TOP THREE DAIRY PASTURE TIPS FOR SPRING – FOR EVERY BUDGET

REVISED USING A $3.85/kgMS PAYOUT.

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BUDGETING FOR PASTURE PROFITABILITY & RESILIENCE

Reining in operating expenses while spending to remain profitable under the current payout may seem like a contradiction in terms. But with the right budget, it can be done.

The answer lies in tackling the low payout on three fronts to reduce the cost of production (c/kgMS):

- **Reducing or delaying spending.**
- **Produce more for the same cost** (improving efficiency).
- **Investing in increased MS production.**

Pasture has never been more important in creating strong, resilient farm systems than it is now. Inside you will find three ways to get the very best out of your pasture this year, two of which cost nothing more than time and all of which can make you more efficient and profitable.


“Pasture is cheaper than any feed that comes on a truck.”

TOP THREE PASTURE TIPS FOR SPRING 2015

PASTURE TIP 1

Use the DairyNZ spring rotation planner

The planner will help you keep pasture supply and demand on track at the start of the season, to maximise cow intakes and the amount of DM grown per ha.

PASTURE TIP 2

Focus on residuals (when weather and soil conditions permit)

Correct residuals will optimise the amount of pasture eaten per ha, one of the most important drivers of profitable dairying.

PASTURE TIP 3

Implement the right renewal programme

Strategic pasture renewal will improve the growth, ME and palatability of poor paddocks, for better short and medium term profitability.

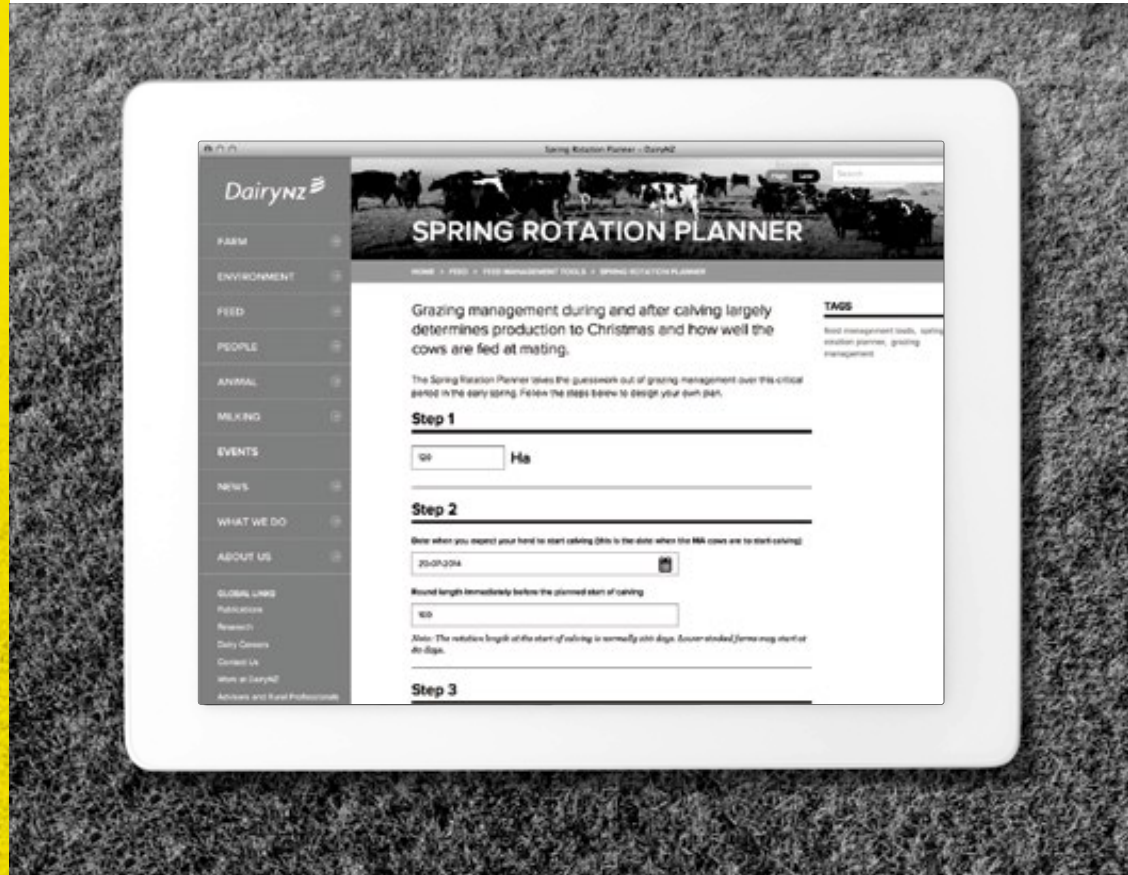

“The planner makes it easy to balance cow demand and pasture cover, at a complex and busy time of the season.”

PASTURE TIP 1 – USE THE SPRING ROTATION PLANNER

The spring rotation planner is a free tool which has been purposely designed to help you make good feed allocation decisions at the busiest time of the year.

Pasture management often gets sidelined at the start of lactation, because so many other jobs demand attention. Yet the way you manage the first grazing round after calving has a critical effect on your ability to grow the right amount and quality of feed during the peak of the season.

Getting it wrong can increase your c/kgMS costs and/or decrease MS production, so it's well worth doing as much as you can to get it right.



The costs of getting it wrong – 2 common scenarios

Arrive end of first grazing round too early	Arrive end of first grazing round too late
► Run short of feed	► Build up feed in front of you
► Post grazing covers below target	► Covers become too high
► Pasture regrowth rate drops below expectation, creating a feed deficit in the second round	► Therefore pasture quality (ME) drops
► Either extra supplement ($) must be fed through the second round to compensate for pasture deficit, or cow performance drops, with lower MS ($) or BCS	► MS production ($) drops
	► Slower pasture regrowth can lead to feed deficit in second round
	► Either extra supplement ($) must be fed through the second round to compensate for pasture deficit, or cow performance drops, with lower MS ($) or BCS

Monitoring the plan

1. Having a spring rotation plan doesn't lead to a perfect result - but it lets you know when things aren't going the way they should so you can act quickly.

2. For example in a cold spring, when growth rates are lower than expected, feeding out supplement early will help maintain cover and improve growth rates, thus reducing the total amount of supplement fed (reducing costs). Extra N fertiliser and gibberellic acid are other possible options.

3. Alternatively, in mild conditions with pasture cover rising rapidly and ME falling, you might be able to feed less supplement than planned. Increasing cow allowance; pre-mowing to maintain residuals or making baleage are other options as are reducing N fertiliser and gibberellic acid.

For your copy of the spring rotation planner:

http://www.dairynz.co.nz/feed/feed-management-tools/spring-rotation-planner/

"An important person on the farm in spring is whoever moves the cows - they set both the cow feeding level, and pasture quality for the next grazing."

PASTURE TIP 2 – FOCUS ON RESIDUALS (when weather and soil conditions permit)

A key driver of profit in every dairy industry analysis is the amount of pasture eaten/ha.

The trick to optimising pasture intake is leaving a consistent post-grazing residual, day in, day out. This means you achieve high cow intakes and high pasture utilisation from the current grazing, and set up pasture quality for the next grazing so the cycle will repeat itself in the next round.

Follow these 4 steps for success:

1. Graze pasture before it gets too long (e.g. ≤3 leaves/tiller or ≤3200kgDM/ha)
2. Give cows the right area (m^2)
3. Take them out when they hit the desired residual (e.g. 1500 or 1600 kgDM/ha)
4. Repeat steps 1 to 3 as often as possible!

Good post grazing with no dead matter in the base (in good weather). E.g. 1500-1600 kg DM/ha

Graze at the right time with no dead matter in the base.

Why are residuals so important?

Residual too long and uneven	Residual too short
► Lower utilisation (% pasture eaten) means potentially less MS ($)	► Cow intakes reduced, as they are eating into the lower ME base of the pasture
► Lower pasture ME at the next grazing	► That means reduced MS production ($)
► So at next grazing either reduced MS production ($); or extra costs of mowing post-grazing or pre-next grazing to reset residual	► Slower regrowth of that paddock (less pasture grown)

Turning theory into practice on your farm

→ While the theory of residuals has four simple rules, in practice it is a skill which involves responding to the variable growth and quality of your pastures.

→ One sign of a good residual is where only <20% of the pasture is urine or dung patches.

→ In wet weather it is more important to spread stock out and protect the soil. Focus back on residuals when conditions dry.

→ In times of feed shortage (lower farm cover) it can be necessary to accept below ideal residuals, to ration stock (decrease allowance) to regain pasture cover across the farm.

→ In times of surplus growth, shortening the grazing round by making silage/baleage, or mowing pre-post grazing are useful tools to maintain a consistent residual.

→ A Rising Plate Meter is a useful tool for you and your team, to set and then assess your desired residual. Everyone can use it to help decide whether cows need to go back into a paddock, or move on.


“This spring don’t just ask yourself
‘can I afford to renew pasture?’, it’s equally
important to ask ‘can I afford not to?’ ”

PASTURE TIP 3 – IMPLEMENT THE RIGHT RENEWAL PROGRAMME

Pasture renewal is an essential tool to maintain the yield and ME of pastures on your farm.

Without it farm productivity and profitability runs down, affecting both your bottom line and the overall resilience of your business.

In a tight spring, when you're looking to minimise costs, it's more important than ever to use a robust analysis to determine the correct pasture renewal programme for your farm, so you get the right return from your investment.

4 steps are critical in this process:

1. Understand the economic value of renewal
2. Analyse your farm
3. Set a date
4. Choose the right seed mix

1. Understand the economic value of renewal

Replacing a poor pasture means filling bare soil and replacing weeds with desirable plants, and provides three benefits: higher DM yield, higher ME and greater palatability.

If we conservatively assume a new pasture lasts 5 years (typically longer for a perennial ryegrass), has 0.6 MJ ME higher feed quality, and is 5% better utilised, an estimate of the return from spending $1000/ha in renewing a pasture might look like this.

Typical returns from pasture renewal based on $3.85/kgMS

Extra grown (t DM/ha/year)	Do nothing	1 t	3 t	5 t
How many years expect increased growth	0	5 years (+5 t DM/ha)	5 years (+15 t DM/ha)	5 years (+25 t DM/ha)
Profit extra kg DM[1]	0	$1,330/ha	$3,900/ha	$6,650/ha
Value extra ME[2]	0	$910/ha	$1,050/ha	$1,190/ha
Value extra 5% eaten[3]	0	$1,080/ha	$1,240/ha	$1,410/ha
Cost of renewal[4]	0	**-$1,000/ha**	**-$1,000/ha**	**-$1,000/ha**
Gross return after cost of renewal	**0**	$2,320/ha	$5,280/ha	$8,250/ha

[1] Assumes pasture 11.4 ME, 80% utilisation, conversion to milk of 132 MJ/kgMS.
[2] Assuming 0.6 MJ ME/kgDM improvement.
[3] Assuming 5% extra utilisation.
[4] Cost of renewal includes pre-cultivation herbicide ($80), cultivation ($150), drilling ($100), seed ($300), broadleaf herbicide ($95), and lost pasture yield ($255).

A profitable result comes not only from increased DM growth, but also higher ME and higher pasture utilisation.

If you can grow an extra 3 t DM/ha/year of new pasture for 5 years, this is a very attractive investment (compared to alternatives) with an estimated return of 528% on a $1,000 cost.

(See page 25 for details)

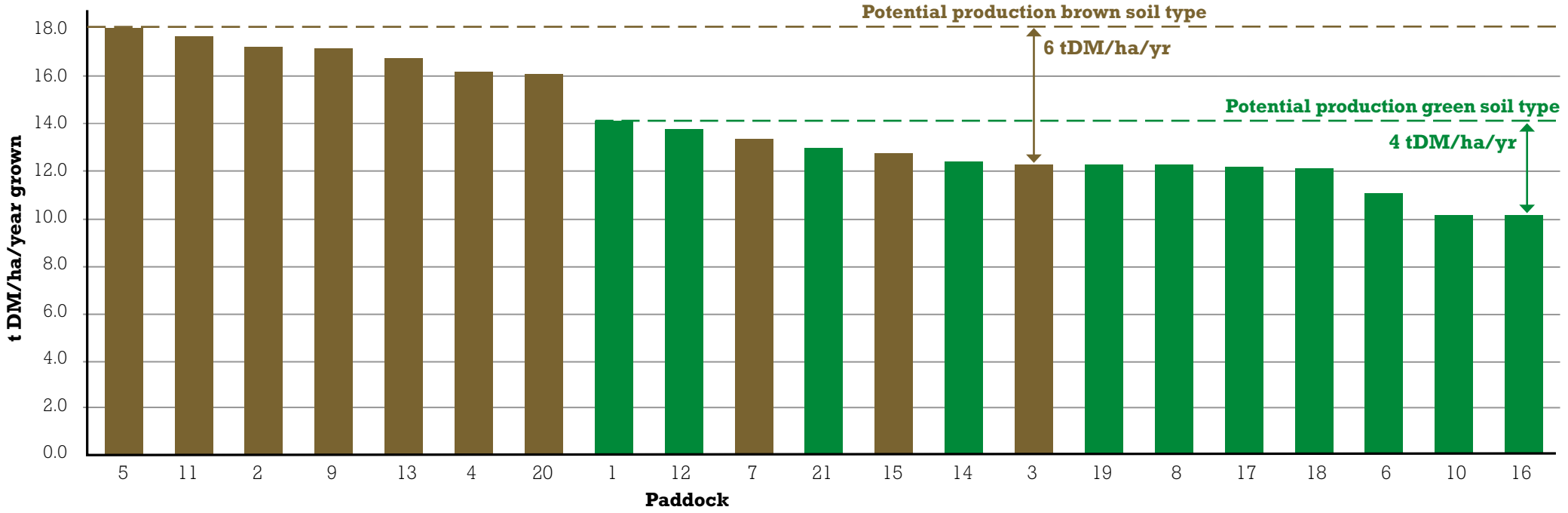
In the current tight environment probably the best way to utilise pasture renewal is to reduce costs of imported and supplementary feeds. This enables you to produce a similar amount of milk using more home-grown pasture, thus reducing your c/kgMS costs of production.

2. Analyse your farm

Pasture performance typically varies widely across any farm, and the best way determine the right rate of pasture renewal for your system is to analyse the growth of all your paddocks. To illustrate this we have used a fictional farm, with two soil types and 21 paddocks, with pasture growth for 2014/15 season for each paddock graphed on the following page.

- The potential benefit for renewal is the difference between current growth and the potential growth for a particular paddock (shown by brown and green arrows).
- Often farms have areas with different productive potential, which needs taken into account as in this example with two soil types, the brown soil with the potential to produce 18 t DM/ha (paddock 5), versus the green soil at 14 t DM/ha (paddock 1).
- The lowest performing paddocks (e.g. paddock 16) don't always have the greatest potential for improvement - in this example paddock 3 has more.
- Which paddocks to target for renewal will also depend on the cost and ease of renewal, which can vary widely depending on the reason(s) for underperformance. These problems must be corrected if pasture renewal is to succeed. The objective is targeting the 'low hanging fruit', i.e. those paddocks with high performance gains at lowest cost.

Paddock Performance



How to produce this graph of paddock performance

This can be done in a number of ways:

- Weekly farm walk data – data from assessments of pasture cover can be collated over a season (or any period desired). These are done automatically by functions in software such as Pasture Coach or Land & Feed – look for these in the software.

- Paddock records – sometimes a simple collection of the number times paddocks have been grazed per season can give a quick indication of paddock growth.

- Fast growing paddocks may be grazed 12-14 times a year, for example, while poor pastures may only be grazed 7-8 times a year. A single grazing can be estimated at 1 t - 1.5 t DM/ha eaten. Add in any silage, baleage or other supplement made in a paddock to that paddock's growth.

- Grazing records – analysis of good grazing records with cow numbers can give a clear indication of paddock ranking. Simply put, fast growing paddocks feed more cows.

- A 'cow grazing day' might be assumed as 18kgDM eaten, and totalled across the season. Any silage, baleage or hay made from the paddock needs to recorded, and this DM added to grazing days, to provide an estimate of total paddock production.

3. Set a date

Experience has shown the best way to implement a pasture renewal programme is to choose a date or dates to implement a pasture that suit your farm system and stick to this schedule - as weather allows.

The traditional method of ''waiting for a pasture surplus to occur'' is problematic. In modern highly stocked dairy farms surpluses are hard to predict and often transient. As long as benefits are well calculated (see step 2) back yourself to go ahead and make the programme work using the dates you have picked.

Best economic benefits come from renewing underperforming pasture early in the season - simply because early sown pastures spend less time as 'poor' producers and more time as 'good' producers.

An example of this is from Willsden Farm, owned by the Camden Group at Te Pirita (presented at field day 21 October 2014) which showed *Tabu* Italian ryegrass spray/drilled a month earlier in spring to grow 0.8 t DM/ha more, with an extra value $160/ha (assuming a $3.85/kgMS payout).

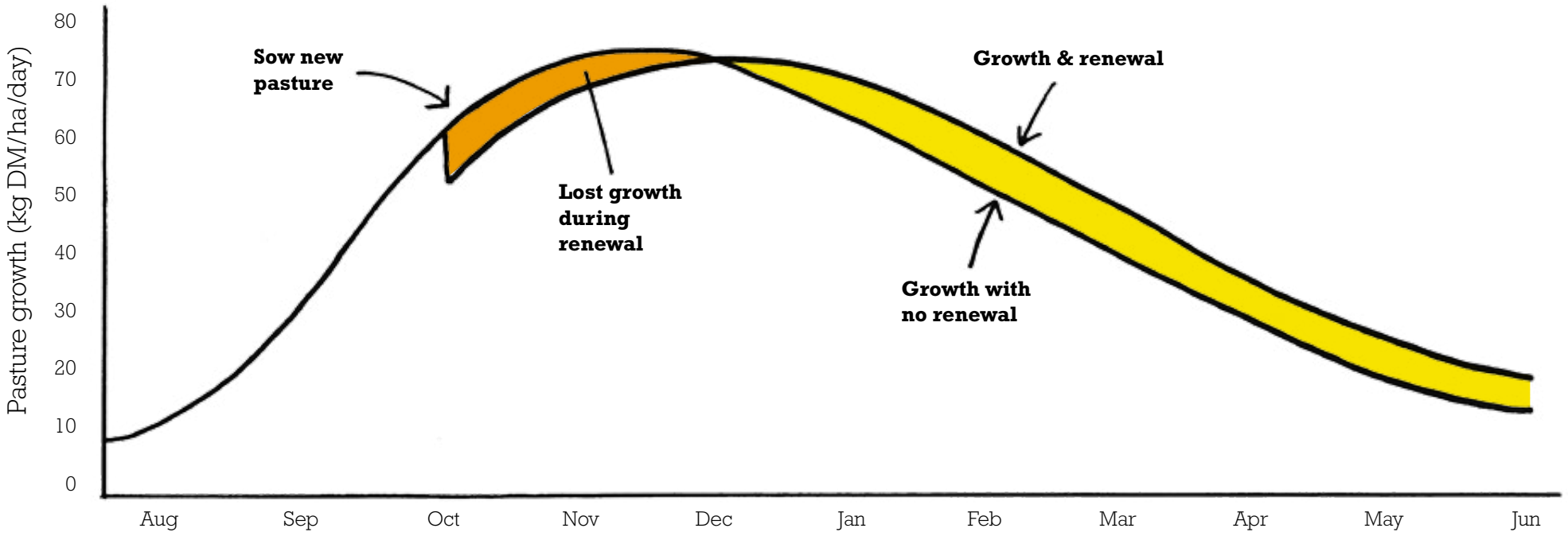
Camden Dairy – Cost/benefit of spray-drilling *Tabu* on two dates on Willsden Farm

When *Tabu* sown	Extra grown over old pasture	Estimated extra MS over old pasture[1]	Value extra MS @$3.85/kgMS	Cost spray/drill Tabu[2]	Gross benefit
Sowing end September	+2.9 t DM/ha	+275 kgMS/ha	$1,060/ha	**-$550/ha**	+$510/ha extra
Sowing late October	+2.1 t DM/ha	+ 235 kgMS/ha	$900/ha	**-$550/ha**	+$350/ha extra

[1] New pasture estimated at 1 MJ higher ME & 10% better utilised than old pasture in this farm operation.
[2] $550/ha was actual farm costs to spray Roundup & Lorsban, direct-drill, seed, slug bait, Tropotox herbicide application & heavy rolling of new pasture.

On this farm spray-drilling *Tabu* is used to deliver fast feed, and address grass weed issues, as covered in the following (step 4) section on choosing the right seed mix.

Farm growth: Keeping old pasture versus renewal



Spring renewal has significant benefits (over autumn) as extra DM yield is captured within the same season.

4. Choose the right seed mix

Successful, profitable renewal depends on matching pasture species to the unique requirements of your farm as closely as possible. Here are three contrasting options:

	Option 1: Cultivate & roller drill high performance perennial ryegrass mix	**Option 2: Spray-drill 12 month Italian ryegrass pasture**	**Option 3: Spray-drill 2-3 year hybrid ryegrass**
Seed mix example	*Trojan* ryegrass 10 kg/ha *Bealey* ryegrass 15 kg/ha *Kotare* clover 1.5 kg/ha *Weka* clover 1.5 kg/ha Total 28 kg/ha	*Tabu* ryegrass 20 kg/ha Total 20 kg/ha	*Shogun* ryegrass 30 kg/ha *Kotare* clover 1.5 kg/ha *Weka* clover 1.5 kg/ha Total 33 kg/ha
Estimated cost	$1,000/ha	$600/ha	$800/ha
Estimated return on investment (at $3.85/kgMS)	528% Perennial ryegrasses always provide the best returns due to the reduced resowing costs. 528% assumes an extra 3 t DM/ha is grown for 5 years on page 25 in Step 1.	100% The payback is faster, but as this is only a 12 month crop, lower overall. This fits ideally where quick feed is needed or where there are grass weed issues.	250% An intermediate option in both cost and persistence. Can fit well into a renewal programme where 2-3 year pasture required.
Estimated breakeven	12 months This depends on aspects covered in Step 1, but typically payback is achieved in year of sowing, profit in following years.	6 months The very fast turnaround time and lower cost means much faster payback, typically well within year of sowing.	9 months The fast turnaround time and medium cost means much faster payback, typically within year of sowing.
System fit	Perennial ryegrass remains the most profitable part in our dairy systems, as they can typically last 8-10 years (depending on situation & management). Where grass weeds (e.g. browntop) are an issue use a double-spray programme using Option 2 this spring, then Option 1 spring 2016.	This is a lower-cost option, ideal for early sowings to generate quick feed, because it's back into grazing 2-3 weeks faster than Option 1. Ideal as a 12 month option where you have grass weeds (e.g. browntop) because it gives a chance to double spray prior to spring sowing perennial ryegrass.	Fits between Options 1 and 2. Generates quick feed similar to Option 2, but is a 2-3 year pasture with spray-drilling.

Notes:

Agriseeds Field Team

Northland/Waikato

Richard Doney (Area Manager)
☎ 021 948 154
Email: rjd@agriseeds.co.nz

Will Henson (Agronomist)
☎ 021 222 0432
Email: whenson@agriseeds.co.nz

King Country/Bay of Plenty

Paul Hames (Area Manager)
☎ 021 908 177
Email: phames@agriseeds.co.nz

Jen Corkran (Agronomist)
☎ 021 308 167
Email: jcorkran@agriseeds.co.nz

East Coast North Island

Paul Sharp (Area Manager)
☎ 021 540 673
Email: psharp@agriseeds.co.nz

Taranaki/Manawatu

Bruce Paterson (Area Manager)
☎ 021 495 594
Email: bpaterson@agriseeds.co.nz

Laura Oughton (Agronomist)
☎ 021 637 447
Email: loughton@agriseeds.co.nz

Upper South Island

Craig Weir (Area Manager)
☎ 021 912 280
Email: cweir@agriseeds.co.nz

Matthew Smith (Agronomist)
☎ 021 772 719
Email: msmith@agriseeds.co.nz

Central South Island

Richard Goldie (Area Manager)
☎ 021 313 042
Email: rgoldie@agriseeds.co.nz

Alan Harvey (Agronomist)
☎ 021 256 9951
Email: aharvey@agriseeds.co.nz

Lower South Island

Riley Cooper (Area Manager)
☎ 021 283 1218
Email: rcooper@agriseeds.co.nz

Janet Montgomery (Agronomist)
☎ 021 775 180
Email: jmontgomery@agriseeds.co.nz

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www.agriseeds.co.nz or call 0800 449 955.