

Forage Newsletter



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OVERCOMING SALINITY

Festulolium PERUN weight gain increase by 29%

At Penfield Trial Station in Australia a grazing experiment, including Festulolium PERUN and two varieties of Italian ryegrass, showed that PERUN was superior and giving 29% more live weight gain to Angus steers than the poorest of the two Italian varieties (daily weight gain: 1.80 kg/day for PERUN vs. 1.40 kg/day for Italian ryegrass Crusader). The main reason being the deeper root development of PERUN, resulting in a better heat and drought tolerance combined with a better feeding quality than Italian Ryegrass.

Read more about the Australian Feeding Trail trial on www.seeddistributors.com.au, Penfield Weight Gain Trials.



Grass + Maize – a perfect match

Fast growing Italian ryegrass and Westerwold mixtures boost forage intakes and reduce overall feed costs

John Whitby farms 600 acres in Buckinghamshire, just 25 km from Trafalgar Square in London. He has a 200-cow Jersey dairy herd as well as a suckler herd of Sussex cattle, and maize has been grown as the main forage for more than 30 years. With an average rainfall of only 620 mm there is not enough grazing to sustain milk yields in early lactation, so Mr Whitby has found another crop to complement the maize: The Tornado Mixture from DLF's UK subsidiary, Oliver Seeds, consisting of 1/3 Westerwold ryegrass and 2/3 Italian ryegrass, sown as catch crop.

Ready to cut in eight weeks

This ryegrass catch crop was direct drilled into wheat stubble in late August. Due to its rapid establishment and growth, it was ready for cutting eight weeks later. "Conditions were ideal that autumn for getting the crop started," admits Mr Whitby. "In February we gave it a dressing of fertiliser, but didn't get chance to give it a second, as it was ready for cutting again four weeks later. The regrowth was phenomenal and we went on to take six more cuts – baling nearly 19 tonnes DM/ha of high dry matter, high quality rocket fuel".



"The silage analysis showed a content of metabolic energy of 12.7 megajoules per kg dry matter, 77% digestibility of organic matter and 12.1% crude protein. The grass, with its high digestible fibre (NDF) counter-balanced the high starch content of the maize making it a more rumen-friendly ration. Feeding a mixed diet of 70% maize and 30% high quality grass has boosted milk from forage by 25% and we have used less concentrates as a result."

Flexibility

"A catch crop like this offers flexibility," adds Mr Whitby. "The Tornado mixture is less risky and also a useful break crop for the wheat." Independent trials at NIAB show that this mixture can produce an extra £148 worth of silage in just six months, over more traditional silage leys. So it is no wonder it has proved its place on Mr Whitby's farm.



Overcoming salinity

According to the Food and Agriculture Organization (FAO), more than 300 million square kilometre around the world is suffering from salinity to a smaller or larger extent. Salinity occurs mainly in dry areas when evaporation is high or when salt or waste water is used for irrigation. But also on more local spots in other areas, salinity may appear.

Varieties with higher tolerance to salt stress will in saline conditions increase chances of successful establishment, growth and consequently chances to maintain forage yield, persistency and disease tolerance.

There are differences

Extended trials at DLF show remarkable differences in salt tolerance – mainly between species, but also within each of these species, relatively large variations can be found between varieties, and in ryegrass tetraploids are more salt tolerant than diploids.

	Tall fescue – Cocksfoot
	Westerwold ryegrass; tetraploid more salt tolerant than diploid – Hybrid ryegrass – Italian ryegrass, tetraploid – Festulolium – Perennial ryegrass
	Bromegrass – Smooth-stalked meadow-grass – Meadow fescue – Italian ryegrass, diploid
	Timothy – Red clover – White clover

Tolerance to salinity in grass and legume species.
 = most salt tolerant. Greenhouse trials at DLF.



SALT TOLERANT PERENNIAL RYEGRASS

VARIETY	PLOIDY	EARLINESS
GIANT	T	2
SOLOMON	D	4
MASSIMO	D	5
CHARLENE	T	5
COMPLIT	D	6
GLENVEAGH	D	7
MAJESTIC	D	7
ROMARK	D	7
SHIVANE	D	7
ASPECT	T	7
LOGIQUE	T	7
NOVELLO	T	7
EIFFEL	D	8
POLIM	T	8
TWYMAX	T	8

The 15 varieties of Perennial ryegrass with the highest score for salt tolerance. Greenhouse trials at DLF.

Mixtures for saline areas

Testing around 100 varieties of Perennial Ryegrass from the DLF portfolio showed that approx. 15% got the highest score for salt tolerance. These varieties should consequently be selected for saline areas – preferably in combination with some of the species known to have the highest salt tolerance, i.e. Tall fescue and Cocksfoot.

Examples of mixtures:

Top salt tolerance – a mixture with the most salt tolerant cool season species

- 40% Tall fescue
- 25% Cocksfoot
- 20% Hybrid ryegrass 4n
- 15% Perennial ryegrass

Salt secured mixture – a standard mixture with a salt safety belt

- 25% Tall fescue
- 15% Cocksfoot
- 25% Festulolium
- 15% Hybrid ryegrass
- 20% Lolium perenne

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 by DLF-TRIFOLIUM