

Starlings and Agricultural Damage

Background

Although starlings have shown a significant decline in the UK over the last 20 years (50% UK decline 1995 – 2013, 70% Welsh decline 1995-2013; Harris et al, 2015), the resident breeding population is bolstered in winter by several million wintering birds from Eastern Europe, the Baltics and Scandinavia. These wintering flocks, which can number many thousand, can quickly learn that farmyards often provide an easy and rich source of food. This can result in a significant health & safety risk to farm workers and livestock, from the large quantities of droppings that can accumulate. The quantity of food taken by the birds can also be of economic significance to the farmer, as well as being to the detriment of the livestock, particularly as starlings will selectively pick out the high-protein / high-energy elements of food ration that is put out for stock.

As a wild bird, starlings are protected by the Wildlife & Countryside Act. This legal protection makes it an offence to intentionally kill, injure or take any wild bird, or to intentionally take, damage or destroy any nest, or its contents, while that nest is in use. Historically, starlings were classed as a 'pest species' and were listed on a Schedule of the Act which allowed such pest birds to be killed to prevent agricultural damage. That Schedule no longer applies, and the general protection afforded to all wild birds applies equally to starlings, such that it is an offence to kill them without a licence.

A range of measures can be taken to minimise / prevent the damage that is caused by starlings. As a final resort, lethal control as an aid to reinforce other scaring can be undertaken under a licence from Natural Resources Wales. Such a licence will only be issued if there is proof of serious agricultural damage and / or a risk to public health & safety, **and** if all other reasonable alternatives to lethal control have been attempted. Licences that are issued for this purpose only allow the killing of a small number of birds; as such the lethal control is **not** to cull the problem birds, but is to provide occasional reinforcement to other, non-lethal scaring measures to enhance the efficacy of those alternatives.

Preventing damage from starlings

A literature review by Bishop *et al* (2003) summarised research into the effectiveness of avian deterrents, control measures and potential alternatives; these findings were summarised and reported by Shipton *et al* 2012. Auditory techniques were thought to be relatively effective but subject to habituation and therefore only of short-term benefit. The use of gas guns in particular, as well as shooting, resulted in complaints of noise nuisance, and therefore some farmers would not be able to use this method if situated in a residential area. There was no evidence that ultrasonic systems deter starlings as most species of birds do not hear in the ultrasonic range (>20kHz), and therefore there is no biological basis for their use. Visual techniques vary from extremely effective (human disturbance) to ineffective (scarecrows). Chemical techniques were found to be less effective in the field. Exclusion techniques and habitat modification were found to be extremely

effective, and the efficacy depended on the degree of exclusion. A combination of techniques, used in an integrated control strategy, was considered to be more effective than those applied singly.

Although it is recognised that some deterrents or control measures may not be feasible in certain circumstances, the measures set out below should be considered where possible before resorting to any form of lethal control.

Exclusion

Where starlings are causing a problem inside buildings or other structures, closing / covering all openings larger than 2.5cm will prevent the birds getting in. Heavy plastic or rubber strips hung in doorways can be an effective means of minimising entry of birds through doorways while still allowing the movement of people, vehicles and livestock. Chicken wire across ventilation gaps and other openings will prevent birds getting in through those routes. Although initial installation of these measures can be costly, such prevention of access will prevent the problem occurring at all, and the initial investment will be offset by savings from reduced feed losses.

If birds are using the buildings for roosting, boards or metal strips placed at a 45° – 90° angle along ledges will prevent the birds from perching ; they can be similarly deterred by using 'porcupine wires' or metal spikes. Netting can also be an effective measure, although care should be taken to ensure that the netting is taut, and without gaps, when installed, to prevent birds from getting trapped or entangled.

Habitat and behaviour modification

Starlings are attracted to farm holdings by the food and water that they offer, so taking measures to minimise food and water availability to starlings will make the area less attractive to them:

- Clean up spilled grain
- Use bird-proof facilities to store grain
- Where feasible, use bird-proof livestock feeders, or feed livestock in covered areas which will be less attractive to starlings, and access to which can be more easily restricted.
- Use feed forms that starlings cannot swallow, so feed larger pellets.
- Consider reducing or eliminating the maize content of the food ration, as this is a highly favoured food for starlings. However, it is accepted that it is necessary to maintain a balanced and adequate food ration for the livestock, and so this option may not be feasible.
- When feeding protein supplements with other rations, mix them well to limit starling access to the supplements.
- Where possible, adjust feeding schedules so that feed exposure to birds is minimized. Delay feeding until late afternoon or even at night when starling foraging is decreased or absent. Starlings prefer to feed early to midday and in areas where feed is constantly available, so feeding schedules that take that into account will help to reduce the problem.
- Starlings are attracted to water; if possible lower the water level of livestock waterers so that starlings cannot reach the water when perched on the edge; however, keep the water level deep enough so that the birds cannot stand in it.

Scaring

There are a range of scaring methods that can be used, including noise and visual deterrents. However, to maximise chances of success, scaring methods should be deployed from early in the season before numbers of birds have built up, and before they have developed a strong attachment

to the site. It is also important to persist until the problem has been resolved, but success is more likely if the nature of scaring is varied to minimise the chances of birds habituating to one particular form of scaring.

Lethal control of a small number of birds can be an effective means of reinforcing other scaring methods, if their efficacy is declining. Shooting is likely to be most effective early in the morning when the flock first arrives on site. As shooting is only to reinforce scaring, firing should be aimed at the edge of the flock, to take out no more than half a dozen or so birds, and should only be done occasionally, when the efficacy of other scaring methods starts to decline.

References

Bishop, J., McKay, H., Parrott, D. & Allan, J. (2003). Review of international research literature regarding the effectiveness of auditory bird scaring techniques and potential alternatives. DEFRA publications.

Harris et al (2015) The Breeding Bird Survey 2014. BTO Research Report 673. British Trust for Ornithology, Thetford.

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