

 **BARENBRUG**

# Temperate Pasture Renovation Guide

EDITION 5.0

**Grow with Confidence**



# 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.

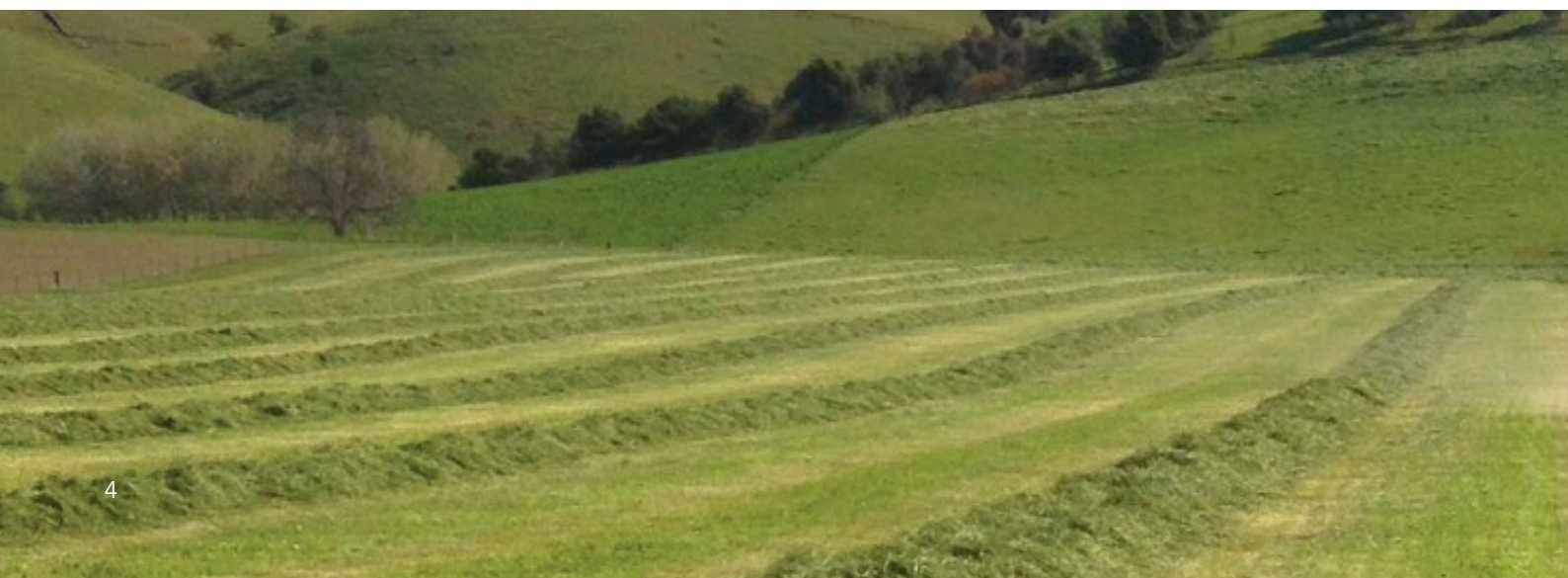
## Effect of grazing mis-management

- Over grazing duration too long/rest-phase too short:
  - Loss of valuable species
  - Bare ground: cockchafers, erosion, annual weeds: 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 adequate for grass/clover (approx 5.4 – 5.9 pH in water) 5.6 + for lucerne (6.0 in water)	<b>S</b>	12 – 20 ppm about right
<b>P (Olsen)</b>	Target range 15 – 20 ppm, ideally 18+, (25 – 30 for dairy/intensive production)	<b>Mg</b>	Don't overlook, especially if applying solid rates of K
<b>K</b>	130 – 150 ppm for lighter soils	<b>Mo</b>	Needed for legumes to function: 50 – 60 g/ha of Mo every 3 – 5 years. Apply in conjunction with Cu
	150 – 220 for medium clay/silts/loams	<b>B</b>	Needed for legumes
	200 – 250ppm for clayey types	<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 suitable Group 2 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.



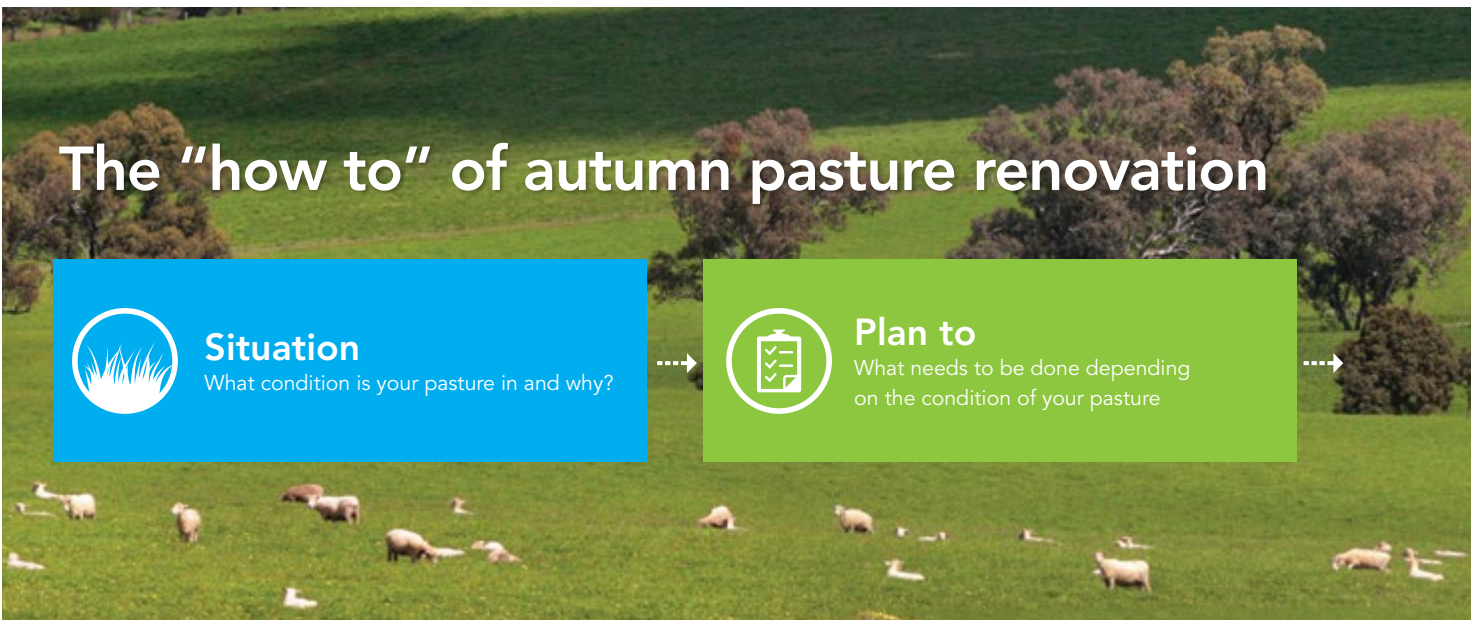
# Autumn strategies for pasture renovation

Pasture full renovation (<30% desirable species)		Process and timing:	Early autumn	Late autumn
Overriding factor leading to poor performance:	<b>Weeds:</b>	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>Magnate</b> Forage barley	40 – 70 kg/ha
	<b>Pasture pests:</b>	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, NEA4 or AR1 endophyte ryegrasses	<b>Kidman</b> <b>Renovator Grazier</b>	10 – 15 kg/ha 12 – 18 kg/ha
	Black-beetle/Root aphid	Use NEA2, NEA4 endophyte ryegrasses or a hardy perennial blend	<b>Kidman</b> <b>Renovator 500+</b>	10 – 15 kg/ha 12 – 18 kg/ha
<b>Soil conditions:</b>	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 phalaris (wet sites), Summadorm or Howlong 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	<b>FEB - MAY</b> (general purpose, early sowing)
<b>Crackerjack 2</b> Forage triticale	60 – 80 kg/ha	<b>Crackerjack 2</b> Forage triticale	80 – 120 kg/ha	<b>MAR - JUN</b> (mid-season sowing, wetter sites, lower pH)
<b>Magnate</b> Forage barley	60 – 80 kg/ha	<b>Magnate</b> Forage barley	80 – 120 kg/ha	<b>MAY - JUL OR LATER</b> (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 or Kidman</b>	12 – 18 kg/ha	<b>4front, Maxsyn or Array</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 or Kidman</b>	20 – 25 kg/ha	<b>4front, Maxsyn or Array</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	

Oversowing and maintenance (> 30% desirable ground cover)		Process and timing:	Early autumn	Late autumn
30% – 50% desirable varieties	Over-sow with short-term varieties	<b>Over-sow with an annual or annual/Italian blend</b> Monitor and consider as a candidate for renovation in 1 – 2 years	Graze-down hard. Possibly use a knock-down herbicide	Over-sow into moisture
		Seed options:	450 – 600mm	
		Straight variety	Vortex	8 – 12 kg/ha
		Blend	Meatmaster ST	10 – 15 kg/ha
50% – 70% desirable varieties	Over-sow with medium-term varieties	<b>Over-sow with an Italian or Italian/hybrid blend</b> Monitor and consider as a candidate for renovation in 2 – 3 years+	Graze-down hard. Possibly use a knock-down herbicide	Over-sow into moisture
		Seed options:	450 – 600mm	
		Straight variety	Hulk or Tempo	8 – 12 kg/ha
		Blend	Barberia + Hulk	10 – 15 kg/ha
70% – 90% desirable varieties	Top-up existing pasture	<b>Over-sow with a perennial or perennial/hybrid blend</b> Monitor and consider as a candidate for renovation in 3 – 5 years+	Graze-down hard. Possibly use a knock-down herbicide	Over-sow into moisture
		Seed options:	450 – 600mm	
		Straight variety	Barberia or Kidman	8 – 12 kg/ha
		Blend	Renovator Grazier	10 – 15 kg/ha
>90% useful varieties	Maintain existing pasture	Seasonal pasture maintenance	Soil-test, apply capital fertiliser, soil amendments	Monitor for grubs, mites and treat appropriately

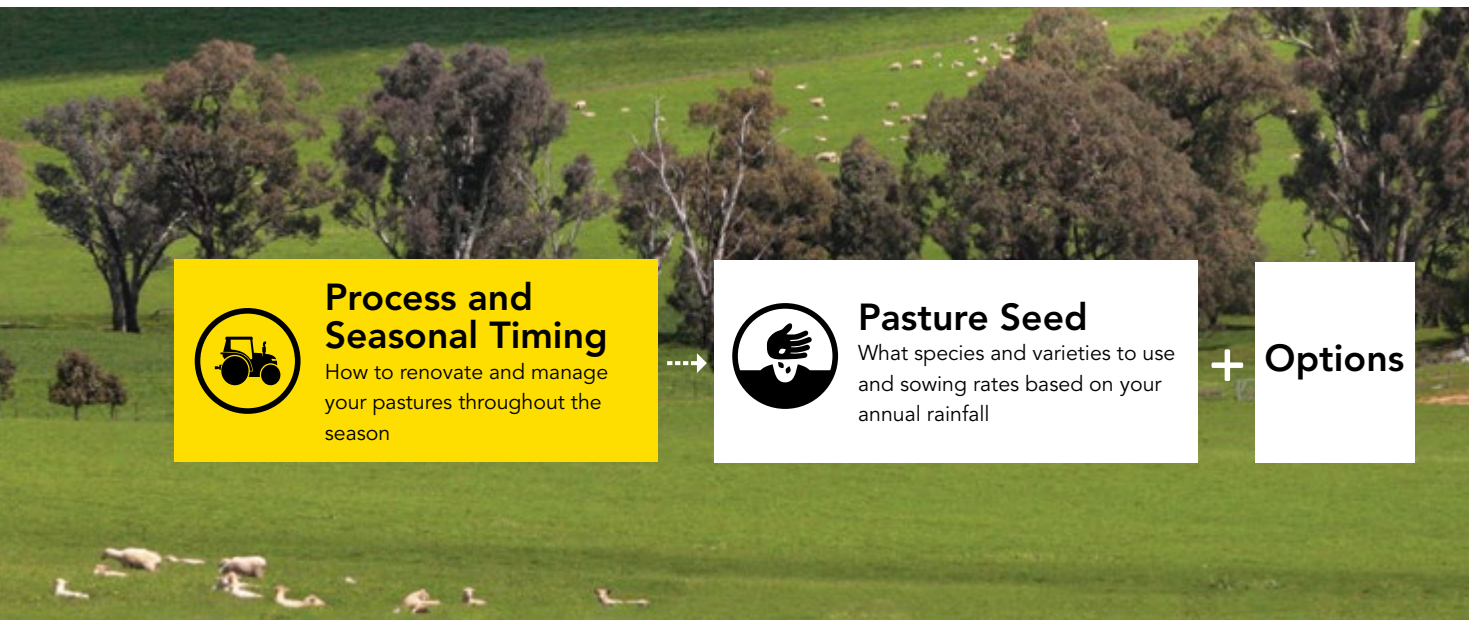


# The “how to” of autumn pasture renovation






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>Arise</b>	10 – 15 kg/ha	<b>Shogun</b> or <b>Samurye</b>	15 – 25 kg/ha	
<b>Renovator Elite</b>	12 – 20 kg/ha	<b>Renovator Elite</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, Rohan</b> or <b>Maxsyn</b>	10 – 15 kg/ha	<b>4front, Array</b> or <b>Maxsyn</b>	15 – 25 kg/ha	
<b>Renovator 700</b>	12 – 20 kg/ha	<b>Renovator Elite, 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



**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:
Perennial ryegrass 5 – 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 (0)	<b>Governor</b>	dip	AR1, Utility perennial, suits most systems	15 – 25	<b>Bronsyn, Excess, Samson, Nui</b>
	Mid-mid late (+12)	<b>Maxsyn</b> <small>NEW</small>	dip	NEA4, High performance, utility perennial	15 – 25	<b>Impact 2, Alto, Bronsyn, Excess</b>
	Late (+18)	<b>Rohan</b>	dip	NEA2, Persistent, spreading type, sheep/beef	15 – 20	<b>Expo, One50, Matrix</b>
	Late (+19)	<b>4front</b> <small>NEW</small>	tet	NEA2, Improved winter and early spring performance	20 – 30	<b>Base, Halo, Banquet 2, Bealey, Viscount</b>
	Very Late (+23)	<b>Array</b> <small>NEW</small>	dip	NEA2, spring & summer performance with high persistence	15 – 25	<b>One50, Prospect, Matrix, Impact</b>
Hybrids 3 – 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>Samurye</b> <small>NEW</small>	tet	NEA12, performance, oversowing CATTLE ONLY	20 – 30	<b>Mohaka AR37, (Base AR37)</b>
	Very late (+26)	<b>Shogun</b>	tet	NEA, High performance, oversowing	20 – 30	<b>Ohau, Optima, Jeta, Reward, Tonnus</b>
Italian ryegrass 1 – 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>	tet	Highest performance biennial, late season	20 – 30	<b>Feast 2, Jeanne, Thumpa, Nourish, Aston</b>
Annual ryegrass 8 – 12 mths	Early (-3)	<b>GrassMax™</b>	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>W'star 2, Mach1, Adrenalin, Jivet</b>
	Very late (+17)	<b>Fuze</b>	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>
Tall fescue	Winter active	<b>Prosper</b>		Winter dominant rainfall, summer dry	8 - 15	<b>Resolute, Flecha, Fraydo, Origin</b>
	Summer active	<b>Fortune</b>		Summer moisture, only ticks along in winter	8 - 15	<b>Finesse, Quantum, Hummer, Dovey</b>
Phalaris	Low pH	<b>Advanced AT</b>		Low pH and Al <sup>3+</sup> tol, rotation graze, winter act.	2 – 6	<b>Unique Al tolerance, Landmaster</b>
	Set-stock	<b>Holdfast GT</b>		High grazing tolerance, most soils, winter act.	2 – 6	<b>Holdfast, Sirolan, Lawson</b>
	Summer dormant	<b>Horizon</b> <small>NEW</small>		Marginal beef/sheep, most soils, winter act.	2 – 6	<b>Atlas</b>
Cocksfoot	Summer dormant	<b>Summadorm</b> <small>NEW</small>		Extensive, early areas, summer dry	2 – 4	<b>Kasbah, Uplands, Yarck</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>
Brome	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:
<b>White clover</b>	Large leaf	<b>Storm</b>		Intensive dairy/beef/lamb, high yield	2 – 5	<b>Mink, Legacy, Kopu, Tribute, Will</b>
	Medium leaf	<b>Weka</b>		Extensive grazing beef/sheep, dryland dairy, utility	2 – 5	<b>Bounty, Prestige, Sustain, Demand</b>
	Small leaf	<b>Apex</b>		Extensive sheep/beef, close grazing	2 – 5	<b>Tahora, Prestige</b>
<b>Red clover</b>	Med-large leaf	<b>Morrow</b>		Intensive grazing dairy/beef/lamb	2 – 6	<b>Collenso, Astred, Hamua, USA Red</b>
<b>Sub clover</b>	Very early	<b>Losa</b>	sub	Early country, extensive sheep/beef, acid-neut	4 – 8	<b>Dalkieth, Nungarin, Dalsa, Izmir</b>
	Early	<b>Mawson</b>	bchy	Early areas, heavy soils, sheep/beef, neut-alk	6 – 10	<b>Unique early brachy</b>
	Mid	<b>Monti</b>	yan	Mid-season for most areas, acid-neut	4 – 8	<b>Hatrick, Riverina, Trikkala</b>
	Mid	<b>Mintaro</b>	bchy	Mid-season for most areas, neut-alk	6 – 10	<b>Clare, Clare 2</b>
	Mid- late	<b>Campeda</b>	sub	Sheep/beef/dryland dairy, most soils, low pH	4 – 8	<b>Urana, Goulburn, Coolamon</b>
	Mid- late	<b>Gosse</b>	yan	Sheep/beef/dryland dairy, heavier soils	4– 8	<b>Larisa, Napier, Trikkala</b>
	Mid/late- late	<b>Antas</b>	bchy	Highest performance. All stock classes	6 – 12	<b>Clare, Mintaro</b>
	Late	<b>Denmark</b>	sub	Productive, low pH, higher rainfall	4 – 8	<b>Leura, Rosabrook, Ovaflo</b>
<b>Annual clover</b>	Early	<b>Cefalu</b>	A-leaf	Most soils, low-neutral pH, HDL mixes	3 – 6	<b>Arrowleaf (common)</b>
	Early - mid	<b>Nitro Plus</b>	Pers.	Hard-seeded Persian for early areas	2 – 6	<b>Kyambro, SARDI</b>
	Mid	<b>Lightning</b>	Pers.	Low-neutral pH, hay/silage mixes, HDL mixes	2 – 6	<b>Shaftal</b>
	Mid- late	<b>Vista</b>	Bal.	Low-neutral pH, hay/silage mixes, HDL mixes	1 – 4	<b>Bolta, Viper, Paradana</b>
	Mid- late	<b>Zulu II</b>	A-leaf	Deep loamy/sandy soils, low pH	3 – 6	<b>Arrowtas, Zulumax</b>
	Late - very late	<b>Laser</b>	Pers	Most soils, neutral pH, hay/silage, HDL mixes	2 – 6	<b>Shaftal, Turbo</b>
<b>Medics</b>	Early	<b>Sultan-SU</b>	barrel	Extensive crop/sheep zone, SU tolerant	2 – 10	<b>Caliph, Parabinga, Jester</b>
	Early - mid	<b>Scimitar</b>	burr	Crop/sheep zone, salinity tolerant	2 – 10	<b>Santiago, Cavalier</b>
	Mid	<b>Jester SU</b>	barrel	Extensive crop / sheep zone, SU tolerant	2 – 10	<b>Jester, Caliph, Parabinga</b>



Pasture grasses



Pasture legumes

## Lucerne, Forages and Fodder Crops

	Plan for	Barenbrug's proprietary variety		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>
	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, Rangi, 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, Soveriegn, 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>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, Endevaur</b>
	Barley	<b>Magnate</b>		Apr - Aug sowing, graze/silage/hay	40 – 120	<b>Dictator 2, 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>





	Plan for	Barenbrug's proprietary variety		Use pattern	Typical kg/ha	Similar fit to:
<b>Vetch</b>	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-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. Limited availability and/or commercialisation TBC.

**dip** = diploid, **tet** = tetraploid; lucerne numbers indicate dormancy group; **sub** = ssp subterraneum, **yan** = ssp yannicum, **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.



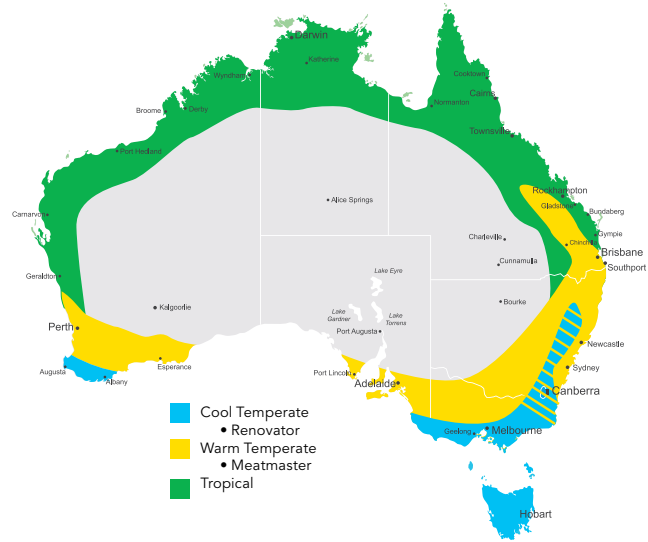
# Temperate premium pasture blends

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	
<b>W</b>	Wool	All clovers AgriCote
<b>E</b>	Equine	AgriCote grasses available
<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 - 2024 guide

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



## Renovator pasture blends - 2024 guide

Plan for	Min.av.rain	Suitable option	Contains % by weight:	
<b>5 years+</b> Highest performance D B L	700mm+	<b>Renovator HR</b> 25 – 30 kg/ha	50%	4front NEA2 perennial ryegrass (t)
			34%	Array NEA2 perennial ryegrass (d)
			8%	Storm white clover
			8%	Weka white clover
<b>5 years+</b> Performance, wet sites D B L E	700mm+	<b>Renovator 850i</b> 25 kg/ha	40%	Rohan NEA2 perennial ryegrass (d)
			40%	Array NEA2 perennial ryegrass (d)
			10%	Storm white clover
			10%	Weka white clover
<b>3 years+</b> Oversowing, performance D B L C	550mm+	<b>Renovator ELITE</b> 20 – 30 kg/ha (use 25kg/ha for a pure stand)	50%	4front NEA2 perennial ryegrass (t)
			50%	Shogun hybrid ryegrass (t)
<b>5 years+</b> Performance, dry summers D B L W E	700mm+	<b>Renovator 700+</b> 25 kg/ha	32.5%	Kidman NEA2 perennial ryegrass (d)
			32.5%	Maxsyn NEA4 perennial ryegrass (d)
			10%	Storm white clover
			12.5%	Monti sub clover
			12.5%	Denmark sub clover
<b>5 years+</b> Hardy, winter performance B L W E	550mm+	<b>Renovator Grazier</b> 12 – 25 kg/ha	30%	Kidman NEA2 perennial ryegrass (d)
			30%	Barberia perennial ryegrass (d)
			10%	Howlong cocksfoot
			15%	Monti sub clover
			15%	Campeda sub clover
<b>5 – 10 years+</b> Hardy, long-term pasture Salinity, drought, acidity tol. Heavier soils, potentially wet sites B L W E	450mm+	<b>Renovator 500+</b> 12 – 18 kg/ha	32.5%	Fortune tall fescue
			20%	Barberia long rotation ryegrass (d)
			10%	Howlong cocksfoot
			10%	Holdfast GT phalaris
			20%	Monti and Denmark sub clovers
			7.5%	Palestine strawberry clover
<b>5 – 10 years+</b> Persistent and productive long-term pasture for extensive grazing Most soil types, drought tolerant B L W E	500mm+	<b>Renovator GT</b> 12 – 18 kg/ha	20%	Holdfast GT phalaris
			7.5%	Howlong cocksfoot
			35%	Kidman NEA2 perennial ryegrass (d)
			15%	Monti sub clover
			15%	Campeda sub clover
			7.5%	Storm white clover
<b>1 – 2 years</b> All-year feed + hay/silage D B L C	550mm+	<b>Renovator SR</b> 25 kg/ha	30%	Tempo Italian ryegrass (d)
			50%	Hogan annual ryegrass (t)
			20%	Laser (Persian) annual clover
<b>3 years+</b> Oversowing, performance D B L C	550mm+	<b>Renovator ALLGRASS</b> 12 – 18 kg/ha (use 25kg/ha for a pure stand)	60%	4front NEA2 perennial ryegrass (t)
			40%	Barberia long rotation ryegrass (d)
<b>5 years+</b> Quality horse pasture B L W E	550mm+	<b>Renovator Equine</b> 30 – 50 kg/ha	30%	Fortune tall fescue
			30%	Governor AR1 perennial ryegrass (d)
			40%	Barberia long rotation ryegrass (d)

# Lucerne decision suite

## Lucerne preparation checklist

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

## Variety to fit the job

Plan for:		3–4+ years	5–8+ years	8–10+ years
Dedicated hay production	First choice	SARDI 10 ☹ Lucerne	SARDI 7 ☹ Lucerne	SARDI-Grazer Lucerne
Dual purpose hay and grazing	First choice	SARDI 10 ☹ Lucerne	SARDI 7 ☹ Lucerne	SARDI-Grazer Lucerne
Grazing/extensive pasture	First choice	SARDI 10 ☹ Lucerne	SARDI-Grazer Lucerne	SARDI-Grazer Lucerne
	Good alternative		SARDI 7 ☹ Lucerne	

Longevity increases →  
 Hay quality increases →  
 DM yield per annum increases ←  
 Grazing tolerance increases →

↑  
Sowing rate kg/ha increases



## Lucerne sowing rates

Annual rainfall	Marginal dryland (350 mm–450 mm)	Dryland (450 mm–600 mm)	Favourable dryland (600 mm–800 mm)	High rainfall/irrigated (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 oversow 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.

## Oversowing options for winter dominant rainfall zones

Desired outcome	350 mm–450 mm	450 mm–600 mm	600 mm–800 mm	800 mm+ / irrigated
<b>Oversow in autumn with a one-year species, terminate crop in following summer</b>				
Keep lucerne for 1 more year	Express Forage oat 20–60 kg/ha	Vortex Annual ryegrass 10–15 kg/ha	Fuze Annual ryegrass 10–15 kg/ha	Hogan Annual ryegrass 15–20 kg/ha
	<b>Oversow with a biennial species. Consider chicory for stands with many grass-weeds</b>			
Keep lucerne for 2 more years	Hulk Italian ryegrass 8–12 kg/ha	Tempo Italian ryegrass 10–15 kg/ha	Commander Chicory 4–8 kg/ha	Arise Italian ryegrass 15–20 kg/ha
	<b>Over-sow with a long-rotation grass</b>			
Keep lucerne for 3–4 more years*	Bareno Grazing brome 6–10 kg/ha	Barberia Hybrid ryegrass 10–12 kg/ha	Shogun Hybrid ryegrass 12–15 kg/ha	Shogun or Samurye** Hybrid ryegrass 15–20 kg/ha
	<b>Over-sow in autumn with a one-year species, terminate crop in following summer</b>			
Keep lucerne indefinitely*	Horizon Phalaris 2–3 kg/ha	Holdfast GT Phalaris 3–5 kg/ha	Maxsyn Perennial ryegrass 10–15 kg/ha	4front Perennial ryegrass 15–20 kg/ha
	<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.</b>			

\* 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.

\*\* Samurye NEA12 hybrid ryegrass is only recommended for dairy and beef cattle.

↔ = interchangeable

# Spring strategies for run-out and winter damaged pastures

Scenario 1: Some damage / bit run-out (50 – 70% useful species) → Over-sow with 3 – 4 year option				
Options:	500 – 600 mm rain	Barberia	10 – 15 kg/ha	
	600 – 750 mm rain	Shogun / Samurye	15 – 20 kg/ha	
	750+ mm rain	Renovator Elite	20 – 30 kg/ha	
Strategy:				
Late winter	Early spring	Late spring	2 years	3 – 4 years' time
Grazed down as low as possible, consider broad-leaved spray	→ Spread or drill 3 – 4 year grasses, harrow	→ Graze again when new growth OK	→ Spring in 2 – 3 years, review, consider Summer Forage	→ Full pasture renewal in autumn 2 – 3 years

Scenario 2: Moderately damaged or run-out (30 – 50% useful species) → Over-sow with Italian ryegrass or 2-3 year Hybrid ryegrass				
Options:	500 – 600 mm rain	Hulk / Tempo	10 – 20 kg/ha	
	600 – 750 mm rain	Tempo / Arise / Shogun	12 – 25 kg/ha	
	750+ mm rain	Arise / Shogun Samurye	15 – 30 kg/ha	
Strategy:				
Late winter	Early spring	Late spring	2 years	3 – 4 years' time
Grazed down as low as possible, consider broad-leaved spray	→ Spread or drill hybrid or Italian ryegrass, harrow	→ Graze again when new growth OK	→ Review in next spring, consider summer forage	→ Full pasture renewal

Scenario 3: Severely damaged or run-out (<30% useful species) → Terminate and sow summer forage → Re-sow next autumn				
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
Grazed through until Aug - Sep	→ Spray-out, prepare a good seed bed	→ Forage crop as per Summer Forage Decision Tool	→ Graze forage crop out by late autumn/winter next year	or → Annual rye or forage cereal next winter, resow autumn year after

Summer forage decision tool	Enterprise	Climate	Quick feed/single graze	Multiple graze	Carry into autumn or later
	Intensive dairy/ beef/finishing often irrigated	→ Hot summer	→ Revolution BMR Forage sorghum	→ Nudan Forage sorghum Commander Chicory	→ Lush Forage sorghum
		→ Mild summer	→ Falcon Leafy turnips (quick) → Dynamo Turnips (single)	→ Interval Rape Commander Chicory	→ Caledonian Kale
	Extensive sheep/ Beef, usually dryland	→ Hot summer	→ Revolution BMR Forage sorghum	→ Pearler Forage pennisetum Nudan Forage sorghum	→ Hunnigreen Forage sorghum
→ Mild summer		→ Falcon Leafy turnips	→ Leafmore Rape Commander Chicory	→ Long-season turnips or swedes	



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