

Fine Fescue update: this revision July 2015
Phil Ford, PGG Wrightson Turf (Australia)

The use of fine fescue in golf turf has undergone a revival in recent years. There are several reasons for this. Their use as an unmown rough, pioneered at the Dunes and other coastal courses, creates a dramatic contrast between the straw-coloured rough and the emerald-green fairways, which has become a signature of Victorian courses. In addition, the use of fine fescue in roughs, fairways, tees, surrounds and greens at Barnbougle and other courses has renewed interest. These uses show the flexibility of the species, not only with respect to mowing height but in the use of inputs such as nitrogen and irrigation. A bonus in Victoria, where off-label use of chemicals is permitted, is the ability to use haloxyfop to control a wide range of grass weeds, including *Poa annua*, perennial ryegrass, couchgrass, kikuyu, summer grass, crabgrass, Paspalum, prairie grass, nutsedge, barley grass, rats tail and fog grass.

The botanical classification of the fine fescues varies between different articles, but the latest system has two groups, the Red Fescue aggregate and the Sheep/Hard Fescue aggregate:

Common name	Genus	species	subspecies	Examples
Red Fescues				
Strong Creeping Red Fescue	<i>Festuca</i>	<i>rubra</i>	<i>rubra</i>	Merlot, Jasper II, Governors
Slender Creeping Red Fescue	<i>Festuca</i>	<i>rubra</i>	<i>litoralis</i>	SeaLink, Borfebo, Secco
Chewings Fescue	<i>Festuca</i>	<i>rubra</i>	<i>commutata</i>	Silhouette, Survivor, Shadow II
Sheep Fescues				
Idaho Fescue	<i>Festuca</i>	<i>idahoensis</i>		Idaho
Sheep Fescue	<i>Festuca</i>	<i>ovina</i>	<i>hirtula</i>	BighornGT, Bornito Azay, SR3210
Hard Fescue	<i>Festuca</i>	<i>trachyphylla</i>		Predator, WB, Henry, SR3150

The Strong and Slender Creeping Red Fescues are rhizomatous, whereas the other types are not. Slender Creeping Red Fescue is reported to have a higher salt tolerance than the other types. Chewings Fescue tolerates a lower mowing height and is the main type used on greens. It also has a higher N and irrigation requirement. In our Victorian trial work, Chewings Fescue was not affected by Red Thread (*Laetisaria fuciformis*), whereas most cultivars of the Slender, and particularly the Strong Creeping Red Fescues, were badly affected. The Sheep/Hard Fescues have a higher drought and heat tolerance than the Red Fescues, but are generally maintained at a higher mowing height.

Because the Fine Fescues are so flexible and are used in such diverse situations on a golf course, Superintendents have a wide range of expectations. Some Superintendents will want high quality and density when using them in surrounds, as a buffer between couch fairways and the greens. Other Superintendents require good persistence in a rough, from light rough through to unmown rough. In unmown rough, some Superintendents prefer full groundcover, others prefer a clumpy effect that is not so punitive. Some prefer thick seedheads, others not as thick. While it is impossible to trial all these situations adequately, hopefully the information that follows will assist Superintendents in their decision-making.

Trial 1: Mown turf

Two trials were initiated in autumn 2011 at the PGGWrightson research farm at Leigh Creek, near Ballarat. The first trial was maintained at 18mm mowing height, and was designed to compare the fine fescue cultivars that PGGWrightson were currently selling with a number of newer cultivars, most of which simply had code numbers. The plots were maintained under a moderate to low nitrogen regime, but were irrigated as required to avoid drought stress. The plots were duplicates of a similar trial conducted at the PGGWrightson research farm at Kimihia, near Christchurch. Each cultivar was sown in 0.5m x 1m plots, with four replicates.

The establishment of fine fescue can be difficult, however at Ballarat the plots were covered with a geotextile seeding cloth, so establishment of most cultivars was 100% by the first assessment (winter 2011). However, some cultivars appeared to perform worse than others at establishment, both in New Zealand and Ballarat, such as Celiana and Sarah (Strong Creeping Reds) and Secco, Borfebo and CT4034 (Slender Creeping Reds). By spring 2011, the coverage on these cultivars was over 90%, but even a slight reduction in coverage allows weeds to invade and disrupt the sward.

Red Thread was the most serious disease problem at Ballarat. It only affected the Creeping Red Fescues (both Strong and Slender), so scoring of the disease was done, as shown over the page. The disease was scored on 0 – 5 scale, where 0 = no disease and 5 = total disease. Red Thread is sometimes regarded as a minor problem, but in Red Fescues (and in perennial ryegrasses) it can lead to dramatic thinning of the turf. It is a low nitrogen disease, but Red Fescues are often used in low input situations, so Red Thread should be taken very seriously. There was quite a range in disease severity, as the table and the following photograph shows.

Photo 1:
ASC295
(Merlot)
showing
no Red
Thread
damage,
surround
ed by
other
cultivars
scarred
and
damaged
by
severe
Red
Thread.



Table 1: Turf quality (average of five assessments over seven assessments) in the Ballarat trial

Strong Creeping Red Fescues	Quality	Red Thread score
Merlot	7.0	0.2
PSG 5RN	6.5	2.0
Shademaster III	6.5	2.6
Lustrous	6.1	2.2
CT4041	6.1	2.3
Jasper 2	6.0	2.6
PST8000	6.0	3.5
Idaho	5.8	0.3
Sarah	5.8	1.8
FRT06X9	5.8	2.5
Celiana	5.7	2.9
Roland 21	5.1	2.9

Slender Creeping Red Fescues	Quality	Red Thread score
Borfebo	6.6	1.5
SeaLink	6.5	1.0
FR2T06X9	6.3	0.8
Secco	6.3	2.5
CT4034	5.3	1.3

Chewings Fescues	Quality
CT4045	7.0
CT4030R	6.8
FGRPEP03T	6.8
7 Seas	6.8
Frazer	6.7
Silhouette	6.7
CT4032R	6.7
PST 4CH6	6.6
ASC266	6.5
Smaragd	6.5
Salut	6.4
Rasengold	6.3
CT4028	6.1

Hard or Sheeps Fescues	Quality
Predator	7.0
Karoo	6.9
Bighorn GT	6.8
WB	6.8
Henry	6.7
TFL0866	6.7
Bornito	4.9

The main conclusions from the Ballarat trial (largely supported by the NZ data), were:

1. In the Strong Creeping Reds, Merlot has outstanding turf quality and excellent Red Thread resistance. Our previous offering, Jasper II is susceptible to Red Thread and its use has been discontinued. Governors was not in this trial as it is a larger plant, more suited to rough and light rough situations.
3. Of the Slender Creeping Reds, SeaLink has good quality and density at lower mowing height, and thick seedhead production in an unmown situation. It did get Red Thread, but not as badly as most of the Strong Creeping Red cultivars.
4. Under the conditions of this trial, Chewings Fescues had higher quality than the Creeping Red Fescues, and showed no sign of Red Thread. The currently-sold variety Silhouette compared well with the newer cultivars that are being released, and was superior to many of them.
5. With the exception of Bornito, the Sheeps and Hard Fescues performed extremely well at this mowing height (18mm) and level of inputs. The performance of Predator, in particular, was excellent – which is significant, as it also performed well in the unmown situation of Trial 2. Predator is a high endophyte grass.

Trial 2: Unmown turf

The second trial consisted of single replicate plots (3m x 4m) of seven Fine Fescues, left unmown to assess their suitability for a rough situation. No fertilizer or irrigation was applied to the plots. The two main points of interest were persistence, and seedhead density. Two cultivars stood out, Predator Hard Fescue and Governors Strong Creeping Red Fescue. Both of these are high endophyte cultivars. The site suffered a major infestation of Black Headed Cockchafer (*Acrossidius tasmaniae*) during winter 2012, which caused a considerable thinning (and resulting clumpiness) of all cultivars except Predator and Governors, no doubt due to their endophyte content. As the photos on the following pages show, Predator and Governors retained much better turf density than the other cultivars. These two cultivars also stood out for their seedhead presence – Predator has a low seedhead density, whereas Governors produces prolific seedheads. The two cultivars Jasper II Strong Creeping Red Fescue and Silhouette Chewings Fescue are used in the ‘In the Rough’ blend. A 15m x 15m plot of this blend was sown at the same time, but maintained under irrigation. With irrigation, naturally, the turf density and seedhead density was higher than in the unirrigated plots, as shown in the final two photographs.

The conclusion is that, in an unirrigated rough situation, the presence of endophyte in Predator and Governors reduced insect damage and allowed better persistence and turf density. A decision between the two cultivars depends on the Superintendent’s preference for seedhead density. If sparse seedhead density is preferred, Predator should be selected. For

high seedhead density, choose Governors. Although not trialled, it is probable that a 50:50 Predator:Governors blend would create a sward with medium seedhead density.

Predator Hard Fescue in November, December and February. Seedhead density is sparse and wispy. Predator also performed well in Trial 1, when mown at 18mm.



Governors Strong Creeping
Red Fescue in November,
December and February.
Seedhead production is
particularly dense.



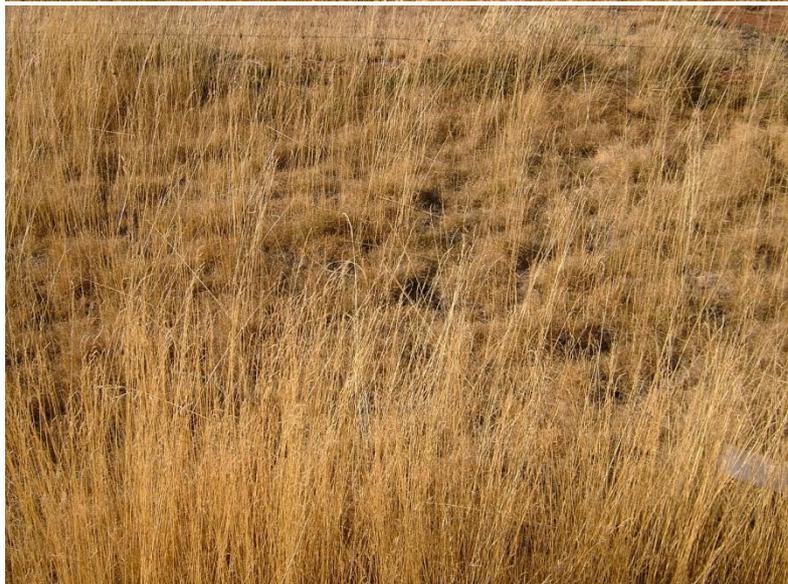
Azay Blue Sheeps Fescue.
This cultivar has a
noticeably bluey/grey
foliage. Black Headed
Cockchafers thinned this
cultivar considerably.



SeaLink Slender Creeping Red Fescue. Again, Black Headed Cockchafers caused considerable thinning of the turf. This cultivar also suffered Red Thread damage in Trial 1, however the amount of Red Thread damage that would be caused in unmown turf is not known.



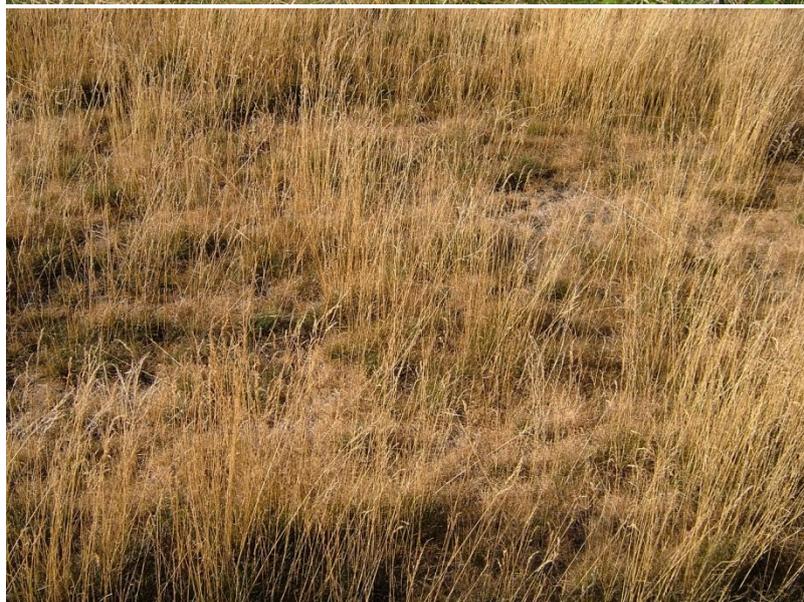
Silverlawn Strong Creeping Red Fescue. Black Headed Cockchafer damage caused considerable thinning of the turf. Seedhead numbers can be high, as evidenced by the plants on the edge of the plot, but insect damage within the plot resulted in very low seedhead density.



Jasper II Strong Creeping Red Fescue. Insect damage caused turf thinning and reduced seedhead density, although there appeared to be some recovery through the early summer, possibly through rhizome production.



Silhouette Chewings
Fescue. Insect damage
thinned the turf and
reduced seedhead density.





'In the Rough' (Jasper II and Silhouette) under irrigation. Turf vigour and seedhead production was much higher, naturally.



Discussion: These trials offer no information on the selection of Fine Fescues for greens. The information is more relevant to low input situations – situations where Red Thread and insect infestations are likely, and where application of chemicals to control them is unlikely.

An important finding from Trial 1 was that the cultivar Merlot was highly resistant to Red Thread, when every other Strong Creeping Red Fescue cultivar was found to be susceptible. It is highly recommended that this cultivar be included if fine fescue is chosen for fairway and surrounds turf. In addition, the performance of the high-endophyte cultivar Predator at this mowing height was excellent, and its use should also be considered as well.

The main finding from Trial 2 was that the high-endophyte cultivars Predator and Governors resisted insect attack and maintained better density and persistence than the other fine fescues grown in a rough situation. It is highly recommended that these two cultivars be included where fine fescues are chosen for roughs. Predator is best suited to a situation where light seedhead density is preferred, and Governors best suited if heavy seedhead density is preferred. Possibly, proportional blends of these two could be used where a medium seedhead density is preferred.

Phillip Ford
Turf Agronomist
PGGWrightson Turf (Australia)
August, 2013