Cotswold Seeds Ltd
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Intensive crops for high quality silage from 1-5 years



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Ultimate performance short and medium term leys which provide the highest yield for silage.

Good silage depends on many factors. These include appropriate fertiliser applications, growth stage when cut and how the crop is wilted and stored. But the most important factor is to select the right crop species and varieties at the start.

Good grass silage comes from a good ley.

Improved Ryegrass

Ryegrasses have high sugars and respond to nitrogen fertiliser better than any other grass species. These two qualities have made ryegrass the most popular grass for silage making for the last sixty years. The backdrop to this was the Plough Up policy during the Second World War when unimproved grassland was replaced with temporary (but productive) ryegrass leys. At the same time cheap nitrogen fertiliser became available. Plant breeders of the day could hardly believe their luck as suddenly there was an increased demand for their skills. Lead by Sir George Stapledon at the Aberystwyth Plant Breeding Station, many new varieties were developed. This change triggered many other plant breeders throughout Europe to do the same and, as a result, we now have a very comprehensive range of varieties to select from.

Types of Ryegrass

There are three ryegrasses in seed form and commonly used. These are summarised as follows:

Italian Ryegrass. 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. It is therefore better suited to cutting than grazing. There are many good quality varieties and modern strains (as used in our mixes) offer higher yields and greater disease resistance. They are only marginally more expensive than older varieties, so should be chosen in preference.

Perennial Ryegrass. This is the most persistent type and by far the most widely sown. It yields around 13t DM per hectare which is lower yielding than Italian ryegrass. However, it is more flexible in use because it can be grazed or cut. It may be made into silage, haylage or hay later in the season.

Hybrid Ryegrass. This form of ryegrass is perhaps one of the best grasses available to the intensive farmer. The hybrid ryegrass 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 are dominant with Italian genes 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. This longer lasting and high yielding silage grass has one further advantage: the genes of the perennial ryegrass parent produces a plant with more tillers and more

leaf which gives increased ground cover, making them better for grazing.

Tetraploid Varieties of 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, they have different characteristics. Tetraploid ryegrasses are highly palatable which leads to higher voluntary intakes and so are of great value in seeds mixtures. However, they tiller less than diploids and this means that they do not cover so much ground, leaving more soil showing. Nor are they as persistent. For these reasons, tetraploids should be used at reduced amounts in long term grazing leys. In silage leys they can be included at high levels.

Maximising milk and meat from forage

Many of our mixes are formulated for the focused and intensive farmer who requires silage and grazing leys to have a direct effect on milk or meat production. The need to maximise milk and meat from efficient forage production is clear so our complex silage leys are designed to combine exceptionally high yields with the highest nutritive value. Emphasis is placed on achieving optimum D-value at the time of utilisation, as well as high soluble carbohydrate content. Grass varieties in these mixtures give ultimate performance and are highly rated for overall disease resistance which will improve both yield of grass and palatability of forage.

Fast Annual Ryegrass

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. It should be cut frequently to encourage leafy growth. When sown in the spring it is ready for cutting after only 12 weeks. A further two cuts can follow a spring sowing on soils that have an adequate supply of moisture and a source of nitrogen.

Westerwolds Varieties

Prior to the introduction of improved strains, such as Lifloria, the image of westerwolds was poor. It was perceived to be of low quality and to lack winter hardiness. However, through conventional plant breeding techniques that situation has changed and westerwolds is now grown on many farms throughout the UK. Cotswold Seeds has been using the westerwolds varieties Lifloria and Mendoza for nearly twenty years and have not experienced problems with winter hardiness.

Early Grass

From an autumn sowing westerwolds ryegrass grows very early in the spring and can provide ‘early bite’ in March. It is therefore a cheap alternative to cereal rye which was formally grown for this purpose.

How to Obtain the Highest Yields

Over a short time period westerwolds and Italian ryegrasses produce more than any other grass species. Annual yields vary depending on soil fertility, but can be as much as 18t DM/ha from an autumn sowing. Spring sowings yield around 25% less. For westerwolds leys (see Quick Bulk mix), the highest yields come from autumn sown crops which receive 100 kgs N per hectare for the first cut with additional N applied for subsequent cuts. Early cuts just prior to heading will give high D-values and good regrowth.

For the Italian ryegrass and legume mixture (Fast and Vast mix) very little nitrogen is required. Fast-growing legumes such as red clover, vetches and crimson clover are able to ‘fix’ up to 250 kg N/ha. To provide enough free nitrogen for a successful crop, legumes need to be included at high proportions in the sward. Legumes don’t fix nitrogen all year round. For this natural chemistry to occur,

the soil needs to be warm and, in the UK, this usually means that nitrogen fixation occurs between April and September. It is acceptable to apply a small quantity of N in the autumn or early spring to enhance initial growth. This should not exceed 25 kg N/ha.

Ley, Soil & Rotation

Short term leys are very beneficial in arable rotations. Westerwolds and Italian ryegrass leys produce a large amount of root in a short time. These roots decay when the ley is destroyed at the end of its term and this improves soil structure by binding together soil particles into aggregates. Growing leys in arable rotations is a solution on the many farms with deteriorating soil structure. High clover leys are also good at improving soil and have the additional benefit of fixing nitrogen. This is helpful at a time of high nitrogen prices. Leys provide agriculture with a sustainable and biologically-based farming future.

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