



Nature conservation 2

from Annette Holmenlund,

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Sheep in different natural areas

Meadows and tidal meadows



Reeds in the early growth stages are a protein-rich delicacy to sheep, which eat all the leaves they can reach without getting too wet. There is almost no calcium in reed though, so the sheep need a mineral supplement. Photo Finn Hansen Natur Bornholm

Sheep make a beautiful grazing in meadows and tidal meadows. They trample down small paths all the way out to the banks of moors and shores of inlets and thereby increase the accessibility without damaging the landscape. The sheep eat reeds, which often dominate, and keep them on the early growth stages. Sheep can improve the view over inlets, rivers and moors. Sheep can also graze on dikes, dams and along channels without damaging them. Their gentle stamping of the ground makes the dams hold better against the sea.



Sheep on a tidal meadow at Ringkjøbing Fjord. The sheep make paths in the reeds. When the old dead tufts and the rush are trampled down, there become nice lawns.

In areas where the water level is regulated, for example on the shore of Ringkjøbing Fjord and on dikes, the water level is key factor for whether the grazing has an effect on the areas. High water gives a high grazing pressure because the sheep can only graze the highest places. Low water increases the area of accessible plants, which means that the sheep do not need to graze the unwanted growth. Sheep are easy to keep on islands and riversides because they hardly ever go into water. You only need to fence at small rivers and shores if there are special environmental rules about it.

Sheep do not always have the best conditions in wetland. The biggest problem is that the hooves are not worn. The hoof-wall makes cracks that provide a breeding ground for bacteria. Rough plants in meadows can cut the skin between the hooves or sink into the hoof-wall. The sheep need therefore access to dry areas in wet periods.

Another problem in wetland is parasites like liver flukes (*Fasciola Hepatica*), which require a special mud-snail as intermediate host until they are fully developed to crawl to the plants where the sheep eat them. They damage the liver on sheep and lambs. Lungworms also infect the sheep especially in wet areas.

The calcium level on meadows is low. This mineral is important for all animals that lactate or grow. Therefore, you always have to provide access to minerals and chalk for sheep that graze in meadows and tidal meadows.

When grazing wet areas:

- 1) Be aware of liver flukes
- 2) Control lung worms / other worms
- 3) Check hooves and provide dry areas connected to the wet area.
- 4) Provide access to sheep-minerals

Sheepskills: Sheep in different natural areas

Tidal meadows in the archipelago of South Funen

Sheep can create beautiful landscapes with interesting botanic variation on tidal meadows. The island Strynø Kalv is really a beautiful example.



The ferry Yrsa is sailing to Strynø Kalv with sheep. Yrsa also carry cattle. Photo: Poul Henrik Harritz "Naturbureauet".



Texel crossbred sheep on Strynø Kalv in the archipelago of South Funen in May 2006, a project, which Danish Nature Conservation Committee supports.

Heaths

Danish heaths are cultural heritage worthy of preservation. Heaths are nutrient-poor. Heather, which is the most characteristic plant in heaths, do badly compared to other plants if the nutrient supply increases. Old heather has approximately the same low nutritional value as straw. Young heather contains far more nutrient than old heather plants. The Sheep's job is partly to remove grass, which overshadows the heather, and partly to bite down the heather in order to keep it young and productive.

Sheep need supplement of nutritious feed to digest old heather in the rumen. A certain amount of nutritious grass lawns, created by frequent grazing, makes it possible for the sheep to digest more heather. Therefore the heaths, which are grazed every year, are more nutritious for the sheep than heaths, which are grazed for the first time. It is only the hardiest breeds that do well on heaths. *Lüneburgers*, *Spælsau*, *Icelandic sheep* and *Gute sheep* are breeds that are hardy and diligent enough to raise a fuldgrown lamb on the heath. Until 2002, *Ulfborg National Forestry District* had their areas of heath and common of about 300 ha grazed by *Spælsau*, *Lüneburger* and *Gute* ewes. The shepherd Berit Kiilerich and her sheep dogs carried out the successful grazing.



When heather is more than 15 years old it becomes uneatable to sheep. You can burn the heather in order to give the seeds space and light to sprout.

Hammerknuden- heath and rocks on the most northerly point of Bornholm

Gothland sheep have since 2002 grazed the most northerly formation of rocks called Hammerknuden. The 100 ha with beautiful areas of heather are full of rounded rocks. Here sheep keep down birch and broom. The grass lawns have each year enlarged. Experiences show that control of unwanted growth requires more than 400 ewes with lambs.



On Hammerknuden the sheep are grazing to control birch and broom

Hammerknuden is an attractive destination for tourists and many of them enjoy sunsets from the rocks. Here they can enjoy the view over the sheep in their fold, which everyone can enter from the Hammer Lighthouse and through the drive-over cattle gates at Sandvig. The National Forestry owns Hammerknuden and has a five-year contract with the shepherd Jan Seerup about grazing the area. The sheep normally grazes four months each summer.

Heath and rocky areas are especially low on selenium and copper. Many late summers the



sheep have had deficiencies and therefore the shepherds now use a mineral mix with higher selenium content.

Forest and broom can overgrow the heath. Outside the fence around Hammerknuden broom is taking over. Sheep eat broom to the height they can reach (about 80 cm). If the broom is cut, the sheep eat the new sprouts.

Grazing in winter makes efficient control of broom.



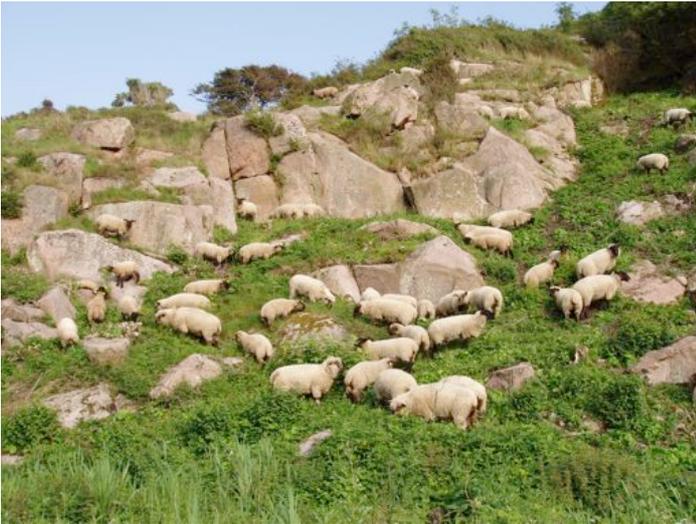
Sheep eat low broom but they do not eat the lowest parts. Sheep grazing in winter might be forced to eat more broom. However they do not eat the old stems, which shoot again. There is the same amount of broom 10 years after clearing if you do not remove the old broom. (Private area at Feldballe in Djursland 2006 where the county supported grazing.)

Clearing on Hammershus



To clear the area of sloe, you need to burn it before the sheep are led in. otherwise the thorns are stuck in the wool. If you let the sheep in the season before clearing, it will be easier to work with the chainsaw.

A gentle clearing combined with grazing reduces the risk that bracken invades the area afterwards. (Hammershus March 2007)



On the cleared hillsides, Suffolk and Oxforddown crossbred graze Hammershus and eat the regrowth of maple, ash and brambles among others. July 2004.



Suffolk and Oxforddown ewe lambs did not grow big enough to get pregnant the first year of life on Hammershus. They did not find enough to eat.

Sheep are perfect suited for living on rocks. On rocky areas, their ability to climb far out and high up and to jump down steep hills show to the best advantage. The hooves are normally worn and it is rarely necessary to cut them.



The sheep eats an ash, which has shooted after clearing around Hammershus. Photo: Finn Hansen.

Putting in sheep on Hammershus has shown that Gothland sheep are good at finding their food eating herbs and regrowth of trees on the hillsides. The sheep slowly clear away sloe and other bushes and create fine lawns of grass and flowers.



After two years, the sheep has cleared the areas around Hammershus for regrowth and grass is replacing bushes.



Gothland sheep with lamb from Texel ram graze the hillsides at Hammershus and leave a beautiful flower-lawn. Photo Finn Hansen, Natur Bornholm

In the two first years, the rare plants of Hammershus were fenced but now they let the sheep graze without interfering. After the two first years, botanic inspections have shown that controlled grazing, where the sheep are grazing in short periods like a month at the time, are no threat to the rare plants.



Lathyrus sphaericus Retz. is a rare leguminous plant. The grazing gave light for it to spread and blossom. The picture was taken after the sheep had moved out from the western hillside of Hammershus in 2004. Photo: Finn Hansen.

Bracken spreads after clearings



Bracken is a poisonous plant that sheep normally avoid eating. It spreads fast when forest and bushes are cut and where there is light and nutrients. Bracken covers 7 % of the earth's crust and the content of poison varies depending on the type of bracken. Falster National Forestry District have a flock of 35 wethers (castrated rams) eating bracken though. After four years of eating bracken, they have not had diseases yet.

Hammershus 2004.

An intense clearing releases a lot of nutrient, which favour bracken that sheep normally avoid because it is poisonous.