Field woodrush

The grass lookalike weed

Dr Terry Mabbett looks at the strange case of the grass that isn't

Broad-leaved plants and coarse grasses are clearly different and easily distinguished as turf weeds, but suppose you are faced with a weed that looks like a grass but isn't and colonises turf like broad-leaved weeds though is essentially unaffected by selective herbicides.

ABOVE: Field woodrush typically grows in patches plainly visible in April due to a mass of brown flower heads (panicles).

Culprit is field woodrush (Luzula campestris) one of the most stubborn and difficult to control weeds of turf in the United Kingdom.

Field woodrush exploits impoverished soil low in humus and nutrients and acid in reaction. Greenkeepers in northern and western regions generally face the biggest and most intractable problems. That said field woodrush will exploit pockets of impoverished acid turf almost anywhere, even within 'chalk-flavoured' alkaline soils in south eastern England.

On the gentle rolling land where north London meets south Hertfordshire is a small attractive golf course laid out on ancient 'common land' that pre-dates 'Magna Carta', and famous as the actual site of a fifteenth century battle in the 'Wars of the Roses'. The course has its own perennial battle with tracts of wet acid soil on impoverished land within an otherwise fertile and free draining region of the Home Counties.

The whole area is traversed by brooks and ditches and dotted with spring fed ponds. Many of the greens become flooded in winter and some fairways are infested with field woodrush. The field woodrush only becomes obvious in April as large patches with a chestnut brown hue from the flowers that may persist for several weeks because the ground is too soft for prompt regular mowing. The patches of white flowers that follow in June are heath bedstraw (Galium saxatile) another other low pH (acid) indicator species.

Field woodrush and heath bedstraw whether as wild flowers or turf weeds are quite rare in south Hertfordshire, where chalk seams rippling down from the Chilterns to the north provide the overriding soil influence. Without this peculiar pocket of wet acid grassland I would have been forced to travel a long distance to find pictures of the field woodrush used to illustrate this article. That said I doubt whether 'rich' is an adjective the head greenkeeper at this course would use to describe one of the UK's most difficult to control turf weeds growing in perennial abundance in his 'backyard' and well outside of its usual range.

Plant profile

Field woodrush may present a puzzle to all except the dedicated botanist. According to its description field woodrush bears long, narrow and tapering leaves sheathed in a loose layered rosette

Close up on field woodrush with some usefully placed organic fertilizer (rabbit droppings)

Chestnut brown panicles typical of field woodrush

After spring mowing field woodrush retreats into the sward to blend in with coarse true grasses

White flowers of heath bedstraw appear alongside field woodrush in June confirming acid nature and low fertility of the soil

Field woodrush plants showing their tough stolons covered with dead and dying leaf tissue to form a substantial thatch.

Golfers may suddenly find themselves in what looks like and feels like a mini-rough in the middle of the fairway

around smooth stems bearing clusters of brown flowers borne on panicles. On this basis Luzula campestris sounds remarkably like a true grass belonging to the plant family Graminae, but this perennial monocotyledon actually belongs to the Juncaceae or rush family. Field woodrush is one of a dozen or so wild Luzula species characterised by tufted appearance and dark green grass-like leaves, in this case fringed with long soft and silky leaf hairs. The shiny chestnut-coloured flowers borne on short spikes and developing into three-seeded fruits stand-out en masse in spring, the only time of the year it becomes clearly apparent from a distance.

Profile as a turf weed

Despite being called 'woodrush' Luzula campestris is strictly a plant of open aspect grassy places like golf course fairways. That said the 'woody' component of the name could equally well refer to the tough fibrous nature of its stems and leaves which may tear and bruise even when cut with sharp and well set mower blades.

Field woodrush is easy to overlook especially outside its flowering period when the narrow flat leaves blend in with coarse grasses like Yorkshire fog (Holcus lanatus) along the fairway. Mowing scythes off the panicles allowing the remaining vegetative parts to melt back in the sward. But field woodrush will not go away because tough creeping stems called stolons continue to spread relentlessly across the surface of the ground rooting at the nodes. The stolons are sheathed with a thick layer of dead and dying leaves which collectively produce an extremely dense thatch on the fairway where patches of field woodrush occur.

Similarity to true grasses in morphology (shape and form), anatomy (tissue structure) and physiology (metabolism) is why field woodrush is such a troublesome weed and almost impossible to control even with modern selective herbicides. Being a weed of impoverished acid soils it is unlikely to occur in the well-managed and nutrient rich professional turf of greens or tees constructed on well-structured and free draining substrates.

Preferred areas may be sandy and free draining or with poor surface drainage, but invariably of low pH and poor fertility. Massed patches of shiny chestnut brown flowers appearing within a narrow flowering 'window' during April and May is the only time field woodrush is obvious, without getting down on 'all fours' with a magnifying glass. Field woodrush is generally regarded as a problem for turf in the wetter western and northern areas of the country on soils suffering high leaching, high acidity and low fertility. However, this 'pseudo' grass readily invades and takes over equivalent soil profiles wherever they occur, as seen by this particular infestation on the northern fringes of London.

Hard on herbicides

Selective action of early hormonal-type herbicides like 2,4-D and MCPA and later mecoprop was based on the superior adherence of spray to the bigger and rougher leaf-surface targets of broad-leaved dicotyledonous weeds, compared with the narrower and smoother leaves of true grasses. This surface-based selectively is supplemented by anatomical (inner structure) and physiological (metabolism) differences between grasses and broad-leaved weeds and responsible for differential herbicide translocation rates and varying vulnerability of target sites in the plants' metabolisms.

Field woodrush appears to resist selective herbicide action on both counts. Plants are morphologically similar to true grasses with narrow leaves, and in this case covered with long prominent white hairs that can only further impede herbicide action. The monocotyledonous lineage shared by Graminae and Juncaceae make field woodrush close in form and structure to true grasses, which is responsible for the generally low susceptibility of Luzula to selective herbicides.

Clear-cut differences between dicotyledonous broad-leaved plants (e.g. common daisy – Bellis perennis) and monocotyledonous true grasses is the very basis of selective herbicide action. However, any differences such as they are between turf grasses and field woodrush appear insufficient for its commercial control by selective herbicides approved for use in managed turf.

Field woodrush is recognised as one of the most difficult to control weeds of managed turf. Some control is known to occur during routine application of newer and more target specific selective herbicides usually after repeated application. That said field woodrush rarely appears on the 'label' of selective herbicides, even as providing moderate control which is sometimes claimed for other 'difficult' weeds like slender speedwell and yarrow.

'Commercial Experience' is the unofficial industry-used term to describe 'insider' knowledge on incidental control of field woodrush achieved by certain selective herbicides, though it is not listed as controlled on the product label. Reasons for absence of field woodrush from product labels in spite of its high weed status could be many and varied. They are often related to scope of field trials (e.g. insufficient number or diversity of sites) or nature of trials data showing insufficient control for field woodrush to 'pass the test' and appear on the product label.

Cultural control

Golfers have been known to complain about patches of massed flower and seed heads of field woodrush in spring, when golf balls land in what looks and feels like a mini unofficial rough slap bang in the middle of the fairway. But such complaints are generally few and far between because regular mowing should prevent massed appearance of flower heads. That complaints occur at all just re-confirms the common close association of field woodrush with poorly drained acid ground that cannot be mown promptly and regularly during wet springs.

Cultural control is only realistic way of managing severe field woodrush infestations, by feeding fairways adequately to boost fertility and thicken swards. And by investing in high quality lime-based products to reduce acidity and create conditions less to the liking of field woodrush, without altering composition of the turf grass population. Or else ignore the weed and reap some benefit from having fewer casting worms on the surface of an inherently high acid soil. Any recommendations for physical removal of field woodrush should be approached with care because cut pieces of stolon can root to form new infestations.

Field woodrush is also called sweep's brush after shape of the flower spikes but this not a weed that is easily swept away. However, weeds are just green plants in the wrong place at the wrong time and in other sectors Luzula species are valued as ground cover plants especially for poor moist soils. Indeed 'Lawns and Ground Cover' written by Geoff Stebbins and produced by the Royal Horticultural Society (RHS) recommends Luzula nivea and L. sylvatica 'Aurea' and 'Marginata' for this purpose because they are fully hardy and prefer wet soils and ground in partial shade.