



# Pasture Renovation guide

EDITION 4.0

Grow with  
Confidence



 **BARENBRUG**



## Pasture renovation guide

No matter what type of stock you are running, you need pastures that will deliver. With the right pasture for your situation, you can meet the needs of your livestock in a profitable and sustainable way. This will enable you to keep your options open and concentrate on making every stock unit count and maximise your profits. Whether you are growing winter lambs, dairy cows, prime beef or perhaps all three, with the right pasture for your enterprise, you can grow with confidence using the tools in this guide.







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# Considerations and some important principles

## Reasons for pasture renovation

- Obvious or measured poor composition
- Grazing records/pasture measurements that show under performance
- Introduce improved cultivars
- Part of an on-going farm improvement plan
- Maximise income potential/achieve particular production targets.

## Why did previous pasture not do well enough?

- Over or under-grazing?
- Decline in fertility?
- Species or types used?
- Weeds/pests?
- Environmental extremes?
- Combination of a number of the above is commonly the case.

## Effect of grazing mis-management

- Over-grazing duration too long/rest-phase too short:
  - Loss of valuable species
  - Bare ground: cockchafers, erosion, annual weeds e.g. *vulpia* (silvergrass), *barley grass*, *capeweed* etc.
- Lax/under-grazing:
  - Selective grazing of palatable species
  - Crowding out of prostrate species
  - Proliferation of weedy biennials/perennials, e.g. *fog grass*, *bromes*, *sweet vernal*, *brown-top* etc.

## Soil test - fertility targets

A soil test is essential to achieve production expectations and may often save money on unnecessary fertiliser. These figures are a general guide only. Consult an experienced advisor to work through specific circumstances.

<b>pH (CaCl<sub>2</sub>)</b>	4.5 – 5.4 is usually adequate for grass/clover (approx 5.4 – 5.9 pH in water) 5.6 + for lucerne (6.0 in water)	<b>Mg</b>	Don't over-look, especially if applying solid rates of K
<b>P (Olsen)</b>	Target range 15 – 20ppm, ideally 18+, (25 – 30 for dairy/intensive production)	<b>Cu</b>	2.5 – 20ppm. Aids flowering and seed development
<b>K</b>	130 – 150ppm for lighter soils 150 – 220 for medium clay/silts/loams 200 – 250ppm for clayey types	<b>Zn</b>	5 – 15ppm
<b>S</b>	12 – 20 ppm about right	<b>Mo</b>	Needed for legumes to function: 50 – 60 g/ha of Mo every 3 – 5 years. Apply in conjunction with Cu
		<b>B</b>	1 – 5 ppm. Needed for legumes
		<b>Co</b>	Sometimes needed in small amounts
		<b>Se</b>	May be needed (animal performance)









### Setting up a paddock for success

- Soil test and address nutrients as is feasible
- Allow 6 – 18 months preparation phase
- Weed control:
  - Grass weeds: Topping, break crops, fallow
  - Broad-leaved weeds: As above, but many options in pasture
  - Onion weed/pin rush: Break crop with Group B herbicide
  - Break crops: Cash crop/fodder crop opportunities.

<b>High chance of success</b>  <b>Less chance of success</b>	Spray, Cultivate, Fallow, Drill <sup>1</sup>	<b>Higher cost</b>  <b>Lower cost</b>
	Spray, Cultivate, Drill <sup>1</sup>	
	Spray, Drill <sup>2</sup>	
	Drill into existing cover	

1. Broadcasting seed may also be effective

2. Spray, Drill (no - till) may be very effective in low-weed burden situations

*More preparation offers higher success rates*

### Give your clovers a fighting chance

If a good legume content is desired, keep the sowing rate of grass relatively modest and increase clover percentage in a mix, or adopt other tactics such as cross-sowing. Early grazing management should allow for a quick first grazing in order to open up the sward, let the clovers have room and sunlight.

### Post-sowing weed control

Control of emerging weeds is usually essential post-sowing. Timely sowing plus good seed placement will offer quick, even emergence that will assist in good herbicide timing. Seek good, experienced advice for suitable options, timings and overall approach.

### Pasture maintenance and continued performance

- New pastures are likely to offer more grazing than older ones: Treat them carefully and apply extra fertiliser to maintain performance if more grazing than usual has taken place
- Measure performance/pasture growth: Grazing records, pasture measurement
- Soil test at regular intervals (say every 3 – 4 years)
- Fertiliser budget: Apply maintenance PKS and traces if needed
- Pests: Monitor and respond
- Broad leaved weeds: Fairly straightforward (mostly), but do before subs start to set flowers
- Weedy grasses: Winter cleaning and/or pasture topping
- Develop a calendar of pasture monitoring and probable maintenance requirements for your particular circumstances and engage an experienced advisor to assist with technical issues and tactical options.



# Autumn strategies for pasture renovation

Full pasture renovation (<30% desirable species)		Process and timing	Early autumn	Late autumn
Overriding factor leading to poor performance	Weeds	Control weeds in a forage cereal crop. Reduce seed burden and/or crop out plant numbers	Systemic knock-down herbicide. Short fallow	2nd knock-down. Sow forage cereal. Consider using a suitable pre-em herbicide
			450–600 mm	
	Broad-leaved weeds	Use definitive herbicide program to have a number of applications on hard-to-kill weeds such as some thistles, docks, wire-weed and other biennial/perennial weeds	<b>Express</b> Forage oats	40 – 70 kg/ha
	Annual grass weeds	Reduce weed-seed burden. Use of pasture topping, short fallows, pre-em herbicides, crop-topping, early silage harvest. If pH and fertility OK, then consider going straight into lucerne	<b>Crackerjack 2</b> Forage triticale	40 – 70 kg/ha
	Staggers causing grasses, biennial or perennial grass weeds	Reduce plant numbers under a 2 crop strategy. Use systemic knock-downs, and in-crop grass weed control options. If pH and fertility OK, then consider going straight into lucerne	<b>Dictator 2</b> Forage barley	40 – 70 kg/ha
	Pasture pests	Remove old ryegrass from system under a 2 crop strategy	Break life-cycle through cultivation	Prepare good seed-bed and sow pasture
			450–600 mm	
	Cockchafers	Use tall fescue, phalaris or cocksfoot based pastures	<b>Meatmaster GT</b> <b>Renovator 500+</b>	12 – 18 kg/ha 12 – 18 kg/ha
	Argentine stem-weevil	Use NEA2, 4 or AR1 endophyte ryegrasses	<b>Kidman</b> or <b>Rohan</b> <b>Renovator Grazier</b>	10 – 15 kg/ha 12 – 18 kg/ha
	Black-beetle/Root aphid	Use NEA2, 4 endophyte ryegrasses or a hardy perennial blend	<b>Rohan</b> <b>Renovator 500+</b>	10 – 15 kg/ha 12 – 18 kg/ha
Soil conditions		Hostile/troublesome sites with little prospect of ameliorating state of soil conditions	Highly acidic: pH (CaCl <sub>2</sub> ) < 4.5	
		Key grass variety/species	<b>Advanced AT (wet sites), Cocksfoot (dry)</b>	
		Useful pasture legume options	<b>Vista, Monti, Campeda, Losa</b>	
		Mix options	<b>Meatmaster AT</b>	12 – 18 kg/ha



Winter	Early spring	Late spring	Summer	Autumn (next year)
Graze forage cereal. In-crop weed-control	→ Fertiliser N,K,S to maximise production	→ Silage crop or cereal (grain) crop. Possible crop-top herbicide	→ Summer forage crop (with pre-em and/or in-crop herbicide options) or summer fallow	→ Finish grazing forage. Knock-down herbicide. Sow new pasture
600 – 750 mm		750 mm+/Irrig		
<b>Express</b> Forage oats	60 – 80 kg/ha	<b>Express</b> Forage oats	80 – 120 kg/ha	FEB - MAY (general purpose, early sowing)
<b>Crackerjack 2</b> Forage triticale	60 – 80 kg/ha	<b>Crackerjack 2</b> Forage triticale	80 – 120 kg/ha	MAR - JUN (mid-season sowing, wetter sites, lower pH)
<b>Dictator 2</b> Forage barley	60 – 80 kg/ha	<b>Dictator 2</b> Forage barley	80 – 120 kg/ha	MAY - JUL OR LATER (later sowing, good pH, well drained)
Manage weeds and pests	→ Start grazing management	→ Grazing management. Avoid silage or hay in 1st year	→ Rotationally graze	→ Start seasonal maintenance program
600 – 750 mm		750 mm+/Irrig		
<b>Renovator GT</b>	15 – 20 kg/ha	<b>Renovator GT</b>	18 – 25 kg/ha	(light - medium soils)
<b>Renovator 500+</b>	15 – 20 kg/ha	<b>Renovator 500+</b>	18 – 25 kg/ha	(heavier soils)
<b>Rohan, Maxsyn</b> or <b>Impact 2</b>	12 – 18 kg/ha	<b>Impact 2, Bealey, Viscount</b> or <b>Maxsyn</b>	25 – 30 kg/ha	
<b>Renovator 700+</b>	18 – 25 kg/ha	<b>Renovator HR, 850i</b>	25 – 30 kg/ha	
<b>Rohan, Maxsyn</b> or <b>Impact 2</b>	20 – 25 kg/ha	<b>Impact 2, Bealey, Viscount</b> or <b>Maxsyn</b>	25 – 30 kg/ha	
<b>Renovator 700+</b>	18 – 25 kg/ha	<b>Renovator HR</b>	25 – 30 kg/ha	
Waterlogging frequent		→ Rising level of salinity, still < 3 – 4 dS/m		
<b>Ryegrass, Fescue, Phalaris</b>		<b>Ryegrass, Fescue, Phalaris</b>		
<b>Vista, Storm, Strawberry, Monti, Gosse</b>		<b>Vista, Strawberry, Scimitar, Sultan-SU</b>		
<b>Renovator 500+</b>	12 – 25 kg/ha	<b>Renovator 500+</b>	12 – 25 kg/ha	



## The how to of autumn pasture renovation



### Situation

What condition is your pasture in and why?



### Plan to

What needs to be done depending on the condition of your pasture





Winter	Early spring	Late spring	Summer	Autumn (next year)
Start grazing, manage weeds and pests	→ Grazing	→ Silage or hay crop	→ Grazing as applicable or summer forage crop	→ Finish grazing forage. Knock-down herbicide. Sow new pasture
600 – 750mm		750mm+/Irrig		
<b>Vortex</b> or <b>Fuze</b>	10 – 15 kg/ha	<b>Fuze</b> or <b>Hogan</b>	15 – 25 kg/ha	
<b>Renovator SR</b>	15 – 25 kg/ha	<b>Renovator SR</b>	20 – 30 kg/ha	
Start grazing, manage weeds and pests	→ Grazing	→ Silage or hay crop	→ Rotationally graze, do not overgraze good pastures	→ Evaluate performance and pasture composition and respond accordingly
600 – 750mm		750mm+/Irrig		
<b>Tempo</b> or <b>Shogun</b>	10 – 15 kg/ha	<b>Arise</b> or <b>Shogun</b>	15 – 25 kg/ha	
<b>Tempo + Shogun</b>	12 – 20 kg/ha	<b>Arise + Shogun</b>	15 – 25 kg/ha	
Start grazing, manage weeds and pests	→ Grazing	→ Silage / hay making, pasture topping. Stop weed-seed set with herbicides or good grazing management	→ Rotationally graze, do not overgraze good pastures	→ Start seasonal maintenance program
600 – 750mm		750mm+/Irrig		
<b>Kidman</b> , <b>Impact 2</b> , <b>Maxsyn</b>	10 – 15 kg/ha	<b>Shogun</b> , <b>Bealey</b> , <b>Viscount</b>	15 – 25 kg/ha	
<b>Renovator 700</b>	12 – 20 kg/ha	<b>Renovator Elite</b> , <b>HR</b>	15 – 25 kg/ha	
Winter herbicides for annual grasses and/or broad-leaved weeds	→ Fertiliser N,K,S to maximise production	→ Silage / hay making, pasture topping. Stop weed-seed set with herbicides or good grazing management	→ Rotationally graze, do not overgraze good pastures	→ Continue seasonal maintenance program



## Process and Seasonal Timing

How to renovate and manage your pastures throughout the season



## Pasture Seed

What species and varieties to use and sowing rates based on your annual rainfall

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## Options

# Pasture and forage ready reckoner

## Temperate grasses and pasture legumes

	Plan for	Barenbrug's proprietary variety		Use pattern	Typical kg/ha	Similar fit to:
<b>Perennial ryegrass</b> 5 ñ 8 years+	Early (-14)	<b>Kidman</b>	dip	NEA2, persistence, dry areas, unique low AMH	15 – 25	<b>Fitzroy, Kingsgate, Avalon, Vic-types</b>
	Mid (+5)	<b>Governor</b> <small>NEW</small>	dip	AR1, utility perennial, suits most systems	15 – 25	<b>Bronsyn, Excess, Samson, Nui, Arrow</b>
	Mid-mid late (+8)	<b>Maxsyn</b> <small>NEW</small>	dip	NEA4, high performance, utility perennial	15 – 25	<b>Alto, Bronsyn, Excess</b>
	Late (+16)	<b>Impact 2</b>	dip	NEA2, performance with high persistence	15 – 25	<b>One50, Prospect, Ultra, Matrix, Impact</b>
	Late (+18)	<b>Rohan</b>	dip	NEA2, persistent, spreading type, sheep/beef	15 – 20	<b>Expo, One50</b>
	Late (+19)	<b>Viscount</b> <small>NEW</small>	tet	NEA4, improved winter and early spring performance	20 – 30	<b>Base, Halo, Banquet 2, Bealey</b>
	Very late (+25)	<b>Bealey</b>	tet	NEA2, highest performance perennial	20 – 30	<b>Base, Halo, Viscount</b>
<b>Hybrids</b> 3 ñ 5 years+	Very early (-17)	<b>Barberia</b>	dip	Winter feed, multiple years, dry tolerant	15 – 25	<b>Unique variety</b>
	Very late (+26)	<b>Shogun</b>	tet	NEA, high performance, oversowing	20 – 30	<b>Ohau, Optima, Jeta, Reward, Tonnus</b>
<b>Italian ryegrass</b> 1 ñ 2 years	Late (+19)	<b>Hulk</b>	dip	Utility biennial, mid-late season	15 – 25	<b>Crusader, Indulgence, Sonik, Icon</b>
	Late (+18)	<b>Tempo</b>	dip	High performance diploid	15 – 25	<b>Tabu, Knight, Concord 2, Asset</b>
	Late (+15)	<b>Arise</b> <small>NEW</small>	tet	Highest performance biennial, late season	20 – 30	<b>Feast 2, Jeanne, Thumpa, Nourish, Aston</b>
<b>Annual ryegrass</b> 8 ñ 12 mths	Early (-3)	<b>GrassMax</b> <sup>®</sup>	dip	Autumn and winter, spring quality not important	20 – 30	<b>Tetila, Tetrone, DiamondT</b>
	Mid-late (+10)	<b>Vortex</b>	tet	Newest mid-late season, fast establishing	20 – 30	<b>Wistar 2, Mach1, Adrenalin, Jivet</b>
	Very late (+17)	<b>Fuze</b> <small>NEW</small>	dip	High performance annual, excellent late quality	15 – 25	<b>Sultan, Flyer</b>
	Very late (+23)	<b>Hogan</b>	tet	High performance annual, excellent late quality	15 – 25	<b>Zoom, Ascend</b>
<b>Tall fescue</b>	Winter active	<b>Prosper</b>		Winter dominant rainfall, summer dry	5 – 15	<b>Resolute, Flecha, Fraydo, Origin</b>
	Summer active	<b>Fortune</b> <small>NEW</small>		Flats, damper soils, irrigation, summer moisture		<b>Hummer, Quantum II, Dovey, Tower</b>
<b>Phalaris</b>	Low pH	<b>Advanced AT</b>		Low pH and Al <sup>3+</sup> tolerance, rotation graze, winter active	2 – 6	<b>Unique Al tolerance, Landmaster</b>
	Set-stock	<b>Holdfast GT</b>		High grazing tolerance, most soils, winter active	2 – 6	<b>Holdfast, Sirolan, Lawson</b>
<b>Cocksfoot</b>	Summer dormant	<b>Summadorm</b> <small>NEW</small>		Extensive, early areas, summer dry	2 – 4	<b>Kasbah, Uplands, Yarch</b>
	Intermediate	<b>Howlong</b>		Versatile, extensive beef/sheep, lighter soils	2 – 4	<b>Porto, Kara, Vision, Tekapo, Wana</b>
	Summer active	<b>Safin</b>		Summer rainfall, milder climates, high output	2 – 6	<b>Grassly, Greenly, Lazuly, Savvy</b>
<b>Brome</b>	Winter active	<b>Bareno</b>		Winter growth, standing summer feed	15 – 30	<b>Atom, Exceltas, Matua</b>

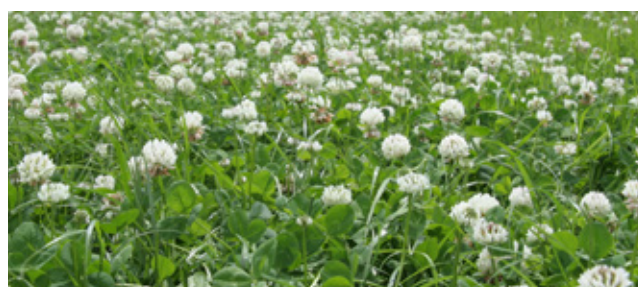




	Plan for	Barenbrug's proprietary variety		Use pattern	Typical kg/ha	Similar fit to:
White clover	Large leaf	<b>Storm</b>		Intensive dairy/beef/lamb, high yield	2 – 5	Mink, Legacy, Kopu, Tribute, Will
	Medium leaf	<b>Weka</b>		Extensive grazing beef/sheep, dryland dairy, utility	2 – 5	Bounty, Prestige, Sustain, Demand
	Small leaf	<b>Apex</b>		Extensive sheep/beef, close grazing	2 – 5	Tahora, Prestige
Red clover	Med-large leaf	<b>Morrow</b> <small>NEW</small>		Intensive grazing dairy/beef/lamb	2 – 6	Collenso, Astred, Hamua, USA Red
Sub clover	Very early	<b>Losa</b>	sub	Early country, extensive sheep/beef, acid-neutral	4 – 8	Dalkeith, Nungarin, Dalsa, Izmir
	Early	<b>Mawson</b>	bchy	Early areas, heavy soils, sheep/beef, neutral-alkaline	6 – 10	Unique early brachy
	Mid	<b>Monti</b>	yan	Mid-season for most areas, acid-neutral	4 – 8	Hatrick, Riverina, Trikkala
	Mid	<b>Mintaro</b>	bchy	Mid-season for most areas, neutral-alkaline	6 – 10	Clare, Clare 2
	Mid-late	<b>Campeda</b>	sub	Sheep/beef/dryland dairy, most soils, low pH	4 – 8	Urana, Goulburn, Coolamon
	Mid-late	<b>Gosse</b>	yan	Sheep/beef/dryland dairy, heavier soils	4 – 8	Larisa, Napier, Trikkala
	Mid/late-late	<b>Antas</b>	bchy	Highest performance. All stock classes	6 – 12	Clare, Mintaro
	Late	<b>Denmark</b>	sub	Productive, low pH, higher rainfall	4 – 8	Leura, Rosabrook, Ovaflow
Annual clover	Early	<b>Cefalu</b>	A-leaf	Most soils, low-neutral pH, HDL mixes	3 – 6	Arrowleaf (common)
	Early - mid	<b>Nitro Plus</b>	Pers.	Hard-seeded Persian for early areas	2 – 6	Kyambro, SARDI
	Mid	<b>Lightning</b>	Pers.	Low-neutral pH, hay/silage mixes, HDL mixes	2 – 6	Shaftal
	Mid-late	<b>Vista</b>	Bal.	Low-neutral pH, hay/silage mixes, HDL mixes	1 – 4	Bolta, Viper, Paradana
	Mid-late	<b>Zulu II</b>	A-leaf	Deep loamy/sandy soils, low pH	3 – 6	Arrowtas, Zulumax
	Late - very late	<b>Laser</b>	Pers	Most soils, neutral pH, hay/silage, HDL mixes	2 – 6	Shaftal, Turbo
Medics	Early	<b>Sultan-SU</b>	barrel	Extensive crop/sheep zone, SU tolerant	2 – 10	Caliph, Parabinga, Jester
	Early - mid	<b>Scimitar</b>	burr	Crop/sheep zone, salinity tolerant	2 – 10	Santiago, Cavalier



Pasture grasses



Pasture legumes

## Lucerne, Forages and Fodder Crops

	Plan for	Barenbrug's proprietary variety	Dormancy	Use pattern	Typical kg/ha	Similar fit to:
Lucerne	8 years+	<b>SARDI-Grazer</b>	6.5	Extensive grazing and under cropping	8 – 20	<b>SARDI 5, Stamina 6, GTL60</b>
	5 – 8 years+	<b>SARDI 7 Series 2</b>	7.4	Grazing, hay, general purpose	8 – 20	<b>SARDI 7, Haymaster 7, Aurora</b>
	5 – 8 years+	<b>Genesis II</b>	7	Grazing, hay, general purpose	8 – 20	<b>Titan 7, L70, L71, Force 7, Q75</b>
	3 – 4 years+	<b>SARDI 10 Series 2</b>	10	Winter grazing, highest hay potential	8 – 20	<b>Force 10, ML99, SARDI 10</b>
Forage brassicas	Leafy Turnip	<b>Falcon</b>		6–8 weeks, broad application	4 – 6	<b>Pasja, Hunter</b>
	Rape	<b>Leafmore</b>		8–12 weeks, extensive sheep/beef	3 – 5	<b>Winfred, Rang, Bonar, Sub-zero</b>
	Rape	<b>Interval</b>		10–12 weeks, intensive systems	3 – 5	<b>Greenland, Goliath, Titan</b>
	Turnip	<b>Dynamo</b>		12–14 weeks, all stock classes	2 – 4	<b>Barkant, Marco, MPT, New York</b>
	Kale	<b>Caledonian</b>		16–20 weeks, intensive systems	4 – 6	<b>Kestrel, Sovereign, Voltage</b>
Chicory	1 – 3 years+	<b>Commander</b>		Short-term quality forage, summer active	4 – 8	<b>Choice, Grouse, Chico, Puna 2, 501</b>
Forage cereals	Oats	<b>Mammoth or Express</b>		Feb - May sowing, graze/silage/hay	40 – 100	<b>Quamby, Graza, Wintaroo, Outback</b>
	Triticale	<b>Crackerjack 2</b>		Mar - Jun sowing, graze/silage	40 – 110	<b>Granador, Endeavour</b>
	Barley	<b>Dictator 2</b>		Apr - Aug sowing, graze/silage/hay	40 – 120	<b>Moby, Sthn Green</b>
Summer forages	Forage Sorghum	<b>Nudan</b>	Med - Late	Oct-Dec sowing, graze/silage/hay	10 – 25	<b>Sud x Sud, fine stems, good tillering</b>
	Forage Sorghum	<b>Revolution BMR</b>	Med - Early	Oct-Dec sowing, graze/silage/hay	10 – 25	<b>BMR Sorg x BMR Sud, early vigour and quality</b>
	Forage Sorghum	<b>Lush</b>	Med - Early	Oct-Dec sowing, graze/silage/hay	10 – 25	<b>Sorg x Sud, early feed and regrowth</b>
	Forage Sorghum	<b>Hunnigreen</b>	Late	Oct-Dec sowing, graze/silage/hay, standover	10 – 25	<b>Sweet x Sorg, increased ME at maturity</b>
	Hybrid Pennisetum	<b>Pearler</b>	Late	Nov/Dec sowing, graze/silage/hay	5 – 25	<b>High feed quality and improved yield</b>
	Forage Maize	<b>Summer Green</b>		Oct-Dec sowing, graze/silage	40 – 60	<b>Greenfeast, Greenfeed</b>







	Plan for	Barenbrug's proprietary variety	Type	Use pattern	Typical kg/ha	Similar fit to:
Vetch	Early	<b>Volga</b>	com	Soft seed, winter feed, cereal hay, low rainfall	30 – 50	<b>Rasina</b>
	Mid	<b>Morava</b>	com	Soft seed, hay, low-med rainfall	30 – 50	<b>Blanchfleur</b>
	Early - Mid	<b>RM4</b>	woolly	Soft seed, hay, grazing, green manure	20 – 40	<b>Capello</b>
	Mid	<b>Capello</b>	woolly	Partly soft seed, hay, grazing, green manure	20 – 40	<b>Namoi</b>
	Mid-late	<b>Haymaker</b>	woolly	Hard seed, intensive hay, grazing, green manure	20 – 40	<b>Popany</b>

#### Notes:

**NEW** varieties subject to commercial release dates, stock availability and programmed introduction.

**dip** = diploid, **tet** = tetraploid; lucerne numbers indicate dormancy group; **sub** = ssp subterraneum, **yan** = ssp yanninicum, **bchy** = ssp brachycalycinum

**Sowing rates:** general guide, lower rates for dryland / low rainfall sites, or guide for inclusion in a mix; higher rate for pure/dominant stand.

#### Pasture mix guide:

Dryland: 15 – 25kg/ha (10 – 15kg grass + 5 – 10 kg legume/ha)

Med/high rainfall/Irrig: 20 – 30kg/ha (15 - 25kg grass + 4 – 8kg legume/ha)

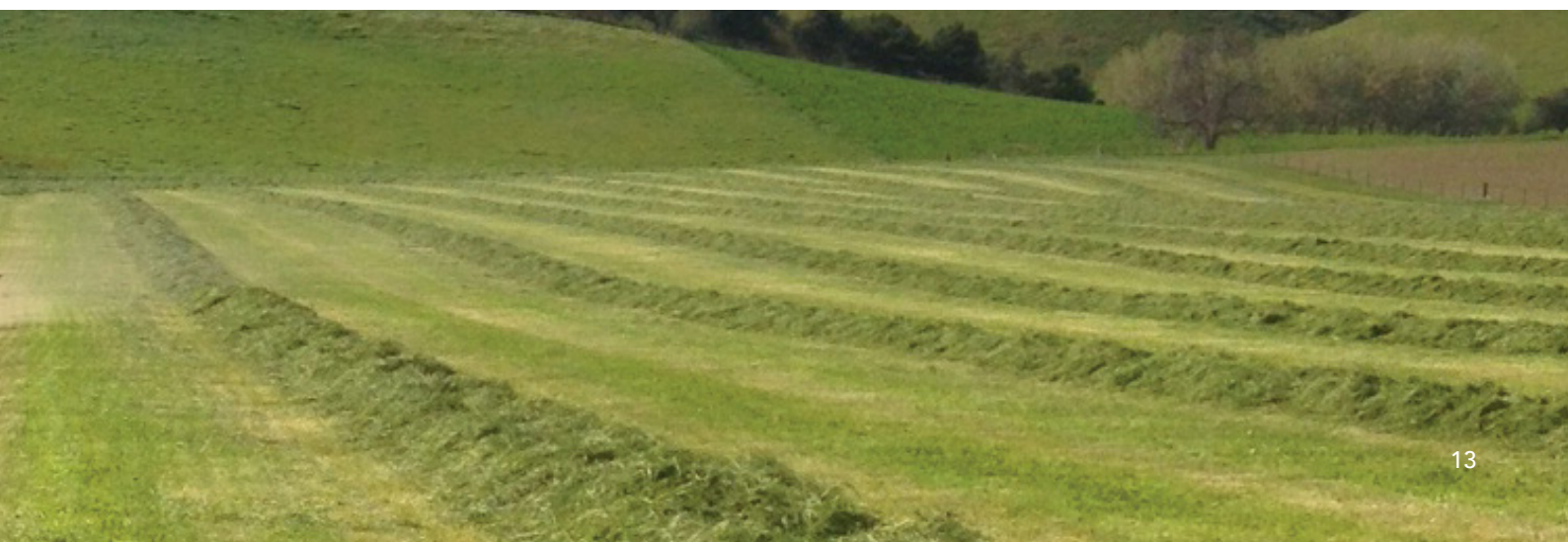
## Help with pasture and forage development plans

Managing a pasture is just as important as choosing the right seed. Our highly experienced team of Territory Managers can offer valuable and timely advice to guide farmers, agronomists and retailers in making the right decision.

Barenbrug's Territory Managers have an intimate knowledge of the eco-agricultural aspects of their area plus the resources and back-up from regional agronomists and technical support from research, seed production and plant breeding nationally and internationally.

Your Territory Manager can offer guidance on such things as:

- Pasture and crop economics
- Crop sequencing
- Paddock selection and preparation
- Fertiliser
- Weed and pest control
- Grazing management
- Animal production and health issues
- Fodder conservation
- Lawns and turf
- Winter grain and summer grain crops
- Temperate and tropical species
- Seed treatments.



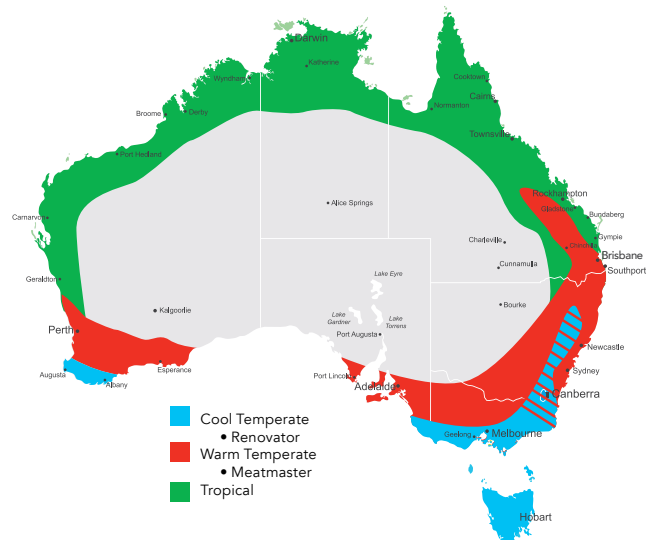
# Temperate premium pasture blends

The Renovator® and Meatmaster® temperate range of pasture blends provide farmers with the right mix necessary to produce superior results and superior pastures. They are premium seed blends formulated using Barenbrug's strong agronomic, technical and research advantage. They are designed using only the highest quality seed and are 'ready to sow' providing livestock farmers with the best possible pasture outcomes.

## Key to pasture blend charts

<b>D</b>	Dairy	(d) diploid ryegrass
<b>B</b>	Beef	(t) tetraploid ryegrass
<b>L</b>	Lamb	All clovers AgriCote
<b>W</b>	Wool	AgriCote grasses available
<b>E</b>	Equine	
<b>C</b>	Cropping rotation short pasture phase	

In circumstances where specific varieties are not available, an appropriate alternative may be substituted that suits the agronomic application.



## Meatmaster pasture blends - 2021/22 guide

Plan for	Min.av.rain	Suitable option	Contains % by weight:	
<b>3 years+</b> Oversowing, performance	650mm+	<b>MM B-Double Mix</b> 15 – 25 kg/ha (25kg/ha for a pure stand)	60%	Bealey NEA2 perennial ryegrass (t)
D B L C			40%	Barberia hybrid ryegrass (d)
<b>3 ñ 4 years+</b> Specialty finishing blend	650mm+	<b>Meatmaster LC</b> 20 – 25 kg/ha	25%	Commander chicory
D B L			75%	SARDI 7 Series 2 lucerne
<b>5 ñ 10 years+</b> Summer rainfall	650mm+	<b>Meatmaster HP</b> 18 – 25 kg/ha	75%	Fortune summer active tall fescue
D B L C			10%	Storm white clover
			15%	Morrow red clover
<b>5 ñ 10 years+</b> Hardy blend for late areas	500mm+	<b>Meatmaster 500</b> 18 – 20 kg/ha	30%	Fortune summer active tall fescue
D B L W E C			20%	Prosper winter active tall fescue
			20%	Holdfast GT phalaris
			10%	Mintaro sub clover
			10%	Campeda sub clover
			10%	SARDI- Grazer lucerne
<b>5 ñ 10 years+</b> Hardy beef and sheep blend	400mm+	<b>Meatmaster GT</b> 8 – 15 kg/ha	45%	Holdfast GT phalaris
B L W E			27.5%	Campeda sub clover
			27.5%	Mintaro sub clover
<b>5 ñ 10 years+</b> Hardy beef and sheep blend	400mm+	<b>Meatmaster AT</b> 12 – 18 kg/ha	30%	Advanced AT phalaris
B L W E			10%	Howlong cocksfoot
			30%	Campeda sub clover
			30%	Monti sub clover
<b>1 year+</b> Hardy beef and sheep blend	550mm+	<b>Meatmaster ST</b> 25 kg/ha	80%	Vortex annual ryegrass (t)
D B L W C			10%	Laser (Persian) annual clover
			10%	Vista balansa clover





## Renovator pasture blends - 2021/22 guide

Plan for	Min.av.rain	Suitable option	Contains % by weight:	
<b>5 years+</b>	700mm+	<b>Renovator HR</b> 25 – 30 kg/ha	50%	Bealey NEA2 perennial ryegrass (t)
Highest performance			34%	Impact 2 NEA2 perennial ryegrass (d)
D B L			8%	Storm white clover
			8%	Weka white clover
<b>5 years+</b>	700mm+	<b>Renovator 850i</b> 25 kg/ha	40%	Rohan NEA2 perennial ryegrass (d)
Performance, wet sites			40%	Impact 2 NEA2 perennial ryegrass (d)
D B L			10%	Storm white clover
			10%	Weka white clover
<b>3 years+</b>	550mm+	<b>Renovator Elite</b> 20 – 30 kg/ha	50%	Bealey NEA2 perennial ryegrass (t)
Oversowing, performance			50%	Shogun NEA hybrid ryegrass (t)
D B L				
<b>5 years+</b>	700mm+	<b>Renovator 700+</b> 25 kg/ha	32.5%	Kidman NEA2 perennial ryegrass (d)
Performance, dry summers			32.5%	Impact 2 NEA2 perennial ryegrass (d)
D B L W E			10%	Storm white clover
			12.5%	Monti sub clover
			12.5%	Denmark sub clover
<b>5 years+</b>	550mm+	<b>Renovator Grazier</b> 12 – 25 kg/ha	30%	Kidman NEA2 perennial ryegrass (d)
Hardy, winter performance			30%	Barberia hybrid ryegrass (d)
B L W E			10%	Howlong cocksfoot
			15%	Monti sub clover
			15%	Campeda sub clover
<b>5 ñ 10 years+</b>	450mm+	<b>Renovator 500+</b> 12 – 18 kg/ha	32.5%	Fortune summer active tall fescue
Hardy, long-term pasture Salinity, drought, acidity tol. Heavier soils, potentially wet sites			20%	Barberia hybrid ryegrass (d)
B L W E			10%	Howlong cocksfoot
			10%	Holdfast GT phalaris
			20%	Monti and Denmark sub clovers
			7.5%	Palestine strawberry clover
<b>5 ñ 10 years+</b>	500mm+	<b>Renovator GT</b> 12 – 18 kg/ha	20%	Holdfast GT phalaris
Persistent and productive Long-term pasture Extensive grazing Most soil types, drought tolerant			7.5%	Howlong cocksfoot
B L W E			35%	Kidman NEA2 perennial ryegrass (d)
			15%	Mintaro sub clover
			15%	Campeda sub clover
			7.5%	Storm white clover
<b>1 ñ 2 years</b>	550mm+	<b>Renovator SR</b> 25 kg/ha	30%	Tempo Italian ryegrass (d)
All-year feed + hay/silage			50%	Hogan annual ryegrass (t)
D B L			20%	Laser (Persian) annual clover
<b>3 years+</b>	550mm+	<b>Renovator Allgrass</b> 12 – 18 kg/ha (use 25kg/ha for a pure stand)	60%	Bealey NEA2 perennial ryegrass (t)
Oversowing, performance			40%	Barberia hybrid ryegrass (d)
D B L				
<b>5 years+</b>	550mm+	<b>Renovator Equine</b> 30 – 50 kg/ha	30%	Fortune summer active tall fescue
Quality horse pasture			30%	Governor AR1 perennial ryegrass (d)
B L W E			40%	Barberia hybrid ryegrass (d)

# Lucerne preparation check-list

Question?	Yes	No ñ Action required
Lucerne not grown in site for at least 2 years	OK	Crop for at least 2 years with alternative species.
Drainage OK (casual water lays < 1 day)	OK	Improve drainage or select alternative site.
pH (CaCl <sub>2</sub> ) > 5.7	OK	Increase pH through liming or select alternative site.
Exchangeable Al <sup>3+</sup> < 5%	OK	Decrease aluminium at depth through liming over a number of years or select alternative site.
Weed burden previously reduced	OK	Crop for 1 – 2 years with cereals or other grain crops, paying attention to weed control.
Irrigation available	Spring sow OK	Autumn or early spring sow.
Winter active variety (dormancy rating > 6)	Autumn or spring sow OK	Spring sowing recommended in winter cold areas, for winter dormant varieties.

## Variety to fit the job

Plan for:		Longevity increases →		
		3-4+ years	5-8+ years	8-10+ years
Dedicated hay production	First choice	SARDI 10 Series 2	SARDI 7 Series 2	SARDI-Grazer
	Good alternative			
		Hay quality increases →		
Dual purpose hay and grazing	First choice	SARDI 10 Series 2	SARDI 7 Series 2	SARDI-Grazer
	Good alternative		Genesis II	
		DM yield per annum increases ←		
Grazing/extensive pasture	First choice	SARDI 10 Series 2	SARDI-Grazer	SARDI-Grazer
	Good alternative		SARDI 7 Series 2	
		Grazing tolerance increases →		

Sowing Rate kg/ha Increases ↑

## Lucerne sowing rates

Annual rainfall	350 mm – 450 mm	450 mm – 600 mm	600 mm – 800 mm	800 mm+ /Irrigated
kg/ha	4 – 6	6 – 8	10 – 12	15 – 25

It is strongly recommended that prior to sowing, a pre-plant pre-emergent herbicide be considered. Herbicides such as trifluralin and pendimethalin are commonly used with good success. Consult an agronomist and check label instructions before proceeding. Low-till/no-till systems can be used to good effect, but paddock preparation, weed burden and herbicide spray systems need to be considered and prepared for prior to sowing.





## Lucerne stand thinning out?

Sometimes after a number of years, lucerne plant numbers in a paddock may reduce to lower than desirable levels, but the lucerne stand may still be the best option for a while yet. It can be a very useful strategy to over-sow the stand with a suitable companion species. If a full lucerne stand is required on that site, then it is better to terminate the existing lucerne, crop for a few years, address reasons for decline, and then re-sow. In winter dominant rainfall zones the following examples may be considered.

### For winter dominant rainfall zones

Desired outcome:	350 mm ñ 450 mm	450 mm ñ 600 mm	600 mm ñ 800 mm	800 mm+/Irrigated
<b>Keep lucerne for 1 more year</b>	Over-sow in autumn with a one-year species, terminate crop in following summer.			
→	<b>Express</b> Forage oat 20 – 60 kg/ha	<b>Vortex</b> Annual ryegrass 10 – 15 kg/ha	<b>Fuze</b> Annual ryegrass 10 – 15 kg/ha	<b>Hogan</b> Annual ryegrass 15 – 20 kg/ha
<b>Keep lucerne for 2 more years</b>	Over-sow with a biennial species. Consider chicory for stands with many grass-weeds.			
→	<b>Hulk</b> Italian ryegrass 8 – 12 kg/ha	<b>Tempo</b> Italian ryegrass 10 – 15 kg/ha	<b>Commander</b> Chicory 4 – 8 kg/ha	<b>Arise</b> Italian ryegrass 15 – 20 kg/ha
		↔	↔	
<b>Keep lucerne for 3 - 4 more years*</b>	Over-sow with a long-rotation grass.			
→	<b>Bareno</b> Grazing brome 6 – 10 kg/ha	<b>Barberia</b> Hybrid ryegrass 10 – 12 kg/ha	<b>Shogun</b> Hybrid ryegrass 12 – 15 kg/ha	<b>Shogun</b> Hybrid ryegrass 15 – 20 kg/ha
<b>Keep lucerne indefinitely*</b>	Over-sow in autumn with a one-year species, terminate crop in following summer.			
→	<b>Holdfast GT</b> Phalaris 2 – 3 kg/ha	<b>Holdfast GT</b> Phalaris 3 – 5 kg/ha	<b>Impact or Maxsyn</b> Perennial ryegrass 10 – 15 kg/ha	<b>Bealey</b> Perennial ryegrass 15 – 20 kg/ha
<b>Full lucerne stand required</b>	Terminate current stand. Crop for 2 years minimum to utilise nitrogen fixation from the lucerne. Address reasons for decline such as weed burden, fertility, pH, drainage, cultivar disease susceptibility, prior to re-sowing lucerne.			

#### Notes:

\* In low-medium rainfall areas, an alternative to oversowing with grass is to consider introducing 6 – 8 kg/ha of one or two sub-clovers that suit the environment. Antas should be considered as a very good option for 3 – 4 years, Mintaro, Campeda and Monti for a longer time-frame.

↔ = interchangeable

# Spring strategies for run-out and winter damaged pastures

Scenario 1	Some damage / bit run-out (50 ñ 70% useful species) → Over-sow with 3 ñ 4 year option				
	Options:	500 – 600 mm rain	Barberia	10 – 15 kg/ha	
		600 – 750 mm rain	Shogun	15 – 20 kg/ha	
	Strategy:	750+ mm rain	Renovator Elite	20 – 30 kg/ha	
	Late winter	Early spring	Late spring	2 years	3 ñ 4 yearsí time
Scenario 2	Moderately damaged or run-out (30 ñ 50% useful species) → Over-sow with Italian ryegrass				
	Options:	500 – 600 mm rain	Hulk	10 – 20 kg/ha	
		600 – 750 mm rain	Tempo	12 – 25 kg/ha	
	Strategy:	750+ mm rain	Arise / Shogun	15 – 30 kg/ha	
	Late winter	Early spring	Late spring	2 years	3 ñ 4 yearsí time
Scenario 3	Moderately damaged or run-out (30 ñ 50% useful species) → Over-sow with Italian ryegrass				
	Strategy:			Early autumn	Mid-autumn
	Late winter	Early spring	Late spring	→ Graze forage crop out by Feb/Mar	→ Full pasture renewal next autumn after forage crop
				or	
				Late autumn	Early winter
Summer forage decision tool	Enterprise	Climate	Quick feed/single graze	Multiple graze	Carry into autumn or later
		Hot summer	Revolution BMR or Lush Forage sorghum	Nudan Forage sorghum Commander Chicory	Hunnigreen Forage sorghum
		Mild summer	Falcon Leafy turnips (quick) Dynamo Turnips (single)	Interval Rape Commander Chicory	Caledonian Kale
		Hot summer	Lush Forage sorghum	Pearler Hybrid pennisetum Nudan Forage sorghum	Hunnigreen Forage sorghum
	Intensive dairy/ beef/finishing often irrigated	Hot summer	Lush Forage sorghum	Pearler Hybrid pennisetum Nudan Forage sorghum	Hunnigreen Forage sorghum
		Mild summer	Falcon Leafy turnip	Leafmore Rape Commander Chicory	Long-season turnips or swedes
	Extensive sheep/beef, usually dryland	Hot summer	Lush Forage sorghum	Pearler Hybrid pennisetum Nudan Forage sorghum	Hunnigreen Forage sorghum
		Mild summer	Falcon Leafy turnip	Leafmore Rape Commander Chicory	Long-season turnips or swedes





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