What is Meadow Fescue?

Introduction
Meadow fescue (Festuca pratensis, Fp) is a close relative of perennial ryegrass (Lolium perenne, Lp). In some classifications, Festuca pratensis is called Meadow ryegrass (Lolium pratensis[1]) reflecting just how closely related Meadow fescue and perennial ryegrass are. Meadow fescue is used as a forage species in many countries and as a species for breeding to produce forage grasses.

There is relatively little known as a pasture species about Meadow fescue in its own right in New Zealand but it holds great potential as a source of genetic material for crossing with the other grasses. Meadow fescue is distinctly different from Tall Fescue (Festuca arundinacea, Fa) a very persistent species that can be quite slow to establish and can become unpalatable to stock. The persistence is due primarily to its very well developed rooting system.

Interspecies crosses using Meadow Fescue
Because of their similarity festucas and loliums cross readily. A hybrid between a festuca and a lolium is termed a festulolium. There are specific terms for specific crosses[2] but generally they are termed Festulolium hybrids (Fh).

Why use Meadow fescue?
There are over 300 species within the *Festuca* genus compared with just 9 *Loliums* (including meadow ryegrass) so being able to cross these species introduces a vast spectrum of potentially useful agronomic traits into forage grasses. Meadow fescue is found across an enormous range of environments and with an equally large range of different agronomic properties and traits[2].

Some Meadow fescue varieties closely resemble and have traits similar to Tall fescue (Festuca arundinacea, Fa) while others are very similar to perennial ryegrass. It is due to interspecies crossing of perennial ryegrass and a highly palatable strain of meadow fescue that Matrix and Revolution AR1™ are both very palatable and very productive grasses.

It is this sort of synergy that is driving the interest in interspecies crossing with Fp. Much of the overseas work is focusing on producing persistent forage grasses under abiotic stress (such as snow or drought) with improved forage quality. In the Cropmark Seeds programme the focus is primarily on introducing useful agronomic traits related to feed quality, feed production, animal performance and persistence under New Zealand conditions.

Useful properties of Meadow fescue
Some festucas contain a version of a "Stay green gene" that delays or even prevents senescence in leaves. This has potential to greatly improve feed quality in some situations. Some Meadow fescue cultivars are reported to tolerate disease, extreme drought, frost, fungus, high pH, limestone, low pH, mine, poor soil, sand, shade, and slope[3].

Although relatively unknown in New Zealand, Meadow fescue is a well proven and very useful component of many pastures and breeding programmes around the world.

References

1. http://plants.usda.gov/cgi_bin/topics.cgi?earl=plant_profile.cgi&symbol=LOPR7
2. http://www.iger.bbsrc.ac.uk/SAGES2/Eng_Article-L-Fcomplex.htm
3. http://www.hort.purdue.edu/newcrop/duke_energy/Festuca_pratensis.html#Germplasm

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