



GUIDE

2024


PGG Wrightson Seeds



Are you in
need of a
simple weed
management
system?

**The Cleancrop[™]
Brassica System
eradicates a range
of key problem
weeds in brassicas.**





REGULAR BRASSICA

Gruner kale crop with a high
weed burden of wild turnip

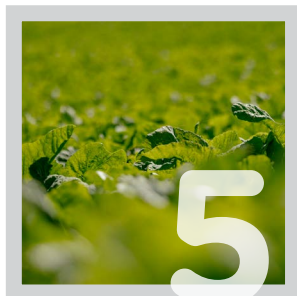
CLEANCROP™

Cleancrop™ Firefly kale with
Telar® herbicide applied

CONTENTS



WHAT IS IT?



**CLEANCROP™
CULTIVARS**



**HOW DOES
IT WORK?**



WHY USE IT?



SOWING



GROWING



**FEEDING &
MANAGEMENT**



WHAT IS IT?

**CONTROL
WEEDS.
INCREASE
YIELD.**

The **Cleancrop™ Brassica System** is a **FORAGE CROP AND WEED MANAGEMENT SOLUTION** all in one.



CLEANCROP™ BRASSICA SEED

Cultivars that have been BRED to be resistant to the sulfonylurea herbicide Telar®



TELAR® HERBICIDE

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

WEEDS CONTROLLED: Telar® herbicide controls the following 23 weeds*.

- Calandrinia
- Californian Thistle*
- Chickweed
- Cornbind
- Dandelions
- Docks
- Fathen
- Hawksbeard
- Nodding Thistle
- Rayless Chamomile
- Redroot
- Scarlet Pimpernel
- Scentless Chamomile
- Scotch Thistle
- Shepherd's Purse
- Spurrey (Yarr)
- Stinking Mayweed
- Twin Cress
- Vetch
- White Clover
- Wild Turnip*
- Willow Weed
- Yellow Gromwell

**Apply Telar® post-emerge when Cleancrop™ brassicas are at the fourth true leaf stage. Do not apply after the 6-8 leaf stage.*

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

Consult your accredited Agent/Retailer to order your second Telar® spray.

Apply Telar® at
the pre-emerge stage
within 48 hours of sowing

CLEANCROP™ CULTIVARS



TOTO TURNIP



Days to Grazing: 55-90



Sowing Rate: 2 kg/ha

HIGH YIELDING summer bulb turnip

.....

EXCELLENT UTILISATION due to
tankard bulb shape and bulb softness

.....

EARLY MATURING TURNIP
that can be grazed from 55 days after sowing

.....

**SUITABLE FOR SUMMER
AND AUTUMN FEED**



CLEANCROP™ BULB TURNIP



Days to Grazing: 80-110



Sowing Rate: 2 kg/ha
(Summer) OR 1 kg/ha (Winter)

HIGH YIELDING bulb turnip

.....

SUITABLE FOR SOWING
from late spring through to late summer

.....

**SUITABLE FOR SUMMER/
AUTUMN/WINTER FEED**



CLEANCROP™ LEAFY TURNIP



Days to Grazing: 42-70



Sowing Rate: 4 kg/ha

FAST ESTABLISHING multi-graze
Pasja type with reduced bolting

.....

EXCELLENT PLANT PERSISTENCE
after multiple grazings*

.....

PROVIDES A FLEXIBLE GRAZING OPTION
for all stock classes over summer and autumn

**Moisture dependent*



CLEANCROP™ RAPE



Days to Grazing: 90-110



Sowing Rate: 4 kg/ha

HIGH YIELDING multi-graze forage rape with
very good leaf percentage and crop utilisation

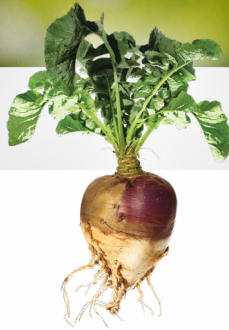
.....

MULTI-PURPOSE FORAGE RAPE
with excellent summer/autumn/early winter feed

.....

GOOD REGROWTH POTENTIAL
with excellent winter keeping ability

CLEANCROP™ CULTIVARS



ASPIRING SWEDE



Days to Grazing: 150-220



Sowing Rate: 1 kg/ha OR
Pelleted at 90,000 seeds/ha

HIGH YIELDING

soft, yellow-fleshed swede with early maturity

IMPROVED DRY ROT & ALTERNARIA TOLERANCE

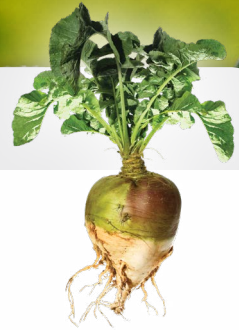
IMPROVED LEAF & BULB YIELD

over Major Plus

PLANT GLUCOSINOLATE* LEVELS

similar to Aparima Gold Swede

*Three main glucosinolates; progoitrin, glucobrassicin and neoglucobrassicin



HAWKESTONE SWEDE



Days to Grazing: 170-250



Sowing Rate: 1 kg/ha OR
Pelleted at 90,000 seeds/ha

HIGH YIELDING

yellow-fleshed
swede with medium maturity

SIMILAR DRY ROT & CLUBROOT TOLERANCE

to Aparima Gold

GOOD LEAF DISEASE TOLERANCE

PLANT GLUCOSINOLATE* LEVELS

similar to Aparima Gold Swede

*Three main glucosinolates; progoitrin, glucobrassicin and neoglucobrassicin



FIREFLY KALE



Days to Grazing: 150-220



Sowing Rate: 4 kg/ha

HIGH YIELDING intermediate height kale

.....

HIGH LEAF-TO-STEM RATIO
with very good late winter leaf percentage

.....

EXCELLENT CROP UTILISATION
due to selection for soft stems

.....

VERY GOOD WINTER HARDINESS
and excellent pest and disease tolerance



SARGE KALE



Days to Grazing: 150-220



Sowing Rate: 4 kg/ha

HIGH YIELDING short to medium height kale

.....

HIGH LEAF-TO-STEM RATIO and is soft
stemmed which leads to improved crop utilisation

.....

VERY GOOD WINTER HARDINESS
and late winter leaf percentage

.....

LARGE PADDLE SHAPED LEAVES
provide exceptional leaf yields

HOW DOES IT WORK?



PREPARE PADDOCK

Quality seedbed preparation is an important part of the Cleancrop™ Brassica System to maximise weed control efficacy. For example, cloddy soil or open drill rows can result in gaps in the Telar® treated area giving weeds an opportunity.



PLANT CLEANCROP™



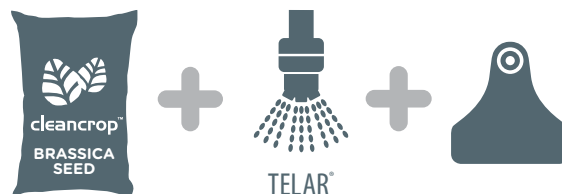
SPRAY WITH TELAR®

For best results, apply Telar® herbicide to the soil, pre-emergent to the crop. It is important this application occurs within 48 hours either side of sowing, and the crop has not emerged.

DEAL TO YOUR WEEDS BEFORE THEY DEAL TO YOUR CROP



Only **Cleancrop™** combines the power of broad-spectrum herbicide Telar® and **PLANTS BRED TO RESIST IT**. Telar® cannot be used with conventional brassicas.



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

CLEANCROP™ BENEFITS:



CONTROL WEEDS
within 48 hours of sowing*



NO MOISTURE REQUIRED[#]
to activate Telar® herbicide



**NO SOIL
INCORPORATION REQUIRED**



**ADAPTABLE TO
METHOD OF SOWING**

**For the weeds listed on page 4 that require Telar® 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. Do not apply after the 6-8 leaf stage.*

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



TELAR® APPLIED

TELAR® NOT APPLIED

WHY USE IT?

A SIMPLE WEED MANAGEMENT SYSTEM

No other forage brassica system combines the power of traditionally bred herbicide resistant plants plus a broad spectrum herbicide to **MAXIMISE CROP PERFORMANCE**.

SIMPLE PLANNING



GIVE YOUR CROP A HEAD START

Weeds are controlled right
from the start



TELAR[®]

ALL IN ONE PACK

Receive the exact amount of seed
and chemical for the job, along with
the supplied gate tag to identify
your Cleancrop[™] Brassica System
paddock correctly.

MAXIMISE PERFORMANCE



REDUCE COMPETITION for moisture and nutrients

.....



MANAGE historically
difficult to control weeds

.....



INCREASE PERFORMANCE
Excellent agronomic cultivars

ON-GOING BENEFITS



**MAXIMISE YIELD =
LOW c/kgDM**

.....



SHORT PLANT BACK
Only 3 month grass and
clover plant back period

.....



**CLEANER NEW
PASTURE PADDOCKS**



SOWING FOLLOW THE SOWING GUIDELINES TO MAXIMISE CLEANCROP™ PERFORMANCE.

CLEANCROP™ PACKAGES:

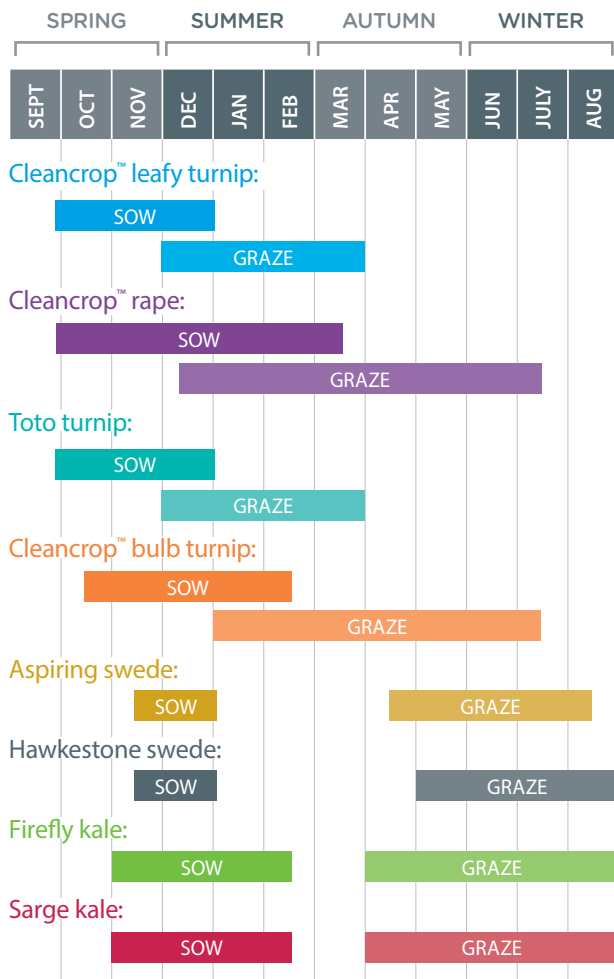
All Cleancrop™ Brassica System cultivars are ordered on a per hectare (ha) basis and include 20 g/ha Telar®.

Cleancrop™ leafy turnip	4 kg/ha
Cleancrop™ rape	4 kg/ha
Toto turnip	2 kg/ha
Cleancrop™ bulb turnip (summer)	2 kg/ha
Cleancrop™ bulb turnip (winter)	1 kg/ha
Aspiring swede (soft) (Pelleted)	1 kg/ha 90,000 seeds/ha
Hawkestone swede (Pelleted)	1 kg/ha 90,000 seeds/ha
Firefly kale (intermediate)	4 kg/ha
Sarge kale (short)	4 kg/ha

Note: The Cleancrop™ Brassica System is unique. PGG Wrightson 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.

>> CROP PLANNING

CULTIVAR SELECTION GUIDE:



PLANNING:

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.

Sow the most suitable brassica for your feed needs, and at a soil temperature of 10°C and rising. Planting any earlier than 10°C and rising soil temperatures may result in slow germination of brassica seedlings and poorer weed control efficacy of the Telar® herbicide.

Attach the supplied gate tag to correctly identify your Cleancrop™ Brassica System paddock for spraying contractors or other. Please ensure you have removed old Cleancrop™ Brassica System gate tags to avoid any confusion.

CROP ROTATION:

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.

Aspiring and Hawkestone swedes should only be used in a first crop situation to prevent dry rot infection. A second crop alternative is Firefly or Sarge kale.

If there is a high risk of either dry rot or clubroot infection, then in the second year it is recommended to sow the paddock in either pasture or a cereal crop.



The Cleancrop™ Brassica System should not be used in the crop rotation 24 months prior to planting fodder beet or potatoes.

>> GROUND PREPARATION

CONVENTIONAL SOWING:

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** 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.

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.

>> SPRAY & SOW

SPRAYING & DRILLING:

The Cleancrop™ Brassica System is sold by the hectare and includes 20 grams per hectare (g/ha) of Telar® herbicide plus the appropriate amount of brassica seed for each hectare.

Sow seeds at a depth of 10 mm, or if broadcasting, cover seeds prior to spraying.

Spray Telar® at the pre-emergent stage (i.e. prior to emergence), this should be within 48 hours of sowing.

Attach the supplied gate tag to identify your Cleancrop™ Brassica System paddock. Remove any old Cleancrop™ gate tags to avoid confusion for spraying contractors or others.



After Telar® has been applied, clean-up spray equipment immediately to avoid any subsequent damage to crops. Immediately after spraying with Telar®, thoroughly remove all traces of Telar® from mixing and spraying equipment by using appropriate tank washing solutions as per the manufacturer's instructions.



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



Take note of grazing withholding periods (WHP) following use of Telar®. The WHP for Cleancrop™ rape, leafy turnip, Sarge kale and Firefly kale is 28 days after application and 42 days after Telar® application for Cleancrop™ bulb turnip, Toto turnip, Hawkestone swede and Aspiring swede.



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.

>> PROTECTION

Ultrastrike® brassica seed treatment is applied to all Cleancrop™ Brassica System seed.

It contains a systemic insecticide, two contact fungicides and the trace element molybdenum.

INSECT PESTS

Springtails, Aphids,
Argentine Stem
Weevil & *Nysius*



SEEDLING DISEASES

Pythium, *Fusarium*,
Rhizoctonia



ULTRASTRIKE® PELLETED BRASSICA

Aspiring and Hawkestone swede are also available with Ultrastrike® pelleted brassica seed treatment – a weight build-up seed coating with the addition of phosphate.

Ultrastrike®
brassica

>> PREVENTION

An insect prevention programme is required around the time of sowing to enable the best chance of seedling establishment.

SLUGS

Always apply slug bait in
direct drill situations



NYSIUS

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



SPRINGTAIL

Apply an appropriate insecticide
before or after sowing



GRASS GRUB

Thorough cultivation in
spring should reduce
populations. If required, apply a
granular insecticide



GROWING

CONTINUE TO MONITOR BRASSICA CROPS AFTER SOWING

» POST EMERGENT WEED CONTROL

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

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



Experience has shown in a few instances when conditions are cold, weeds such as Fathen, Willow weed and Spurrey (Yarr) may be unaffected by the pre-emerge Telar® application. If these weeds appear in your crop, another post-emerge NON-Group 2 herbicide application is recommended. Wild Turnip and Californian Thistle will often germinate later in the season. If these weeds appear in your crop, activate the second spray of Telar® by consulting your accredited Agent/Retailer. Apply Telar at 20g plus a non-ionic surfactant emergence application when brassicas are at least at the fourth true leaf stage but before the 6-8 leaf stage.

Some weeds may not be controlled with Telar®:

Moderately susceptible: Cleavers, wireweed and yarrow

Moderately resistant weeds: Field pansy and speedwells

Resistant weeds: Black nightshade, wild oats and summer grasses.

There are multiple herbicide options available for the control of these weeds. Consult your retailer for herbicide options.

IMPORTANT TELAR® INFORMATION

 For post emergent applications of Telar® herbicide always add a non-ionic surfactant at the manufacturer's recommendation unless mixing with another product which contains surfactant. **DO NOT** apply with a crop oil or oil based surfactant adjuvants.

 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 more than three times within three successive years.

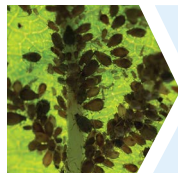
 Low temperatures, high soil pH, low rainfall and low soil organic matter (SOM) can result in longer residues of Telar®. These factors can result in a plant back period of more than three months. Consult your accredited Agent/Retailer for advice.

 Telar® plus Magister® CS herbicide, Monarch® herbicide and glyphosate are compatible pre-emerge.

Experience so far suggests that Telar® herbicide is compatible with Exirel® Insecticide at the post-emerge stage.

Crop injury can occur when mixed with emulsifiable concentrate (EC) formulated products, foliar fertiliser products, spray oils or oil-based surfactant adjuvants.

PESTS & DISEASES: PREVENTION & CONTROL



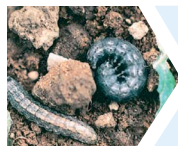
APHIDS:

Ultrastrike® brassica seed will provide seedling protection. If identified in the crop, apply an insecticide



ARGENTINE STEM WEEVIL:

Ultrastrike® brassica seed will provide seedling protection. 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



DIAMONDBACK MOTH:

Apply an appropriate insecticide when early damage is identified



WHITE BUTTERFLY:

Apply an appropriate insecticide when early damage is identified

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

Pests

Diseases

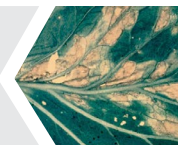
ALTERNARIA:

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



FEEDING & MANAGEMENT

« RECOGNISING PESTS & DISEASES

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

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 ANIMALS ACCESS TO FRESH WATER

Although the water content of brassicas is high, it is recommended that animals have access to fresh water at all times as limited water intake causes animal dry matter intake to decline.

3

FEED EXTRA FIBRE PRIOR TO AND WHILE GRAZING BRASSICA CROPS, AND FEED AS PART OF A BALANCED DIET:

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

CROP MANAGEMENT

MATURITY DATES



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

FLOWERING/BOLTING



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

DRY MATTER (DM) YIELD ASSESSMENT

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

Always assess the DM percentage when calculating crop yield and never use book values – assuming the DM percentage can significantly over-or under-estimate available feed.

GRAZING MANAGEMENT

CHANGING BETWEEN CROP SPECIES



When transitioning animals onto different crop species (for example, changing diet from brassica to fodder beet), you must begin the transition process again.

Allow a minimum of 10-14 days to transition animals onto the new crop.

CROP ALLOCATION



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

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

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

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

CONTROLLING WILD TURNIP AT KAKAHU ANGUS



RECOGNISE THE POTENTIAL FOR ANIMAL HEALTH PROBLEMS

Risks can often be avoided
by good crop and grazing
management.



CASE STUDY

WHERE: Kakahu Angus, South Canterbury

FARM TYPE: Sheep, Beef & Dairy

WHO: Jeremy Winchester

Tucked between Fairlie and Geraldine in South Canterbury, Kakahu Angus is a 1,600 ha sheep, beef and dairy operation with 1,000 breeding cows, 430 dairy cows and 2,400 breeding ewes. All stock winter on-farm, so a successful winter crop is vital. But a small patch of wild turnip was spreading further each year, creating real concerns for the farm's brassica cropping programme.

Jeremy Winchester, Ag Manager at Kakahu Angus, heard about the Cleancrop™ Brassica System from his local field rep, and he “pulled the trigger and gave it a whirl.”

The Cleancrop™ Brassica System combines the power of broad-spectrum herbicide Telar® and plants bred to resist it. And for Jeremy, the simplicity of the system has been key. “It’s really easy to use and gives us more options.”

He started using Cleancrop™ Firefly kale in 2021 and was able to effectively control problem weeds within the crop. This has been crucial to the success of the brassica crops and has helped protect the property from potential diseases carried by wild brassica.

Jeremy is continuing to use Cleancrop™ Firefly kale to help clean up paddocks across the farm and he plans on bringing in Cleancrop™ Toto turnip in as a summer crop as well.



Need more feed?

***Contact your local seed retailer,
go to www.pggwrightsonseeds.com or
freephone 0800 805 505***



facebook.com/pggwrightsonseeds



linkedin.com/company/pgg-wrightson-seeds



[pggwrightsonseeds](https://instagram/pggwrightsonseeds)

PGG Wrightson Seeds Ltd (PGW Seeds) provides no assurance, guarantee, representation or warranty in relation to any advice, information, service, seed, endophyte, product or treatment (together Material) other than those that must be provided by law. To the extent permitted by law PGW Seeds excludes or limits liability (including for indirect and consequential loss) on any basis (including in negligence and under any enactment) from or in relation to the Material and any remaining liability shall not exceed twice the amount received by it in relation to the Material.

© PGG Wrightson Seeds.


PGG Wrightson Seeds