

***Narthecium ossifragum* Associated Photosensitization in Sheep in The Faroe Islands**

Hepatogenous photosensitization in sheep is an important problem in various parts of the world. Most photosensitization diseases are associated with ingestion of plant or fungal toxins. The lily, *Narthecium ossifragum*, has long been associated with photosensitization in lambs in western Norway (Ender 1955, Flåøyen 1993) and in the northern regions of the British Isles (Ford 1964).

Photosensitization in sheep grazing *N. ossifragum* (in Faroese: Kattarklógv) occurs regularly in The Faroe Islands (Flåøyen *et al.* 1994), but the problem is of minor importance to the Faroese sheep industry and, to the knowledge of the authors, has not been reported internationally before. In some parts of The Faroe Island the disease is known as "ormasjuka (literally: worm disease)" or "lambið harðnar upp í skorti (desiccation of the skin of the face of the lamb)".

N. ossifragum is a loosely clonal, perennial herb, 5-30(-40) cm tall with a creeping rhizome. The plant occurs on oligotrophic, mesotrophic and eutrophic peat deposits in Scandinavia to 69° 42' N, in the British Isles, The Netherlands, Belgium, north-west Germany, west and central France, northern Spain and east Portugal (Summerfield 1974). In The Faroe Islands, *N. ossifragum* is very common, except on the islands of Stóra Dímun, Lítla Dímun, Koltur and Mykines where it has not been found (Hansen 1966). It is a lowland plant. It was found in 92% of 135

investigated localities below 300 m above sea level (a.s.l.), in 56% of localities at 300-600 m a.s.l., and in none in the zone above 600 m a.s.l. (Hansen 1966). Above 300 m its growth is scattered and does not cover extensive areas as it does in the lowlands.

The disease is typical of lambs. About 20 lambs, of a total population of 70 000 sheep, are reported to become photosensitized each year. Most of these cases occur between 25 June and 10 August. Usually a few cases (<5 cases) of photosensitization of adult sheep are reported in late April and early May. At that time *N. ossifragum* is sprouting and there are few other green plants available as feed. The sprouting *N. ossifragum* seems to be palatable to the adult sheep. Cases are seen on all islands on which *N. ossifragum* is found, but most cases are reported on Eysturoy between Norðskáli and Eiði and on Streymoy between Hvalvík and Tjørnuvík. The disease occurs mainly in sheep grazing lowland pastures. A daily surveillance of the grazing animals is normally not performed in The Faroe Islands, and unreported cases probably occur.

The aetiology of the disease is not fully known (Flåøyen 1993). Steroidal saponins from the plant have been suggested to be the actual toxins (Ender 1955), but results from dosing experiments in lambs suggest that the saponins alone may not be responsible (Flåøyen *et al.* 1991).

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References

- Ender F. Undersøkelser over alveltsykens etiologi. (Etiological studies on "alveld" – a disease involving photosensitization and icterus in lambs). *Nor. Vet.-Med.* 1955, 7, 329-377.
- Flåøyen A: Studies on the aetiology and pathology of alveld with some comparisons to sporidesmin intoxication. Dr. med. vet. thesis, Norges veterinærhøgskole. Oslo, 1993.
- Flåøyen A, Hjorth Tønnesen H, Grønstøl H, Karlsen J: Failure to induce toxicity in lambs by administering saponins from *Nartheicum ossifragum*. *Vet. Res. Commun.* 1991, 15, 483-487.
- Flåøyen A, Jóhansen J, Olsen J: *Nartheicum ossifragum*-associated photosensitization in sheep in the Faroe Islands. *Froðskaparrít.* 1994, 41, 103-106.
- Ford E J H: A preliminary investigation of photosensitization in Scottish sheep. *J. Comp. Path.* 1964, 74, 37-44.
- Hansen K: Vascular plants in the Faeroes. *Dansk Botanisk Arkiv. Dansk Botanisk Forening, København, Denmark*, 1966, 24, 3, pp. 141.
- Summerfield R J: Biological flora of British Isles. *J. Ecol.* 1974, 162, 325-339.

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