

# What is the 'correct' perennial ryegrass sowing rate?

From time to time there is some industry debate as to what is the 'correct' perennial ryegrass seed sowing rate for New Zealand farms. However, there is no single answer to this question.

This sheet summarises the current knowledge on this topic and has been agreed by the Pasture Renewal Leadership Group. This Pasture Renewal Group is a DairyNZ-led industry group that includes researchers, the seed industry, farmers and agricultural contractors, and was formed to develop better tools, resources and advice for farmers.

It has been suggested that low sowing rates may improve perennial ryegrass persistence. DairyNZ is currently testing this theory in plot trials.

## Pro's and con's – standard vs low perennial ryegrass sowing rates

Standard sowing rate (Diploid 18-22 kg/ha*; Tetraploid 26-30kg/ha*)	Lower sowing rate (Diploid 12-16 kg/ha*; Tetraploid 20-24 kg/ha*)
<ul style="list-style-type: none"> <li>• Extra seed can help in adverse conditions (e.g. poor seed bed, poor drilling depth)</li> <li>• Usually higher DM yield over first 1-3 grazings</li> <li>• Lower weed content</li> </ul>	<ul style="list-style-type: none"> <li>• More space for clover establishment</li> <li>• Lower seed cost</li> <li>• May improve pasture persistence (not yet proven)</li> </ul>

\* Sowing rates given are for ryegrass seed only. Clover seed to be added, typically at 3-4 kg/ha.

## Good conditions a must for low sowing rate

If low ryegrass sowing rates are to be successful, you must have excellent conditions for the new pasture to establish. This includes producing a good seedbed (fine, firm, consolidated). As well as conserving moisture, this allows seed to be sown at the right depth.

Control flatweeds with herbicide(s) in the first 6 weeks after sowing, regardless of ryegrass sowing rate.



*Poor, uneven establishment.*

*A higher sowing rate can be an advantage in adverse conditions – here establishment is good where a higher, double, sowing rate was used (where drill has overlapped or along the paddock edge which was drilled twice).*



### Standard sowing rate increases yield

Using a higher ryegrass sowing rates usually gives a temporary (not long term) increase in DM yield over the first 1-3 grazings. This varies, but might be an extra 500 kg DM/ha, with a value of \$150-200/ha (using 30-40c/kg DM for this high quality late autumn/winter feed). Cost of an extra 6 kg/ha of seed may be \$60-90/ha.

### Lower sowing rate increases clover

Lower ryegrass sowing rates generally gives higher clover content in the pasture, which in turn improves the feed quality and the animal performance.

### Lower sowing rate increases weeds

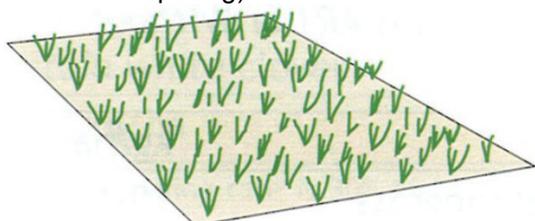
Lower ryegrass sowing rates also generally means more weeds in pasture. If weeds are a problem (particularly grass weeds such as browntop, poa etc.) we recommend using standard sowing rates and taking into account sowing method (see below).

### Sowing method

Sowing method affects sowing rate, as the diagram below shows. Where weeds are a problem we recommend method ① below.

#### ① Spreading seed more evenly

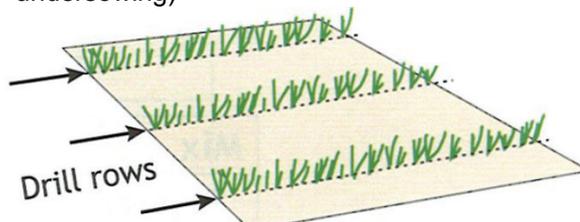
(e.g. roller-drill, broadcast, cross-drill, drills with narrow row spacing)



- Better ground cover (better weed control)
- More space between plants so better clover establishment
- These methods suit higher sowing rates

#### ② Packing seed in wide rows

(e.g. single pass with drill with 15cm rows, undersowing)



- Seed packed more tightly in rows
- Space between rows for weeds (or clover if it's sown separately, e.g. small seed box)
- Suits lower sowing rates

### Summary – standard vs low perennial ryegrass sowing rates

Use standard ryegrass sowing rate where: ( Diploid 18-22 kg/ha*; Tetraploid 26-30kg/ha*)	Use lower sowing rate where: (Diploid 12-16 kg/ha*; Tetraploid 20-24 kg/ha*)
<ul style="list-style-type: none"><li>• Fastest establishment wanted.</li><li>• Spreading seed more evenly (e.g. roller drill, broadcasting seed) for weed control.</li><li>• Grass weed control wanted.</li></ul>	<ul style="list-style-type: none"><li>• Have good seedbed.</li><li>• Accurate drill or sowing contractor.</li><li>• Single pass operation using 15cm rows.</li></ul>

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