



# Icelandic Sheep Breeders of North America

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## The Icelandic Goat Breed

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The Icelandic goat breed is considered to be of Norwegian origin dating back to the Settlement of Iceland over 1100 years ago. There is no evidence of goats being imported ever since then. This goat population was on the verge of extinction during the late 19th century; it grew to nearly 3000 head in 1930, declined drastically again and at present there are 348 winterfed goats in 48 flocks distributed throughout most parts of the country. As goats of this breed have remained in isolation for several centuries they are highly inbred. Outside Iceland they are only found in Scotland due to an importation of 6 individuals in 1986 for a cashmere breeding programme. Under their coarse, long guard hair they have a coat of high quality cashmere fiber. Some 20% of the goats are white and 80% nonwhite with several colour types, mainly though piebald. Both females and males are horned. However, a few polled individuals are found within this breed. Recorded birth weights of kids are chiefly within the range of 2-3 kg. Great variation has been recorded in body weight of mature goats, mainly within the range of 35-50 kg and 60-75 kg for females and males, respectively. Survey results also indicate that the average length of gestation is 149 days and on the average 1.15 kids are born per female goat mated. Most of the kids are born in April and May. It is estimated that the lactation yield is normally in the range of 150-200 l. Goats of the Icelandic breed are at present chiefly kept as pets and their economic potential for meat, milk, cashmere and skin production remains to be explored.

### Introduction

Compared with other livestock breeds in Iceland little attention has been paid to the goat which nowadays is of negligible economic value. This paper presents a brief review of information available on the characteristics of the Icelandic goat breed.

### Origin and Distribution

As most other Icelandic livestock breeds, the goat breed is considered to be of Norwegian origin dating back to the Settlement of Iceland over 1100 years ago (Adalsteinsson, 1981). There is no evidence of goats being imported since then. They are distributed in small numbers on farms throughout most parts of Iceland. The only Icelandic goats outside the country are found in Scotland due to an exportation of six goats, namely four female kids, one male kid, and one yearling buck in 1986 for a crossbreeding programme aiming at cashmere production. (Dyrmundsson, 1990; Bishop and Russel, 1994; Rhind and Mcmillen, 1994).

### Conservation

Goat numbers in Iceland have fluctuated greatly, normally being a few hundred head. The earliest recorded number is 818 from 1703 (Sigurjonsson, 1955). Whether goats were more numerous previously remains open to speculation. Certainly a large number of place names in all parts of the country suggest goat keeping. The highest recorded number was 2983 goats in 1930 while the lowest numbers recorded were below 100 towards the end of the 19th century and again in 1960 (Sigurjonsson, 1955; Dyrmundsson, 1988; Sveinsdottir, 1993). The goat population has been growing slightly in recent years now numbering 348 winterfed animals in 48 flocks, mainly on livestock farms. A State breed conservation grant has been available to goat owners since the late 1960s according to amendments to the Livestock Act in 1965 and subsequent revision of the law relating to livestock breeding in Iceland. It has undoubtedly contributed to the conservation of this endangered breed (Dyrmundsson, 1988, 1994).

### Body Characteristics

While the Iceland goat may be regarded as a small breed there is clearly great variation in growth, body weight and size. Recorded birth weights of kids are mainly within the range of 2-3 kg. Body weight of mature goats range from 35-50 kg and 60-75 kg for females and males, respectively. The dressing percentage is close to 40% and the meat is of fine texture with little fat. Both females and males are generally horned. However, a few polled individuals of both sexes are found within this breed (Sveinsdottir, 1993).

### Coat and Colour

Under their coarse, long guard hair Icelandic goats have a coat of high quality cashmere fibre (Adalsteinsson, 1985; Millar, 1986). Studies of samples have shown that cashmere fibre amounts to 25-47% of the total coat weight and estimated cashmere weight ranges from 163-790 g per goat within a wide age range. Crossbreeding results from Scotland have confirmed that Icelandic goats yield fine cashmere of high quality. However, they produced less than most of the breeds they were compared with (Bishop and Russel, 1994), but provided a 19% contribution to the final cashmere cross population due to their fineness of fibre. As other Icelandic livestock breeds of Nordic origin, the goats have a range of colours. Thus goat records kept by the Agricultural Society of Iceland indicate that some 20% of the goats are white and 80% nonwhite, mainly with piebald, badgerface and grey patterns (Sveinsdottir, 1993). Adalsteinsson et al. (1994a) have reported on the inheritance of coat colours of Icelandic goats and their crosses in Scotland.

### Milk Production

Although detailed information is lacking on both milk yield and quality of Icelandic goats it is generally assumed that they yield approximately 1.0 l per day during the summer declining to 0.5 l per day in autumn. Thus their lactation yield may be estimated in the range of 150-200 l (Jonsson, 1918, 1932; Kristjansson, 1932). The few samples analyzed so far indicate that the contents of fat, protein and lactose compare favourably with those documented in the scientific literature for various other goat breeds (Sveinsdottir, 1993).

### Reproduction and Fertility

The Icelandic goat has a seasonal breeding pattern with most of the kids being born in April and May. Survey results indicate that the mean length of gestation is 149 days and on the average 1.15 kids are born per female goat mated (Sveinsdottir, 1993). Adalsteinsson et al. (1994b) have demonstrated a clear age effect on fertility, namely that barrenness is greater and kidding rate is lower in one year old females than older ones, as would be expected. Thus barrenness in the range of 12-15% has been documented, depending on age. It is noteworthy, however, that in spite of high inbreeding, namely 21% on the average with a maximum of 71%, significant depressive effects on goat fertility, litter size and kid mortality were not found in their study. When

restricting the analysis to those goats where all ancestors of both father and mother lines were known for as many as five generations Adalsteinsson et al. (1994c) found an inbreeding coefficient of 26% on the average. Although there are only a few polled goats in Iceland it should be kept in mind that according to Adalsteinsson (1993) polled, homozygous (PP) bucks are normally infertile with abnormal testicular development.

## Conclusions



It is officially recognized that the isolated and endangered Icelandic goat breed needs to be conserved. Although the goats are at present mainly kept as pets they may have an economic role to play in the future for the production of meat, milk, cashmere fibre and skins. Already the genetic potential for the production of high quality cashmere has been demonstrated and the Icelandic goat is possibly the only cashmere producing population which has not been affected by intercrossing with Angora goats (Russel, personal communication). The limited scientific information available indicates great variation in several traits suggesting considerable scope for genetic selection combined with sound management.

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