

botanic gardens

Why drought-tolerant grasses might be the future for Irish lawns

With its cold, wet spring and extremely dry summer and hosepipe ban, 2018 has delivered many challenges for gardeners trying to produce healthy lawns

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As many Irish lawns contain large amounts of perennial ryegrass and annual meadow grass, the severe drought resulted in extensive areas of brown grass. This is not surprising as annual meadow grass, with its extremely shallow roots, and perennial ryegrass, with its broad leaf and high water use rate, are both very intolerant of prolonged dry conditions.

So how are we going to enjoy beautiful lawns if these conditions are going to be part of our future? It all comes down to the grasses we grow.

Some grasses are able to stay greener than others by being more water-efficient or more tolerant of dehydration due to morphological features such as rolled leaves, underground rhizomes or deep roots, etc.

Here are some of the best choices for prolonged drought conditions:

Fine fescue

The fine fescue group includes slender and strong creeping red fescue and chewings' fescue. They have been used in lawn mixtures for decades. They are relatively low maintenance grasses, requiring low levels of nutrition and they are also reasonably shade tolerant. Their ability to withstand drought comes from their rolled leaf structure which gives them a low water use rate and strong ability to withstand dehydration.

The two creeping fescues have strong underground rhizomes which help them to find water and recover and repair damage after a prolonged drought. Unfortunately, the fescues have a poor tolerance of "traffic"



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which is why we find them more frequently used in mixes with perennial ryegrass and smooth-stalked meadow grass.

Tall fescue

Although a member of the genus *Festuca*, tall fescue is a very different plant structurally to the fine fescues. Tall fescue is a tufted perennial grass which produces broad flat leaves and exceptionally long roots. Older cultivars had coarse leaves but newer cultivars have denser and finer leaves making them more suitable for most amenity situations.

The species' superior heat and drought tolerance comes from its extensive root system which can extend as deep as one metre in well prepared ground. Tall fescue also has reasonably good shade tolerance. On the downside, the absence of stolons and rhizomes means it does not have great recovery properties when the cover of grass is lost due to heavy traffic.

For this reason, it is best used in mixes with perennial ryegrass and

smooth stalked meadow grass and even the fine fescues. As the leaf width of a new cultivar declines, the mowing height will also decline from the current recommendation of 30mm to 60mm.

Smooth-stalked meadow grass

At first glance, this grass is not usually regarded as being drought-tolerant as, like most of the other meadow grasses, it will go brown during drought periods. However, smooth-stalked meadow grass actually exhibits almost total dormancy during periods of extreme drought and will recover very quickly when normal rainfall is restored.

This quick recovery is due to the presence of strong, vigorous rhizomes. This is a very durable, hard-wearing grass that is widely used in both sports pitches and for hard-wearing utility lawns. It is, however, very slow to establish from seed and for this reason is best used in mixes with some of the other grasses that I mentioned earlier.