



The sheep industry in the Nordic countries[☆]

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ABSTRACT

The sheep industry in the Nordic countries varies considerably, with numbers of breeding ewes reaching 57,000, 113,000, 220,000, 400,000 and 1,000,000 in Finland, Denmark, Sweden, Iceland and Norway, respectively. Average flock size varies from 12 ewes in Denmark to 255 ewes in Iceland. Main income is derived from lamb meat; wool and milk are of minor importance. Major animal welfare and health concerns relates to neonatal lamb losses, predation during summer pastures and parasitic diarrhoea in lambs. Contagious diseases are rare and control and eradication programs for scrapie and *Lentivirus*-infections are currently taking place.

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1. Introduction

The objective of this paper is to provide a description of the sheep industry in the Nordic countries. An objective is also to show that the Nordic Sheep comply with the congress theme of the 7th International Sheep Veterinary Congress (7ISVC), in respect of being sound, producing safe food in healthy animals and playing a role in preserving the landscape.

2. Methodology

Data has been collected by personal communications from Sweden, Finland, Denmark and Iceland, in addition to data from the Norwegian Sheep Recording System and the Norwegian Statistics. In Iceland, all sheep farmers are members of the National Sheep Recording System, as are 30% of the Norwegian farmers. These schemes can provide good data on production traits of the sheep in these countries.

3. Findings

3.1. Significance and value of the sheep industry

The sheep industry in the Nordic countries does not make a large contribution to the Gross Domestic Product (GDP) of these countries, but does make a significant contribution to the agricultural income, like in Iceland, where it amounts to 1% and 22%, respectively. In Norway, total agricultural industry only contributes to 0.5% of the GDP in 2007, as opposed to over 3% in 1970 (Statistics Norway, 2009). Main income is based on meat production although the consumption per capita is very low, with the notable exception of Iceland (Table 1) and the Faroe Islands, where the annual consumption is 33 kg per person (Dýrmondson, 2006). However, there is a growing interest among farmers and consumers for lamb meat production and consumption in countries like Sweden and Norway. Milking sheep are rare and production of wool and pelts only counts for less than 10% of value of total income.

However, the sheep industry is of large importance to other aspects than economy in the Nordic countries. Mainly, they contribute to maintenance of the rural population. Furthermore, their role in landscape preservation is increasingly important. During summer, sheep graze on vast areas that would not be otherwise utilized and thus

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Table 1

Sheep meat and wool production and meat consumption in the Nordic countries.

	Norway	Sweden	Denmark	Finland	Iceland
Total sheep meat production ($\times 1000$ kg)	23,000	4100	2000	700	8900
Sheep meat consumption per person (kg)	5.7	1.0	0.4	0.6	24
National wool production ($\times 1000$ kg)	4,400	1000	35.5 ^a	90	638 ^b

^a Amount sold.^b Clean wool.**Table 2**

Characteristics of sheep population in the Nordic countries.

	Norway	Sweden	Denmark	Finland	Iceland
Number of flocks	15,000	10,000	9,200	960	2300
Number of breeding ewes	1,000,000	220,000	113,000	57,000	400
Average flock size	67	30	12	60	255
Main lambing season	April–May	April	March–May	March–April	May
Prevailing breeds	Norwegian White Sheep, Spæl, Dala, Steigar, Cheviot, Rygja, Pelt sheep	Gotland Pelt, Rya, Swedish Finnish	Texel, Shropshire, Dorset, Oxford Down, Suffolk, Spel	Finnsheep, Kainuu's Gray, Ålands får, Texel, Oxford Down, Dorset, Rygja	Iceland Sheep

Table 3

Characteristics of production of sheep in the Nordic countries.

	Norway	Denmark	Finland	Iceland
Number of lambs born per ewe (including stillborns)	2.0	1.7	Adults: 2.3 First-lambers: 1.7	1.8
Number of live lambs in autumn	1.66			1.73
Lamb loss birth–autumn (including stillborn)	17%		12%	7%
Age at slaughter (days)	130		204	130
Slaughter weight of lambs (kg)	19.0		18.0	15.7
Total bodyweight of lambs (kg) per ewe at weaning	70.8		79	65

Numbers are presented according to the respective national sheep recording systems, comprising varying degree of the sheep populations (personal communications).

produce meat and help preventing overgrowing of the countryside both in mountains and in lowland areas. In Norway, approximately 80% of all sheep are transported to common grazing in the mountains, while in Iceland they graze on extensive natural grasslands (Dýrmundson, 2006). In Finland, the land of the thousand lakes, sheep are used to graze around lakes and rivers, as well as taking care of the landscape in small towns and cities. In Denmark, sheep are often grazing areas used for grass seed production. This is often paid for, and thus an important source of income for many sheep farmers (Stolberg, 2006).

3.2. Seasons

Nordic sheep are, with exceptions like the Finnsheep and to some extent Danish sheep, mainly seasonal breeders with lambing season in the spring, which means March, April and May. Ewes are normally housed during the winter, although it is becoming more usual to keep adult ewes outside, also during the winter, at least for certain periods. Lambing normally takes place indoors, under surveillance by the farmer or family members.

Ewes and their offspring are let out on spring pastures, when lambs are from a few days to a couple of weeks old, depending on climatic conditions and access to grazing areas.

Lambs that are grazing in vast areas, like mountains or extensive rangelands, are normally not weaned until autumn, when they are around 4–5 months old and nor-

mally ready for slaughter. Lambs grazing on home pastures are weaned and slaughtered somewhat earlier.

3.3. Structure and production in the sheep industry

Some key numbers of the sheep population and production are presented in Tables 2–4. Although, there is currently a development into fewer and bigger flocks, the average flock size is still small compared to major sheep producing countries. In Iceland, there are flocks with up to 800–1200 sheep, with an average flock size of 255 ewes (Dýrmundson, 2006). In the other Nordic countries, the average is well below 100 breeding animals per flock. In Denmark, 97% of all sheep flocks contain less than 49 sheep and the majority even less than 10 animals (Stolberg, 2006).

In both Norway and Iceland (Dýrmundson, 2007), artificial insemination is performed in around 30,000 ewes annually and is an important tool for improvement of pro-

Table 4

Carcass weight and daily weight gain in Norwegian lambs, related to litter size and sex.

	Carcass weight (kg)	Daily carcass weight gain (g)
Single lambs	21.4	123
Twin lambs	19.9	110
Triplet lambs	19.6	108
Quadruple lambs	19.7	109
Female lambs	19.1	102
Male lambs	20.5	116

Carcass weight gain: carcass weight minus birth weight per day.

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