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Grasses for Farmers

Our climate is ideal for grass growth, making grazed grass easily the cheapest source of forage for livestock.

In order to capitalise on this great natural resource, extensive research over many decades has improved UK grassland productivity and its on-farm utilisation dramatically. However, of the 50 or so different types of grass found in the UK, only a handful are cultivated on any scale.

Ryegrass, which comes in many different forms, is the most widely sown of all grasses. Ryegrasses have high sugars and respond to nitrogen fertiliser better than any other grass species. These two qualities have made it the most popular grass for silage over the last sixty years (since the Plough Up policy of WW2 and the advent of cheap nitrogen fertiliser). Increased demand resulted in the development of new varieties lead by Sir George Stapledon at the Aberystwyth Plant Breeding Station. Other plant breeders across Europe followed suit and, as a result, we now have a comprehensive range of varieties to select from.

Perennial Ryegrass (Lolium perenne)

This is the most persistent type of ryegrass and by far the most widely sown. It yields around 13t DM per hectare which is lower than Italian ryegrass. However, it is more flexible in use because it can be grazed or cut and made into silage, haylage or hay. There are many varieties to choose from, some are very leafy with little stem and are excellent for grazing, others have much earlier, upright growth which make them well suited to silage making. Most perennial ryegrasses last around five years or more.

Westerwolds Ryegrass (Lolium westerwoldicum)

Westerwolds is the highest yielding ryegrass with similar forage quality to the well known Italian ryegrass. Westerwolds is capable of extremely fast growth, is generous in response to nitrogen fertiliser and is grown largely for silage production.

It is an annual, surviving for one season only. It may be sown in the autumn for production the following spring and summer, or planted in the spring for summer cropping. When sown in the spring it is ready for cutting after only 12 weeks and further growth will follow where soil moisture is plentiful.

Italian Ryegrass (Lolium multiflorum)

This is a short lived grass lasting for two years. It is very high yielding and reliably provides up to 18t DM per hectare on soils that suit it. (All ryegrasses yield less on light soils, especially in low rainfall areas.) It has a very open growth habit with fewer tillers than other grasses and is therefore better suited to cutting than grazing. Modern varieties offer high yields and good disease resistance.

Hybrid Ryegrass (Lolium x boucheanum)

This form of ryegrass is perhaps one of the best grasses available to the intensive farmer. The hybrid is a cross between the Italian and perennial forms of ryegrass and shares characteristics of both. The dominant parent determines how the variety performs in the field. Most hybrid varieties have the Italian gene dominant and the best cultivars provide the same or similar high yields as Italian ryegrass. But, as they also contain some of the persistent genes of the perennial ryegrass parent, they last longer. The genes of the perennial ryegrass parent produce a plant with more tillers and more leaf which gives increased ground cover, making it better for grazing.

Tetraploid ryegrass

Modern plant breeding has produced tetraploid ryegrass varieties. These are available in Italian, hybrid and perennial form. With double the number of chromosomes of the standard diploid varieties their characteristics differ. Tetraploid ryegrasses are highly palatable which leads to higher voluntary intakes, of great value in seed mixtures. However, they also tiller less than diploids which means that they do not cover so much ground, leaving more soil showing. They are also less persistent. For these reasons, tetraploids should be used at low levels in long term grazing leys but can be used at higher levels in silage leys.

Other Key Grasses

Cocksfoot (Dactylis glomerata)

Of all the grasses, cocksfoot has the deepest roots and, when grown on dry or free-draining soil, offers continued growth in dry weather while adding plenty of organic matter to hungry, thin soils. Cocksfoot provides ‘early bite’ in spring and quick recovery after grazing or cutting. It is very good for up to four years provided it is grazed hard as it will then remain leafy. However, cocksfoot is not a grass to choose for long term pasture as it tends to become clumpy, coarse and unpalatable.

Timothy (Phleum pratense)

Possibly the most important long term agricultural grass, timothy is commonly found in pasture throughout the UK. It will grow abundantly on heavy ground and, although it only has a shallow root structure, persists well on lighter land in dry years. It is very persistent and disease free. The forage it produces is acceptable to most stock and it can be made into silage and hay or grazed. Another form of timothy, smaller catstail (Phleum bertolonii), is shorter, less dominant and lower yielding but is a useful component of mixtures for environmental purposes.

Meadow Fescue (Festuca pratensis)

A long duration grass that is often sown with timothy to provide hay or grazing. For longer term leys it is an alternative to perennial ryegrass, especially in upland areas. It will grow on nearly all soils ranging from light, brashy types to stiff clays. It has the same growth habit as perennial ryegrass and, although more persistent and drought tolerant, is slower to establish.

Festulolium

A recent development in plant breeding has produced this natural hybridisation of ryegrass and fescue, combining the stress resistant genes of fescue with the bulky yield of ryegrass, improving drought resistance with high yield.

Common Bent (Agrostis capillaris)

This delicately flowered grass is included in the majority of agri-environmental mixes. As it has a tiny seed it is added to mixes at low levels. It is a creeping grass and, although of little agricultural value, is very common in old grasslands. It is adaptable to most soils and is drought tolerant.

Creeping Red Fescue (Festuca rubra rubra)

This common grass, as its name implies, has creeping roots which enable it to remain green in dry times and give pasture a good bottom. Sometimes this can also be a disadvantage as it stifles some of the more delicate species and should therefore be used with caution. An alternative fescue, such as sheeps, red or slender creeping red will allow the development of finer species. However, creeping red fescue is an inexpensive seed and can be included in simple mixtures, particularly those for low grade amenity use.

Meadow Foxtail (Alopecurus pratensis)

A tufted perennial which is widespread throughout the British Isles. It is commonly found in low lying areas, particularly river meadows. Nutritious and palatable to stock, it is one of the first grasses to flower in the spring. When making hay, it makes a useful contribution to yields.

Red Fescue (Festuca rubra commutata)

Also known as chewings fescue, this is a fine leaved, tufted grass. It is distinguished from creeping red fescue by an absence of creeping rhizomes. It tolerates drought well and is common on well-drained, gravelly, chalky and sandy soils in the south. It forms a dense turf and is one of the main species used with bent to form lawns.

Sheeps Fescue (Festuca ovina)

The finest leaved and least aggressive fescue which allows other delicate species room to establish. It only grows to 15 –25cm, is very hardy and can be found in all areas of the UK. Although it provides only low levels of production, the forage it produces is of reasonable quality. It will grow on most soils and tolerates low fertility situations.

Crested Dogstail (Cynosurus cristatus)

Traditionally a grazing grass, this compact, tufted perennial is found in abundance in sheep pastures. It is not aggressive and grows well late into the season when other grasses are giving up. It grows in most areas, even on clay soils, but is found naturally in dry areas. It has good winter greenness but is inclined to produce wiry stems if not cut or grazed.

Smooth Stalked Meadowgrass (Poa pratensis)

This perennial has creeping rhizomes and is very drought resistant. It is common throughout the UK, particularly on lighter soils. It should not be sown late in the autumn as it is slow to establish. Shallow sowing is also essential as the seed needs light to germinate. Early to grow in the spring, once topped or cut it tends not to re-flower so regrowth is leafy.

Sweet Vernal Grass

(Anthoxanthum odoratum)

An early flowering grass, strongly scented with coumarin, often found in old pastures and meadows and sometimes included in seed mixtures to give scent to hay. It has a high proportion of stem to leaf and so is unpalatable to stock. It is an attractive grass but seed is expensive so is usually included at a low levels in seed mixtures.

Tall Fescue (Festuca arundinacea)

The largest fescue which forms sizable, dense tussocks. It can grow to six feet tall, particularly on damp or wet soils. On light soils it is drought resistant but it is less palatable than meadow fescue and so is less attractive to farmers for forage production.

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