

THE IDENTIFICATION OF GOLFING GRASSES

Jim Arthur explains how to correctly identify the various grass types found on a golf course and their subtle differences.

It would seem self evident that, at every level, those concerned with the theory and practice of the management of sports grass, whether fine turf or football pitches, must know their grasses.

While there are many expert greenkeepers, again at all levels, who really can identify at least the main grasses with accuracy and confidence, there are far too many advisers, lecturers, salesmen and, sadly, greenkeepers to whom all this is a closed book. Many wrongly identify turf grasses, but far too few are challenged.

I always remember the eminent superintendent of a Californian course claiming that his 100% *Poa annua* greens were Pennncross because

they spent so much money over-seeding them with Pennncross every year!

It is not, I admit, initially easy but we are, after all, talking about so very few good and bad grasses on golf courses that practice should soon make perfect.

A major problem is that there are so few books which help - illustrations of flowering heads are not much use in identifying grasses in mown swards (*Poa annua* excepted).

I have watched, with dismay, college lecturers clutching bouquets of the flowering stems of grasses, but who had no idea how to identify them by characters based on leaf and stem.

I am not addressing these words to experts but trying to make it easier for beginners to pick out the handful of grasses that form our turf. It is rather like bird watching.

At first all small birds look alike - "little brown jobs" - but a few days with an expert creates confidence and a good guide separates them out.

A brief key will, I hope, help beginners. Remember that not every plant shows



Holcus lanatus/Yorkshire fog – note hairy leaves.

such characteristics - but you only need one in a patch of that grass.

The only comprehensive identification key for all grasses that I know of is Hubbard's Grasses, Penguin Books 1954. It most certainly is not for beginners, nor indeed for most.

Therefore I suggest a simple guide to the relatively few grasses, which are of economic importance in greenkeeping - for good or bad - based on simple observable features which can largely be seen with the naked eye. Chapter 10 in Practical Greenkeeping gives a detailed guide to a limited number.

One thing is certain, that if anyone really can identify say five useful and five weed grasses they will be experts and can be sure that no one will challenge their diagnosis in the field.

Certainly a good botanical grounding is an enormous asset, especially in these days when experts, agronomists etc have all too rarely any botanical background.

I owe an enormous debt to my mentor, Richard Libbey, when I joined the then Board of Greenkeeping Research (now

STRI) at Bingley in 1946. He was a botanist of international standing and knew his grasses as well or better than I knew my birds.

What therefore should we be looking at? Flowering heads are useless as a guide in mown grasses but it does no harm to check back on vegetative features on a species identified initially by its flowers.

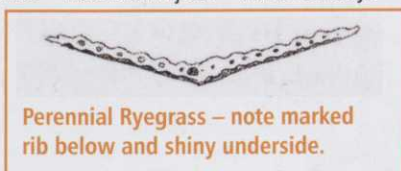
Not many seed heads (save *Poa annua*) in mown turf. Remember always that we are dealing with very few grasses - anything tall can be left to another day!

There are, after all, well over 300 different native grasses and we want to firmly identify only 10. These few species cover almost all our mown turf and indeed native swards on poorer land, on which our best grasses thrive naturally.

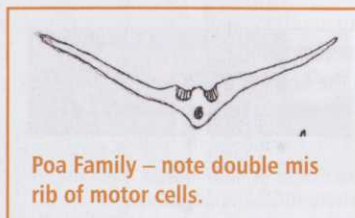
Note that at this stage we should not confuse ourselves by looking at all the tall native or agricultural species, but restrict our work to low growing grasses (some of these can grow tall).



Yorkshire fog - leaves covered in soft hairs.



Perennial Ryegrass – note marked rib below and shiny underside.



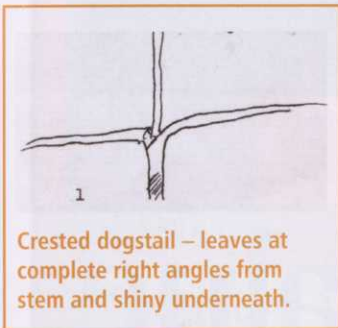
Poa Family – note double mis rib of motor cells.



Agrostis, etc - evenly tapering leaves to a sharp point, no ribs.

The commonest are three, namely *Agrostis* spp (bents); *Festuca rubra* (fine fescues); and *Poa annua* (annual meadow grass), which together form 95% or our close swards. *Lolium perenne* perennial ryegrass favours richer soils and is really an agricultural grass. *Phleum pratense* Timothy grass grows naturally on links but is primarily an unimportant grass of wet land.

All the rest are weeds (or rarities), chief amongst them are *Holcus lanatus* (Yorkshire fog) and its close relative *Holcus mollis* (creeping soft grass); and *Cynosurus cristatus* (crested dogstail).

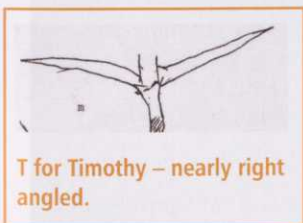


Crested dogstail – leaves at complete right angles from stem and shiny underneath.

It is helpful to know a few agricultural grasses, e.g. *Dactylis glomerata* cocksfoot and a few common tall weed grasses of the rough, e.g. *Molinia caerulea* tussock grass, as well as small ephemerals (short lived) species, such as *Aira praecox*, are early hair grass which dies in June to re-establish from seed in autumn when it may be mistaken for fine fescues.

We will not worry at this stage about strains or even species - e.g. the Poas, annual, rough and smooth stalked meadow grasses or the various strains of bents and fescues at this stage, though they are quite different grasses. The features we must look at are leaves and stems.

Pull out an entire plant, by the roots. Peel back the basal leaves and look at the colour of the basal stem. If it is red/maroon it is ryegrass.



T for Timothy – nearly right angled.

If it is yellow it is crested dogstail and if it shows parallel mauve stripes it is Yorkshire fog, if brown, Timothy. Remember that not all stems will show strong or indeed any colour. A hand lens (x8) can be helpful.

Then look again at, preferably, undamaged leaves and stems. If they are large and severely flattened or folded in section, then it is cocksfoot. In contrast, if they are small, needle-shaped and rounded, then they are fine fescues or *Aira*. If they are partly folded, non-fibrous with blunt 'cupped' or boat shaped tips and almost parallel sides, then they are one of the *Poa* family (meadow grasses).



***Holcus lanatus*/Yorkshire fog – note hairy leaves.**

Are they uniformly tapering from broad(er) base to sharp tip - and no mid rib? Then they are probably bents (*Agrostis* spp), but check colour (dull dark green, not shiny or fibrous). Young leaves crumpled

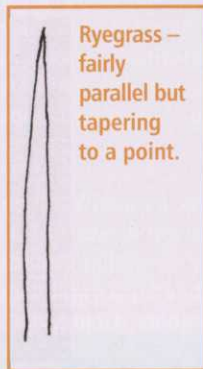
horizontally are characteristic of *Poa annua*.

Look at the ribbing - or the lack of it. If only parallel ribbing and no central line, think *Agrostis* - but remember to look for tapering leaves and colour. If there are two distinct parallel central ribs coupled with a hooded 'boat's prow' shaped tip (see illustration) then it's one of the *Poa* annua.

Then leaf colour. If the undersides are strong, shiny dark green, then it is *Lolium* (ryegrass) or *Cynosurus cristatus* (dogstail). The first has red basal stems, the second yellow.

Very hairy and pale colour is *Holcus lanatus* Yorkshire fog, or smooth and pale, *Dactylis glomerata* cocksfoot. A dull grey green sometimes tinged with purple, *Agrostis*.

A yellowish grey green with needle leaves and dense turf is *Festuca rubra*. A soft sappy pale green grass (sometimes seeding under the mower) is *Poa annua*. Blue green leaves, tapering to a point, but with a mid rib, is Timothy (*Phleum*). Note brown basal stem colouring on older plants.



Ryegrass – fairly parallel but tapering to a point.



Ryegrass – leaves subtend diagonally.

At what angle do the leaves subtend (leave) the stem? If very much at right angles then it's either *Cynosurus*

cristatus dogstail (yellow stem base and shiny leaves), or *Phleum pratense* Timothy (note swollen bulbous base, sometimes brown, and grey green folded tapering leaves). Note Timothy can also be found on sandy links, but is traditionally a wet land grass (see key leaves table).

Certain grasses are characteristic of some specific environments. Light sandy soils will normally have a fine natural cover of bents and fescues.

Acid heathland will see bent dominant. Alkaline links favour fescues. Over-fed (and over-watered) turf will be dominantly *Poa annua*. More fertile soils will support ryegrasses. Less fertile will favour dogstail which, though widespread, is rarely dominant.

All these grasses and more I find in my lawn - save one. The only plants of *Poa annua* that I could find (to draw) were on a fox-scald, in that small patch of lush fertile turf.

There is a message here - not to eradicate my 'tame' foxes but to avoid feeding (in this case locally with their urine). My lawn has had only an occasional application of lawn sand in 22 years.

I hope this and the illustrations will help, but do not be daunted. Keep on picking grass leaves and you will soon gain confidence. If it

helps, remember that very few will dare to contradict you!

However no one is omniscient and I myself, after making a too hasty identification many years ago of a purplish line grass on one of the Old Course greens at St. Andrews, was corrected by a young John Philp - it was fine fescue not bent, under designedly adverse conditions in winter.

With that early level of expertise no wonder John has become such a top Manager of such well maintained and presented courses at Carnoustie.

There is nothing like a little practical help - if any students or enthusiasts want advice, e.g. on books or practical tips they have only to ring 01395 442966 - or buy, post free, a signed copy of Practical Greenkeeping, if they have not already got one.



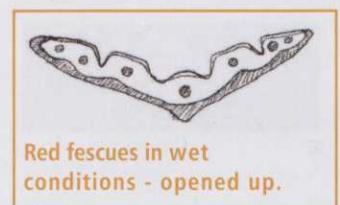
Meadow grasses – very obvious parallel double mid rib.



Meadow grasses - boat shaped tip to leaves – which splits open when flattened.



Red fescues in arid conditions.



Red fescues in wet conditions - opened up.

KEY LEAVES

Shape

- Tapering uniformly from a broad base to a sharp tip. Flat not ribbed (Agrostis spp).
- Parallel or nearly so edges culminating in a round (hooded) tip (Poa spp).

Needle shaped

- Festuca and Aira praecox.

Ribbing

- No marked ribs (Agrostis spp).
- Twin parallel lines (Poa spp).
- Central mid rib (Ryegrass, Cocksfoot, Timothy).

Stems

- Flattened (Cocksfoot).
- Fine and rounded (Festuca ruhra and Aira praecox).
- Elliptical or oval section (Ryegrass).

Basal Sheath colour

- Red. (Ryegrass, also Hybrid ryes and meadow fescue).
- Yellow. (Crested dogstail).
- Mauve stripes. (Yorkshire fog).
- Brown. (Timothy).

Hairiness

- Yorkshire fog.



Perennial Ryegrass – note marked rib below and shiny underside.

Grade 'A' Seed Value



AberElf dwarf perennial ryegrass from British Seed Houses offers good growth and excellent fairway cover at **West Midlands Golf Club**, Barston near Solihull without running away from the greenkeepers. "There's enough growth for divot recovery, but not too much," explains owner Nigel Harry. "People have been afraid of ryegrasses in the past due to their reputation for fast growth, but we've actually cut mowing time in half since we used AberElf on the fairways and tees."

Nigel believes that he's saving the labour equivalent of two men – about £25,000 per year. "And we're shaving about 1,000 hours off our annual machinery use, as well as increasing the amount of play on the course. If we're not mowing, people can play – that's priceless."



Cut Costs.
Benefit Directly from Grade A Seed Value.
Call **0800 328 8276**



Camp Road • Witham St Hughs • Lincoln LN6 9QJ
Tel: 01522 868714 • Fax: 01522 868095
E-mail: seeds@bshlincoln.co.uk www.britishseedhouses.com



Buy Direct from
the UK's Leading Amenity
Seed Producer