last month we dealt with the
triumvirate of those good golf and good
greenkeeping - bents, fescues and the
meadow grasses. The latter, though less than ideal, is sadly
the dominant grass on many of
our older courses. Now we come
to the rest - which it is helpful
is to identify if only to pin-point
management or ecological problems.

Of course there are many more
than three grass species found on
golf greens, let alone fairways.
There are also, however, some
very undesirable species. Luckily,
where they do occur, they are
easy to identify, though less easy
to eradicate. The first undesirable
is perennial ryegrass (Lolium
perenne). Its dark green leaves,
with very shiny, polished, glossy,
undersides and the red basal leaf
sheaths, often (but confusingly
not invariably) visible when the
lower leaves are pulled back,
makes identification easy. In
passing, there are two other
grases with polished undersides
to leaves and maroon basal leaf
sheaths. These are the annual
(biennial) Italian ryegrass and
perennial meadow fescue (Festuca
pratensis) - a tall 'arable'
grass not the least bit like the
small and wiry red fescues.
Neither will bother you, since they
are never found in close mown
turf, though I did once find a
practice ground growing a silage
crop of meadow fescue, supplied
by an agricultural seed merchant
as a bent/ fescue mix!

Another grass, which can be
confused with ryegrass, is crested
dogstail (Cynosurus cristatus),
again with stiff fibrous dark green
leaves with very shiny under-
sides. The chief identification
point is that the leaves come off
at right angles to the stems and
the leaf base is a deep golden yel-
low. Both these species, but espe-
cially dogstail, have such tough
fibrous leaves that they are diffi-
cult to mow cleanly and often
strip between blade and sole
plate, leaving very characteristic
skinned or shreded, discoloured,
ragged-ended leaf blades.
Dogstail and ryegrass incidentally
are now less common 'contami-
ants' of golf greens, but on older
courses, past overseeding or
patching (even divotting)
and the resultant crop of wiry
stems (whinzel straws) soon dis-
couraged that idea.

There is, in fact, no place for
ryegrass or dogstail on any golf
course, certainly not greens or
fairways. Yet on one course built
recently, the inexperienced archi-
tect, having ploughed in the rye-
grass-dominant grassland of the
old farm land, sowed the new
fairways with a ryegrass mixture!
Will some architects and seeds-
men never learn?

Claims made for the virtues of
so called dwarf ryegrasses need
to be treated with great caution.

The problem in using ryegrass on
teens is that one almost always
ends up with tufty patches or
individual plants of ryegrass con-
trasting with lower growing
annual meadow grass growing
between them.

Another grass which is often
common and disfiguring but very
easy to identify is Yorkshire fog
(Holcus lanatus). This bleaches
with frost, giving quite whitish
patches in winter. The leaf
sheaths are striped lengthways,
mauve and pale green, and the
leaves are hairy and pro-
strate. It is this feature which
makes it easy to control, as the
plants picks up more than their
fair share of selective weedkiller
(or sulphate of iron) and so full
strength herbicidal treatment will
usually eliminate it - plus verti-
cutting, which penalises the
broad prostrate leaves more than
it does bends and fescues. I have
even found spot-treating patches
with an aerosol herbicide spray
very effective.

There are many other grasses,
some with agricultural value such
as the pale flat stemmed cockspur
foot and others native to less fer-
tile areas and moorland, which
will be found on golf course fair-
ways, while the rough can be
a veritable grass museum. It will
only confuse the beginner to try
to cover all these species, though
I would recommend an excellent
Pan book of photographs of all
the grasses by Roger Philips on
Grasses, Ferns, Mosses and
Lichens, which will help identifi-
cation through flowering heads.

There are a few 'golf course'
species, however, which can
cause confusion. The first is early
hair grass (Aira praeccox). This is
a very short lived ephemeral, seed-
ing and then dying - very early
- even in March and surviving
droughty summers as seed. It has
fine needle leaves and many a
greenkeeper has been misled into
thinking that thin, droughted
greens were filling in, in the
autumn, with self-seeded fescues
when the mass of fine leafed
plantlets were in fact Aira pre-
cox, doomed to set seed and die
early the next year.

As a matter of interest, not all
grases survive summer stress or
perpetuate themselves through
seed. One of these is another
short lived native of thin
linksland in the south east, viz
Poa bulbosa, which produces little
bulbils at the base of the stems,
and when the plant dies in
May the bulbils survive in
dormancy until the autumn rains.

Similarly, another grass,
IDENTIFICATION

CROSSECTIONS OF LEAVES

**Cynosurus cristatus**/crested dogstail
Note fibrous ribbed leaves and pronounced keel - shiny green below

**Lolium perenne**/Perennial ryegrass
Note similar fibrous leaves and pronounced mid-rib - shiny below

**Hulcus lantatus**/Yorkshire fog
Note unstrengthened leaves and leaf hairs

**Lolium perenne**/Perennial ryegrass
Note fibrous leaves stripped, not cut cleanly

**Lolium perenne**/Perennial ryegrass
Note shiny leaves subtend at an angle

**Cynosurus cristatus**/crested dogstail
Note leaves subtend at right angles

viviparous fescue (*F. vivipara*) found on northern moorlands produces small spikelets, not seeds, and these drop off and grow when weather conditions are more favourable.

Another trap for the unwary is toad rush (*Juncus bufonius*) which occurs under wet conditions e.g. on thatchy greens, growing happily under the blades of the mower. It has fine, solid, not folded, cylindrical leaves and seriously affects putting surfaces because of its slightly tussocky growth. Luckily, it can be sprayed out with full strength selectives, if caught early when it is growing and before it seeds.

Field woodrush (*Luzula campestris*) is perhaps less frequently seen, especially as today's closer mowing and regular verticutting, let alone grooming, will control it, but its very hairy, broad, tapering, brown-tined leaves distinguish it fairly easily from grasses.

Sheep fescue deserves a mention - again very rarely found on greens but quite common on some thin acid approaches. Unlike creeping red fescues, it grows as individual plants - a whorled not a creeping habit - and so produces a thin open turf, not acceptable by today's standards.

We might also mention tip shooting of *Agrostis* - under wet conditions (often it is an early indication of over-watering), small individual plantlets are produced, probably as an alternative to trying to produce seed heads. These can be easily detached from the parent plant - and easily verticut out when small - but the spotted effect is as bad for appearance as it is for putting.

It is to be hoped that while all greenkeepers should know their basic grasses, some may be enthused enough to go grass hunting - at least the plants stay still to aid identification (which is more than one can say for rare birds).

It is worth noting however that there are very few natural monocultural stands i.e. single species, as opposed to sown turf - and even if you start with only one or two species, others soon come in. So long as they have comparable growth habits to our native fine fescues and bent, this does not really matter. Perhaps one could 'age' golf greens in the same way as one can estimate the age of a hedge, one species for every hundred years approximately, according to one authority. Certainly some years ago when I carried out a botanical survey of the Old Course greens at St. Andrews, I identified no less than seventeen different species or sub-species. Of course, management, good as well as bad, can encourage some and kill off others, and there is something to be said for not having all your eggs in one basket!

The situation is quite different where grass is grown 'artificially' - e.g. hydroponically-fed, sand-only greens in very hot arid climates - where nature has no say and ultra-severe climatic conditions restrain weed grasses (but not diseases!) from invading. Not much *Poa annua* in the Arizona desert! Here, whatever man proposes, the weather has the last word - shared perhaps with the golfer who is putting fine turf under extreme stress all the year round and often pushing desirable species up to and beyond their capacity to withstand the effects of constant traffic and constantly changing weather. It is no coincidence that in nature, without help from man, the first stage in such stressful conditions is for *Poa annua* to replace bents and fescues (e.g. on paths) and then for it to be scrubbed off, leaving bare ground.

GREENKEEPER INTERNATIONAL August 1993

41