

## ***The extra cost of Tetraploid Pastures***

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When selecting annual ryegrass for sowing there are some points of difference between varieties that farmers need to be aware of if they are to maximise income from their pasture selections

From the annual ryegrass varieties on the market there are two options available, *Diploid* and *Tetraploid*.

*Diploid* have two sets of chromosomes per cell, and *Tetraploids* have four sets of chromosomes per cell. *Tetraploid* varieties have been artificially created by plant breeders using a "colchicine" treatment

In the table below the main differences between *Diploids* and *Tetraploids* is described

	<i>Diploids</i>	<i>Tetraploids</i>
Seeds per kg	<b>500,000</b>	<b>255,000</b>
Recommended sowing rates	15 to 25 kgs/ha	25 to 35 kgs/ha
Number of seeds per ha sown at 25kgs/ha, based on 70% effective establishment	8,750,000 seeds per ha	4,462,500 seeds per ha (only 51% of the Diploid rate)
Cost	\$60 to \$100 per ha	\$87 to \$122 per ha
Plant characteristics	More tillers per plant, smaller cell size, less water content per cell, more dry matter per kg of feed therefore more energy, similar protein levels to <i>Tetraploids</i>	Lower tiller numbers per plant, larger darker leaves and larger cell size with approx. 20% less dry matter due to higher water content, Increased voluntary intake but less energy and lower dry matter per kg of feed, similar protein levels to <i>Diploids</i> . Easy to over estimate yields
Some varieties options	Dargo, Missile, Progrow, Safeguard, Surrey	New Tetila, Richmond,

To accurately assess the plant population differences between your *Diploid* and *Tetraploid* pastures take plant counts after grazing. This will give a good indication of the true differences between these pasture options.

The most noticeable differences between these will be the lower plant population on the *Tetraploid*, (unless sown to compensate for the increased seed size), and the tiller density which will be considerably less on the *Tetraploids*.

The *Tetraploid* pasture will be preferentially grazed compared to *Diploid* types therefore resulting in a lower pasture residue and potentially slower regrowth.

This may appear desirable, however due to the increased water content and less dry matter per kilogram of the *Tetraploids*, animals may be full but will not have the same level of energy intake as if they had grazed *Diploids*.

To achieve the best results from *Tetraploids* they should be mixed with *Diploid* types. This will achieve a more balanced pasture retaining a good level of dry matter production, an improved balance of quality feed and if used for silage will be more easily cured than a pure *Tetraploid* pasture.

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