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Controlling Rushes - No spraying!

John Noonan, Teagasc Organic Advisor, Mayo, Galway & Clare, tells us how common rush (Juncus effuses) has become an increasing problem on Irish farms in recent years with the increasing levels of rainfall.

Rush seeds can lie dormant in the ground for up to 60 years, and this dormancy can be broken by cultivation, poaching and soil disturbance in wet weather.

A single rush seed head can produce up to 8,500 seeds per year that are light and easily dispersed in the wind, and will spread in a field if left unchecked. The common rush thrives in wet, acidic and nutrient poor conditions, land that is common in many parts of the country especially in the west and north-west.

The rush has good reproductive potential, high seed production and has a high seed bank. It also grows in tussocks and can spread by rhizomes, all of which, makes it very difficult to control, once established in a field. The rush also produces a very thick root structure with as much root below ground as plant above ground if allowed to develop to its full development.

They leads to reduced grass yields and has a big economic cost on lost production from that field often on farms with limited amounts of good green land in the first place. If left unchecked they lead to reduced biodiversity on that field also as they become nearly the sole plant growing there.

Control measures

Organic farmers do not have the option of controlling rushes with chemical sprays and so they really have to look at what are the reasons rushes are in the field? If farmers can address these issues, they will be go a long way to having long term control. Non organic farmers can learn much from the practical measures adopted in organic farming to help with rush control and combining these technologies with chemical control will give even better long term outcomes.

There are a number of control measures with common rush, with a combination of them achieving the best results.

Rushes thrive in acidic conditions on low ph soils

Liming your soil will increase the ph, which will disrupt the ability of the rush to thrive but also will have the added benefits of increasing the amounts of grasses and clovers in the field. Along with lime, adding P and K to the soil will make the soil more productive for grasses and clovers, making them more robust and closing in open areas that would otherwise be a growth area for the rush.

Drainage

Drainage of soils also helps to reduce the amounts of water lying on the surface and makes the environment less attractive for the rush. It's important to check with your advisor before starting any drainage, as it may not be possible to drain some lands.

Topping, mulching and mowing rushes, done at the right time will produce good results

In the month of July, the fructose levels in the root of the rush is at its lowest, so it is important to top or mow by then and ideally before then. Moving down as low as possible will give the best results, reducing the food reserves in the root. It may be necessary to mow 2-3 times per year to get good results. The key aspect is to prevent any weed from producing seed heads, thereby, reducing its chances of producing new young plants. There is a 60% grant for mowers, mulchers and toppers as part of the TAMS Organic Capital Investment Scheme.
Note: Farmers in ACRES are not permitted to cut or top Extensively Grazed Pasture fields till after 1st July.

Grazing management can provide a good control measure provided it's done in a planned manner

Cattle and sheep generally will not eat rushes if there is sufficient grass available. Once the rush plant gets stronger and older, stock will not eat them as they become less palatable. If they are short, young cattle and sheep will graze them out and this can be an excellent measure for reducing their spread and impact. If they are mowed bare and grazed a 3-4 weeks later with stock, they are fairly palatable. When grazing out a field, leave stock a day or two extra, to graze out the young rushes.

The soil structure in the field has a significant impact on the rush

If there is poor underlying drainage or compaction, this will encourage the rush. In the past, ploughing and tilling land for tillage crops and root crops was common, leading to rotations that opened up the soil, and improved drainage. This practice ceased leading to permanent grassland, bigger machinery and somewhat wetter years. Using aerators and sub-soilers helps to open up the soil, breaking soil pans that may have developed and generally improving soil structure. These activities need to be carried out when the ground is dry to work to best effect. Also shallow ploughing and sowing a crop like Multi-species can help improve soil structure. Plantain and chicory have strong roots that go deep into the soil, opening up crevices providing pores for air and water to flow more easily.

Rushes are a good bedding source for wintering stock

Mowing rushes in the summer, ideally before the rush produces seed heads and baling and removing the rush will be a good control measure and will also provide cheap animal bedding.

Environmental advantages of the rush

Managed levels of rush plants on many farms can be tolerated or even desired on many farms. Rush clumps provide shelter for nesting birds, feeding sites in wet areas for wading birds and can be a source of shelter for young lambs and calves. A line of mature rush plants will provide a buffer between the field and a watercourse, thereby reducing the run off of nutrients from the field, which will improve water quality in the river or stream.