

# Know your grasses

**What is the most important qualification for anyone involved in any aspect of greenkeeping? And how many really have this simple basic knowledge, whether they are preaching or practising? The answer to the first question is so obvious it hardly needs stating. It is, of course, the ability to identify the constituent grasses in a close-mown turf. Yet so many greenkeeping courses concentrate on identification from flowering heads, which are to be found only in the rough! Accurate grass identification should be the first aim of all budding greenkeepers—you must always know your 'friends' and, even more, your 'enemies'.**

Once a relatively few grasses can be identified accurately and with confidence, you immediately establish a considerable advantage over the vast majority of those involved at all levels in the management of fine turf! It is really surprising how many of those who should know one grass from another when it is mown at 3/16in do not.

I well remember an acrimonious discussion with one head greenkeeper, who swore that the large zones of pure fine fescues returning to his greens were annual meadow grass! What was even more surprising was to find an eminent professor of botany failing to recognise annual meadow grass in a close-mown turf, yet he was hot stuff on rare weeds and, incidentally, a fund of highly valuable ecological information.

I would be the first to admit that I have been corrected on more than one occasion, and by young greenkeepers at that, when I was rashly assuming that what I had seen on one green was the same grass on another and did not bother to use my spectacles!

Identification of grasses depends not so much on precise botanical characteristics, but more on what the Irish term 'the jizz of the thing'—in other words, its characteristic look and habit. Fine fescues can be picked up with fair accuracy at long range, partly because they often do not blend or mix with other grasses and so form zones and partly by their colour—a paler yellow to grey-green—as well as by their needle leaves.

Creeping bent often turns purple under frosty conditions, which bleach Yorkshire fog. All the *Agrostis* species—save, perhaps, the very fine-leaved velvet bent (*Agrostis canina*) and its distant relative Penncross (both thatch-formers)—are easy to pick out, since the markedly ribbed upper surfaces of their leaves do not reflect light and so they always look dull, as well as a darker grey-green.

Velvet bent is not only a very

different colour to fine fescues—a characteristic blue-green—but also grows under much wetter conditions. Annual meadow grass generally looks sickly and yellow, or even very thin, in winter.

Perennial ryegrass and crested dog's tail may be mistaken for each other, but for no other turf species, possessing fibrous, dark-green leaves, with shiny under-surfaces. One has a bright maroon base to the leaf sheath and the other a golden yellow—but what really makes both obvious at a distance is that only a very tight set, sharp-bladed mower will cut them cleanly, so the 'skinned' leaf blades and ragged cut tends to give it away.

The meadow grasses (*Poa* spp.) are among the most widespread of all grasses in temperate zones, being found throughout all the northern temperate climes in the old and new

## By Jim Arthur

worlds. There are no less than seven distinct species, each generally with a specific habitat—for instance, *Poa nemoralis* in shaded situations; *Poa pratensis* on more fertile, moist soils; *Poa bulbosa* on thin, sandy soils.

The commonest of all is *Poa annua* and it is found everywhere it can gain a foothold and where it is able to exploit a gap in the competitive armour of other grasses.

A good, hard look where annual meadow grass dominates gives the clue as to what encourages it and what, by deduction, can be done to discourage it. It is the common grass of paths and compacted, worn areas, where soil consolidation inhibits deep-rooting species. It invades wherever fertility rises, so keeping soil 'poor' keeps it at bay.

Look at the old marking-out lines of an abandoned tennis court or even the lines marked with lime used to keep trolleys at bay on approaches to greens. Quite apart from the worms

and weeds, the grass is dramatically changed, just on that line, to annual meadow grass, which has almost completely displaced the wiry, native *Agrostis* (bent) turf.

Annual meadow grass is itself a variable species, both in botanical characteristics and growth habits. Sometimes it is short-lived, ephemeral, vigorous, coarse-textured, free-seeding and with a ten-week life cycle. In other forms, it can be a biennial, relatively fine leaved and shy seeding, in extreme forms looking almost like pads of pearlwort, almost a different species.

A host of other grasses can be occasionally found in close-mown turf—perhaps more so on fairways than greens—in addition to those mentioned.

Some are obviously only just surviving, under the influence of mowing, but I have seen even cocksfoot, whose coarse, flattened, pale stems distinguish it at once from the equally pale but hairy Yorkshire fog.

Mat grass (*Nardus stricta*) is fairly common on acid moorland fairways. The couch grasses (*Agropyron*) will not stand mowing, but can usefully stabilise shifting sand—along with Marram and Sea Lyme grasses—those dune-building grasses that demand to be constantly smothered by building up wind-blown sand if they are to survive and not 'grow themselves out' of the sand.

I have quite often found wall barley (*Hordeum maritimum*) looking very yellow and an unattractive constituent of fine turf, perhaps more on heavier soils, despite its name. The timothys (*Phleum* spp.) are, quite wrongly, assumed to prefer wet conditions. Several do thrive on sand dunes, but they are neither necessary nor desirable as constituents of seeds mixtures and are difficult to establish and resent competition—hence their preference for environments that are either too wet or too dry for more aggressive species, which would otherwise compete with them.

There are lots of other grasses—foxtails, sweet vernal grass, *Sesleria*, Aira, even the bromes, which can be found in mown turf—but the beginner can safely dismiss the lot as weeds of no significance!

There are a number of annual grasses that are characteristic of drought-susceptible, sandy soils,

which flower early and survive the drought in seed form and others on bulbils. These are *Aira praecox*, rat's tail fescue, annual timothy and, of course, annual meadow grass, but also *Poa bulbosa* and the small timothys.

To trap the over-confident, however, there are some non-grass species, of which two are worthy of attention. Field woodrush (*Luzula campestris*) is an attractive grass-like sedge, so why call it a rush? Presumably by the same logic, *Polygonum aviculare* is called knot grass because it is less like a grass than anything!

This sedge occurs on many heathland and other courses, contributes to good, fine-textured fairways and even if it does put up attractive brown flowering heads early in the year, never warrants control.

Toadrush (*Juncus bufonis*) is a true rush and can be a nuisance on wet greens as its small 'tussocks', surviving quite happily under the blades of the mower, can ruin putting surfaces—but generally only where they have already been ruined by thatch and waterlogging. It is, however, a useful indicator of bad surface drainage and a warning to increase deep aeration and to break down thatch.

From this, we may deduce that there are only two or three grasses of value in greenkeeping—namely the bents (*Agrostis* spp.) and fine fescues and one *Poa*—*Poa pratensis* (smooth stalked meadow grass). There are a number of common weeds—chief of these being perennial ryegrass, for years unthinkingly included in fairway and tee mixtures to 'get a quick take', or to produce a hard-wearing turf.

It is arguable whether it is any quicker in establishing than the fine grasses, but it is certain that it never dies out, though it may be kept suppressed. It is coarse and strong, never really forms a turf with other grasses and produces impossible 'football pitches' of fairways and coarse, open tees, usually in conjunction with that worst of all contaminators, annual meadow grass.

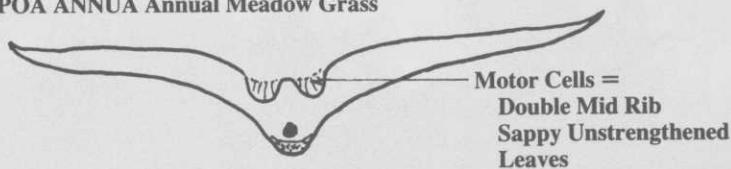
Dr Hayes' assurance that Bingley will no longer advise its inclusion in any seeds mixture, including tees, on any golf course—so-called dwarf strains notwithstanding—is welcome.

I spend too much time actually lifting and replacing ryegrass-contaminated turf around greens, originating perhaps 50 years ago, when patching traditionally worn

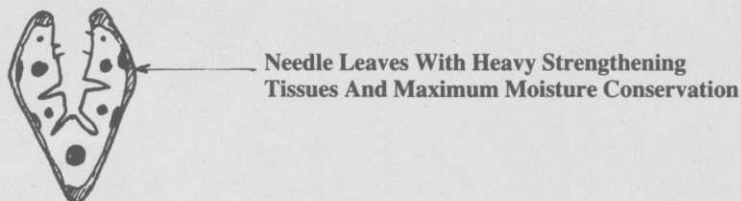
*Continued on page 37...*

### T.S. LEAVES OF GRASSES

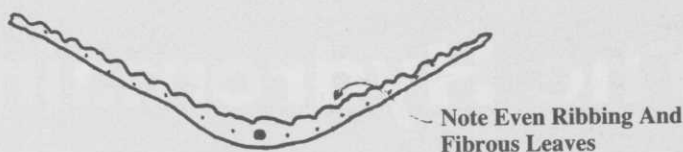
**POA ANNUA Annual Meadow Grass**



**FESTUCA RUBRA Red Fescue**

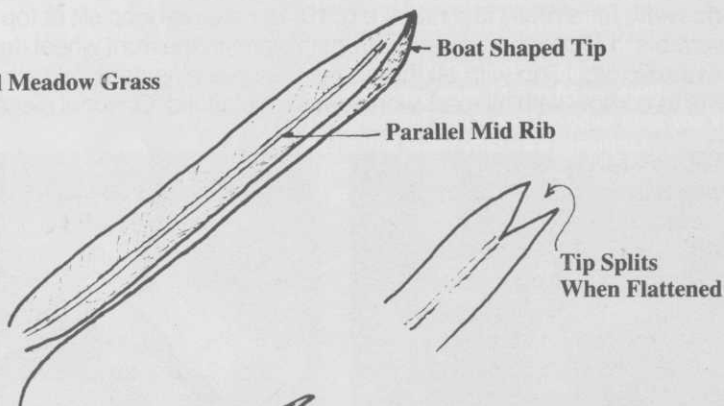


**AGROSTIS TENUIS Bent Grass**



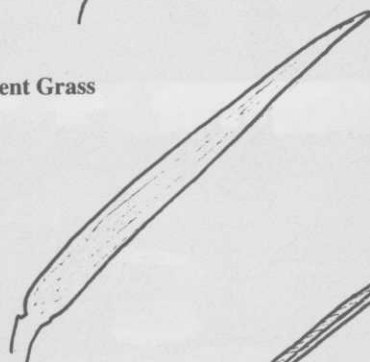
### LEAVES OF GRASSES

**Annual Meadow Grass**



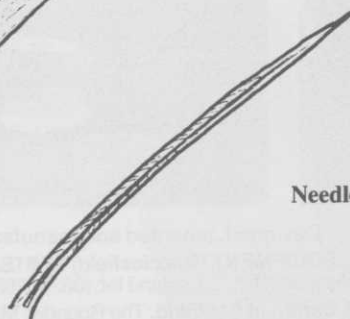
**Bent Grass**

**Narrow Flattened Ribbed Leaf**



**Fine Fescue**

**Needle Like Leaf**



## Jim Arthur Continued...

walk-off areas or even reseeding entire fairways, to even speak civilly to anyone, including the odd golf course architect, who advises its use.

Since we want fine-textured turf and ryegrass is an unmitigated nuisance, why not start the way we want to end and use bent and fescue only? With a straight bent/fescue fairway mixture on one course that I was involved in they were playing on sown fairways 13 months from the start of construction, let alone seeding. I sometimes see crested dog's tail included and the result is a mass of 'whinnel straws' that no cylinder gang mower can cut.

How, then, can the grasses that make the best golfing turf be identified quickly? All the meadow grasses share one common characteristic—their leaves are folded, with a pronounced double mid rib and very obvious boat-shaped tip. Smooth-stalked meadow grass, with its deep rhizomes, is the Kentucky blue grass of the States (sometimes used on tees) and its colour gives it

away at once. Rough-stalked has no value, but usually forms a rough, 'plucked-up' looking turf, as its surface runners get roughed up—for instance, when mown.

The *Agrostis* family has less unique characteristics, but the rather fibrous, flat leaves (save for needle-leaved bent) have no mid rib, but markedly ribbed upper surfaces, so that the turf always looks dull, never shiny. If, in fact, you identify as *Agrostis* one of the similar rarer grasses, no-one will blame you and few will argue!

The fine fescues are easy to identify—they are very needle-leaved, especially in dry weather, but remember there are meadow fescues with luxuriant growth, flat, huge, shiny, lush green leaves and bright red bases to the stems, rather like Italian ryegrass, but you will not find these on golf courses, save by accident. I did once on an area of course extension sown to a mixture, supposedly bent/fescue and supplied by a local seed firm, but they supplied bent and meadow fescue. It still grows a silage crop every year.

Remember, not all fine fescues make good golfing turf—tussock-like sheep's fescue is really a weed and never forms a close-knit turf because of its whorled habit of growth.

In the weed group, look for shiny backs to leaves—ryegrass and dog's

tail and soft, hairy patches of Yorkshire fog, bleached by frost. I would rather have Yorkshire fog than ryegrass—at least in summer—as with regular mowing and verticutting it stays fine and does not interfere with putting and, in any case, it can be checked and often controlled by full strength selective weedkilling in flush periods of growth, whereas ryegrass never dies out.

Extensive exchanging of ryegrass-free areas between the huge double greens on the Old Course at St Andrews to replace ryegrass, introduced literally over the previous 60 years into main pin placement areas, has been necessary, since nothing could get rid of the ryegrass and fine-textured though it was, it still affected putting by Open Championship standards. Then some people defending the use of ryegrass 'as a nurse' say it will not survive close mowing!

In passing, we are perhaps too purist about grass and a botanical survey of these old greens, which I carried out some years ago, showed no less than 17 different species of grass! At least it is far better than having just one—solid annual meadow grass, all too characteristic of past decades of over-feeding and over-watering in search of that Great God Green!

**TMS**  
have  
**GOOD**  
*Ni'Fe*  
For  
**GOOD**

**THREE**  
*Spring Starter*  
**THREE**

**REASONS**  
*Sand'ron*  
**SEASONS**

**Turf Maintenance Supplies Ltd.,**  
Dromenagh, Seven Hills Road, Iver Heath, Bucks.  
Telephone: Denham (0895) 832626/834 198