

## BOG ASPHODEL AND GRAZING LIVESTOCK

Guidance Note by Natural England  
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### 1 What is bog asphodel?

- 1.1 Bog asphodel is a short perennial plant with fattened, iris-like leaves and a spike of yellow flowers that appear in July or August.



### 2 Where does bog asphodel grow?

- 2.1 It grows in bogs and on wet heaths, mainly on acid, peaty soils. It is widespread in the uplands but also occurs on lowland heaths. The plant prefers soils where there is some water movement through the soil.

### 3 What are the effects on livestock?

- 3.1 Bog asphodel has long been understood to be toxic to livestock, giving rise to symptoms known as 'saut' or 'yellowses'. See Further Information section.
- 3.2 The effects on sheep are thought to occur through damage to the liver, which results in photosensitisation and inflammation of the skin on exposure to sunlight. The effects in lambs can be severe causing ears to shrivel, wool loss and blindness, and in extreme cases death.

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<sup>1</sup> Photograph courtesy of Robert Goodison

- 3.3 Bog asphodel can also have toxic effects in cattle, affecting the kidneys. Effects appear to be more acute in calves than lambs, which may develop some tolerance.

#### 4 Why has bog asphodel become a problem?

- 4.1 Toxicity from bog asphodel is not a new problem but it is possible that local knowledge about it has been lost.
- 4.2 In some areas, losses may have been kept to an "acceptable level" by keeping the plant in check through winter and spring grazing. It is possible that heavier grazing in spring reduces flower development and therefore the risk to lambs.
- 4.3 Reduced levels of hill grazing, including restrictions on winter grazing, may have reduced grazing pressure on bog asphodel at times when it is less toxic to stock, allowing it to spread and so resulting in increased risk of lambs ingesting the flowers in spring.
- 4.4 Older animals appear to be less affected and plants appear not to be as palatable to lambs later in the summer.
- 4.5 Some sheep breeds may be more susceptible than others.
- 4.6 Growing seasons vary and so the timing or the severity of the effects vary from year to year.

#### 5 How do I avoid the risks?

- 5.1 **Awareness:** Understanding about the effects of bog asphodel may have declined and farmers should be mindful of the possibility of it increasing where land is being managed to increase biodiversity. Be especially vigilant where there are changes to grazing patterns, for example, where cattle are being used to graze upland habitats in new ways. Be aware that the incidence of effects on livestock vary from place to place and from time to time
- 5.2 **Avoidance:** Avoid grazing young stock in areas where there is bog asphodel especially when it is flowering. In particular, avoid introducing young stock to areas where bog asphodel has been able to flourish in a period without grazing. Removing lambs from the fell as the plant flower develops, or as soon as any effects appear, is the surest way to avoid a serious problem. Some farmers routinely remove animals from areas where they have had problems for a month or so around June.
- 5.3 **Stock management:** Be vigilant and remove affected animals from pasture with bog asphodel as soon as effects are noticed. The growing season, and hence plant development, varies from year to year so be aware and look out for early signs of a problem. Try to house affected animals in the dark and feed them hay (as opposed to chlorophyll-containing grass) until they have recovered. Use corticosteroids and antibiotics if necessary under appropriate veterinary supervision.

5.4 Where possible encourage animals away from areas with bog asphodel, for example, by careful siting of mineral blocks or water supplies. Shepherding may have a role, particularly on larger fell grazing units.

## **6 Does blanket bog restoration lead to an increase in bog asphodel?**

6.1 The evidence is unclear.

6.2 There is a suggestion that in some places blocking of moorland grips (drainage channels) has resulted in an increase in bog asphodel but a study on Exmoor concluded that bog restoration did not lead to an increase. (See Further Information section).

6.3 Blanket bog restoration will result in the habitat becoming wetter, which may encourage the growth of bog asphodel, but restoration is often accompanied by reduction in stocking rates.

6.4 It is not clear whether rewetting or reduced grazing contribute to the apparent increase in bog asphodel or whether both do.

## **7 Further Information:**

7.1 Exmoor Mires Partnership: Does the rewetting of peatland cause an increase in Bog asphodel?

<https://bit.ly/2wN4pgM>

7.2 Peatland Restoration and the Bog Asphodel (*Narthecium ossifragum*) problem

<https://bit.ly/2wNUyqU>

7.3 Bog asphodel toxicity in sheep and cattle (Livestock, 2014) (NB: payment required)

<https://www.magonlinelibrary.com/doi/abs/10.12968/live.2014.19.3.164>

7.4 Photosensitisation of livestock grazing *Narthecium ossifragum*: Current knowledge and future directions (Veterinary Journal, 2015)

<https://www.ncbi.nlm.nih.gov/pubmed/26324639>

7.5 Detail about toxic effects

<http://toxinology.nilu.no/Researchareas/Planttoxins/Factsheets/Narthecium.aspx>