

Biodiversity and animal health

SUMMARY

- **Double fencing and/or hedging on boundaries with other farms can improve biosecurity**
- **Species rich grassland can contain herbs and other deep rooted plants which can be a useful source of minerals**
- **Wetland grazing can result in an increased risk of fasciolosis (liver fluke)**
- **Fenced water margins can prevent animals from becoming infected with water borne diseases from infected animals upstream**
- **Be aware of the risks posed by poisonous plants such as ragwort that may grow within field margins, water margins and species rich grasslands being managed for biodiversity**
- **Vermin can be a source of disease. Care must be taken when undertaking vermin control that the appropriate codes of practice are followed to prevent poison also killing wildlife**

Introduction

Both biodiversity and animal health are important issues on livestock farms. Carefully integrated farm management can benefit both wildlife and livestock and reduce diffuse pollution. This note summarises some of the examples where improving biodiversity can also improve animal health and other examples where there is a potential conflict between the two areas.

Fencing and hedges

New hedges can be planted within double fencing. Direct animal to animal contact is one of the major biosecurity risks which can be minimised by fences and hedges. A single stock proof fence can prevent the spread of some diseases (e.g. Johne's Disease). However diseases which are spread by nose to nose contact or short distance aerial spread (eg. Bovine Virus Diarrhoea or Infectious Bovine Rhinotracheitis) require a double fence with a 3 metre gap to prevent spread. Fencing and hedges will not prevent the spread of other vector borne diseases such as bluetongue.

For biosecurity it is much more useful, if neighbouring farms have livestock, to have double fencing on boundary fences than on internal fences. A quarantine facility within a farm that comprises of a field will, however, benefit from double fencing.



Well managed hedges can provide some of the best habitats for wildlife on the farm especially if they are in association with a grass margin, track or ditch. New hedges should be planted up with the native shrubs hawthorn and blackthorn and include other species such as dog rose, crab apple and holly. Care should be taken when planning new hedges that they do not split fields that are used by wading birds (lapwing, oystercatcher and curlew) as these species require open expansive fields.

Agri-environment grants are available through the Scottish Rural Development Programme (SRDP) competitive Rural Priorities (RP) grant scheme. The option Management of Hedgerows can be used for existing, restored or new hedges. The requirement is that the hedge must be at least 2 metres wide and any fence must be sited at least 1 metre from the centre line of the hedge. Capital costs that can be supported are fencing, gates, fence removal, planting, re-planting and coppicing or laying of a hedge. The Extended Hedge option requires a strip of at least 3 metres which should not be cultivated and livestock must be excluded. The 3 metre strip can be on one side or both sides of the extended hedge.

Species rich grasslands

Species rich grasslands often contain herbs and other deep rooted plants which can be a useful source of minerals. Animals grazed on these swards often have a reduced risk of trace element deficiencies (depending on soil type) and reduced hypomagnesaemia. Monitoring trace element status however is suggested for livestock reared on all farms (see TN 572, trace element disorders in beef cattle). Species rich grasslands are less productive than intensively fertilised grassland and it is essential to adjust stocking rates to reflect the lower herbage yield otherwise there is a risk of lower animal performance. In general terms a reduced stocking rate improves animal health.



Species rich grasslands are diverse and valuable habitats that host a wide range of plants, invertebrates and farmland birds. Over the past 60 years many species rich grasslands have been lost to arable cultivation, agricultural improvement and development. These very valuable grassland habitats are now scarce and often poorly managed either through neglect and undergrazing or by over grazing and poaching.

The ideal management is to create a sward of differing heights allowing the plants to flower and set seed with a mix of shorter areas of sward and areas that are more tussocky.

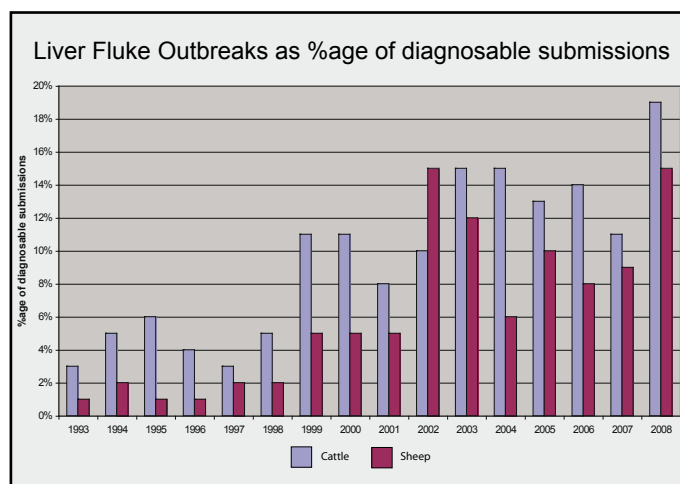
Under the Rural Priorities there are the following options: Management of Species Rich Grassland and Creation and Management of Species Rich Grassland. Fencing, gate and scrub control costs are supported for both options and laying down of species rich seed is available for creating new grasslands.

Wetlands

Wetlands provide habitat, cover and feeding areas for mammals, birds, amphibians and invertebrates. In addition it is a habitat for many specialised plants. Grazing is important in wetlands as it removes plant material containing nutrients, prevents succession to coarser grassland types and allows less competitive species to survive. The management of wetlands for wildlife is the subject of SAC Technical Note No 519.



There is however an increased risk of fasciolosis (liver fluke), clostridial diseases and foot rot in sheep if grazed on wetland areas. The incidence of liver fluke infection is increasing in Scotland (see figure).



To minimise the risk of liver fluke infection it is important to understand the epidemiology and appropriate times to treat animals (see technical note 557 treatment and control of liver fluke in sheep and cattle). Grazing wetlands in association with drier habitats can reduce problems such as foot rot. It is often better for the wetland habitat to be extensively grazed and allow livestock to move into the wetland in drier conditions and graze on drier sites during prolonged wet periods.

Under the Rural Priorities competitive grant scheme there are the following options: Management of Wetland and Create, Restore and Manage Wetland. Capital items include fences, gates and fence removal.

The Land Management Options (LMO) non competitive grant scheme includes the option Management of Rush Pasture that aims to create and maintain a mosaic of rush and open pasture. It is available on permanent pasture on poorly drained land where there are more than 50% rushes. Between 1 August and 31 March a third to two thirds of the rushes have to be cut in a random pattern (or grazed).

Water margin management

Natural water sources (rivers and burns) can be a source of infection to stock if animals with access to the water, upstream, are infected. Areas where animals can gain access to rivers for drinking water can lead to point source pollution and animal infection if the water is polluted. Examples of this include Salmonellosis, Johne's disease and Leptospirosis. Water margins are designed to reduce diffuse pollution and improve biodiversity around water, with no cultivation, fertilisers or pesticides. These margins, if fenced to prevent grazing, will also prevent animals from being infected with water borne diseases and this is a recommended biosecurity measure.

Some species rich water margins can benefit from being grazed and in these circumstances farmers should be made aware of the risk of polluting water courses and of poisonous plants in the water margins which may harm animals.

The Rural Priorities grant scheme has two options suitable for watercourses and open water habitats. Water Margins and Enhanced Riparian Buffer Areas aims to protect water margins from erosion and diffuse pollution, and stabilise the bankside vegetation.



Livestock Tracks, Gates and River Crossings aim to improve tracks, gateways and watercourse crossings to reduce the possible adverse effects of livestock on the water quality. In addition there are capital payments for the provision of water troughs, water trough pumps and installation of water supply to the pumps or troughs.

Poisonous plants

Field margins, water margins and species rich pastures can harbour poisonous plants. These plants can be important food sources for invertebrates e.g. ragwort for cinnabar moth on the Fife Coast; however, farmers should be aware of the risks and legislation surrounding poisonous plants. If an animal is ill after grazing margins or species rich pastures then the farmer should alert his/her veterinary surgeon to the possible risk of plant poisoning. Under Section 1 of the Weeds Act 1959, notices can be served requiring an occupier of land to take action to prevent the spread of injurious weeds including common ragwort. Further information on ragwort is available in both the SAC Technical Note No 570: Ragwort poisoning in livestock – prevention and control; and in A Code of Practice on Ragwort, available on the Scottish Government website <http://wscotland.gov.uk/Publications/Recent>

Wildlife vectors and Wildlife Law

Vermin can be a source of disease which may be harmful to animals and/or humans. For example Leptospirosis can be spread in urine from infected rats. Care must be taken when undertaking vermin control that the appropriate codes of practice are followed to prevent the poison also killing wildlife.

Wildlife in Scotland is protected by a range of national and international legislation. These laws are designed to protect rare and vulnerable species and make it unlawful to kill, injure, take or sell certain species of wild animals, plants and birds.

However, it is also recognised that there are certain circumstances, for example, to protect public health and safety, or to prevent serious damage to agriculture, where it is desirable to licence acts which would otherwise be unlawful. In all cases, the appropriate licensing authority (Scottish Ministers or Scottish Natural Heritage) will only issue a licence under certain circumstances defined in the legislation

More specific advice on wildlife licensing is available from :

Scottish Government
Landscapes & Habitats Team
1-J South
Victoria Quay
Edinburgh
EH6 6QQ
Tel: 0131 244 7381

Scottish Natural Heritage
Great Glen House
Leachkin Road
Inverness
IV3 8NW
Tel: 01463 725000

Badgers

There is controversy about badgers and the spread of tuberculosis.

Badgers are protected from being disturbed, killed, injured or taken and their setts are protected from damage, obstruction or destruction by the Protection of Badgers Act 1992. The purpose of this act is to protect the animals from deliberate cruelty and from the incidental effects of lawful activities which could cause them harm.

A badger sett is defined in the Act as 'any structure or place which displays signs indicating current use by a badger' Current use does not simply refer to current occupation, and is defined as 'any sett within an occupied badger territory regardless of when it may have last been used'.



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