walk for long distances anymore, they prefer staying home. These



A. Newfoundland Sheep



B. Black Newfoundland Sheep



C. Blackhead Newfoundland Sheep



D. Newfoundland Sheep On Pasture

were the only two ewes left on the farm, and when we asked the breeder about the rest of his flock, he smiled, pointed away and said, "Somewhere there."

It was while driving around the island guided by Mr. Lou Pine, the provincial livestock specialist, that we learned about this particular sheep production system in Newfoundland and realized that probably no other breed in North America can replace these "local sheep" as they are often called by Newfoundland breeders. In total, a sheep breeder gets in contact with his sheep less than eight weeks per year, six in the fall during breeding, and two in the spring when he collects the lambs, during the rest of the year the animals are virtually on their own. They roam countrysides, mountains, and the rest of publicly-owned land in Newfoundland in search of food and shelter. And although hay is always available at home base for sheep to return to if the condi-

tions become too severe, it is rare that the sheep take advantage of that. We even learned of producers putting their sheep on islands where, in addition to grazing, they feed on sea weeds.

Many factors contribute to the success of this system, one is the weather, the southeastern part of Newfoundland has a very low snowfall during the winter and snow seldom remains on the ground for a long period, so sheep can still dig out their food. Warm weather starts rather late in Newfoundland and extends until fall. This was probably part of the reason for the length of the breeding season in Newfoundland sheep, a characteristic which we discovered by talking to sheep breeders there, to be undesirable since it would involve feeding the lambs born off-season. The second factor is the absence of predators. Until recently only roaming dogs created problems for sheep, unfortunately some other pred-

ators such as coyotes found their way to western parts of Newfoundland. A third factor is the availability of community grounds, where sheep can graze freely. Actually, these lands may accommodate ten times the number of sheep presently raised there. Finally, the availability of a breed of sheep adapted to these conditions and which not only can survive, but also produce at a satisfactory level. Talking to two breeders we found out that they kept only the ewes which brought them two weaned lambs per year. Considering that all the feeding cost of these sheep is normally no more than 500 lb. of hay and less than \$15 worth of concentrate, management is limited to eight weeks per year and there is a minimum investment in buildings and equipment, raising NFLD sheep is obviously an excellent choice for some farmers.

Unfortunately this is not the case; sheep production in Newfoundland de-



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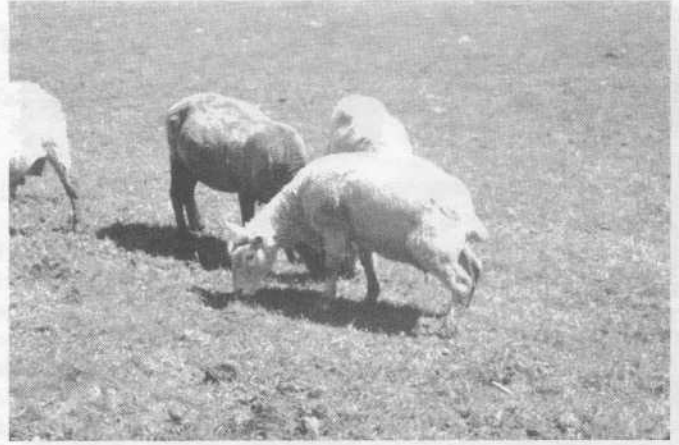
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E. Sheep on Typical Southern Coastal Area of Newfoundland



F. Newfoundland Ewe With 2 Lambs, One Black, One White

clined by tenfold to about 7,000 ewes and remained constant at that number for the last 18 years. Municipal reorganization, and the creation of regions and city councils which passed by-laws prohibiting grazing in public land helped in the decline of sheep population. As for NFLD sheep, they are now facing extinction. Sheep breeders impressed with the performance of meat-type breeds and more recently with prolific sheep started crossing the NFLD sheep with a variety of breeds including N.C. Cheviot, Suffolk, Leicester, Hampshire, Dorset, and more recently, Romanov and Finnsheep. The crossbred progeny of most of these breeds could not tolerate the harsh conditions and became unproductive and in some cases perished completely. Only the N.C. Cheviot cross was fairly successful, but these crosses had led to a drastic decline in the number of pure NFLD sheep still available. Some breeders we talked to realized that mistake and are trying to correct it by seeking the best NFLD sheep for breeding stock. Unfortunately, local sheep are in limited supply now due to intensive crossbreeding in recent years.

As our visit of Newfoundland came to an end we had to make a recommendation, for or against the NFLD sheep. The choice was clear, NFLD sheep was a gift from nature too precious to lose. It took centuries to shape these sheep for conditions so difficult to bear that probably only they can survive them and still produce profitably. We have no doubt that based on the merit of this breed in its local habitat, Newfoundland may one day provide other locations with similar difficult environments with hardy sheep. Can this breed show the same potential in other parts of Newfoundland, Canada or the world? A question that no one can answer now. However, if that unique breed is to

have a chance of surviving this century, the damage done during the last few years has to be corrected fast.

Information on NFLD sheep is scarce; the following are some results and observations made on the three flocks raised in Newfoundland, La Pocatiere (QC) and Nappan (NS), which I hope would give some indications on the performance of these sheep.

Productive and reproductive characteristics of NFLD sheep

Sexual maturity: No data are available on age at puberty. Roughly 30% of ewe lambs exposed to rams at 7 months of age would conceive. Ewe lambs born between February and May conceive at around 226 days of age (the youngest was 194 days old). Those born between August and January conceive at about 327 days of age (the youngest was 231 days old).

Longevity: Exceptional in NFLD sheep. Although the ewes reach their peak between three and five years of age, they can produce satisfactorily until they are ten years old. Some ewes can still produce at the advanced age of 17.

Breeding season: There are several indications that NFLD sheep have a long breeding season and can lamb off-season. This potential is manifested more in

adult ewes of three years of age and older. Ewes which lamb in spring can lamb again after 238 days on average (min. 189, max. 282 days). Those lambing in fall could lamb again after 197 days on average (min. 183, max. 256 days). Under research station conditions, very few ewes could lamb three times in two years.

Gestation length: Gestation length in NFLD sheep averages 145.8 days, the range extends from 141 to 155 days.

Age at first lambing: Ewe lambs exposed to rams at all times could lamb at one year of age, however, in the experimental flock only 30% could achieve that.

Fertility: Fertility of ewes two to four years of age in the Newfoundland experimental flock ranged between 81.3 to 82.6% and dropped to the 70% range at older ages. The flock transferred to QC averaged 77.3, 84.6 and 90.9% in fertility over three years. On the other hand, fertility in the flock moved to NS averaged 97% over a period of four years.

Litter size: Yearlings lambing at about one year of age seldom produce twins. The average was 1.08 for the flock at Newfoundland and 1.05 for the flock at NS. At two years of age prolificacy was 1.16 (NFLD), 1.38 (NS) and 1.18 (QC). It seems that the highest prolificacy is achieved at 3 and 4 years of age, 1.77 and 1.52 (NS) and 1.26 and 1.53 (NFLD) and 1.31 and 1.18 (QC). These averages obtained in experimental flocks are believed to be inferior to those obtained by commercial breeders.

Lamb mortality: All indications suggest a low lamb mortality in NFLD sheep. In the flock at NS mortality at birth was 7% and between birth and weaning it was only 6%. Of 50 lambs born in the flock in QC only one was dead at birth, and eight (16%) died before weaning.



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Sex ratio: Statistics based on 462 lambs born over a 22-year-period in Newfoundland, sex ratio was 51.3 males: 48.7 females.

Color: The percentage of colored lambs in the NFLD flock over a 22-year-period was 12.9%, taking into account that in choosing rams for breeding only white animals were selected.

Lamb weight: In the NS flock birth weight of lambs averaged 3.42 kg (7.5 lb.) and ranged from 2.76 kg (6.1 lb.) for lambs born to yearlings to 3.8 kg (8.4 lb.) for those born to 4-5-year-old ewes. In the QC flock average birth weight of single males from adult ewes was 4 kg (8.8 lb.) and for females it was 3.8 kg (8.4 lb.). Litter birth weight for ewes producing twins was 6.8 kg (15 lb.) in the QC flock and 6.7 kg (14.8 lb.) for the NS flock. Weaning weight at 70 days of age was 18.6 kg (41.1 lb.) for single males, 16.9 kg (37.2 lb.) for single females and 28.0 kg (61.8 lb.) for a set of twins.

Milk production: No studies or records are available on milk production. Pre-weaning average daily gain can give an indication on that production. Single males grew 206 g (.456 lb.), single females grew 185 g (.408 lb.) and set of twins grew 296 g (.652 lb.). Some ewes seem to have superior milk production since their lambs grew at 333 g per day (.734 lb.).

Wool production: Two reports on wool production of NFLD sheep are available. In NS, ewes of different ages produced 2.4 kg (5.3 lb.) of grease fleece per year. In QC, average fleece weight of NFLD yearling females and males was 1.85 kg (4.1 lb.) and 1.73 kg (3.8 lb.), whereas for older animals, the weights were 1.7 kg (3.7 lb.) and 2.2 kg (4.9 lb.), respectively.

Fibre characteristics: So far there is no scientific data on fibre characteristics of NFLD fleeces. Staple length of one year growth can be between 10 and 15 cm (3.9-5.9 in). Wool is generally medium in fineness and crimp.

Special attributes

Flocking tendency: When left on ranges, the animals stick together for a period of time, then split into smaller groups searching for food. After lambing, it is common to find ewes and their lambs grazing alone. Bringing the animals back to the farm in spring and fall is rather easy.

Mothering ability: Must be exceptional in these sheep in order to survive. The ewes lamb by themselves in the open (giving usually twins) and raise their lambs alone.

Temperament: Newfoundland sheep are docile and easy to handle and work with. The animals rarely jump fences, so they can be contained easily.


Newfoundland sheep are reported on at least 39 farms mainly in eastern Newfoundland. Further information on Newfoundland sheep can be obtained by



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writing to Mr. Lou Pine, Livestock Specialist, **Newfoundland and Labrador Department of Forestry and Agriculture**, Brookfield Road, P.O. Box 4750, St. John's, A1C 5T7 or to Ms. Dale Russell FitzPatrick, president, **Sheep Producers Association of Newfoundland and Labrador**, Box 8, R.R. 1, Roaches Line, NFLD, A0A 1W0.



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