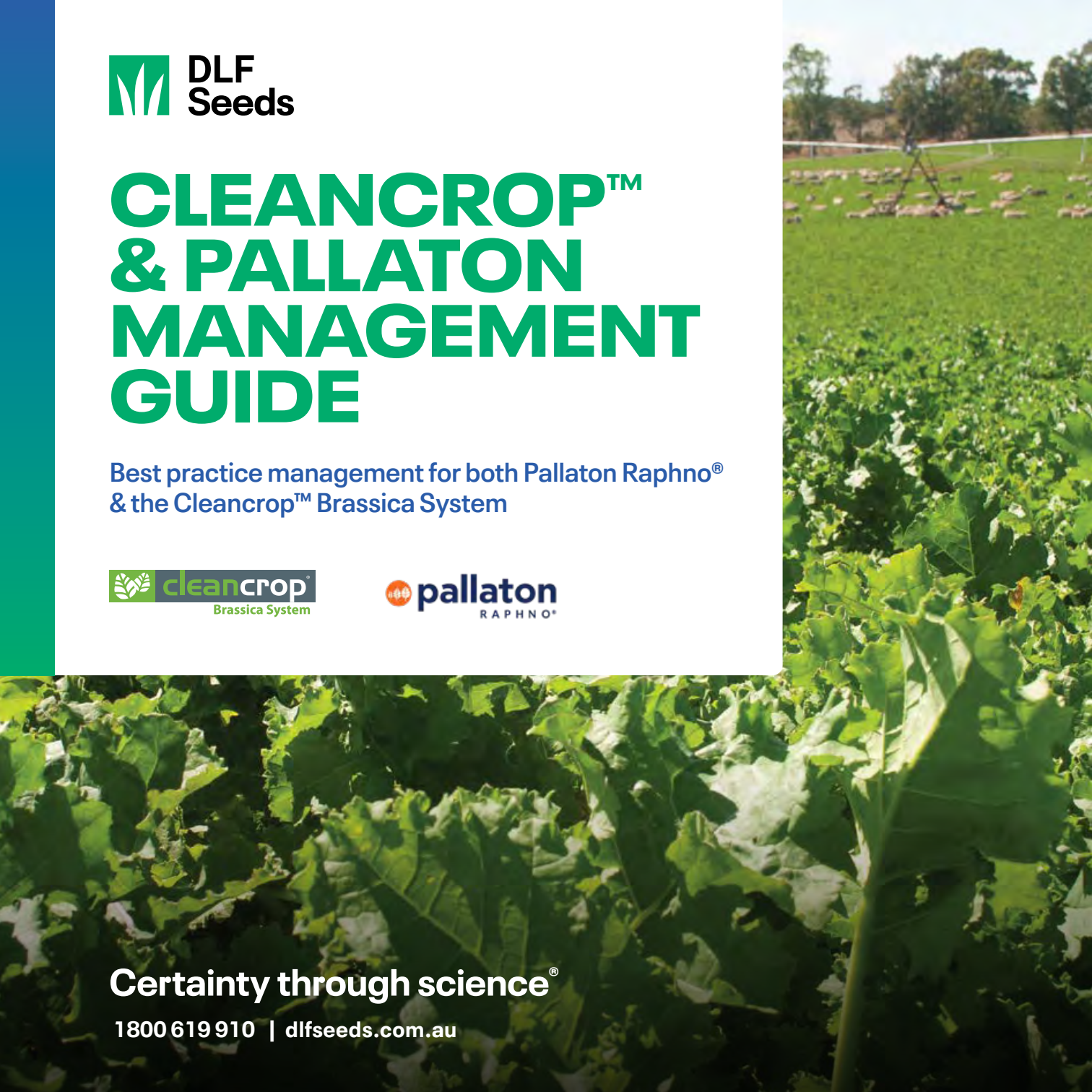
DLF Seeds

CLEANCROP™ & PALLATON MANAGEMENT GUIDE

Best practice management for both Pallaton Raphno® & the Cleancrop™ Brassica System

cleancrop Brassica System

pallaton RAPHNO®



Certainty through science®

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WELCOME TO THE PALLATON & CLEANCROP™ BRASSICA MANAGEMENT GUIDE

This guide brings together product information, grower guidelines and management best practices for both the Cleancrop™ Brassica System and Pallaton Raphno®.

Designed to support simple crop establishment, strong animal performance, improved liveweight gain, yield optimisation and over all on farm productivity.

Both the Cleancrop™ Brassica Management System and Pallaton Raphno® are available exclusively through accredited retailers under agency agreement.

To find your nearest stockist or learn more about these innovative forage solutions, visit **dlfseeds.com.au** or get in touch with your local rural retailer.

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A tip to help you navigate this document:

Whenever you see this ribbon, we're talking about Cleancrop™.

Whenever you see this ribbon, we're talking about Pallaton Raphno®.

Used for key

Beef Dairy Sheep

© DLF Seeds

WHAT'S THE DIFFERENCE?

Cleancrop™ Brassica System

Available now

Seed packaged with herbicide:

Featuring 5 innovative brassica cultivars, the Cleancrop™ Brassica Management system is a **crop and weed management solution** all in one pack. The range currently features Foundation forage rape, Firefly kale, Leafy turnip, Bulb turnip and Toto turnip.

Pallaton Raphno®

Available now

Seed only:

A high yielding, highly palatable brassica hybrid that provides multiple grazings, strong regrowth and excellent persistence. Designed for brassica growers seeking to maximise forage production and liveweight gains whilst bridging the summer/autumn feed gap.

COMING IN 2027

Cleancrop™ Pallaton Raphno® will bring the benefits of Pallaton's yield, persistence and palatability into the Cleancrop™ brassica system (seed + herbicide, packaged).

Launched in 2020

Developed by DLF Seeds* under the Forage Innovations joint venture with Plant & Food Research, Pallaton Raphno® is a raphanobrassica, a hybrid between *Brassica oleracea* (kale) and *Raphanus sativus* (radish).

The Pallaton featured in this guide, is not currently part of the Cleancrop™ Brassica Managment system.

*Pallaton Raphno® was developed by PGG Wrightson Seeds (operating in Australia as DLF Seeds) under the Forage Innovations joint venture with Plant & Food Research.

© DLF Seeds.

	cleancrop Brassica System	pallaton RAPHNO®
What it is	**A simple weed management system:** Seed + herbicide (Telar®)	Seed only (*raphanobrassica*)
Varieties	Firefly kale, Foundation forage rape, Bulb turnip, Leafy turnip, Toto turnip	**Single variety:** Pallaton Raphno®
Primary purpose	**Fodder + weed control:** A crop and weed solution all in one.	**Premium stock finishing:** Maximise weightgain and drymatter
Weed control	Yes. Telar® herbicide included	No herbicide included
Who it's for	Brassica growers seeking effective weed control to deliver cleaner feed now and cleaner paddocks for future pasture renovation.	Brassica growers ready to maximise forage production and livestock performance.
Grazings	**Varies by variety** (e.g. 6–10 weeks to first graze for Leafy turnip)	Up to 5+ grazings under ideal conditions
Sowing rate	**Varies by variety** (1-4 kg/ha)	8 kg/ha
Min. rainfall	**Varies by variety:** (500-600mm)	500mm per annum
Stocking rate	Standard brassica recommendations	Higher than traditional brassica, grows underfoot; requires careful management
Availability	Through accredited retailers and agents. Sold as a complete package.	Through accredited retailers and agents. Sold in 1ha/8kg seed bags.
Part of Cleancrop™ system?	Yes. All varieties are part of the system	Not yet. Cleancrop™ Pallaton Raphno® available spring 2027

© DLF Seeds.

BRASSICA

Cultivar details.

***Raphanobrassica* (Pallaton Raphno®):** Developed for its water use efficiency, aphid tolerance and grazing flexibility. Achieve 5+ grazings under ideal conditions and recommended management. Sow to fill the summer/autumn/winter feed gap.

Forage rape: Ideal for summer to winter feed with 1–3 grazings, forage rape is selected for its regrowth potential and suitability across sheep, beef and dairy systems. To control weeds and increase yield, sow Cleancrop™ Foundation forage rape.

Leafy turnip: Fast maturing and highly palatable, leafy turnips like Hunter and Pasja II provide up to 4 grazings, making them perfect for quick, high quality summer feed. To control weeds and increase yield, sow Cleancrop™ Leafy turnip.

Bulb turnip: Bulb turnips are ideal for dairy, beef, and sheep systems as a single graze crop. They are traditionally later maturing, offering an extended feed window and excellent keepability. To control weeds and increase yield, sow Cleancrop™ Bulb Turnip or Toto turnip.

Kale: A very high yielding, long maturing, single graze option for dairy, beef, and sheep systems, delivering a bulk supply of high quality feed through autumn and winter. To control weeds and increase yield, sow Cleancrop™ Firefly kale.

Used for key



Beef



Dairy



Sheep



© DLF Seeds.

CONTROL WEEDS INCREASE YIELD WITH CLEANCROP™

Controls 48 problem weeds: The Cleancrop™ Brassica Management System is a crop and weed management solution all in one.

Available under agency agreement, this simple system eradicates a range of key problem weeds commonly found in forage brassica crops. Cleancrop™ was developed by DLF Seeds* and Forage Innovations Limited (FIL) which is the largest forage brassica breeding company in the world.

SCAN ME

Cleancrop™ Brassica Management System introduction video.

PGG Wrightson Seeds

cleancrop Brassica System

Sold as a package

DLF Seeds cleancrop Brassica System = CLEANCROP™ BRASSICA SEED + TELAR® HERBICIDE

FMC

Telar® is manufactured by FMC and supplied as a package with Cleancrop™ seed by DLF Seeds.

CLEANCROP™ BRASSICA SEED

Cultivars that have been **bred to be tolerant** to the *sulfonylurea* **herbicide Telar®.**

TELAR® HERBICIDE

A broad spectrum herbicide that provides **excellent control of broadleaf weeds** from the pre-emerge stage.

Telar® is supplied by FMC.

© DLF Seeds. *CleancropTM was developed by PGG Wrightson Seeds (operating in Australia as DLF Seeds) under the Forage Innovations joint venture with Plant & Food Research.



TELAR® NOT APPLIED

Cleancrop™ Toto turnip with Telar® not applied - a high weed burden of Shepherds Purse and Fathen

TELAR® APPLIED

Cleancrop™ Toto turnip with Telar® herbicide applied - no Shepherds Purse or Fathen



© DLF Seeds.

Weeds controlled

Telar® herbicide controls the following key problem weeds.

Within 48 hours of sowing, apply Telar® at the pre-emergence stage.

- African turnip weed
- Brome grass#
- Ball Mustard
- Capeweed*
- Cape Tulip
- Deadnettle
- Docks
- Fathen#[1]
- Fumitory#[1]
- Hoary Cress[1]
- Indian Hedge Mustard*
- King Island melilot
- Lincoln weed
- Loosestrife
- Mintweed
- Mouse-eared Chickweed
- Mustards[1]
- Onion grass[1]
- Paterson's Curse
- Pimpernels
- Rough poppy
- Saltbush
- Saffron thistle
- Shepherds Purse
- Soursob
- Slender thistle
- Spear thistle
- Storksbill
- Tree hogweed
- Turnip weed
- Wild Radish[1]
- Wild Turnip[1]
- Wireweed

* Pre-sowing and post sowing pre-emergence (PSPE) only. # Suppression when applied pre-sowing and post sowing pre-emergence (PSPE).
[1] Control when applied post-emergence. For a full list of weeds controlled please refer to the Telar® label or dlfseeds.com.au.



In 2024, we planted Cleancrop™ Leafy turnip in a paddock as a trial looking at production and weed control. The weed control has been excellent and the amount of dry matter grown is outstanding. Our lambs ate the crop well and have been putting on 300 grams a day. Compared to our normal pastures in late autumn/early winter Cleancrop™ Leafy turnip is a lot more productive and is giving us excellent weed control at the same time.

Chase Edwards,
Beermullah, WA (2024)

© DLF Seeds.

cleancrop®
Brassica System

HOW DOES IT WORK?



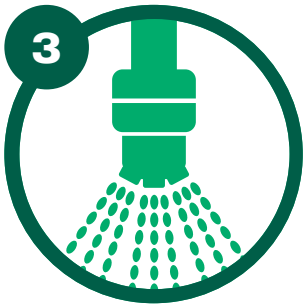
EASY AS 1, 2, 3



PREPARE PADDOCK



PLANT CLEANCROP™



SPRAY WITH TELAR®

© DLF Seeds.

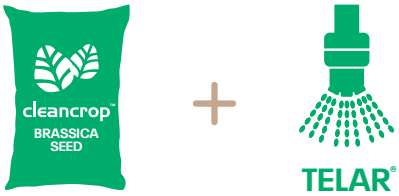
DEAL WITH YOUR WEEDS BEFORE THEY AFFECT YOUR CROP

Only Cleancrop™ combines the power of broad spectrum herbicide Telar® and forage brassica cultivars **bred to be tolerant to the sulfonylurea herbicide Telar®**.

Telar® controls up to 48 key weeds from establishment, freeing up moisture and nutrients to give your crop the best chance of maximising performance and delivering a superior return on your seed investment.

Telar® cannot be used with conventional brassicas.

> **It's a great product for paddocks with high weed pressure. Cleancrop™ minimised weeds like Wireweed and Fathen making it easier to replant grass afterward.**
>
> **Rodney Bakker, Dairy Farmer**
> Timboon, VIC



The **Cleancrop™** Brassica System (seed + herbicide) package enables you to control your weeds at the time of sowing.

Cleancrop™ Benefits:

- **Control weeds** as germination occurs*.
- **Low moisture required#** to activate Telar® herbicide.
- **No soil incorporation required.**
- **Adaptable to all methods of sowing** (direct drill/cultivation).

*For the weeds listed on page 9 that require Telar® to be applied as a foliar spray at post-emergence, an application can be made when the crop is at the fourth true leaf stage or later. For weeds listed in page 9, please refer to Telar® label for control on weeds.

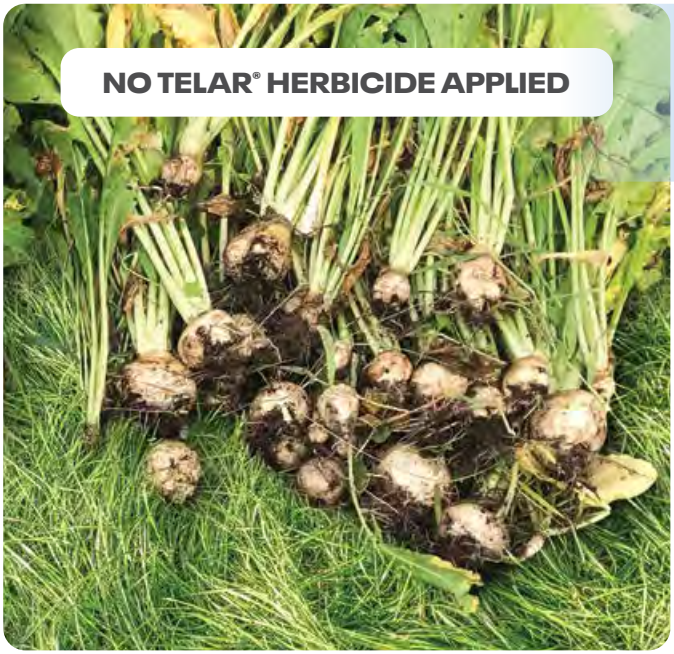
Warm, moist conditions following treatment promote the activity of Telar®. Cold, dry conditions delay the activation of Telar®.

© DLF Seeds.

WHY USE IT?

No other forage brassica system combines the power of traditionally bred herbicide tolerant plants with a broad spectrum herbicide (Telar®) to maximise crop performance.





The Cleancrop™ Leafy turnip was remarkable resulting in very few Fathen weeds across the whole paddock leading to an amazing crop. We were lucky to get good rain in December that helped the crop overall. There were very little weeds the following autumn when we sowed Reason AR37 perennial ryegrass which is an added benefit with the Cleancrop™ Brassica System.

Brendan (Titch) Kenna
Ellerslie, VIC (2024)

© DLF Seeds.

SIMPLE PLANNING



Give your crop a head start
Weeds are controlled right from the start.

cleancrop BRASSICA SEED + TELAR®

All in one pack
Receive the exact amount of seed and chemical for the job.

MAXIMISE PERFORMANCE



Reduce competition for moisture and nutrients.

Manage historically difficult to control weeds.

Increase performance
Excellent agronomic cultivars.

ONGOING BENEFITS



Maximise yield = LOW c/kgDM.

Short plant back*
Only 3 month grass and clover plant back period (perennial, hybrid, Italian and annual ryegrass mixed with red/white clover).

Cleaner new pasture and renovated paddocks.

© DLF Seeds.

*Short plant back period is rainfall dependent.

CLEANCROP™ CULTIVARS

SCAN ME

Firefly kale video (Caitlin Badcock).

Firefly kale

CLEANCROP™ BRASSICA MANAGEMENT SYSTEM

Weeks to grazing	21-31
Sowing rate	4kg/ha
Rainfall	Minimum 600mm p.a
Used for	



Very good winter hardiness

Excellent pest and disease tolerance

High leaf to stem ratio



Quality feed with excellent leaf to stem ratio.

Firefly kale is a high yielding, intermediate height kale with a high leaf-to-stem ratio. Sow for soft palatable stems, winter hardiness and excellent crop utilisation by livestock (due to single plant selection for soft stems during the plant breeding process).

Part of the Cleancrop™ Brassica System:
Cultivar bred to be tolerant to the sulfonylurea herbicide Telar®, a broad spectrum herbicide that provides excellent control of broad leaf weeds from the pre-emerge stage.

Part of the Cleancrop™ brassica system:
The simple weed management system, supplied as a complete package of seed + herbicide

PGG Wrightson Seeds

cleancrop Brassica System

© DLF Seeds.

Foundation forage rape

CLEANCROP™ BRASSICA MANAGEMENT SYSTEM

Weeks to grazing	10-13
Sowing rate	4kg/ha
Rainfall	Minimum 500mm p.a
Used for	

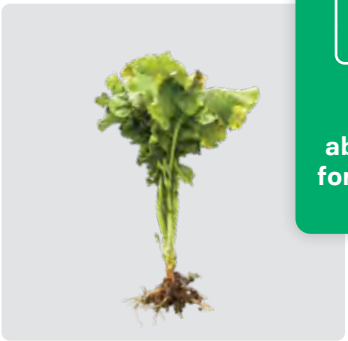
The cleaner forage rape.

Providing excellent crop utilisation during grazing, Foundation forage rape is an early to mid maturing, multi graze option with a high leaf-to-stem ratio.

Part of the Cleancrop™ Brassica System:
Cultivar bred to be tolerant to the sulfonylurea herbicide Telar®, a broad spectrum herbicide that provides excellent control of broad leaf weeds from the pre-emerge stage.

PGG Wrightson Seeds

cleancrop Brassica System



Strong aphid tolerance package

Winter resilience (where plant populations allow)

High leaf percentage for strong crop utilisation



Part of the Cleancrop™ brassica system:
The simple weed management system, supplied as a complete package of seed + herbicide

SCAN ME

to learn more about Foundation forage rape (data).

© DLF Seeds.

Bulb turnip

CLEANCROP™ BRASSICA MANAGEMENT SYSTEM

Weeks to grazing	12–16
Sowing rate	1kg/ha
Rainfall	Minimum 600mm p.a
Used for	

High yielding, multi season feed.

Cleancrop™ Bulb turnip is a high-yielding, globe bulb turnip with medium maturity suitable for sowing from late spring through to early summer to supply feed in summer, autumn and early winter months. Sow Cleancrop™ Bulb turnip from late spring, through to late summer.

Part of the Cleancrop™ Brassica System:
Cultivar bred to be tolerant to the sulfonylurea herbicide Telar®, a broad spectrum herbicide that provides excellent control of broad leaf weeds from the pre-emerge stage.

PGG Wrightson Seeds

cleancrop Brassica System



High yielding bulb turnip

Suitable for summer/autumn/ winter feed

Pair with Toto for extended seasonal feed



Part of the Cleancrop™ brassica system:
The simple weed management system, supplied as a complete package of seed + herbicide

© DLF Seeds.

Leafy turnip

CLEANCROP™ BRASSICA MANAGEMENT SYSTEM

Weeks to grazing	6–10
Sowing rate	4kg/ha
Rainfall	Minimum 600mm p.a
Used for	

Fast establishing with excellent plant persistence.

Sow Cleancrop™ Leafy turnip seed for a multi graze Pasja II/Hunter type turnip that provides sheep, beef and dairy cattle with a flexible grazing option over summer and autumn. Cleancrop™ Leafy turnip is a fast-establishing, seed variety with reduced flower bolting and 25% more total yield than Pasja II leafy turnip (from multiple grazings).

Part of the Cleancrop™ Brassica System: Cultivar bred to be tolerant to the sulfonylurea herbicide Telar®, a broad spectrum herbicide that provides excellent control of broad leaf weeds from the pre-emerge stage. Supplied as a complete package of seed + herbicide

PGG Wrightson Seeds

cleancrop Brassica System



Fast establishing



Palatable with high stock acceptance



Excellent plant persistence after multiple grazings



25% greater yield than Pasja II



© DLF Seeds.

Toto turnip

CLEANCROP™ BRASSICA MANAGEMENT SYSTEM

Weeks to grazing	8–12
Sowing rate	1–2kg/ha
Rainfall	Minimum 600mm p.a
Used for	

High yields and early maturity

Sow early maturing Cleancrop™ Toto turnip seed for a high yielding, bulb turnip that can be grazed from 56 days after sowing. The tankard bulb shape coupled with great bulb softness promotes excellent crop utilisation by stock whilst providing farmers with palatable feed during summer and autumn.

Part of the Cleancrop™ Brassica System:
Cultivar bred to be tolerant to the sulfonylurea herbicide Telar®, a broad spectrum herbicide that provides excellent control of broad leaf weeds from the pre-emerge stage. Supplied as a complete package of seed + herbicide.

PGG Wrightson Seeds

cleancrop Brassica System



High yield potential

Palatable with high stock acceptance

Early maturing summer turnip

Tankard bulb type for excellent utilisation

© DLF Seeds.

COMING SOON
AVAILABLE IN SPRING 2027

Pallaton Raphno® is coming soon to the Cleancrop™ system.

Pallaton Raphno®

CLEANCROP™ BRASSICA MANAGEMENT SYSTEM

Weeks to grazing	8
Sowing rate	8kg/ha
Rainfall	Minimum 500mm p.a
Used for	

Coming soon to the Cleancrop™ Brassica System: Cultivar bred to be tolerant to the sulfonylurea herbicide Telar®, a broad spectrum herbicide that provides excellent control of broad leaf weeds from the pre-emerge stage.

Increase liveweight production per hectare and achieve 5+ grazings.*

Pallaton Raphno® is a *raphanobrassica*, a hybrid between *Brassica oleracea* (kale) and *Raphanus sativus* (forage radish) that is ideal for stock finishing; providing increased liveweight production. It is high yielding and offers flexible grazing as early as 56 days after sowing. It is persistent under multiple grazings and is highly palatable to stock. Recommended for experienced brassica growers.

PGG Wrightson Seeds

cleancrop Brassica System



High yielding and aphid tolerant

High palatability and excellent water use efficiency

Strong plant persistence under multiple grazings

5+

38% increase in water use efficiency* (WUE)

38%

*relative to Goliath® forage rape

* Achieve 5+ grazing's under ideal conditions and recommended management.

© DLF Seeds.



cleancrop®
Brassica System

CLEANCROP™ BRASSICA SYSTEM

Grower Guidelines

© DLF Seeds.



© DLF Seeds.

BEST PRACTICE GUIDELINES

FOLLOW THE SOWING GUIDELINES TO MAXIMISE CLEANCROP™ PERFORMANCE

Cleancrop™ packages:

All **Cleancrop™ Brassica System** cultivars are ordered on a per hectare (ha) basis and include 20g/ha Telar®.

Cleancrop™ cultivar	Sowing rate per ha
Leafy turnip	4kg/ha
Toto turnip	1kg/ha dryland 2kg/ha summer safe/ irrigated
Bulb turnip	1kg/ha
Firefly kale	4kg/ha
Foundation forage rape	4kg/ha

The Cleancrop™ Brassica System is unique.

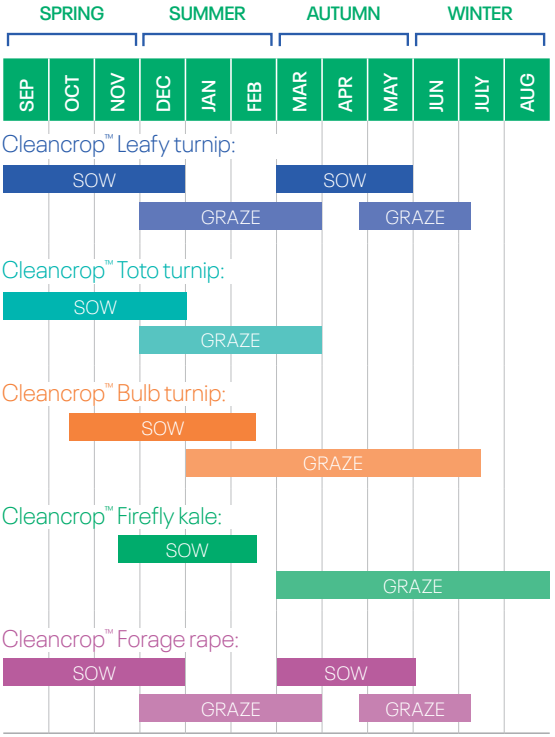
DLF Seeds sell it as a package, i.e. Seed + Chemical (one item cannot be purchased without the other).

Agents/retailers have to be accredited to sell the Cleancrop™ Brassica System to ensure stewardship is maintained.

© DLF Seeds

1 CROP PLANNING

Cultivar selection guide:



TIP

The Cleancrop™ Brassica System should not be in the crop rotation 18 months prior to planting maize or sorghum, and 24 months before fodder beet or potatoes.

Paddock Selection:

- Identify target paddock which is in need of renovation and has a known history of weed problems which Telar® herbicide can control. For weeds Telar® can control, see page 9 of this guide.
- Brassicas should not be sown in the same paddock for more than two years in a row. There should be a minimum of five years before brassicas are resown again in the same paddock.
- Brassica crops are often sown into paddocks that need renovating. It is important to take a soil test at least six months prior to sowing so nutrient deficiencies can be corrected prior to crop establishment.

Conventional sowing:

- Spray the target paddock out with the correct rate of glyphosate and penetrant to remove existing vegetation.
- At least 3 days after spraying, hard graze to remove vegetation prior to cultivation.
- Cultivate to prepare a fine, firm and weed free seedbed.

Direct drilling:

- Best practice is to double spray, with the initial spray out at least 6 weeks prior to sowing.
- A second spray with glyphosate occurs prior to drilling and should include an insecticide.
- Telar® can be applied with the second spray of glyphosate. **Do NOT graze paddock after Telar® has been sprayed within 48 hours.**
- Direct drill with soil moisture present, sow seed at a depth of approximately 10mm and roll if needed within 48 hours.

© DLF Seeds.

2 PRE SOWING FERTILISER

- All brassica crops respond strongly to high rates of Nitrogen and Phosphate. Fertiliser should be either applied during the final cultivation and worked into the seed zone OR, applied down the drill below the seed.
- Apply Nitrogen at 30-40 kg/ha and Phosphate at 40-60 kg/ha with additional Boron if required.
- Optimum pH for a brassica crop is in the range of 5.8 to 6.0 (in water).

> **We recommend using a starter fertiliser when sowing. This is in the form of DAP or MAP at rates up to 150kg/ha.**
>
> **Tom Hunt,**
> Extension Agronomist, DLF Seeds

3 GATE TAGS

- Apply Cleancrop™ Brassica System gate tags to all gates that can be used to access the paddock in which the Cleancrop™ brassica has been sown.

! Any non Cleancrop™ brassica crops sprayed with Telar® will result in crop death.

4 SOWING

- Sow seeds at a depth of 10 mm; or if broadcasting, cover seeds prior to spraying.
- Sow the most suitable brassica for your farms needs, and at a soil temperature of 10°C and rising in spring, and no lower than 12°C in autumn.

TIP In the event of a crop failure (within three months) do not replant with any crop other than Cleancrop™ triticale, or wheat.

© DLF Seeds.

5 SOW AND SPRAY

- Spray Telar® at the pre-emergent stage (i.e. prior to emergence), this should be within 48 hours of sowing.
- If the initial pre emergence Telar® application is missed, Telar® can be applied post emergence at 20g/ha when the Cleancrop™ brassica has 4 true leaves. This is only recommended for specific weeds and may result in poor control of some species.
- **Note:** Telar® application at crop emergence will cause crop yellowing and/or growth reduction.
- To help prevent the development of tolerant weeds, Telar® or any other sulfonylurea herbicide should not be applied to the same paddock more than two times within four years.
- After Telar® has been applied; clean up spray equipment to avoid subsequent injury to crops other than tritcale or wheat. Immediately after spraying, thoroughly remove all traces of Telar® from mixing and spraying equipment by using an appropriate tank washing solution as per the manufacturer's instructions.

WATCHOUTS

- Emulsifiable concentrate (EC) insecticide formulations or fluid fertilisers should not be tank mixed with Telar® when applied post emergence to Cleancrop™ brassica crops due to potential crop damage.
- Immediately after spraying, thoroughly remove all traces of Telar® from mixing and spraying equipment by using an appropriate tank washing solution as per the manufacturer's instructions.
- When mixing Telar®, continuous agitation is required to keep the product in suspension. Use Telar® herbicide spray mixtures within 24 hours of preparation, as product degradation may occur.

Note: Failure to remove traces of Telar® from spray equipment may damage future crops after spraying due to tank residue.



We sowed Cleancrop™ Leafy turnip on our farm last year by direct drilling. I applied the Telar® with Glyphosate and Insecticide two days after sowing and got a great result.

Tom Hunt,
Extension Agronomist, DLF Seeds

© DLF Seeds.

6 GRAZING AND MANAGEMENT

Post emergence fertiliser:

- A post emergence application of Nitrogen should be applied after 3-5 weeks (just before canopy closure). Consult your Agronomist for advice on the correct type and rate or fertiliser.
- Where a second Telar® application is required, contact your accredited Cleancrop™ retailer for Telar®.

Grazing recommendations:

- Ultrastrike® seed treatment has a 42 day after sowing (DAS) withholding period for Leafy turnips and 56 days after sowing for Bulb turnip, Toto turnip, Firefly kale & Foundation forage rape.
- Take note of crop maturity requirements to maximise yield.
- If a second application of Telar® has been applied (post emergence). The grazing withholding period is 14 days after Telar® has been applied.

7 RE-CROPPING OPTIONS

- In an event of a crop failure (within 3 months) do not replant with any crop other than Cleancrop™ Brassica System (as detailed on the Telar® label), wheat or triticale. Existing vegetation cannot be grazed until at least 14 days after the last Telar® application.
- At least 3 months after Telar® application the paddock can be sown into pasture (perennial, hybrid, italian & annual ryegrass), red & white clover, if sufficient rainfall or irrigation has been applied). Ryecorn (cereal rye) can be sown 3 months after application.
- Prior to all other cropping options, crop tolerance should be determined by small pot bioassay prior to planting and discussed with your local accredited Cleancrop™ Brassica System representative.

> **The benefits of Cleancrop™ are really in the name. Because of the tolerance to Telar®, there's great yield and regrowth capabilities, which increases grazing efficiency and ensures cleaner paddocks.**
>
> **Isaac Berry,**
> Technical Services Manager, DLF Seeds

© DLF Seeds.

8 PREVENTION

- **Cleancrop™ brassica seed is Ultrastrike® treated:** Ultrastrike® is a broad spectrum 'film coat' that provides establishing brassica seedlings with extensive protection.
- Thiram fungicide effective against the 'damping off' diseases, Pythium and Fusarium.
- An insect prevention programme is required near the time of sowing for the best chance of seedling establishment.

SCAN ME to learn more about checking for pests (Heather Cosgriff).

INSECT PESTS
Cutworm, Wireworm, Aphids, Red Legged Earth Mite, Blue Oat Mite

SEEDLING DISEASES
Pythium & *Fusarium*

Ultrastrike®

Ultrastrike® seed treatment helps lay the foundation for a high yielding crop.

For more details on Ulktrastike® seed treatment, See page 46 of this guide

Slugs
Always apply slug bait in direct drill situations.



Rutherglen bug
Apply an appropriate insecticide before or after sowing to high risk paddocks.



Lucerne flea
Apply an appropriate insecticide before or after sowing.



Cockchafer
Thorough cultivation in spring should reduce populations.





Increase in bulb size using Cleancrop™ Brassica System due to minimal weed competition.

© DLF Seeds.

POST-EMERGENCE MONITORING

Continue to monitor Cleancrop™ brassicas after sowing.

Brassica crops respond well to a post-emergence application of Nitrogen (3-5 weeks after sowing and just before canopy closure is obtained). Contact your local accredited agent/retailer to find out more about recommended fertiliser types and application rates.



© DLF Seeds.

RECOGNISING PESTS & DISEASES

Avoid pest and disease problems with recommended monitoring, prevention and control.

Pest and disease problems can be avoided by good monitoring, prevention and control.

- Pests
- Diseases



Aphids:
If identified in the crop, apply an insecticide.



Greasy Cutworm:
Apply an appropriate insecticide as soon as damage is seen.



Leaf Miner:
Apply an appropriate insecticide when early damage is identified.



Diamond Back Moth:
Apply an appropriate insecticide when early damage is identified.



White Butterfly:
Apply an appropriate insecticide when early damage is identified.



Alternaria:
Plough cruciferous residue in completely and use long crop rotations. Utilisation of infected leaf tissue can reduce impact of infection.



Black Rot:
Be mindful of crop rotation and bury previous crop debris.



Clubroot:
Be mindful of crop rotation with brassicas.



Downy Mildew:
Plough cruciferous residue in completely and use long crop rotations. Utilisation of infected leaf tissue can reduce impact of infection.



Dry Rot:
Be mindful of crop rotation and minimise crop residual in second year crops.



Wirestem/Damping off:
Ultrastrike® brassica seed treatment will provide some protection.

© DLF Seeds.



WEEDS:

Controlled with Telar® post emergence:

Wild brassicas will often germinate later in the season. In very dry seasons, Fathen may also have a second germination. If these weeds appear in your crop, activate the second spray of Telar® by consulting your accredited agent. Apply Telar® at 20g/ha in this post-emergence application when brassicas are at least at the fourth true leaf stage.

Best results are obtained when Telar® is applied to young, actively growing weeds (less than 5cm tall or across).

Warm moist conditions following treatment promote the activity of Telar® while cold, dry conditions delay the activity of Telar®.

EC (Emulsifiable concentrate) insecticide formulations, or fluid fertilisers should NOT be tank mixed with Telar® when applied at the post-emergence stage to Cleancrop™ brassica cultivars due to potential crop damage.
Do not mix Telar® herbicide with other products unless directed.

To help prevent the development of resistant weeds, Telar® herbicide or any other sulfonylurea herbicide, should not be applied alone (i.e. without an appropriate tank mix herbicide)to the same paddock no more than 2 times within 4 years.

Low temperatures, high soil pH, low rainfall and low soil organic matter (SOM) can result in longer residues of Telar®. These factors can result in a plant back period of more than 3 months. Consult your accredited Agent/DLF Seeds Sales Agronomist for more information.

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Isaac Berry, DLF Seeds Technical Services demonstrating the difference between Cleancrop™ Foundation forage rape (right) and standard forage rape (left) in side by side comparison.

© DLF Seeds.

GRAZING AND MANAGEMENT

1 Don't allow stock sudden, unrestricted access to brassica crop

Sudden access to brassica crops can upset the balance of rumen microbes, resulting in animal health challenges such as scouring and rumen acidosis. A gradual transition to a new feed source is required.

- Start by grazing the crop for no more than one to two hours per day.
- Ensure plenty of long-stem fibre supplements (baleage, silage, hay and/or straw) are available to stock.
- During transitioning, increase feed allocation of brassica crops in small 15-20% increments every two days, building up to a maximum allowance over at least 10-14 days.

A full rumen is required before animals are shifted onto crops.

2 At all times, give livestock access to fresh water

Although the water content of brassicas is high, it is recommended that livestock has access to fresh water at all times.

Limited water intake causes livestock dry matter intake to decline.

> **The choice of sowing Cleancrop™ Toto turnip, despite a bit more management, was a great change to our rotations. The weed control has been outstanding, truly living up to its name. We saw yields of 18-20 tonnes per hectare, with the cows adapting quickly to the new forage.**
>
> **Damien Cocker,**
> Dairy Farmer, Sheffield, Tasmania

© DLF Seeds.

3 Feed extra fibre prior to and while grazing brassica crops

Forage crops are highly digestible and do not contain much 'effective fibre'. Offer livestock a source of fibre while grazing crops, and ensure the supplementary fibre is of good quality.

Feeding extra 'effective fibre' means:

- More chewing and increased salivation to help maintain rumen pH.
- Slower flow of feed through the rumen and gut for a more effective rumen fermentation.
- Increased cud chewing to support good digestion, which in turn helps to prevent gorging, facilitates rumen microbes adjustment to the feed and, maintains normal rumen function.

Once feed transition is complete, offer:

At least 20% of the diet as good quality fibrous supplement or runoff pasture for non-lactating dairy cattle, beef cattle and sheep.*

No more than 35% of the diet as crop for lactating cows, due to risk of brassica milk taint.

Ideally no more than 80% of the diet as crop for drystock.

*Runoff pasture may not provide adequate fibre intake for cattle, therefore it is recommended that a quality fibre supplement is offered.

> **The cattle loved it and transitioned smoothly; now the girls sit and wait at the gate when moving paddock during the summer feed rotation. Importantly though, milk yields stayed consistent over the summer, which is what we set out to do with this product.**
>
> **Rodney Bakker**
> Timboon, VIC



DRY MATTER (DM) YIELD ASSESSMENT

TIP

Assess the amount of feed on offer (kgDM/ha) to calculate feed allocation and/or stocking rate.

Always take a DM% when calculating crop yield and never use book values - assuming DM% can significantly over or under estimate feed value.

© DLF Seeds.

CROP MANAGEMENT

MATURITY DATES

TIP

It is important that crops are only grazed once the cultivar has reached its specified maturity date.

FLOWERING/BOLTING

TIP

Flowering or bolting (elongated stem) crops can potentially lead to animal health issues. Contact your Veterinarian or Agent for advice if flowers or bolters are present in your crop prior to grazing.

GRAZING MANAGEMENT

CROP ALLOCATION

TIP

Avoid increasing the crop allocation per animal if you observe poor utilisation of crops and/or animals appear to be losing condition or not gaining weight.

FEEDING MANAGEMENT

TIP

When break feeding, long narrow breaks offer livestock more space to graze than square breaks.

This encourages crop utilisation and even grazing of bulb and leaf (turnip), or stem and leaf (forage rape and kale).

“

We’ve always grown conventional turnips, but we had to switch feed due to one of our usual herbicide options going off production.

Damien Cocker,
Dairy Farmer

”

Damien was struggling to fill the summer feed gap. After losing significant milk productivity from his 600 Friesian Jersey cross cattle throughout the drier months, Damien needed a long-lasting solution to address the seasonal instability...

SCAN ME for full article.

© DLF Seeds.



© DLF Seeds.



pallaton RAPHNO®

Available through accredited retailers under agency agreement only

SCAN ME Pallaton Raphno® video (Matt Charles).

SCAN ME Pallaton Raphno® video (Michael Grant).

© DLF Seeds

THE SIX TRAITS OF PALLATON:



Aphid tolerance:

32% increase in aphid tolerance relative to forage rape. Pallaton also has a higher level of tolerance to Cabbage White Butterfly and Diamondback Moth.



Grazing flexibility:

Graze Pallaton as early as 56 days after sowing (DAS), to maximise crop utilisation and regrowth potential. A spring sown crop when sown into warm soil temperatures should aim to be grazed from 56DAS and finished within 30–40 days. Autumn sown Pallaton (into decreasing soil temperatures) may be longer to first grazing.



Clubroot tolerance:

Pallaton Raphno® has a high tolerance to Clubroot which is an issue emerging in Victoria and southern New South Wales. Although Pallaton is highly tolerant to Clubroot, it is still susceptible to other brassica diseases.



Plant persistence under multiple grazings:

Pallaton has excellent regrowth potential and has the ability to persist for up to 5+ grazings over a 12 month period under ideal conditions and with recommended management.



Water use efficiency:

38% increase in water use efficiency (WUE) relative to Goliath® forage rape. Featuring a sizeable taproot, Pallaton can be tolerant to drought once established.



High forage yields:

14% increased yield advantage relative to Goliath® forage rape in a multi-graze system (total cumulative yield from repeat harvest).

© DLF Seeds.

PALLATON RAPHNO® PERFORMANCE DATA + CHARTS

SCAN ME

Pallaton Raphno® (Gary Arnold).

Pallaton offers a 38% increase in water use efficiency (WUE) relative to forage rape*.

Over the 2013-2014 summer period, The New Zealand Institute for Plant and Food Research Limited (FIL) found that Pallaton thrives in dry conditions in comparison to forage rape*. Considering Australian conditions and the potential for a dry spring/summer, these findings may help farmers maximise return on seed investment with lower water use and more grazing potential.

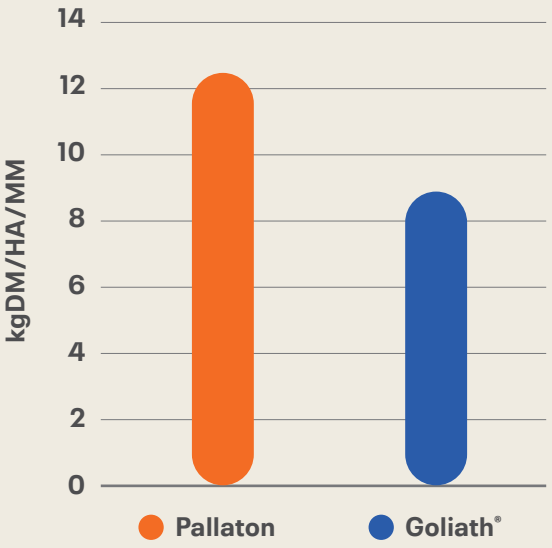
Trial key findings

Pallaton offers farmers a 38% increase in water use efficiency (WUE) relative to forage rape^.

What does this mean for the Australian market during a dry spring/summer?

Once established and under drought/heat pressure, Pallaton offers similar nutrition compared to a forage rape^, but has the potential to offer higher dry matter yields per hectare per unit of water.

- Pallaton achieved 12.3 kg DM/ha/mm compared to 8.9 kg DM/ha/mm of forage rape^. This means, more dry matter per hectare, per unit of water (38%kgDM/ha/mm difference).
- Pallaton's WUE in comparison to forage rape in conjunction with Pallaton's potential of 5+ grazings^, gives farmers the ability to manage risk under dry conditions.



*Goliath® forage rape

© DLF Seeds.

Grazing palatability

Pallaton has shown increased palatability relative to forage rape and leafy turnip brassicas.

Lambs preferentially grazed Pallaton over the forage rape in central Hawke's Bay, NZ.



Clubroot tolerance

Pallaton Raphno® has a high tolerance to Clubroot which is an issue we are starting to see arise in Victoria and southern New South Wales. Although Pallaton is highly tolerant to Clubroot it is still susceptible to other brassica diseases.



Persistence under multiple grazings

Pallaton has excellent regrowth potential and has the ability to persist for up to 5+ grazings over a 12 month period under ideal conditions and with recommended management.

*Achieve 5+ grazing's under ideal conditions and recommended management.





© DLF Seeds.

Aphid tolerance

32% increase in Aphid tolerance relative to forage rape. Pallaton also has a higher level of tolerance to White Butterfly and Diamondback Moth.

Forage rape (L) and Pallaton (R) under Aphid pressure. Both plants have had identical treatment and are in side-by-side plots.





Grazing flexibility

Graze Pallaton as early as 56 days after sowing (DAS), to maximise crop utilisation and regrowth potential. Pallaton does not have a specific maturity requirement.



Water use efficiency

38% increase in water use efficiency (WUE) relative to Goliath® forage rape. Featuring a sizeable taproot, Pallaton can be tolerant to drought once established.

Forage rape (L), Pallaton (M) and Grazing canola (R).



© DLF Seeds.

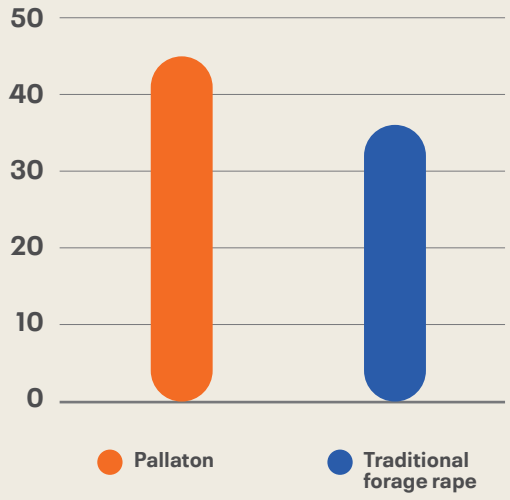
Ultimately, Pallatons WUE in comparison to forage rape, in conjunction with its potential of 5+ grazings*, gives farmers the ability to manage risk under dry conditions.

Isaac Berry
DLF Seeds Technical Services

*Achieve 5+ grazing's under ideal conditions and recommended management.

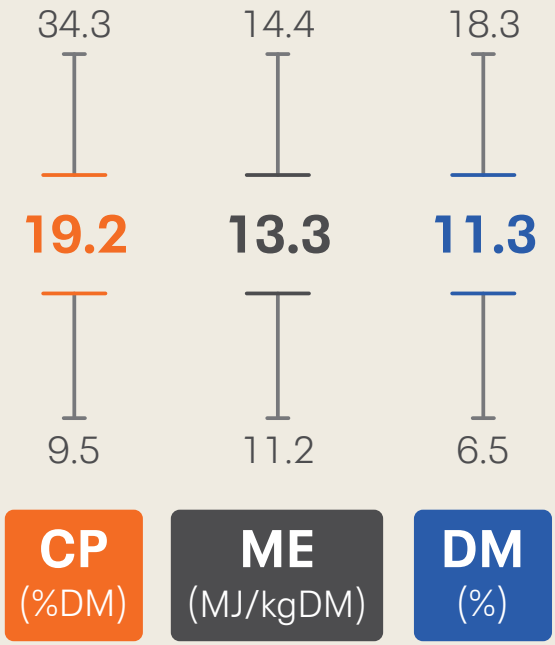
Lambs per ha (Approx.)

Based on 75kg of dry matter per ha per day, over a 30-day period.



Feed quality averages

n = 60. Analysed by Hill Laboratories



The best thing about the Pallaton was its vigorous growth, both in tough conditions and after rain, and the fact that it was ready to graze only 56 days from sowing.

Shane Powell
Windermere, VIC

© DLF Seeds.



Dr Charlotte Westwood
Veterinary Nutritionist

UNDERSTOCKING IS UNACCEPTABLE

If you don't have lambs/cattle on hand when Pallaton is ready to graze, consider another stock class such as ewes. Ewes will help 'open up' the crop which can be very beneficial for introducing lambs to the crop afterwards. Stocking rate is very important to get right. Understocking will result in poorer utilisation and risk losing feed quality, while overstocking may see you run short of feed. If you can't go early, not all is lost. It may mean you can carry a higher yield forward to a period when you require it. However, adjust your expectations and understand your regrowth potential, crop utilisation and/or crop feed quality may be compromised."

© DLF Seeds.

AUTUMN SOWN PALLATON OPPORTUNITY

Sow Pallaton Raphno® to complement your dual purpose canola system.

When cereals and canola are locked up and unavailable for grazing, autumn sown Pallaton can produce high quality feed for multiple grazings (increase in ME and crude protein compared to cereals).

A recent paper published by the CSIRO discussing "*The potential of forage brassicas to produce herbage for mixed farming systems*" identified that forage brassicas can be used as an alternative for/complement to dual purpose canola in the mixed farming zone.

Pallaton provides farmers with an alternative to dual purpose canola and cereals providing:

- Wider grazing window
- High biomass production from multiple grazings
- A filler for feed gaps in early spring
- Altered herbicide use

Autumn sown Pallaton provides farmers with the opportunity to sow in warm soil temperatures, taking the pressure off pastures in cooler conditions and filling a feed gap in the early spring months.

If you are having trouble accessing your traditional dual-purpose canola seed, try Pallaton Raphno. Sown in the same window as grazing canola or grazing cereals, it helps maximise grazing days per hectare when planted this autumn.

Pallaton has the ability to grow through winter and produce high quality feed deep into spring, when other forages can't. With increased water use efficiency, aphid tolerance and grazing flexibility, it delivers reliable out-of-season feed.

Pallaton also gives you the ability to finish lambs on forage at times of year when grain or low-quality forages might otherwise be used.

When tested across multiple sites throughout Australia, Pallaton has proven its high stocking rate potential in the mixed farming zone. This work has been done in collaboration with CSIRO.

© DLF Seeds



pallaton
RAPHNO®

PALLATON RAPHNO®

Grower guidelines

In order to obtain maximum value from your Pallaton Raphno® crop, best practice management and higher than average stocking rates are essential.

© DLF Seeds.



Pallaton is a high performance crop designed for growers looking to take their brassica finishing operations to the next level and increase liveweight production per hectare.

DLF Seeds represeantative

Pallaton Raphno® is NOT part of the Cleancrop™ brassica management system but will be by spring 2027.

© DLF Seeds.

CROP SOWING & MONITORING

TIP

Pallaton is a highly adaptable plant, but it is important to note that it requires additional attention to detail in comparison to traditional forage brassicas, most importantly fertiliser and grazing management. Pallaton is not just a forage rape where growers can expect 1-3 grazings; this plant has incredible regrowth characteristics, produces more dry matter when grazed regularly and responds quickly to rainfall due to its taproot.

Ground preparation

Conventional Sowing No-Tillage

Spray the target paddock out with a recommended rate of glyphosate and penetrant. At least three days following spray out, hard graze to remove existing vegetation prior to cultivation. **Cultivate to prepare a FINE, FIRM and WEED-FREE seed bed. Spray with an insecticide after sowing.** Best practice is to double-spray with a broad spectrum herbicide, with the initial spray out at least six weeks prior to sowing.

A second spray with glyphosate occurs prior to drilling and should include an insecticide. Always use slug bait when direct drilling.

Pre-sowing fertiliser

It is recommended that paddocks sown into Pallaton are soil tested at least six months prior to planting so nutrient deficiencies can be corrected prior to crop establishment.

All brassica crops respond strongly to Nitrogen and Phosphorus. Fertiliser should be either applied during the final cultivation and worked into the seed zone OR applied down the drill next to the seed. Optimum soil fertility is important for plants to continue to perform over multiple grazings.

Note: Base fertiliser should exclude Sulphur unless Sulphur is deficient, forage brassicas have nil requirement for additional Sulphur compared to Canola.

Crop sowing

Pallaton Raphno® is sold by the hectare, and is sown at a rate of 8 kg/ha. Pallaton seed should be sown at a depth of approximately 10mm and rolled until firm. Sow at soil temperatures of 12°C and rising. If autumn sown ensure sowing occurs before soil temps drop below 12°C. Available under agency agreement through accredited retailers only.

Crop rotation

Use Pallaton Raphno® as part of a sensible crop rotation.

Brassicas, (including Pallaton) should not be planted more than two years in a row in the same paddock. To maintain soil health and reduce the risk of disease and pest pressure, it's best to follow a crop rotation plan that rotates brassica crops with non-brassica crops.

© DLF Seeds.



> **The highest performing Pallaton crops start with good sowing practices and are backed up by consistent monitoring. Spending time in the paddock early can make a significant difference to crop performance later on.**
>
> **Isaac Berry,**
> Techncial Services Manager,
> DLF Seeds.

Dry matter yield assistant

Assess the amount of feed (kgDM/ha) on offer prior to grazing in order to calculate the allocation AND/OR stocking rate of the Pallaton crop.

It is important to send a sample away for dry matter (DM%) testing when measuring crops, as assuming a DM% can significantly over or underestimate available feed - the below calculation shows a **2,900 kgDM/ha difference in available feed using two different DM%.**

Unlike other brassicas, Pallaton has no specific maturity date. Therefore, the plant may continue to grow either underfoot or ahead of the animals in favourable conditions. **To assist withgrowth under foot, follow recommended stocking rates.**

How to calculate dry matter yield

(Example)

Fresh weight: 5.8g/m2
5.8 x 10,000Kg = 58,000kg/a
(fresh weight)

Dry matter: a) 7.5% or b) 12.5%
a) 58,000 x 7.5% = 4,350 DM/ha
(total feed)

a) 58,000 x 12.5% = 7,250 DM/ha
(total feed)

DLF Seeds Technical Services team member monitoring for brassica disease.

© DLF Seeds

Crop monitoring

All Pallaton seed is treated with Ultrastrike® brassica seed treatment. It contains a systemic insecticide and a fungicide.

Pallaton has a strong tolerance to aphids, and has also shown a high level of tolerance to Cabbage White Butterfly and Diamondback Moth compared with forage rape. Pallaton has a similar susceptibility to Leaf Miner as other brassicas and will require monitoring.

Like all crops, an insect prevention programme is required around the time of sowing to enable the best chance of seedling establishment. Consult your local representative for assistance with this.

Continue to monitor Pallaton for seedling pests in the first weeks of establishment. This includes Wireworm, Cutworm and Slugs.

For more details on Ultrastrike® seed treatment, see page 58-59 of this guide.

Insect pests

RLEM, Blue Oat Mite, Wireworm, Cutworm, Aphids, Lucerne Flea (suppression only) & Ticks

Seedling diseases

Pythium, Fusarium

For more information

For more details of common pests and diseases found in brassica crops, see page 29 of this guide.

Any ag-chemical recommendations should be made by your local accredited Pallaton representative. Pallaton is a forage brassica, and chemical recommendations should be made accordingly. There is a grazing withholding period of 56 days after sowing seed treated with Ultrastrike®.



Wireworm

Ultrastrike® brassica seed treatment will provide protection from Wireworm for 3-4 weeks after sowing. If identified in the crop, apply an insecticide.



Cutworm

Ultrastrike® brassica seed treatment will provide protection from Cutworm for 3-4 weeks after sowing. If identified in the crop, apply an insecticide.



Slugs

Always apply Slug bait in direct drill situations.



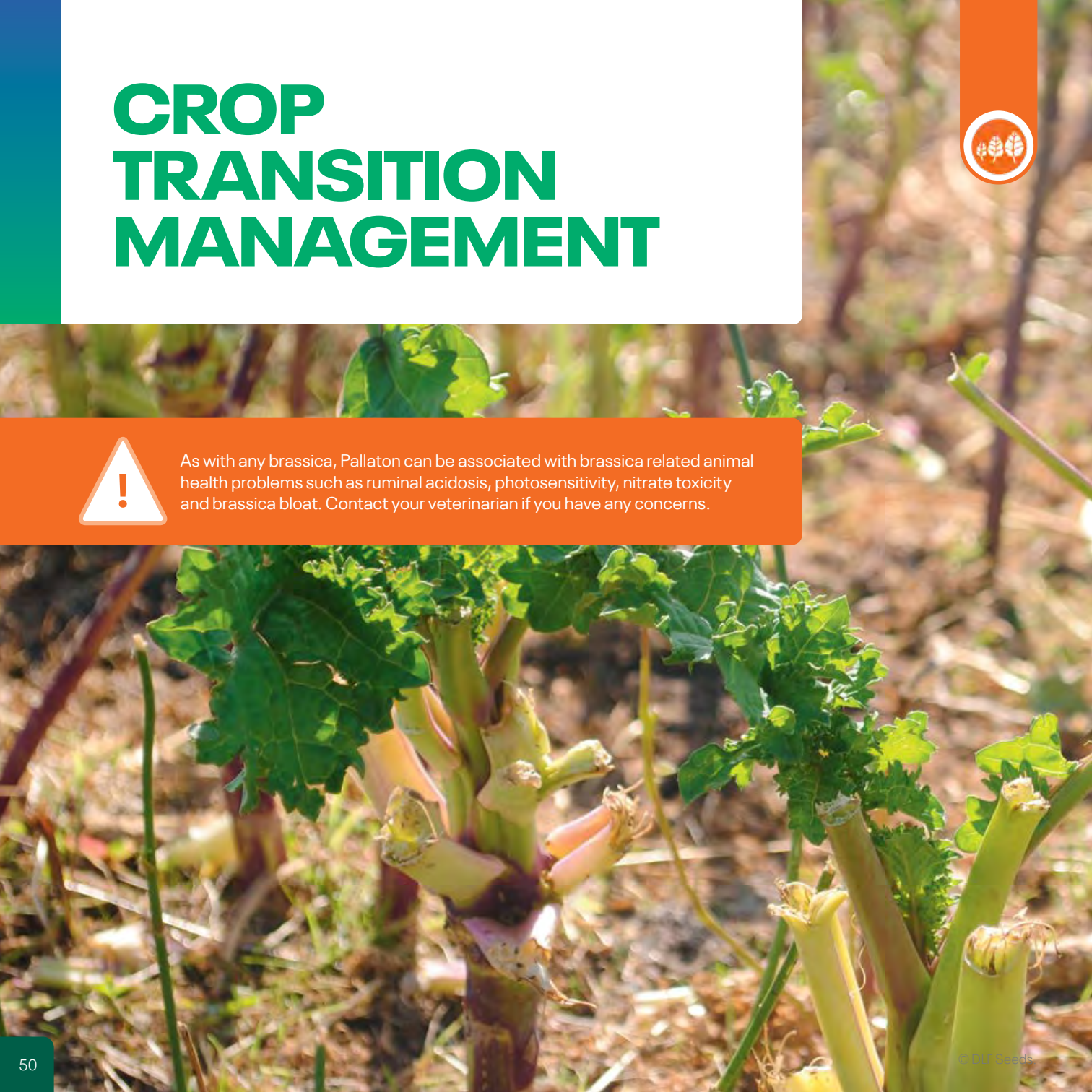
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> **After the first grazing, we had about $600 a hectare clear profit, and we still have another 3 or 4 grazing's to go. The lambs love it and are achieving weight gains of up to 300 grams a day.**
>
> **Alick Beggs**
> Reedy Creek, South Australia

CROP TRANSITION MANAGEMENT



As with any brassica, Pallaton can be associated with brassica related animal health problems such as ruminal acidosis, photosensitivity, nitrate toxicity and brassica bloat. Contact your veterinarian if you have any concerns.

© DLF Seeds

Feeding Management

Animal performance can be enhanced by good feeding management. It is important to ensure these feeding guidelines are followed.

1 Transition animals on to Pallaton Raphno®

Pallaton is typically a very palatable brassica, so stock acceptance can be relatively quick compared to other brassicas. However, it is still important to allow animals and their rumen time to adjust to a change in feed.

Sudden unrestricted access can upset the balance of rumen microbes, resulting in poor animal performance, causing issues such as scouring and acidosis. Start by grazing the crop for no more than 1-2 hours per day, building up to a maximum allowance over at least 7-10 days. Ensure animals do not go onto crops hungry.

2 At all times, give animals access to water

Although the water content in brassicas is high, it is recommended that animals have access to fresh water at all times as limited water intake will cause an animal's dry matter intake to decline.

3 Feed extra fibre prior to and while grazing Pallaton, and feed as part of a balanced diet

Pallaton is highly digestible, and does not contain much 'effective fibre'. Offer animals a source of fibre while grazing crops, and ensure the fibre source is good quality.

Feeding extra fibre means:

- More chewing and increased salivation to help maintain rumen pH
- Slower flow of feed through the rumen and gut for more effective rumen fermentation
- Increased cud chewing for more effective digestion which will help prevent gorging and help rumen microbes adjust to the feed and help maintain normal rumen fermentation

Once transition is complete:



70-80% of the diet as crop for drystock



33% of the diet for lactating dairy cows



20-30% of the diet as hay, straw or runoff pasture*

*Runoff pasture may not provide adequate fibre intake for large animals like cattle, therefore it is recommend that a quality fibre supplement is offered.

© DLF Seeds



GRAZING MANAGEMENT

In order to optimise the multi graze capabilities of Pallaton Raphno® follow these grazing management guidelines.

Sheep: Begin grazing Pallaton at 25cm (this can also be measured by roughly middle of shin/top of gumboot) and stop grazing between 5 and 10cm.

Cattle: Begin grazing Pallaton at 40/45cm (this can also be measured by roughly knee height) and stop grazing between 5 and 10cm.

GRAZE LIKE A LEAFY TURNIP

When sown in spring it is recommended to sow Pallaton in soils of 12°C soil temperature and rising.





Cow grazing height

Recommended grazing height for good crop utilisation for **cattle.**

Begin grazing Pallaton at 40/45cm.

Lamb grazing height

Recommended grazing height for good crop utilisation for **sheep.**

Begin grazing Pallaton at 25cm.

More Petiole/Leaf ↔ **More stem**

- ↑ Utilisation
- ↑ Regrowth potential
- ↑ Crop feed quality

- Stocking Rate ↑
- Yield ↑
- Utilisation ↓
- Regrowth potential ↓
- Crop feed quality ↓

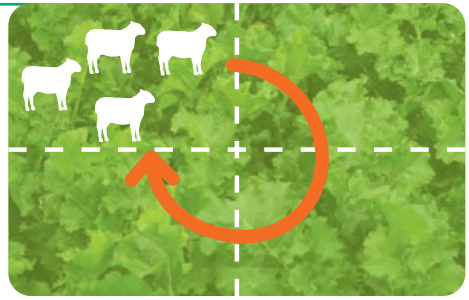
NOTE: The above Pallaton growth rates are intended as a general reference. Actual plant growth may differ based on the specific climatic region and seasonal weather conditions. Contact your local DLF Seeds Sales Agronomist or accredited retailer for advice specific to your crop.

© DLF Seeds.

Grazing system

Rotational grazing, strip grazing or set stocking grazing management protocols will need to be implemented for stock grazing Pallaton Raphno®.

1 Rotational grazing



Take advantage of Pallaton's regrowth ability by setting up a rotation - this is the best way to achieve the highest number of grazings over a season.

Divide the total area of crop into blocks (i.e. 4 blocks) and use a rotation length of 28-40 days, depending on your area and climatic conditions.

2 Set stocking



If it is not practical to utilise a rotation, instead of shifting at regular intervals animals can stay on the crop for a fixed period of time.

Take a yield assessment prior to grazing to work out a stocking rate that will calculate the right number of animals for the required time.

3 Strip grazing



Strip graze and back fence for regrowth

If using a strip grazing method and repeat grazings are required, back fencing grazed areas and managing good residuals is critical to protecting re-growing plants due to the risk of treading damage and over grazing.

Strip graze and no back fence at end of crop

Strip grazing can be used with no back fencing for the final grazing of Pallaton, for example a winter grazing with cattle, when regrowth potential is not required.

© DLF Seeds.

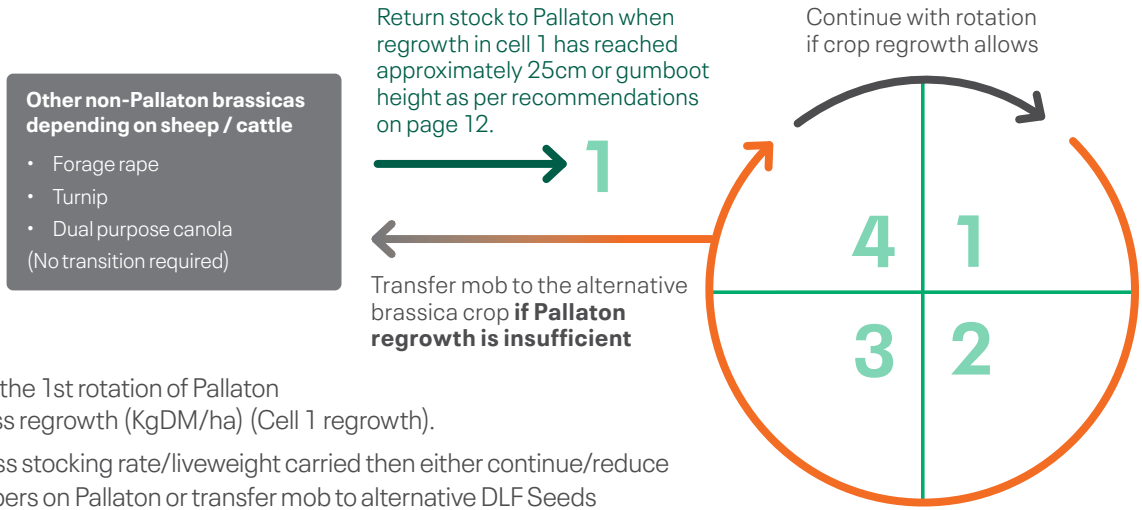
Pallaton's Safety Net System

Pallaton is designed with a safety net system. A Pallaton safety net crop is a complementary brassica crop planted to maximise the overall performance of a Pallaton finishing system.

It's a pretty simple system! Often when finishing the first rotation of any brassica crop, the amount of animals grazing that first rotation may exceed what the crop can stock for the second rotation. By having another complementary brassica crop on farm like a forage rape safety net, Pallaton will be given another couple of weeks to increase its total yield (kgDM/ha). This way, when starting the second rotation of the Pallaton, the yield in the 1st cell of should be 2500-3000kgDM/ha.

As an example, a safety net brassica system could have 15ha of Pallaton and 5ha of Mainstar forage rape. Once you have finished grazing the Pallaton, shift the stock to the Mainstar. You can shift the stock back to Pallaton when grazing has finished on the Mainstar or, when the yield of Pallaton is 2500-3000kgDM/ha.

Isaac Berry
Technical Services Manager, DLF Seeds



- After the 1st rotation of Pallaton assess regrowth (KgDM/ha) (Cell 1 regrowth).
- Assess stocking rate/liveweight carried then either continue/reduce numbers on Pallaton or transfer mob to alternative DLF Seeds brassica such as Titan, Goliath or Mainstar in the "Safety net".

© DLF Seeds.

AUTUMN PALLATON CROP MANAGEMENT

Autumn presents an opportunity to review the performance of your Pallaton Raphno® and assess the ability of the crop to continue into winter.



Winter grazing opportunity

Under optimum grazing and environmental conditions, farmers may have the opportunity to continue growing their Pallaton into winter for a final grazing. Assess your Pallaton crop in early autumn for the following factors to help with your decision to carry the crop through:

TIP

AUTUMN PLANT COUNT

The average plant numbers present in early autumn will help determine what the best option will be for your Pallaton crop.

Plant numbers

After the March grazing, take the opportunity to do some plant counts in your Pallaton crop. Using a square metre (1 m^2) hoop, randomly sample the paddock to get an average plant count per square metre. Carrying your Pallaton crop into winter will largely depend on the number of plants present in the autumn to set the crop up for winter grazing.

Crop health

Excessively wet, or fluctuating wet and dry conditions coupled with multiple grazings can create an opportunity for brassica bacterial and fungal disease infection. This is not unique to Pallaton and is a risk for all brassica crops. If you think there may be brassica disease in the crop, it is recommended to sow break crops such as pasture.

Greater than 20 plants/m^2

Carry through for winter graze

Consider carrying the crop through to winter as a sole sward if weed burden is low and fertility is adequate. Shut the paddock up by early April and apply N accordingly to boost overall DM yield for winter.

10-20 plants/m^2

Oversow with winter active grasses

Increase the opportunity for extra winter feed by oversowing with a winter active ryegrass in the autumn. Options include Italian ryegrass such as Concord® II, Manta and Feast® II, Ascend annual ryegrass or oats.

Less than 10 plants/m^2

Spray out and re-sow

Plant numbers are inadequate to provide sufficient winter feed. Target a hard/low residual graze with animals to minimise crop residue carryover. Consider total spray out of paddock and planting back into pasture.

The above is a guide only. Contact your local DLF Seeds sale agronomist or accredited consultant for advice specific to your crop.

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ULTRASTRIKE®

Brassica, grass and chicory seed treatment.

Ultrastrike® is a broad spectrum 'film coat' that provides establishing grass, chicory and brassica seedlings with extensive protection.

Recommended for grass, brassica and chicory:

- Use in oversowing programmes due to the increased risk of insect damage in grass to grass environments
- Oversowing situations where competition from the existing pasture can be limiting on new seedlings
- All autumn and spring sown grasses, brassica and chicory

Contains:

- Poncho® Plus; a systemic insecticide for protection against Red Legged Earth Mite, Blue Oat Mite, African Black Beetle, Yellow Headed Cockchafer and Lucerne Flea (suppression only). Please note, in some cases where high numbers of pests are present, a follow up insecticide treatment may be necessary
- Thiram fungicide effective against the 'damping off' diseases Pythium and Fusarium applied on Pallaton, Barkant, and Green Globe
- Apron XL fungicide effective against the 'damping off' diseases Pythium and Fusarium applied on Domain, Goliath®, Mainstar, Winfred, Titan and Regal®
- Grazing withholding period is 8 weeks for forage brassica, broadleaf pasture and 6 weeks for grass pastures

Effective against a range of common insects



Assists in maximising seedling establishment and plant development



Effective against a range of diseases in brassica and chicory



Not harmful to beneficials such as earthworms



Cost effective compared with 'broadacre' control options



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Pasja II, Hunter, Cleancrop™ leafy turnip and Appin stubble turnip

Contains:

- Pasja II, Hunter, Cleancrop™ leafy turnip and Appin stubble turnip are not Poncho® Plus treated. They are treated with Gaucho®, a systemic insecticide for protection against Red Legged Earth Mite and Blue Oat Mite. Please note, in some cases where high numbers of mites are present, a follow up insecticide treatment may be necessary
- Thiram fungicide effective against the 'damping off' diseases *Pythium* and *Fusarium*
- Grazing withholding period is 6 weeks

> **We came into quite a challenging paddock — quartzy, light loamy sandy country — and the performance out of the Raphno after first graze and its recovery was highly impressive.**
>
> **Ross Yelland,**
> Consulting Agronomist,
> Central West NSW



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CERTAINTY THROUGH SCIENCE®

WANT TO KNOW MORE?

Contact your accredited rural retailer or get in touch with DLF Seeds on **1800 619 910** and at **dlfseeds.com.au**

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Seed Treatment

Products contained in seed treatments used by DLF Seeds are subject to change without notice. Please refer to the bag information label at time of purchase for details of current inclusions in DLF Seeds seed treatment.

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DLF Seeds

cleancrop Brassica System

pallaton RAPHNO®

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