



***Cereal Seeds***

Science. Support. Success



# Cereal Seed Guide 2026/27



# **Cereal Seeds**

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## Science



**Innovative plant science is the backbone of our product development.**

- Science drives cultivar research and development, leading to higher and more reliable yields, disease resistance and end-use performance.
- New cultivar performance is continuously enhanced through agronomic research, seed production evaluation, and new seed treatments.
- Our investment in R&D includes skilled experts and advanced facilities to develop milling and feed wheats, malting and feed barleys, triticale, specialty grains, and linseed.

## Support



**We back our products with strong agronomic support and training.**

- Agronomy research supports cultivars through multi-year trials on fertiliser, agrichemicals, planting dates, and sowing rates.
- These trials help growers optimise crop performance through cultivar-specific management programmes.
- Retailers and distributors receive training to provide field support, backed by product development staff.
- Product development staff offer up-to-date cultivar information and can assist with queries via phone or email.



# Success



## Performance and quality assurance define our track record.

- Cultivar success is measured through in-house trials, Cultivar Performance Trials, and feedback from growers and end-users.
- Cereal Seeds products have a long-standing history of successful performance.
- New cultivars undergo a rigorous Quality Assurance programme before market release.
- High-quality certified seed is consistently produced and marketed each year.

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## Cereal Seed Rates

Use of the seed rate formula below in conjunction with a target established plant population (see tables to the right) allows greater control over the final number of plants established per square metre. The use of the formula also factors in variations in Thousand Grain Weight (TGW) as well as germination and establishment.

All these factors vary greatly and make a significant difference to the final seed rate. Over-thick crops may lodge, give lower test weights and have higher disease pressure; thin crops will not have maximum yield potential and are not as competitive with weeds.

$$\text{Seed rate in kg per ha (all cereal crops) =} \frac{\text{Target established plants per m}^2 \times \text{Thousand Grain Weight (TGW) in grams (g)} \times 100}{\% \text{ germination} \times \% \text{ establishment}}$$

Example:

$$100 \text{ (Target plants)} \times 52 \text{ g (TGW)} \times 100 \text{ (conversion factor)}$$

$$95\% \text{ (germination)} \times 90\% \text{ (establishment)}$$

$$= 61 \text{ kg/ha seed rate}$$

## Cereal Plant Establishment

The table shown provides an estimate of the expected plant establishment percentage for different drilling dates of cereals which should be included in the above calculation to determine the seed rate.

Plant Establishment %

|           |          |         |
|-----------|----------|---------|
| April     | Early 95 | Late 90 |
| May       | Early 90 | Late 85 |
| June      | Early 80 | Late 75 |
| July      | Early 70 | Late 70 |
| August    | Early 80 | Late 85 |
| September | Early 90 | Late 90 |

## Wheat

The table shown provides the recommended established plant numbers for different drilling dates of wheat. Please note the important comment\* below the table relating to when you may need to vary the target plant number. The table also gives some example seed rates at TGWs of 45, 50 and 55, assuming in all cases a germination of 95% and an establishment of 90%.

| Drilling Month | Target Plant Population (Plants/m <sup>2</sup> ) | TGW (g) Seed rate in kg/ha |           |           |
|----------------|--------------------------------------------------|----------------------------|-----------|-----------|
|                |                                                  | 45                         | 50        | 55        |
| April          | 100 - 125                                        | 53 - 66                    | 59 - 73   | 64 - 80   |
| May            | 125 - 175                                        | 66 - 92                    | 73 - 102  | 80 - 113  |
| June           | 175 - 200                                        | 92 - 105                   | 102 - 117 | 113 - 129 |
| July           | 200                                              | 105                        | 117       | 129       |
| August         | 200 - 250                                        | 105 - 132                  | 117 - 146 | 129 - 161 |
| September      | 250 - 300                                        | 132 - 158                  | 146 - 175 | 161 - 193 |

\*Manawatu winter wheat growers – use 20 plants/m<sup>2</sup> less than the lowest figure above for April, May and June.

\*GRAHAM and VOLTRON are the only cv's we recommend to plant at the lowest target plant population range, all other cv's in The Cereal Seed Guide should be in the mid to high range.

## Triticale

Due to the excellent tillering capacity of RISTRETTO, seed rates need to be reduced as per the table shown.

| Drilling Date | Target Plant Population (Plants/m <sup>2</sup> ) |
|---------------|--------------------------------------------------|
| 1 - 15 April  | 100 - 120                                        |
| 16 - 30 April | 120 - 140                                        |
| 1 - 15 May    | 150                                              |
| 16 - 31 May   | 150                                              |
| 1 - 30 June   | 150 - 200                                        |

## Ryecorn

AMILO tillers extremely well from an autumn sowing but will inherently produce fewer tillers from a winter drilling.

| Drilling Date        | Target Plant Population (Plants/m <sup>2</sup> ) |
|----------------------|--------------------------------------------------|
| Late April to 15 May | 125                                              |
| 16 - 31 May          | 150                                              |
| 1 June to 15 July    | 150 - 200                                        |

## Barley

The table shown provides the recommended established plant numbers for different drilling dates of barley. It's important growers follow these target plant populations especially for late winter sowings.

| Drilling Date     | Target Plant Population (Plants/m <sup>2</sup> ) |
|-------------------|--------------------------------------------------|
| Early - Mid-April | 150                                              |
| Mid-April & May   | 175 - 200                                        |
| June              | 200 - 225                                        |
| Early spring      | 225 - 250                                        |
| Late spring       | 250 - 300                                        |





# Cereal Seeds

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## General Notes for all Cereals

- Estimate or measure the germination of your seed; this will be a high percentage figure for all good seed, i.e. >90%. Germination figures are available on request for all PGW Wrightson Grain (PGW Grain) cultivars.
- The TGW is available on all seed supplied by PGW Grain; obtain the TGW for other seed.
- The establishment percentage needs to be adjusted to allow for field conditions, including soil type, seed bed quality as well as slug, and other pest issues.
- Adjusting the target plant number downwards, below the recommended ranges, should be considered for paddocks with a history of high fertility and/or lodging problems and especially in areas where growth may continue all winter e.g. the Manawatu.
- Adjusting the target plant number upwards, beyond the recommended range, should be considered for dry conditions, low fertility or grass weed competition. If this is a regular issue, a review of your grass weed control strategy is recommended.
- Barley is generally more take-all tolerant than wheat as a second-year cereal, and although yields are usually lower than a first-year barley crop, the risk of take-all seriously affecting yield is lower than wheat.
- An appropriate plant growth regulator (PGR) programme needs to be assessed for individual crops and will be influenced by sowing date, seed rate, nitrogen use, crop thickness and yield potential. Some spring crops, may not need a PGR programme, and as with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.



## Cultivar Drilling Windows

| Cultivar              | MAR   | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
|-----------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Skybolt</b>        |       | ✓ ✓ | ✓ ✓ | ✓   |     |     |     |     |     |     |
| <b>Firelight</b>      |       | ✓ ✓ | ✓ ✓ | ✓   |     |     |     |     |     |     |
| <b>Graham</b>         |       | ✓ ✓ | ✓ ✓ | ✓   |     |     |     |     |     |     |
| <b>Voltron</b>        |       | ✓   | ✓ ✓ | ✓ ✓ | ✓   |     |     |     |     |     |
| <b>Aston</b>          |       | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>Discovery</b>      |       | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>Sensas</b>         |       |     |     |     | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓   |     |     |
| <b>Tanzanite</b>      |       | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ |     |     |     |     |
| <b>Amilo</b>          |       | ✓ ✓ | ✓ ✓ | ✓   |     |     |     |     |     |     |
| <b>Ristretto</b>      |       | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓ ✓ | ✓   |     |     |     |     |
| <b>Belter</b>         |       | ✓ ✓ |     |     |     | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>SY Transformer</b> |       | ✓ ✓ |     |     |     | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>Laureate</b>       |       | ✓ ✓ |     |     |     | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>RGT Planet</b>     |       | ✓ ✓ |     |     |     | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>Tavern</b>         |       | ✓ ✓ |     |     |     | ✓ ✓ | ✓ ✓ |     |     |     |
| <b>LG Caprice</b>     | ✓ ✓ ✓ |     |     |     |     |     |     |     |     |     |
| <b>Surge</b>          | ✓ ✓ ✓ |     |     |     |     |     |     |     |     |     |



Possible drilling window



Optimum drilling window

# Skybolt

- ✓ **High yielding winter feed wheat**
- ✓ **Has performed well in Canterbury and lower North Island regions**
- ✓ **Good all round disease resistance profile, especially stripe rust and powdery mildew**
- ✓ **Large grain and high test weights**

**SKYBOLT** is an exciting winter feed wheat cultivar bred by Limagrain UK and further developed by PGG Wrightson Grain (PGW Grain). In the past seven seasons in internal and FAR CPT trials, SKYBOLT has produced consistently high yields across all grain growing environments. It has been in CPT 2 trials for four seasons where it has been a consistent performer in Canterbury, Southland and the lower North Island. It has a good disease package and produces an intermediate hard/soft grain with high kernel weights and good test weights.



## YIELD

SKYBOLT has consistently produced high yields across a wide range of sites, with adjusted 4-year mean yields of 98%-107% across all South Island regions. In the lower North Island, the adjusted 4-year mean yield was 104%, making it one of the leading cultivars in that region.

## TIME OF DRILLING

Due to its strong vernalisation requirement, the full yield potential of SKYBOLT is most likely to be achieved from an early drilling window of early April to mid June.

## SEED RATE AND TILLERING CHARACTERISTICS

SKYBOLT has moderate tillering capacity and a tight V-shaped tillering habit. Target plant populations should be slightly above the ranges on page 5. The 2023/24 PGW Grain sowing date and rate trial confirmed that in high fertility/April sowings, a target plant population of 125-150 plants/m<sup>2</sup> is optimal. In medium yielding sowings (such as May), it should be increased to 150-200 plants/m<sup>2</sup> and in lower yielding sowings (such as June), further increased to 200-225 plants/m<sup>2</sup>.

## SOIL TYPE, ROTATION AND GEOGRAPHY

SKYBOLT has shown that it can perform well under a wide range of different soil types and environments, especially in Canterbury and the lower North Island.

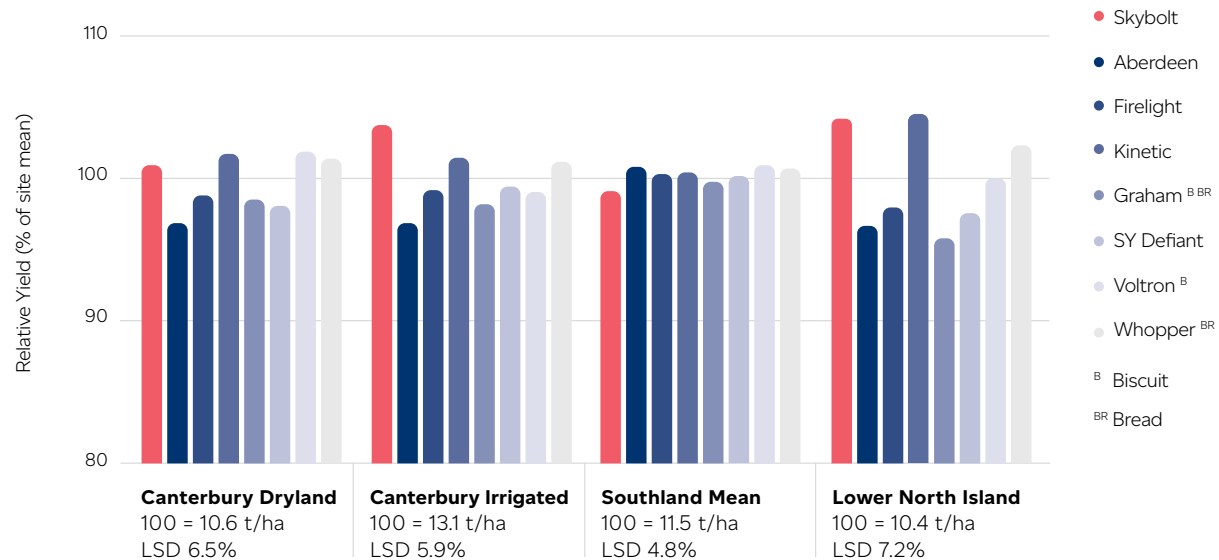
## DISEASE RESISTANCE

SKYBOLT has good resistance to most cereal diseases in New Zealand, especially stripe rust and powdery mildew. Considering this disease profile and fungicide trials conducted by PGW Grain the last three seasons, a low to moderate fungicide programme is recommended. SKYBOLT has consistently produced high untreated yields of over 12.0 t/ha and average fungicide responses of 0.5-1.5 t/ha. It is continuing in PGW Grain agronomy trials to provide further information. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

SKYBOLT is a medium height cultivar with stiff straw. In 2023/24 PGW Grain plant growth regulator (PGR) trial, in the absence of lodging, the greatest height reductions were observed in the Cycocel + Moddus Evo programmes. The use of PGRs is generally recommended, with the actual programme determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## FAR (CPT) Autumn Sown Trials (4 Year Mean)



## GRAIN QUALITY

### SKYBOLT (CPT 4 Year Mean)

|                                  |     |     |     |
|----------------------------------|-----|-----|-----|
| Kernel weight (1000 seed weight) | 50  | 51  | 44  |
| Test Weight (kg/hl)              | 75  | 74  | 71  |
| Protein content (%)              | 9.9 | 9.1 | 9.9 |
| Screenings (%)                   | 0.6 | 1.0 | 0.8 |

|                                  | Canterbury | Southland | Lower North Island |
|----------------------------------|------------|-----------|--------------------|
| Kernel weight (1000 seed weight) | 50         | 51        | 44                 |
| Test Weight (kg/hl)              | 75         | 74        | 71                 |
| Protein content (%)              | 9.9        | 9.1       | 9.9                |
| Screenings (%)                   | 0.6        | 1.0       | 0.8                |

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 9 |
| Leaf rust            | 8 |
| Septoria leaf blotch | 7 |
| Powdery mildew       | 9 |
| Fusarium head blight | 7 |

## SPEED OF DEVELOPMENT

Typical heading dates for SKYBOLT in Canterbury:

Month Planted

|            |                      |
|------------|----------------------|
| Late March | Early November       |
| Late May   | Mid – Late November  |
| Late June  | Early – Mid-December |

From autumn plantings, SKYBOLT is an intermediate maturing cultivar. However, it should not be planted after the end of June in areas with mild winters as its high vernalisation requirement may result in excessively delayed heading. From the PGW Grain 2023/24 sowing date and rate trial, an average yield decrease of 5.0-7.2 t/ha was observed from sowing after June.

# Firelight

- ✓ **High yield potential under a wide sowing window – April until June (medium vernalisation requirement)**
- ✓ **Well suited to Canterbury and Southland including dryland sites**
- ✓ **Good disease resistance profile, especially for Septoria leaf blotch**
- ✓ **A consistent performer in second year wheat trials**

**FIRELIGHT** is a winter feed wheat cultivar bred by Limagrain UK and further developed by PGG Wrightson Grain (PGW Grain). It has a unique rich green leaf and ear colour, a spreading plant habit, medium height and moderate straw stiffness. FIRELIGHT produces a hard endosperm grain with acceptable grain quality characteristics for feed use.



## YIELD

FIRELIGHT has consistently demonstrated stable yields across a range of trial sites throughout Canterbury and Southland. It is one of the leading cultivars in Southland.

## TIME OF DRILLING

Due to its medium vernalisation requirement, the full yield potential of FIRELIGHT is most likely to be achieved from an early drilling window of early April to mid-June.

## SEED RATE AND TILLERING CHARACTERISTICS

FIRELIGHT has good tillering capacity, and target plant populations should be in the mid-range appropriate for differing sowing dates.

## SOIL TYPE, ROTATION AND GEOGRAPHY

FIRELIGHT has shown that it can perform well under a range of different soil types and environments, especially in Canterbury and Southland. FIRELIGHT has yielded well under irrigation and in rainfed/dryland locations.

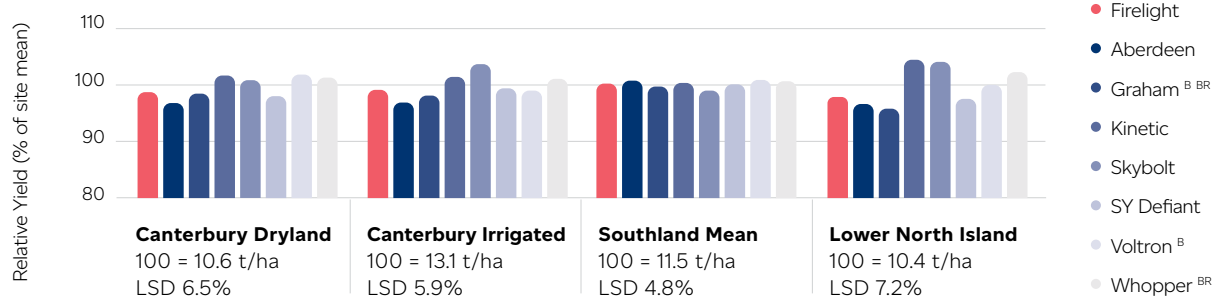
## DISEASE RESISTANCE

FIRELIGHT has good resistance to Septoria leaf blotch and stripe rust, intermediate resistance to powdery mildew and susceptible to leaf rust. In the 2019-2022 PGW Grain fungicide trials, FIRELIGHT produced the highest untreated yields and fungicide responses of 0.5-2.8 t/ha. In 2023-2025 trials, under higher leaf rust pressure, FIRELIGHT produced fungicide responses of 2.8-7.7 t/ha. Considering this disease profile, a moderate to high fungicide programme is recommended with a focus on leaf rust and *Fusarium* head blight control. Please contact your local PGW Representative for site specific recommendations.

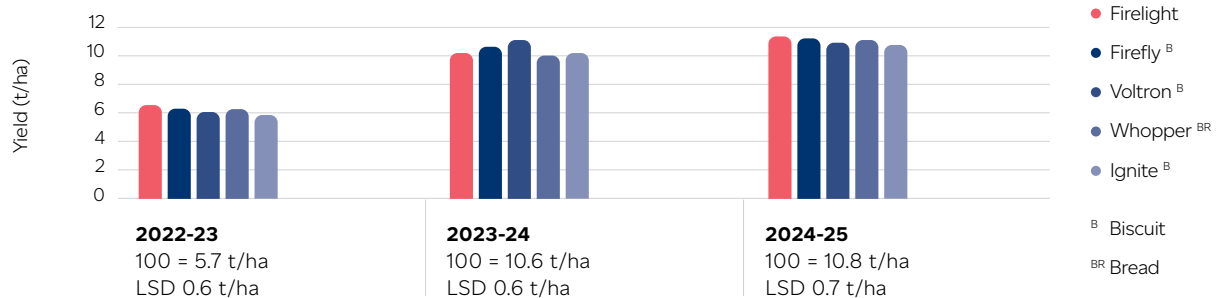
## STRAW STRENGTH AND HEIGHT

FIRELIGHT is a medium height cultivar with moderate standing power. In the 2021/22 PGW Grain plant growth regulator (PGR) trial, in the absence of lodging, FIRELIGHT displayed a moderate response to a range of PGR programmes with a high input programme (Cycocel + Moddus Evo at GS 30 and GS 32) providing the greatest height reduction. The use of PGRs is recommended, with the actual programme determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## FAR (CPT) Autumn Sown Trials (4 Year Mean)



## FAR Autumn Sown 2nd Year Wheat Trials, South Canterbury 2022-2024



## GRAIN QUALITY

### FIRELIGHT (CPT 4 Year Mean)

|                                  |     |     |      |
|----------------------------------|-----|-----|------|
| Kernel weight (1000 seed weight) | 47  | 49  | 42   |
| Test Weight (kg/hl)              | 71  | 71  | 69   |
| Protein content (%)              | 9.9 | 9.1 | 10.2 |
| Screenings (%)                   | 1.1 | 1.0 | 1.0  |

|                                  | Canterbury | Southland | Lower North Island |
|----------------------------------|------------|-----------|--------------------|
| Kernel weight (1000 seed weight) | 47         | 49        | 42                 |
| Test Weight (kg/hl)              | 71         | 71        | 69                 |
| Protein content (%)              | 9.9        | 9.1       | 10.2               |
| Screenings (%)                   | 1.1        | 1.0       | 1.0                |

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 9 |
| Leaf rust            | 2 |
| Septoria leaf blotch | 8 |
| Powdery mildew       | 7 |
| Fusarium head blight | 6 |

## SPEED OF DEVELOPMENT

Typical heading dates for FIRELIGHT in Canterbury:

Month Planted

Late March Early November

Late May Late November

Late June Early December

FIRELIGHT is an intermediate maturing cultivar.

# Graham

- ✓ **Average yielding winter feed wheat**
- ✓ **Has a wide sowing window from early April until mid-June**
- ✓ **Good disease resistance profile but responds well to fungicides**
- ✓ **Heavy grain and high test weights, plus low sprouting risk**

**GRAHAM** winter wheat is an average yielding feed wheat cultivar bred by Syngenta in France and developed in New Zealand in conjunction with Cropmark Seeds Ltd as head licensee and PGG Wrightson Grain (PGW Grain). In the past four seasons in FAR Cultivar Performance Trial (CPT), GRAHAM has produced consistent yields across all environments. It has a good disease package and produces an intermediate hard/soft grain with high kernel weights, good test weights and high falling numbers.



## YIELD

GRAHAM has consistently produced reliable yields across a wide range of sites, with adjusted 4-year mean yields of 96%-101% across all South Island regions.

## TIME OF DRILLING

Due to its strong vernalisation requirement, the full yield potential of GRAHAM is most likely to be achieved from an early drilling window of early April to mid-June.

## SEED RATE AND TILLERING CHARACTERISTICS

GRAHAM has a high tillering capacity and a broad U-shaped tillering habit, making it excellent at compensating for poor establishment and suited to lighter seeding rates, especially from earlier plantings. Target plant populations should be at the low to medium end of the range for autumn cereals.

## SOIL TYPE, ROTATION AND GEOGRAPHY

GRAHAM has shown that it can perform well under a wide range of different soil types and environments in Canterbury, Southland and the lower North Island.

## DISEASE RESISTANCE

GRAHAM has good resistance to most cereal diseases in New Zealand, especially stripe rust and *Fusarium* head blight, but monitor for tan spot and leaf rust. Considering this disease profile and previous work conducted by Cropmark Seeds Ltd, a moderate to high fungicide programme is recommended. In the 2019-2026 PGW Grain fungicide trials, GRAHAM has produced one of the lowest untreated yields and high fungicide responses of 2.7-6.2 t/ha. Please contact your local PGW Representative for site specific recommendations.

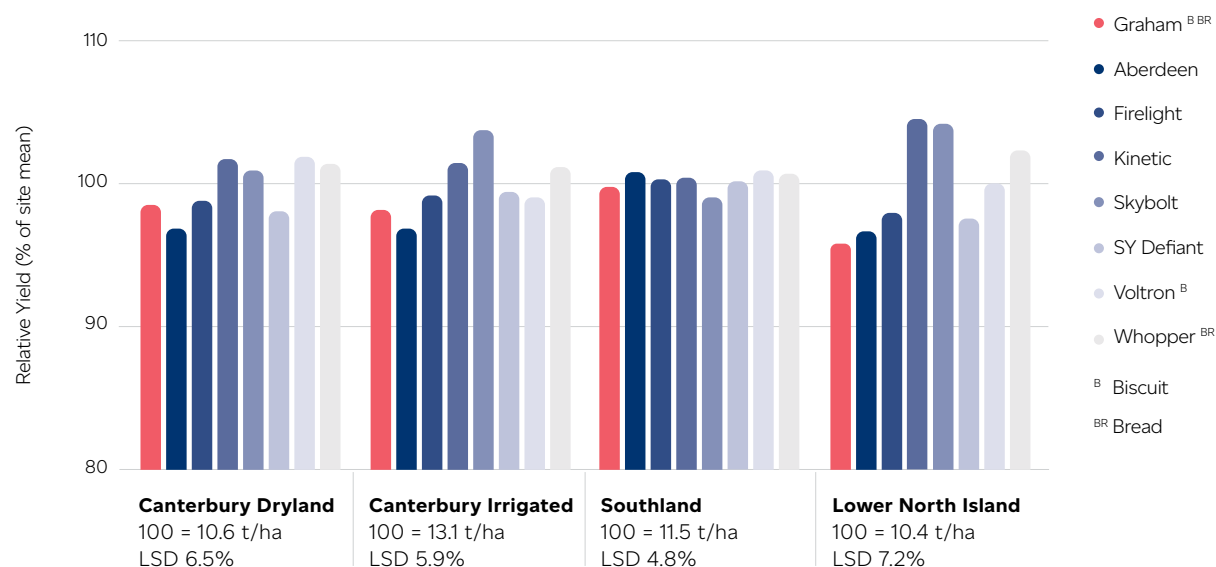
## STRAW STRENGTH AND HEIGHT

GRAHAM is a medium height cultivar with stiff straw. Use of plant growth regulators is generally recommended, with the actual programme determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.



## Winter wheat

### FAR (CPT) Autumn Sown Trials (4 Year Mean)



### GRAIN QUALITY

#### GRAHAM (CPT 4 Year Mean)

|                                  |     |     |      |
|----------------------------------|-----|-----|------|
| Kernel weight (1000 seed weight) | 49  | 52  | 46   |
| Test Weight (kg/hl)              | 74  | 74  | 72   |
| Protein content (%)              | 9.9 | 9.0 | 10.8 |
| Screenings (%)                   | 0.6 | 0.8 | 1.4  |
| Falling Number (sec)             | 305 | 299 | 329  |

|                                  | Canterbury | Southland | Lower North Island |
|----------------------------------|------------|-----------|--------------------|
| Kernel weight (1000 seed weight) | 49         | 52        | 46                 |
| Test Weight (kg/hl)              | 74         | 74        | 72                 |
| Protein content (%)              | 9.9        | 9.0       | 10.8               |
| Screenings (%)                   | 0.6        | 0.8       | 1.4                |
| Falling Number (sec)             | 305        | 299       | 329                |

### PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 9 |
| Leaf rust            | 5 |
| Septoria leaf blotch | 6 |
| Powdery mildew       | 7 |
| Fusarium head blight | 7 |

### SPEED OF DEVELOPMENT

Typical heading dates for GRAHAM in Canterbury:

| Month Planted | Heading Date         |
|---------------|----------------------|
| Late March    | Early November       |
| Late May      | Mid – Late November  |
| Late June     | Early – Mid-December |

From autumn plantings, GRAHAM is an early-medium maturing cultivar. However, it should not be planted after the end of June in areas with mild winters as its high vernalisation requirement may result in excessively delayed heading.

# Voltron

- ✓ **A high yielding facultative feed and biscuit wheat**
- ✓ **High yield potential under a wide sowing window – April until late August (no vernalisation requirement)**
- ✓ **Well suited to Canterbury and Southland regions including dryland sites**
- ✓ **Good all-round disease resistance profile and high tillering ability**

**VOLTRON** wheat is an exciting feed and biscuit wheat cultivar bred by Limagrain UK and further developed by PGG Wrightson Grain (PGW Grain). It is a mid-long season alternative type with a very wide sowing window, has a high level of leaf and ear waxiness, high tillering ability and good straw strength. VOLTRON produces soft endosperm grain that is suitable for both milling industry and feed uses.



## YIELD

VOLTRON has consistently demonstrated high stable yields across a range of trial sites throughout Canterbury and Southland and has established itself as a preferred biscuit wheat cultivar by growers. It is one of the leading cultivars for yield in the FAR Cultivar Performance Trials (CPT) in Southland and Canterbury. In the absence of sharp eyespot, VOLTRON has also been one of the highest yielding second year wheat options.

## TIME OF DRILLING

The full yield potential of VOLTRON is most likely to be achieved from an autumn drilling window of April to late May. In addition, it is a top yielding variety compared to other options throughout winter and into early spring.

## SEED RATE AND TILLERING CHARACTERISTICS

VOLTRON has excellent tillering capacity, and target plant populations should be at the low to medium end of the range for autumn wheat.

## SOIL TYPE, ROTATION AND GEOGRAPHY

VOLTRON has shown that it can perform well under a range of different soil types and environments, especially in Canterbury and Southland. VOLTRON, in trials to date, has yielded well under irrigation and rainfed/dryland locations. It has only been an average performer in the North Island, based on FAR CPT trial data to date, so is not recommended for this region.

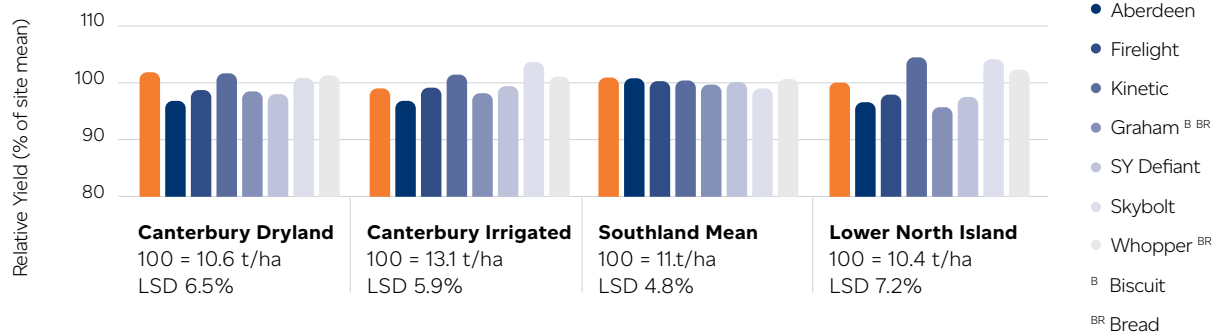
## DISEASE RESISTANCE

VOLTRON has good resistance to *Septoria* leaf blotch and stripe rust and intermediate resistance to leaf rust and powdery mildew. In the 2020-2026 PGW Grain fungicide trials, VOLTRON produced moderate to high untreated yields and fungicide responses of 1.4-4.1 t/ha. Considering the disease profile, a moderate fungicide programme is recommended. However, based on 2022/23 PGW Grain trials, in areas prone to sharp eyespot, a robust T0 (Bolide or Kestrel) and T1 (addition of Amistar) as well as a plant growth regulator (PGR) programme is required. Please contact your local PGW Representative for site specific recommendations.

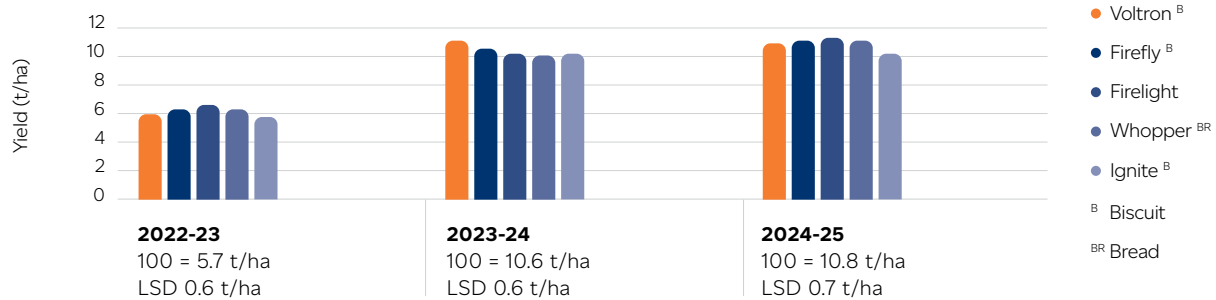
## STRAW STRENGTH AND HEIGHT

VOLTRON is a medium height cultivar with good standing power. In the 2020/21 PGW Grain PGR trial, in the absence of lodging, the greatest height reductions were observed under moderate to high input programmes (Cycocel + Moddus Evo at GS 31 or split applications at GS 30 and GS 32). The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## FAR (CPT) Autumn Sown Trials (4 Year Mean)



## FAR Autumn Sown 2nd Year Wheat Trials, South Canterbury 2022-2024



## GRAIN QUALITY

### VOLTRON (CPT 4 Year Mean)

|                                  |      |
|----------------------------------|------|
| Kernel weight (1000 seed weight) | 45   |
| Test Weight (kg/hl)              | 75   |
| Protein content (%)              | 10.0 |
| Screenings (%)                   | 0.8  |
| Falling number (sec)             | 319  |

|                                  | Canterbury | Southland | Lower North Island |
|----------------------------------|------------|-----------|--------------------|
| Kernel weight (1000 seed weight) | 45         | 48        | 40                 |
| Test Weight (kg/hl)              | 75         | 75        | 71                 |
| Protein content (%)              | 10.0       | 9.3       | 10.4               |
| Screenings (%)                   | 0.8        | 0.9       | 1.4                |
| Falling number (sec)             | 319        | 310       | 327                |

VOLTRON produces a medium sized grain which readily achieves the low proteins desirable for biscuit making and has a high level of sprouting resistance, making it less likely to deteriorate in quality with post-maturity rainfall. This, combined with low-moderate late maturity alpha amylase susceptibility, means that it consistently achieves acceptable milling industry falling numbers.

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 9 |
| Leaf rust            | 6 |
| Septoria leaf blotch | 7 |
| Powdery mildew       | 6 |
| Fusarium head blight | 7 |

## SPEED OF DEVELOPMENT

Typical heading dates for VOLTRON in Canterbury:

| Month Planted |                |
|---------------|----------------|
| Late March    | Early November |
| Late May      | Mid-November   |
| Late June     | Late November  |

# Aston

- ✓ **Premium quality milling wheat with improved autumn yield performance**
- ✓ **Superior falling numbers and pre-harvest sprout resistance**
- ✓ **Alternative type for sowing from early May to September**
- ✓ **Tall, stiff-strawed, awnless cultivar with good standing ability**

**ASTON** is a high yielding alternative wheat cultivar bred by PGG Wrightson Grain (PGW Grain) in New Zealand. It is a mid-season tall, awnless wheat with stiff straw and superior resistance to pre-harvest sprouting, and higher falling numbers compared with Discovery. It produces smaller grain than Discovery.



## YIELD

ASTON produces a strong performance. In FAR CPT autumn trials, its performance is comparable to Discovery, and exceeds that of other premium wheats, aside from at Winchester. ASTON has a facultative habit and in the South Island FAR CPT spring trials its performance was comparable or above Cochise and Discovery.

ASTON is a very high yielding autumn milling wheat. Therefore, particular attention to nitrogen management is required to ensure protein milling specifications are met. The 2024-2026 PGW Grain nitrogen trial demonstrated yield and protein were optimal at 250-300 kg N/ha total (applied plus soil).

## TIME OF DRILLING

ASTON is an alternative or spring wheat cultivar with a wide drilling window. Recommended drilling time is from early May through to September.

## SEED RATE AND TILLERING CHARACTERISTICS

ASTON has a good tillering ability and target plant populations should be decided in accordance with the chart shown. A PGW Grain sowing date and rate trial was conducted in the 2024/25 season and confirmed these seed rates were optimum for maximum yield.

## SOIL TYPE, ROTATION AND GEOGRAPHY

ASTON has performed well across all Canterbury regions. It has more shedding resistance than Discovery so is more suitable for locations with extreme winds around maturity. It is not recommended as a second-year wheat.

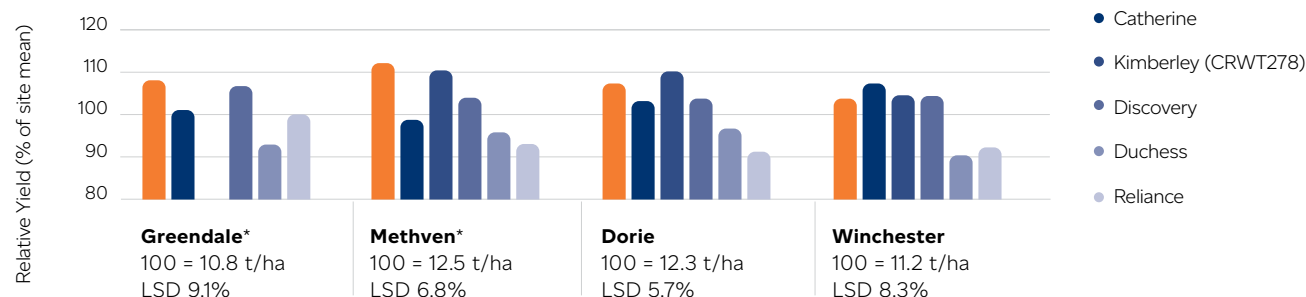
## DISEASE RESISTANCE

ASTON has a variable disease resistance profile, being mostly resistant to leaf rust, adult stripe rust and powdery mildew and is moderately susceptible to *Septoria* leaf blotch and seedling stripe rust. In the 2024-2026 PGW Grain fungicide trials, average fungicide response was 1.6-3.0 t/ha. Considering this disease profile, fungicide programmes should be tailored to target *Septoria* and seedling stripe rust. The fungicide trial is being repeated in the 2026/27 season and should provide further information. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

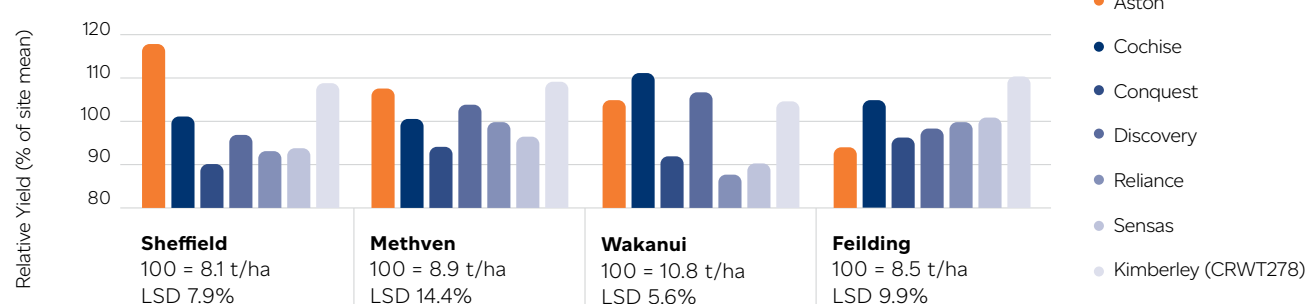
ASTON is a tall cultivar with good standing power. An adequate plant growth regulator (PGR) programme is recommended for this cultivar especially for early sowings. In the PGW Grain 2023/24 and 2025/26 PGR trials, greatest height reductions and minimised lodging risks were observed under the robust programmes (Cycocel + Moddus Evo combinations). The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## FAR (CPT) Autumn Sown Trials (4 Year Mean)



\*Methven and Greendale are three-year mean (no data for 2023-24 and 2025-26 respectively)..

## FAR (CPT) Spring Sown Trials (4 Year Mean)



## GRAIN QUALITY

### ASTON (CPT 4 Year Mean)

|                                  |      |
|----------------------------------|------|
| Kernel weight (1000 seed weight) | 43   |
| Test Weight (kg/hl)              | 77   |
| Protein content (%)              | 12.5 |
| Screenings (%)                   | 0.8  |
| Falling number (sec)             | 375  |

|                                  | Canterbury Autumn | Canterbury Spring | Lower North Island Spring |
|----------------------------------|-------------------|-------------------|---------------------------|
| Kernel weight (1000 seed weight) | 43                | 38                | 38                        |
| Test Weight (kg/hl)              | 77                | 74                | 74                        |
| Protein content (%)              | 12.5              | 13                | 11.1                      |
| Screenings (%)                   | 0.8               | 1.3               | 1.1                       |
| Falling number (sec)             | 375               | 397               | 388                       |

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 5 |
| Leaf rust            | 6 |
| Septoria leaf blotch | 5 |
| Powdery mildew       | 8 |
| Fusarium head blight | 6 |

## PLANT POPULATIONS

Typical plant populations for ASTON in Canterbury:

| Month Planted | Plants/m <sup>2</sup> |
|---------------|-----------------------|
| May           | 150-175               |
| June          | 175-200               |
| July          | 200-225               |
| August        | 225-250               |
| September     | 250-300               |

## SPEED OF DEVELOPMENT

Typical heading dates for ASTON in Canterbury:

| Month Planted | Heading Date        |
|---------------|---------------------|
| Late May      | Mid – Late November |
| Late June     | Late November       |
| September     | Mid-December        |

ASTON is an intermediate maturing cultivar at harvest.

# Discovery

- ✓ **Milling wheat quality with feed wheat yield potential**
- ✓ **Proven high yields across sites and years**
- ✓ **Alternative type for sowing from early May to September**
- ✓ **Tall, stiff-strawed, awnless cultivar with good standing ability**

**DISCOVERY** is a high yielding alternative (spring) wheat cultivar bred by Limagrain UK and further developed by PGG Wrightson Grain (PGW Grain) in New Zealand. It is a mid-season tall, awnless wheat with stiff straw and, moderate resistance to pre-harvest sprouting. It produces large grain with low screenings, medium test weights and medium to high falling numbers.



## YIELD

DISCOVERY is one of the highest yielding spring milling wheat options commercially available in New Zealand, performing well in Canterbury averaging 103% of site mean. DISCOVERY also performs well under an autumn sowing window with yields similar to Catherine.

DISCOVERY is a very high yielding milling wheat. Therefore, particular attention to nitrogen management is required to ensure protein milling specifications are met.

## TIME OF DRILLING

DISCOVERY is an alternative or spring wheat cultivar with a wide drilling window. Recommended drilling time is from early May through to late September.

## SEED RATE AND TILLERING CHARACTERISTICS

DISCOVERY has good tillering capacity, although it is initially slow to develop. For maximum yield, autumn sowing rates should be increased according to the chart shown.

## SOIL TYPE, ROTATION AND GEOGRAPHY

DISCOVERY has performed well across all Canterbury regions and the lower North Island. It has a free-threshing grain, so may not be the best choice at locations with extreme winds around maturity. It is not recommended as a second-year wheat.

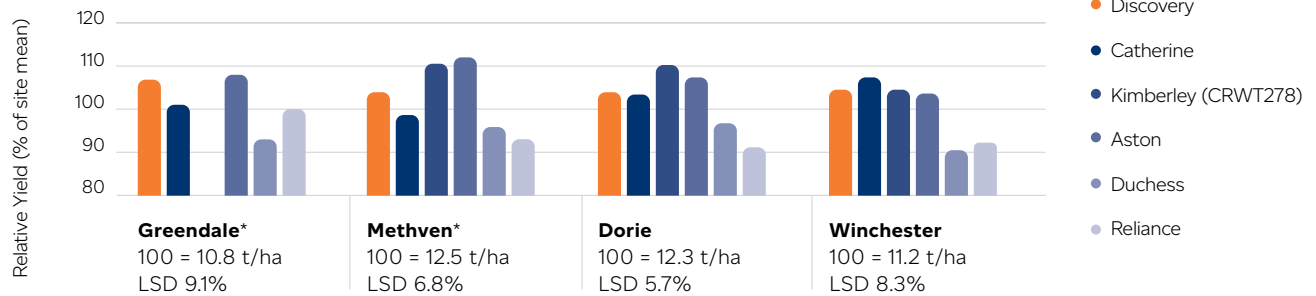
## DISEASE RESISTANCE

DISCOVERY has a good disease resistance profile, mostly resistant to leaf rust and powdery mildew with intermediate adult plant resistance to stripe rust and *Septoria* leaf blotch. However, it is moderately susceptible to seedling stripe rust. Considering this disease profile, fungicide programmes should be tailored to target seedling stripe rust early on if present. This approach should protect against *Septoria* leaf blotch also, especially from early plantings. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

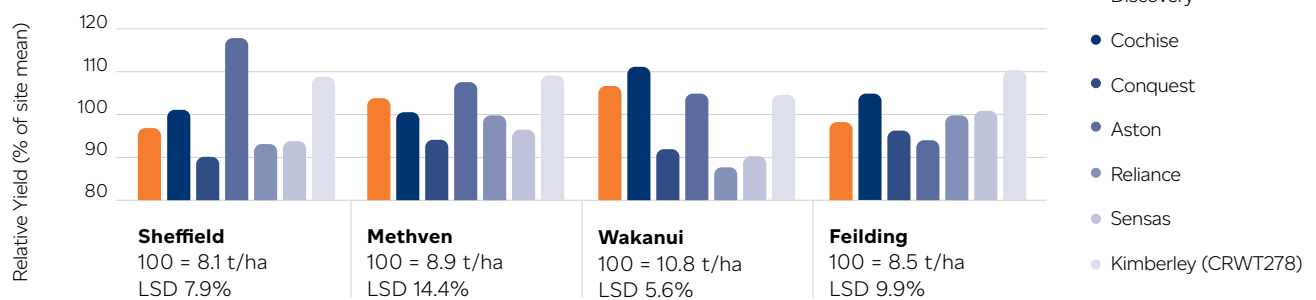
DISCOVERY is a tall cultivar with good standing power. A robust plant growth regulator (PGR) programme is recommended for this cultivar especially for early sowings. Spring sowings of DISCOVERY will generally not require as high rates of PGRs. The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## FAR (CPT) Autumn Sown Trials (4 Year Mean)



\*Methven and Greendale is three-year mean (no data for 2023-24 and 2025-26 respectively).

## FAR (CPT) Spring Sown Trials (4 Year Mean)



## GRAIN QUALITY

### DISCOVERY (CPT 4 Year Mean)

|                                  | Canterbury Autumn | Canterbury Spring | Lower North Island Spring |
|----------------------------------|-------------------|-------------------|---------------------------|
| Kernel weight (1000 seed weight) | 51                | 47                | 50                        |
| Test Weight (kg/hl)              | 77                | 74                | 77                        |
| Protein content (%)              | 12.0              | 12                | 11.7                      |
| Screenings (%)                   | 0.5               | 0.9               | 0.3                       |
| Falling number (sec)             | 349               | 346               | 350                       |

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 6 |
| Leaf rust            | 7 |
| Septoria leaf blotch | 5 |
| Powdery mildew       | 8 |
| Fusarium head blight | 6 |

## PLANT POPULATIONS

Typical plant populations for DISCOVERY in Canterbury:

| Month(s) Planted | Plants/m <sup>2</sup> |
|------------------|-----------------------|
| April            | 125-150               |
| May              | 150-200               |
| June & July      | 200                   |
| August           | 200-250               |
| September        | 250-300               |

## SPEED OF DEVELOPMENT

Typical heading dates for DISCOVERY in Canterbury:

| Month Planted | Heading Date        |
|---------------|---------------------|
| Late May      | Mid – Late November |
| Late June     | Late November       |
| September     | Mid-December        |

DISCOVERY is an intermediate maturing cultivar at harvest.

# Sensas

- ✓ **Spring milling wheat with fast development, suitable for drilling from July onwards**
- ✓ **Consistently high grain quality and milling characteristics**
- ✓ **Good overall disease resistance**
- ✓ **Fully awned cultivar with good straw strength**
- ✓ **Only true spring wheat available on the market**

**SENSAS** is a French bread wheat from RAGT (formerly Serasem) in France and has been developed in New Zealand by PGG Wrightson Grain (PGW Grain). SENSAS wheat develops quicker than any other wheat cultivar on the market, making it the ideal choice for later spring plantings and plantings from late July where the availability of late season moisture is unreliable (e.g. limited or no irrigation).



SENSAS reaches maturity earlier than any other of the spring wheat options, and it has excellent sprouting resistance. Together, these qualities allow for greater flexibility with drilling and harvesting. It is preferred by millers as it has plump grain with high protein, high test weights, and falling numbers that readily meet milling specifications.

## YIELD

SENSAS yields competitively to Reliance and Conquest and remains the only true spring milling wheat cultivar in the market.

## TIME OF DRILLING

SENSAS is a fast developing cultivar which must be drilled in the appropriate drilling window to minimise the risk of frost damage during the flowering phase and also bird damage during the later stages of maturity. It has a recommended drilling window from August through to mid-October. It can be drilled later than this since its fast development helps to shorten the interval to harvest, although, as with any cultivar, yield may be reduced from late planting.

## SEED RATE AND TILLERING CHARACTERISTICS

SENSAS has moderate tillering ability, and seed rate trials have shown that target plant populations should be within the standard seed rate guidelines published by PGW Grain (pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

SENSAS is suitable for all New Zealand spring wheat growing regions, although drilling dates need to be planned carefully in areas which are prone to late season frosts. Optimum yield and grain quality performance are most likely to be achieved with irrigation or regular rainfall.

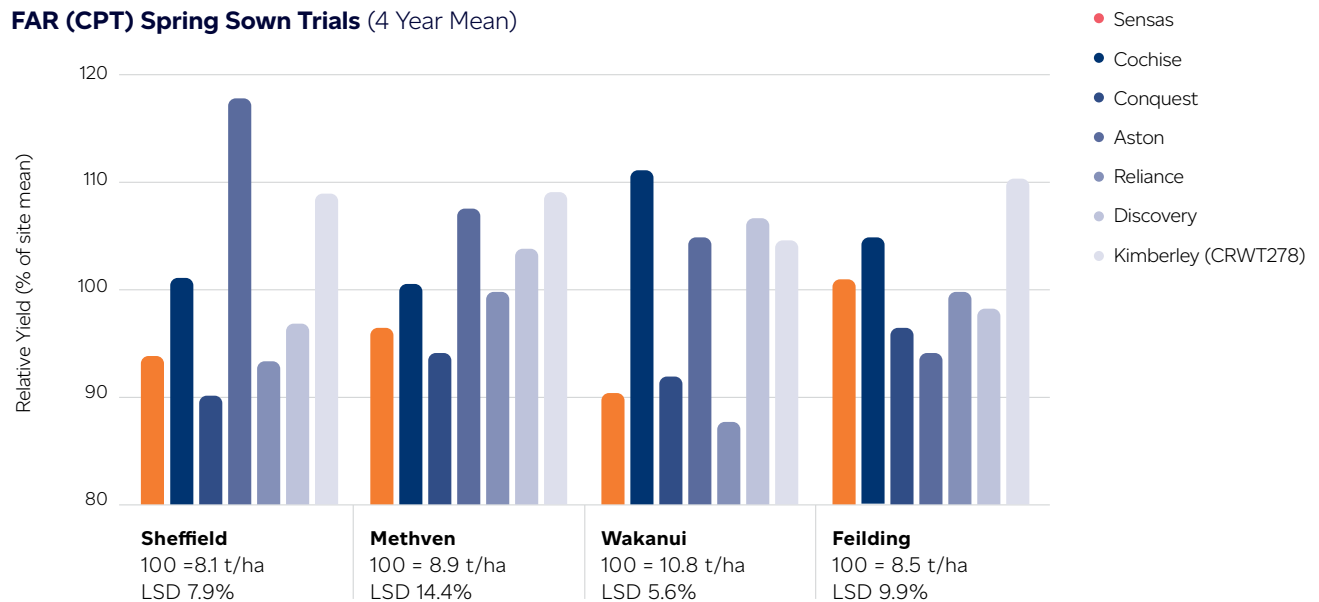
## DISEASE RESISTANCE

SENSAS has a good disease resistance profile, being moderately resistant to stripe rust and powdery mildew, with intermediate resistance to leaf rust. Considering this disease profile as a spring wheat, SENSAS can be grown with a reduced fungicide programme. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

SENSAS is a medium height cultivar with good standing power. A plant growth regulator programme should be considered for high yielding crops when under irrigation. The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

### FAR (CPT) Spring Sown Trials (4 Year Mean)



### GRAIN QUALITY

#### SENSAS (CPT 4 Year Mean)

Kernel weight (1000 seed weight)  
Test Weight (kg/hl)  
Protein content (%)  
Screenings (%)  
Falling number (sec)

#### Canterbury Spring

43

79

13

1.0

354

#### Lower North Island Spring

47

81

12.2

0.3

378

### PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

Stripe rust

7

Leaf rust

7

Powdery mildew

8

Fusarium head blight

7

### SPEED OF DEVELOPMENT

Typical heading dates for SENSAS in Canterbury:

Month Planted

Early August

Late November

Mid-September

Early December

Mid-October

Mid-December

SENSAS is rated as an early maturing cultivar at harvest.

# Tanzanite

- ✓ **A purple wheat with up to 10% yield advantage over Tyrian from an autumn sowing and up to 15% over Amethyst from later plantings**
- ✓ **Niche market wheat with appreciably higher value than other wheat types**
- ✓ **A facultative wheat cultivar with a wide sowing window**

**TANZANITE** is a high yielding purple winter wheat, bred in New Zealand by Bioeconomy Science Institute (formerly Plant & Food Research) and assessed for release by PGG Wrightson Grain (PGW Grain). TANZANITE has higher yield potential than Tyrian and Amethyst and better disease resistance. TANZANITE is accepted by flour mills, due to its consistent purple colour and uniform grain size, making it suitable for use in kibbling. Purple wheat is a niche market for which contracts are strongly advised.



## YIELD

TANZANITE is a facultative wheat giving it a much wider sowing window than Tyrian. May sowings will generally yield the greatest, but good yields have been achieved from sowings as late as early September. In PGW Grain trials, TANZANITE has given up to 10% higher yields than Tyrian from autumn sowings. From late winter to spring plantings, it yielded up to 15% above Amethyst with the advantage reducing if sown later than early September.

## TIME OF DRILLING

TANZANITE is a facultative wheat that can be sown from late April through to early September. Sowing dates from May to August will achieve maximum yield potential. PGW Grain trials have shown TANZANITE can still achieve high yields when sown in early September. Well prepared seedbeds will result in even emergence and sets up the crop to achieve high yields.

## SEED RATE AND TILLERING CHARACTERISTICS

TANZANITE tillers well (similar to most bread wheats). Care needs to be taken with plant populations when sowing mid-winter/spring. Seeding rates may need to be increased to achieve maximum yields (see PGW Grain wheat sowing guidelines on pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

TANZANITE is suitable for all New Zealand wheat growing regions where good grain quality, especially high kernel weight, can be achieved. It is not recommended as a second-year cereal option. As well as the usual risks from take-all, contamination from non-purple wheat volunteers could compromise end-user quality.

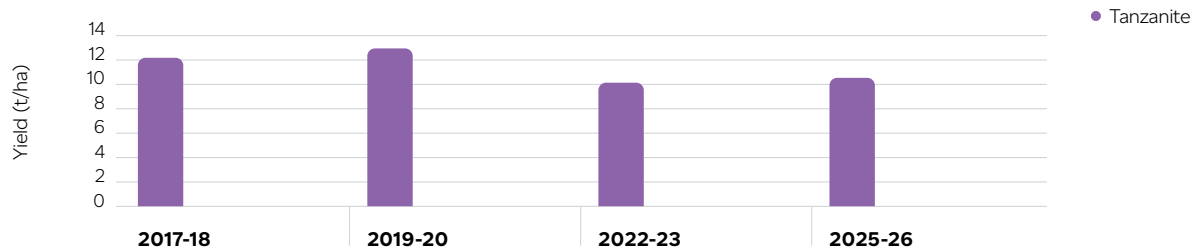
## DISEASE RESISTANCE

TANZANITE has a good general disease resistance profile but is moderately susceptible to *Septoria* leaf blotch. Considering this disease profile, fungicide programmes should be tailored to target *Septoria* leaf blotch early, especially at T0 and T1 timings for autumn sown crops. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

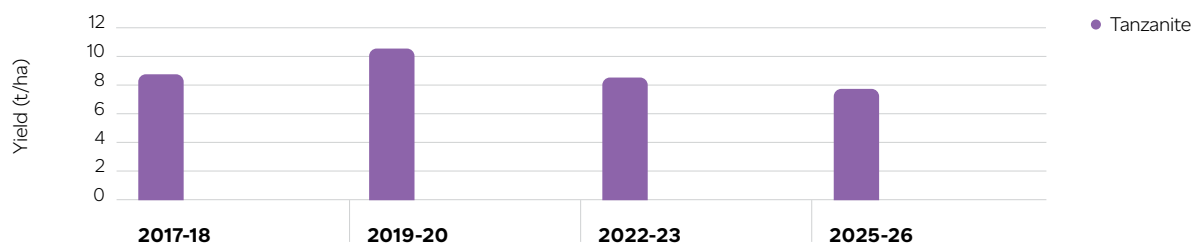
TANZANITE is a medium height cultivar with moderate standing power. In most situations, it will require a robust plant growth regulator programme to prevent lodging. The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## Purple Wheat Autumn Trials at Lincoln 2018-2026



New Zealand Flour Millers Association, Bioeconomy Science Institute and PGG Wrightson Grain collaborative trials.

## Purple Wheat Spring Trials at Lincoln 2018-2026



New Zealand Flour Millers Association, Bioeconomy Science Institute and PGG Wrightson Grain collaborative trials.

## GRAIN QUALITY

### TANZANITE (2025-2026)

|                                  | Autumn | Spring |
|----------------------------------|--------|--------|
| Kernel weight (1000 seed weight) | 47     | 41     |
| Test Weight (kg/hl)              | 76     | 73     |
| Protein content (%)              | 11.7   | 11.6   |
| Screenings (%)                   | 0.7    | 1.6    |
| Falling Number (sec)             | 373    | 342    |

### PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 9 |
| Leaf rust            | 7 |
| Septoria leaf blotch | 5 |
| Powdery mildew       | 9 |

## SPEED OF DEVELOPMENT

Typical heading dates for TANZANITE in Canterbury:

Month Planted

May

Mid-November

Early September

Mid – Late December

TANZANITE is quicker to develop than Tyrian and typically heads out a week earlier when planted between May and late April. TANZANITE has a weak temperature response making it suitable for planting through to mid-September.

TANZANITE is a medium maturing cultivar at harvest, similar to most of the current bread wheats.

# Amilo

- ✓ Preferred ryecorn variety of the milling industry
- ✓ A great second-year cereal option due to resistance to take-all infection
- ✓ High value grain that should be a priority at harvest

**AMILO** is a superior quality milling ryecorn, which has been developed and sold by PGG Wrightson Grain (PGW Grain) since 1990.



## YIELD

AMILO has consistently been one of the highest yielding ryecorn varieties in trials, with excellent grain quality. Commercial crop yields are generally 6.0-9.0 t/ha.

## TIME OF DRILLING

AMILO is a true winter ryecorn requiring vernalisation, with an optimum drilling window of May to June. Sowing should be completed by mid-July, as sowing later than this date puts the crop at risk of not heading out.

## SEED RATE AND TILLERING CHARACTERISTICS

AMILO tillers extremely well, and care needs to be taken with plant populations to reduce the chance of lodging and to protect grain quality characteristics. Current seed rate recommendations are based on previous PGW Grain trials. Target plant populations should be within the standard PGW Grain ryecorn guidelines (pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

AMILO can be grown on a wide range of soil types and on dryland or under irrigation. Ryecorn is regarded as resistant to takeall, therefore making AMILO a good second-year cereal option.

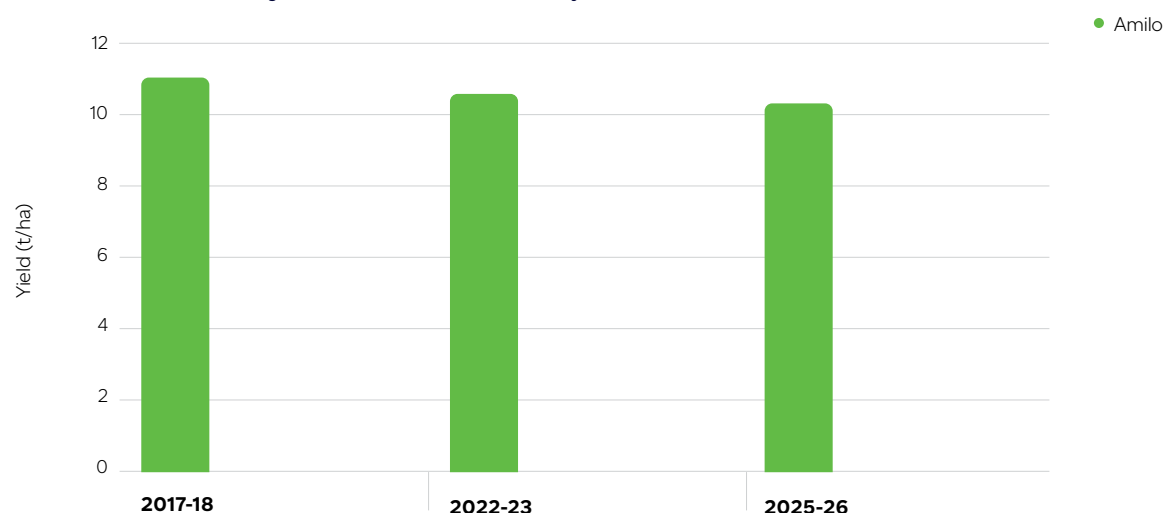
## DISEASE RESISTANCE

AMILO has a good general disease resistance profile, however, it is susceptible to rusts, especially leaf rust. Considering this disease profile and late planting, fungicide programmes should be tailored to target seedling stripe rust and late infections of leaf rust. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

AMILO is a tall cultivar that requires a robust plant growth regulator programme to reduce height and therefore the likelihood of lodging and shedding. In particular the programme should focus on the prevention of neck break. The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## PGW Grain Autumn Ryecorn Trials in Lincoln (3 years)



## GRAIN QUALITY

### AMILO (2 Year Mean)

|                                  |      |
|----------------------------------|------|
| Kernel weight (1000 seed weight) | 46   |
| Test Weight (kg/hl)              | 73   |
| Protein content (%)              | 12.1 |
| Screenings (%)                   | 1.2  |
| Falling number (sec)             | 300  |

### Canterbury

|                                  |      |
|----------------------------------|------|
| Kernel weight (1000 seed weight) | 46   |
| Test Weight (kg/hl)              | 73   |
| Protein content (%)              | 12.1 |
| Screenings (%)                   | 1.2  |
| Falling number (sec)             | 300  |

Ryecorn is more susceptible to sprouting than wheat. Therefore, AMILO's harvest should be prioritised over all other cereals to protect falling number. AMILO can also be susceptible to seed shattering if the weather during ripening is hot, dry and windy. In high wind risk areas, ryecorn can be windrowed before harvest to reduce shattering losses.

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                      |   |
|----------------------|---|
| Stripe rust          | 6 |
| Leaf rust            | 4 |
| Septoria leaf blotch | 5 |
| Powdery mildew       | 9 |

## SPEED OF DEVELOPMENT

Typical heading dates for AMILO in Canterbury:

Month Planted

|      |                      |
|------|----------------------|
| May  | Early – Mid-November |
| July | Late November        |

AMILO is an early to intermediate maturing cultivar at harvest.

# Ristretto

- ✓ **Very high yielding, slow maturing feed triticale**
- ✓ **Consistent second-year cereal performance due to excellent take-all tolerance**
- ✓ **Mid-tall variety with good standing power**
- ✓ **Market leading disease resistance for triticale**

**RISTRETTO** was bred by Lantmännen SW Seed AB in Sweden and further developed in New Zealand by PGG Wrightson Grain (PGW Grain). Triticale is a cross between wheat (triticum) and rye (secale) that combines the robustness and hardiness of rye with the yielding ability of wheat.



## YIELD

In PGW Grain trials, RISTRETTO has consistently shown very high yields as a first and second-year cereal in irrigated trials. In 2023/24 and 2024/25 FAR second-year wheat Cultivar Performance Trials (CPT) RISTRETTO was the standout performer, averaging 11.7 t/ha and 12 t/ha versus wheat ranging 9.7 t/ha to 11.9 t/ha. It has also proven itself in the 2022-2024 PGW Grain spring sown trials, outperforming Cochise.

## TIME OF DRILLING

RISTRETTO has an optimum drilling window between early May and late July but has the ability to be drilled through to the end of August and still generate impressive yields. RISTRETTO can be planted earlier, but this may result in excessively bulky crops and a higher risk of frost damage as observed in the 2023/24 PGW Grain sowing rate and date trial.

## SEED RATE AND TILLERING CHARACTERISTICS

RISTRETTO tillers profusely, so seed rates need to be reduced, especially when sowing early. Please refer to the triticale seed rate guidelines provided by PGW Grain (pg 5). The 2023/24 PGW Grain sowing date and rate trial confirmed these guidelines to be optimum for RISTRETTO.

## SOIL TYPE, ROTATION AND GEOGRAPHY

RISTRETTO is suitable for all New Zealand winter cereal growing regions, including dryland and irrigated sites. RISTRETTO has a very high yield potential and often outperforms feed wheat, especially as a second-year cereal. This is due to its disease resistant genes from the rye parentage.

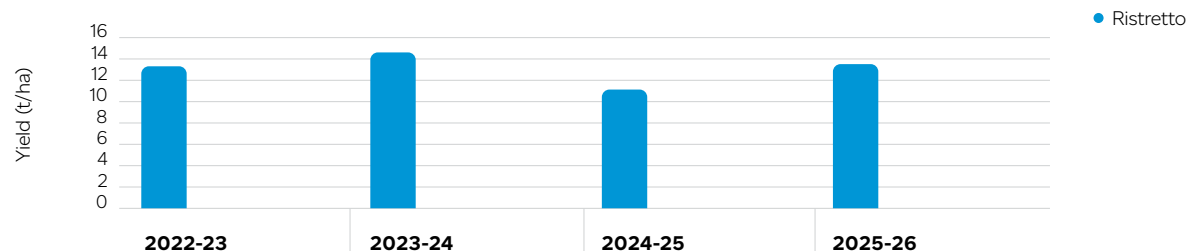
## DISEASE RESISTANCE

RISTRETTO has a good disease resistance profile, being mostly resistant to foliar diseases, with the exception of seedling stripe rust. Considering this disease profile, RISTRETTO can be grown with a reduced fungicide programme as long as the crop is monitored regularly for disease changes, especially seedling stripe rust. In the 2023-2025 PGW Grain fungicide trials, RISTRETTO displayed an average yield response of 0.5-3.0 t/ha under low to moderate fungicide programmes. Please contact your local PGW Representative for site specific recommendations.

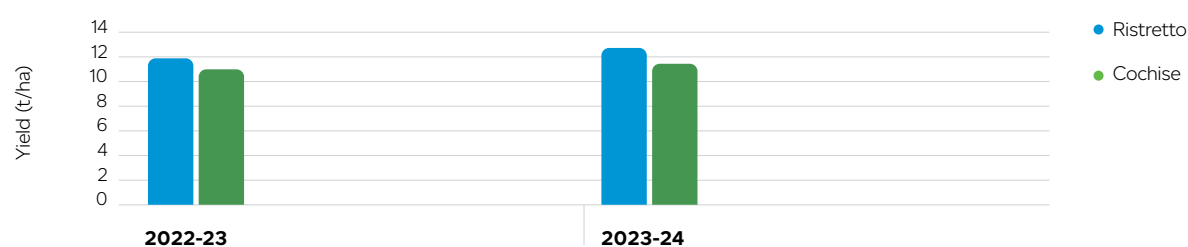
## STRAW STRENGTH AND HEIGHT

RISTRETTO is a mid-tall cultivar with strong standing power. However, the use of plant growth regulators (PGRs) is generally recommended with RISTRETTO responding well, especially to a split application (PGW Grain PGR 2022/23 trial). The actual programme is determined by a combination of local conditions, management and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## PGW Grain Autumn Triticale Lincoln Trials 2022-2026



## PGW Grain Spring Triticale Lincoln Trials 2022-2024



## GRAIN QUALITY

### RISTRETTO (2025-2026)

Kernel weight (1000 seed weight)

Autumn

58

Test Weight (kg/hl)

70

Protein content (%)

12.9

Screenings (%)

0.3

RISTRETTO is more susceptible to sprouting than wheat. Therefore, RISTRETTO should be prioritised over other cereals at harvest.

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

Stripe rust

seedling 6 adult 8

Leaf rust

9

Septoria leaf blotch

9

Powdery mildew

9

## MARKET

RISTRETTO is a feed triticale which mainly supplies the pig feed market within New Zealand. Protein levels tend to sit between 9% and 11%. Contracts are advised when growing feed triticale in order to guarantee a market for the crop.

## SPEED OF DEVELOPMENT

Typical heading dates for RISTRETTO in Canterbury:

Month Planted

Mid-May Early – Mid-November

Mid-June Mid-November

Mid-July Mid – Late November

Mid-August Late November

RISTRETTO is an early mid-season grain cultivar with intermediate maturity.

# Belter

- ✓ **One of the highest yielding new spring barleys in FAR CPT trials**
- ✓ **Bred as a non GN dual distilling/malting barley but with high grain yields**
- ✓ **Good disease profile with good disease resistance to net blotch and powdery mildew**
- ✓ **Large grain, average test weights and very low screenings**

**BELTER** is an exciting new spring barley cultivar bred by SECOBRA RESEARCH UK spring barley programme and further developed by PGG Wrightson Grain (PGW Grain). A spring barley with very high yield potential that is suitable for feed, distilling and malting. It has an intermediate maturity and can be planted late or under dryland but has high yield potential with irrigation and appropriate inputs.



## YIELD

Based on FAR CPT trials in 2025-26, BELTER has shown a high yield potential in most environments. It was in the top group for yield across the four Canterbury sites and central Southland and had the highest mean yield over the two North Island sites. It has topped the South Canterbury site for the past two seasons (CPT1 in 2024-25). It has not been tested in autumn trials to date but will be in both FAR and PGW Grain autumn trials in the 2026-27 season.

## TIME OF DRILLING

BELTER has proven itself over a wide range of spring planting times in both FAR and PGW Grain trials. Although untested in the autumn, we anticipate a sowing window like other varieties from May right through to late October and beyond. Growing conditions and yield potential always dictate plant growth regulator (PGR) requirements, and even though BELTER has stiffer straw compared to Laureate, it will benefit from a moderate PGR programme especially in the autumn and in very high growth environments.

## SEED RATE AND TILLERING CHARACTERISTICS

BELTER is a medium to high tillering variety, and target plant populations should be within the standard PGW Grain barley seed rate guidelines (pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

BELTER can be planted on all soil types where barley is already grown and can be grown as a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first-year barley crop.

## DISEASE RESISTANCE

BELTER is mostly resistant to powdery mildew and is moderately resistant to scald and net blotch. However, it is moderately susceptible to leaf rust. Considering this disease profile, BELTER will need a moderate to robust fungicide programme. In the 2025/26 PGW Grain spring fungicide trial, BELTER produced a moderate untreated yield and fungicide responses of 0.8-1.8 t/ha. The fungicide trial is being repeated for the 2026/27 season in the autumn and spring and should provide further information. Please contact your local PGW Representative for site specific recommendations.

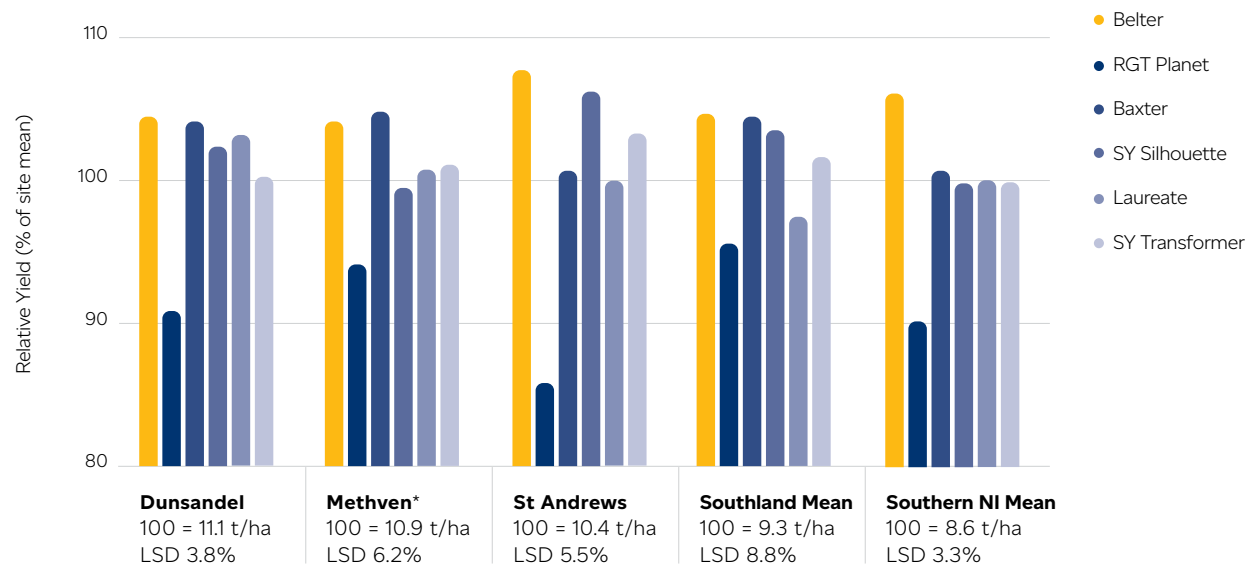
## STRAW STRENGTH AND HEIGHT

BELTER is a medium height cultivar with moderate to stiff straw. Autumn sowings will require a robust plant growth regulator investment, especially under irrigation. In spring, this cultivar will still require a moderate to high PGR programme to prevent brackling and maintain high yields. The actual programme is determined by a combination of local conditions, management and yield potential. As with any cultivar, do not apply PGR if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

NEW

**BELTER**  
SPRING BARLEY

## FAR (CPT) Spring Sown Trials (4 Year Mean)



## GRAIN QUALITY

### BELTER (CPT 4 Year Mean)

Kernel weight (1000 seed weight)

Test Weight (kg/hl)

Protein content (%)

Screenings (%)

|                                  | Canterbury Spring | Southland Spring | Lower North Island Spring |
|----------------------------------|-------------------|------------------|---------------------------|
| Kernel weight (1000 seed weight) | 58                | 56               | 61                        |
| Test Weight (kg/hl)              | 62                | 62               | 62                        |
| Protein content (%)              | 11.3              | 12.8             | 9.9                       |
| Screenings (%)                   | 2.2               | 3.9              | 1.4                       |

## SPEED OF DEVELOPMENT

Typical heading dates for BELTER in Canterbury:

Month Planted

May **Late October**

September **Late November**

BELTER has an intermediate development rate for harvest maturity.

## PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                |   |
|----------------|---|
| Scald          | 7 |
| Net blotch     | 7 |
| Leaf rust      | 5 |
| Powdery mildew | 8 |

# SY Transformer

- ✓ **One of the highest yielding commercially available spring and autumn cultivars in FAR CPT trials**
- ✓ **Suited to all sowing times and conditions in both the spring and autumn**
- ✓ **Dual-purpose feed and malting barley**
- ✓ **Large grain, average test weights and very low screenings**

From the proven Syngenta spring barley breeding programme, **SY TRANSFORMER** has been developed in New Zealand in conjunction with Cropmark Seeds Ltd as head licensee and PGG Wrightson Grain (PGW Grain). This is a spring barley with very high yield potential that is suitable for feed and malting. It has an intermediate maturity and can be planted late or under dryland but has high yield potential with irrigation and appropriate inputs.

## YIELD

SY TRANSFORMER has high yield potential under all grain growing environments but has excelled under 'normal' conditions where it can yield more than other barleys. It is one of the highest yielding varieties in both the FAR autumn and spring sown trials when looking at the 4 year means, showing consistency across years and environments.

## TIME OF DRILLING

SY TRANSFORMER has proven itself in autumn and spring conditions, so has an optimum sowing window from May right through to late September and beyond. Growing conditions and yield potential always dictate plant growth regulator (PGR) requirements, and even though SY TRANSFORMER has a moderate to stiff straw, it will benefit from a moderate PGR programme especially in the autumn and in very high growth environments.

## SEED RATE AND TILLERING CHARACTERISTICS

SY TRANSFORMER is a medium to high tillering variety, and target plant populations should be within the standard PGW Grain barley seed rate guidelines (pg 5). Work done by Cropmark Seeds Ltd has shown yields are maximised by targeting 175-200 plants/m<sup>2</sup> in the autumn.

## SOIL TYPE, ROTATION AND GEOGRAPHY

SY TRANSFORMER can be planted on all soil types where barley is already grown and can be grown as a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first year barley crop.

## DISEASE RESISTANCE

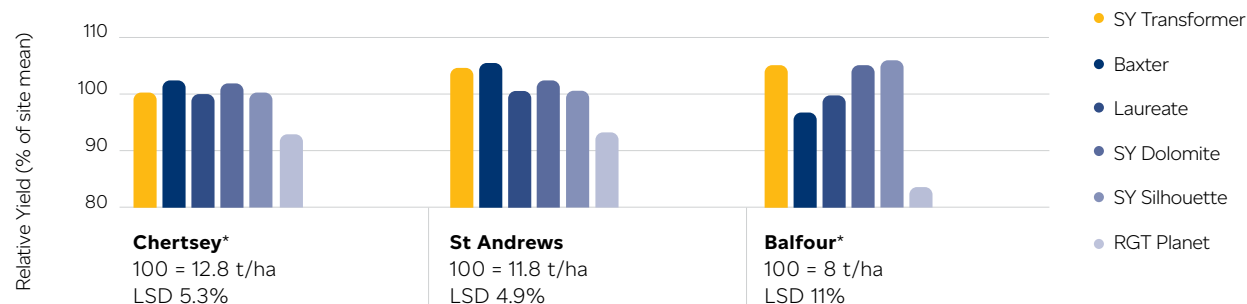
SY TRANSFORMER is mostly resistant to powdery mildew, and moderately resistant to scald. However, it is moderately susceptible to net blotch and leaf rust. Considering this disease profile, SY TRANSFORMER will need a moderate to robust fungicide programme. In the 2022/23 PGW Grain fungicide trial, SY TRANSFORMER produced a moderate untreated yield and fungicide responses of 2.4-5.6 t/ha and 2.1-2.8 t/ha from an autumn and spring sowing, respectively. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

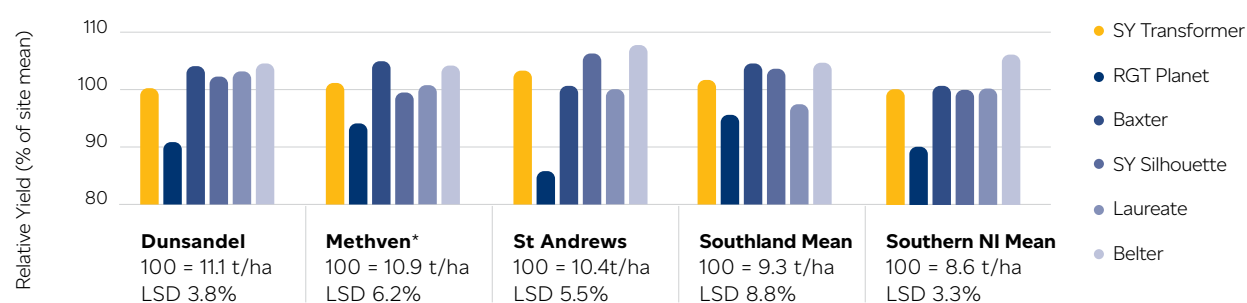
SY TRANSFORMER is a medium height cultivar with moderate to stiff straw. Autumn sowings will require a robust plant growth regulator (PGR) investment, especially under irrigation. In spring, this cultivar will still require a moderate to high PGR programme to prevent brackling and maintain high yields. The actual programme is determined by a combination of local conditions, management and yield potential. As with any cultivar, do not apply PGR if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

# SY Transformer

## **FAR (CPT) Autumn Sown Trials (4 Year Mean)**



## **FAR (CPT) Spring Sown Trials (4 Year Mean)**



## **GRAIN QUALITY**

### **SY TRANSFORMER (CPT 4 Year Mean)**

|                                  | Canterbury Autumn | Southland Autumn | Canterbury Spring | Southland Spring | Lower North Island Spring |
|----------------------------------|-------------------|------------------|-------------------|------------------|---------------------------|
| Kernel weight (1000 seed weight) | 51                | 48               | 56                | 55               | 59                        |
| Test Weight (kg/hl)              | 62                | 62               | 62                | 62               | 64                        |
| Protein content (%)              | 11.2              | 11.8             | 11.0              | 12.8             | 10.5                      |
| Screenings (%)                   | 3.9               | 6.7              | 2.5               | 3.5              | 1.1                       |

## **PGW GRAIN DISEASE NURSERY RATINGS**

(9 highly resistant, 1 highly susceptible)

|                |   |
|----------------|---|
| Scald          | 6 |
| Net blotch     | 4 |
| Leaf rust      | 5 |
| Powdery mildew | 8 |

## **SPEED OF DEVELOPMENT**

Typical heading dates for SY TRANSFORMER in Canterbury:

|               |               |
|---------------|---------------|
| Month Planted |               |
| May           | Late October  |
| September     | Late November |

SY TRANSFORMER has an intermediate development rate for harvest maturity.

# Laureate

- ✓ **High yielding, multipurpose spring barley**
- ✓ **Bred as a dual distilling/malting barley but with high grain yields**
- ✓ **Good disease profile with good disease resistance to net blotch and powdery mildew**
- ✓ **Large grain, average test weights and very low screenings with low proteins**

From the proven Syngenta spring barley breeding programme, **LAUREATE** has been developed in New Zealand in conjunction with Cropmark Seeds Ltd as head licensee and PGG Wrightson Grain (PGW Grain). LAUREATE is a spring barley with high yield potential that is suitable for all end uses: malting, distilling and feed. It has an intermediate to late maturity and can be planted late or under dryland but has high yield potential with irrigation and appropriate inputs.



## YIELD

LAUREATE has high yield potential under all environments but has excelled when conditions turn dry. Under irrigation or high rainfall, it requires appropriate straw management to prevent brackling so as to maintain its high yield potential across all South Island regions. In the lower North Island, it has been a leading cultivar in previous seasons.

## TIME OF DRILLING

LAUREATE has proven itself in autumn trials, but due to its moderate straw strength and high plant growth regulator (PGR) requirement, it is recommended for spring sowing only. Spring sowing is typically from early August to late September, except in the lower North Island, where drilling can be as late as November.

## SEED RATE AND TILLERING CHARACTERISTICS

LAUREATE is a medium to high tillering variety, and target plant populations should be within the standard PGW Grain barley seed rate guidelines (pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

LAUREATE can be planted on all soil types where barley is already grown and can be grown as a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first-year barley crop.

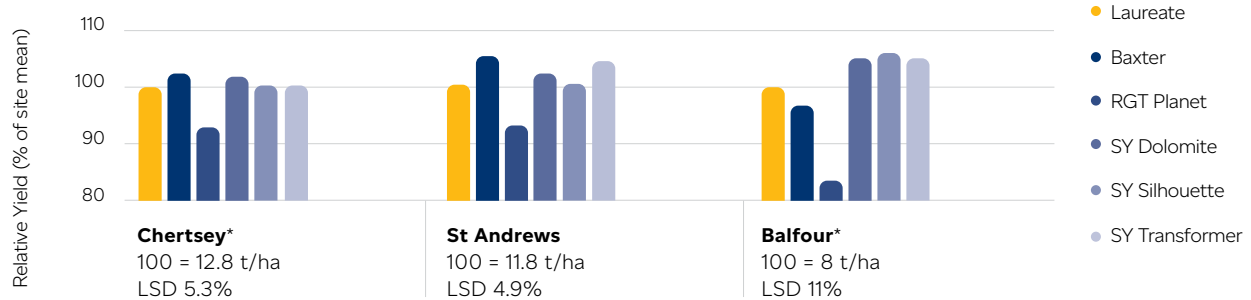
## DISEASE RESISTANCE

LAUREATE is moderately resistant to net blotch and powdery mildew. It has intermediate resistance to scald and leaf rust. Considering this disease profile, LAUREATE will need a moderate fungicide programme in most instances but may need more where there is high pressure for scald and leaf rust. Please contact your local PGW Representative for site specific recommendations.

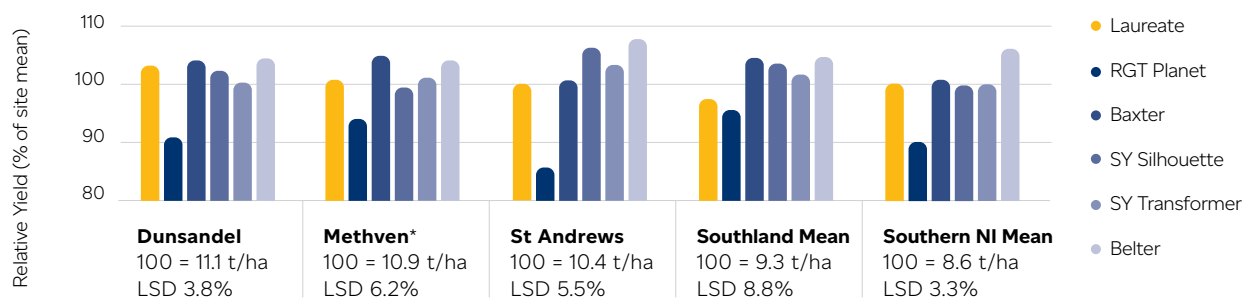
## STRAW STRENGTH AND HEIGHT

LAUREATE is a medium height cultivar with moderate straw strength. Autumn sowings, although not advised, will require a robust PGR investment, especially under irrigation. In the spring, this cultivar will still require a moderate to high PGR programme to prevent brackling and maintain high yields. The actual programme is determined by a combination of local conditions, management and yield potential. As with any cultivar, do not apply PGR if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

### FAR (CPT) Autumn Sown Trials (4 Year Mean)



### FAR (CPT) Spring Sown Trials (4 Year Mean)



### GRAIN QUALITY

#### LAUREATE (CPT 4 Year Mean)

|                                  | Canterbury Autumn | Southland Autumn | Canterbury Spring | Southland Spring | Lower North Island Spring |
|----------------------------------|-------------------|------------------|-------------------|------------------|---------------------------|
| Kernel weight (1000 seed weight) | 52                | 48               | 55                | 54               | 58                        |
| Test Weight (kg/hl)              | 63                | 63               | 62                | 63               | 62                        |
| Protein content (%)              | 11.2              | 11.9             | 11.2              | 12.9             | 10.7                      |
| Screenings (%)                   | 3.4               | 6.1              | 2.6               | 3.1              | 1.1                       |

### PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

|                |   |
|----------------|---|
| Scald          | 6 |
| Net blotch     | 8 |
| Leaf rust      | 5 |
| Powdery mildew | 8 |

### SPEED OF DEVELOPMENT

Typical heading dates for LAUREATE in Canterbury:

Month Planted

May **Late October**

September **Late November**

LAUREATE has intermediate to late maturity at harvest.

# RGT Planet

- ✓ **Reliable yielding spring barley**
- ✓ **Dual-purpose feed and malting barley**
- ✓ **Consistent yield performance across all growing regions, especially the lower North Island**
- ✓ **Good straw strength compared to other cultivars**

**RGT PLANET** is a consistent and reliable yielding feed and malting barley variety, bred in France by RAGT and developed in New Zealand in conjunction with RAGT New Zealand as head licensee and PGG Wrightson Grain (PGW Grain).

## YIELD

RGT PLANET has yielded consistently over the past twelve years in CPT spring trials. While not the top performer at all sites, RGT PLANET is a reliable cultivar across multiple autumn and spring locations.

## TIME OF DRILLING

RGT PLANET is an established autumn drilled barley, although drilling is not recommended until early May owing to the risk of frost damage during flowering. It can be drilled through the winter into the spring, although sowing through the coldest weeks of June and July is not recommended, especially in heavy soils prone to waterlogging. Spring sowing is typically from early August to late September, except in the lower North Island, where drilling can be as late as November.

## SEED RATE AND TILLERING CHARACTERISTICS

RGT PLANET is a medium to high tillering variety, and target plant populations should be within the standard PGW Grain barley seed rate guidelines (pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

RGT PLANET can be planted on all soil types where barley is already grown and can be grown as a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first-year barley crop.

## DISEASE RESISTANCE

RGT PLANET is mostly resistant to powdery mildew, and moderately resistant to scald. However, it is moderately susceptible to net blotch and leaf rust. Considering this disease profile, RGT PLANET will need a moderate to robust fungicide programme. In the 2022/23 PGW Grain fungicide trial, RGT PLANET produced a moderate untreated yield and fungicide responses of 2.0-3.8 t/ha from an autumn sowing. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

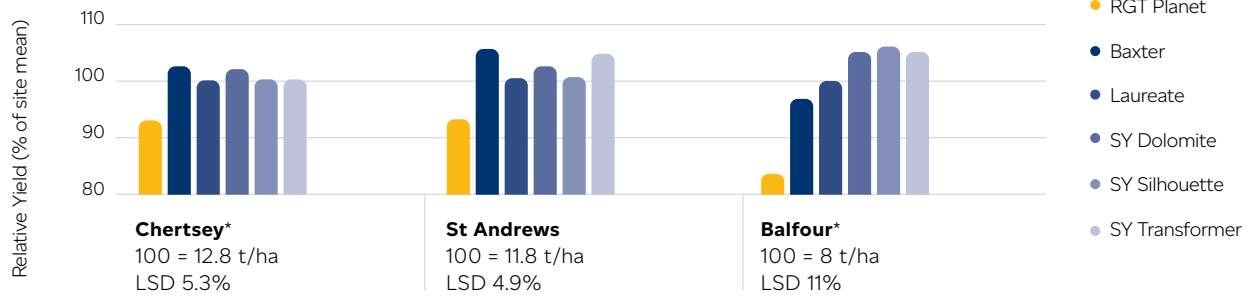
RGT PLANET is a medium to tall, stiff-strawed cultivar. In Europe, it rates high for brackling resistance, and the New Zealand experience is similar. Autumn sowings will typically require plant growth regulator (PGR) investment, especially under irrigation. Some spring crops may not need a PGR programme. The actual programme is determined by a combination of local conditions, management and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.



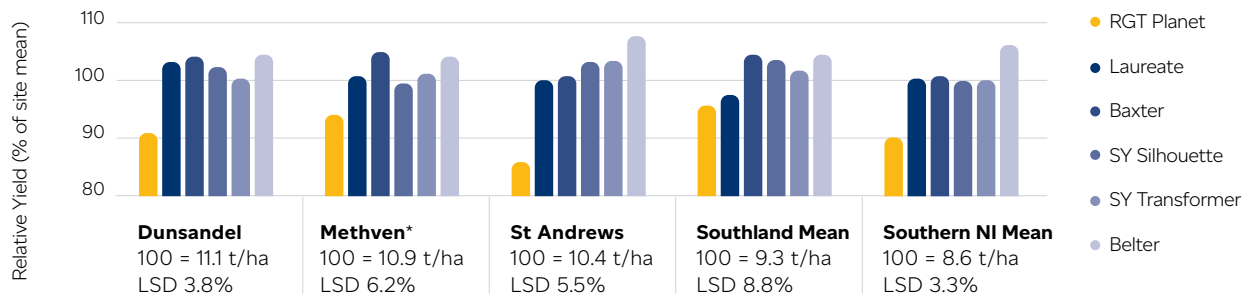
MALTING SPRING BARLEY

**RGT PLANET**

A new world!

**FAR (CPT) Autumn Sown Trials (4 Year Mean)**

\*Chertsey and Balfour are only a three year mean (no data from 2023-24 and 2024-25 respectively).

**FAR (CPT) Spring Sown Trials (4 Year Mean)**

\*Methven is a three year mean (no data for 2023-24).

**GRAIN QUALITY****RGT PLANET (CPT 4 Year Mean)**

|                                  | Canterbury Autumn | Southland Autumn | Canterbury Spring | Southland Spring | Lower North Island Spring |
|----------------------------------|-------------------|------------------|-------------------|------------------|---------------------------|
| Kernel weight (1000 seed weight) | 52                | 48               | 54                | 54               | 57                        |
| Test Weight (kg/hl)              | 63                | 63               | 63                | 64               | 63                        |
| Protein content (%)              | 11.1              | 12.2             | 11.4              | 12.8             | 10.8                      |
| Screenings (%)                   | 3.2               | 8.4              | 3.1               | 4.4              | 1.8                       |

RGT PLANET produces a rare combination of yield and excellent grain quality.

**PGW GRAIN DISEASE NURSERY RATINGS**

(9 highly resistant, 1 highly susceptible)

**SPEED OF DEVELOPMENT**

Typical heading dates for RGT PLANET in Canterbury:

|                 |                               |
|-----------------|-------------------------------|
| Month Planted   | Late October – Early November |
| Mid-May         |                               |
| Mid-August      | Mid-November                  |
| Early September | Late November                 |

RGT PLANET has early to intermediate maturity at harvest.

# Tavern

- ✓ **Easy care, historical industry standard feed barley**
- ✓ **Consistent, well proven autumn performer on farm**
- ✓ **Awn characteristics may help to protect against bird damage near harvest when autumn sown**
- ✓ **Best in class for straw standing power making it ideally suited for autumn planting**

**TAVERN** is a consistent and reliable performing feed barley variety, bred in the UK by Syngenta and developed in New Zealand in conjunction with Cropmark Seeds Ltd as head licensee and PGG Wrightson Grain (PGW Grain).



## YIELD

TAVERN remains a tried and true, reliable yielding variety that farmers trust and turn to year after year. TAVERN performs well from both autumn and spring sowings and produces reliable grain characteristics.

## TIME OF DRILLING

TAVERN is well established as an autumn drilled barley, although drilling is not recommended until early May owing to the risk of frost damage during flowering. It can then be drilled through the winter into the spring, although sowing through the coldest weeks of June and July is not recommended, especially on heavy soils that are prone to waterlogging. It performs consistently in the spring, although on dryland TAVERN performs most reliably from an autumn drilling.

## SEED RATE AND TILLERING CHARACTERISTICS

TAVERN tillers profusely from both autumn and spring drilling timings and target plant populations should be within the standard PGW Grain barley seed rate guidelines (pg 5).

## SOIL TYPE, ROTATION AND GEOGRAPHY

TAVERN can be planted on all soil types where barley is already grown and can be a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first-year barley crop.

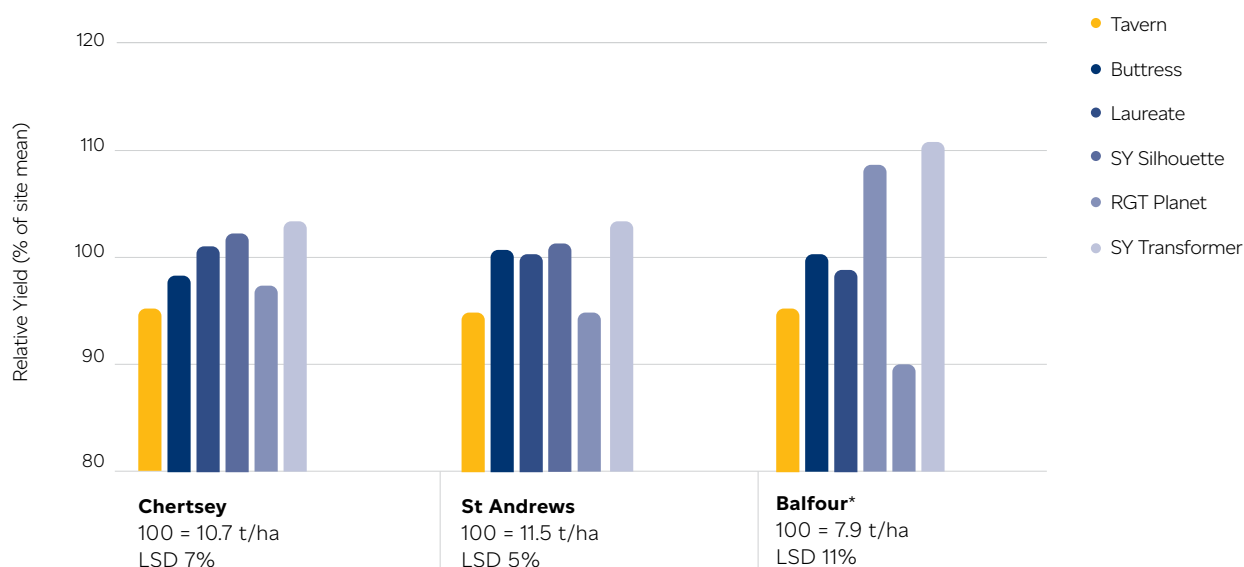
## DISEASE RESISTANCE

TAVERN shows some susceptibility to all foliar diseases. Considering this disease profile, TAVERN will need a robust fungicide programme in most circumstances. Please contact your local PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

TAVERN is a stiff-strawed variety with short to medium height and moderate to good neck strength. Autumn sowings will typically require a plant growth regulator investment, especially under irrigation. The actual programme is determined by a combination of local conditions, management and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

### FAR (CPT) Autumn Sown Trials (4 Year Mean 2021-24)



### GRAIN QUALITY

#### TAVERN (CPT 4 Year Mean 2021-24)

Kernel weight (1000 seed weight)  
Test Weight (kg/hl)  
Protein content (%)  
Screenings (%)

#### Canterbury

47  
64  
11.5  
5

#### Southland

48  
63  
13  
7.7

TAVERN produces grains with high test weights and low screenings. It consistently produces good grain quality compared to many other cultivars.

### PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

Scald

6

Net blotch

6

Leaf rust

6

Powdery mildew

6

### SPEED OF DEVELOPMENT

Typical heading dates for TAVERN in Canterbury:

Month Planted

May

Early November

September

Early December

TAVERN has intermediate to late maturity at harvest.

# LG Caprice

- ✓ **A very high yielding new winter barley**
- ✓ **Medium height, stiff-strawed**
- ✓ **Excellent disease resistance**
- ✓ **BYDV tolerance benefits**

**LG CAPRICE** is a true winter barley bred in the UK by Limagrain and further developed by PGG Wrightson Grain (PGW Grain). It requires vernalisation and time for tiller development, therefore is only suitable for autumn sowings. It performs best from earlier sowings in late March and April to take advantage of its high tillering habit and disease resistance.



## YIELD

In PGW Grain and FAR trials over several seasons, LG CAPRICE has demonstrated significantly higher yields, ranging from 10-21%, compared to Surge and other commercially available winter barleys.

## TIME OF DRILLING

The optimum drilling time for LG CAPRICE is late March to late April. There may be some reduction in yield in early May, more so on dryland, lighter country and higher altitude areas. From early-May sowings, yields will tend to decrease but will be similar to spring barley planted at this time. However, its superior disease resistance makes it an alternative to spring barley for early May planting. By mid-May, the grower should switch to a spring barley like SY Transformer or Belter. On drier country where summer moisture stress is expected, this cut off can come in late April or the first week of May.

## SEED RATE AND TILLERING CHARACTERISTICS

LG CAPRICE winter barley can produce a large number of tillers like most winter cultivars. Work being conducted by FAR in the 2026/27 season will further define tillering ability and help fine tune optimal sowing rates.

## SOIL TYPE, ROTATION AND GEOGRAPHY

LG CAPRICE can be planted on all soil types where barley is already grown and can be grown as a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first-year barley crop.

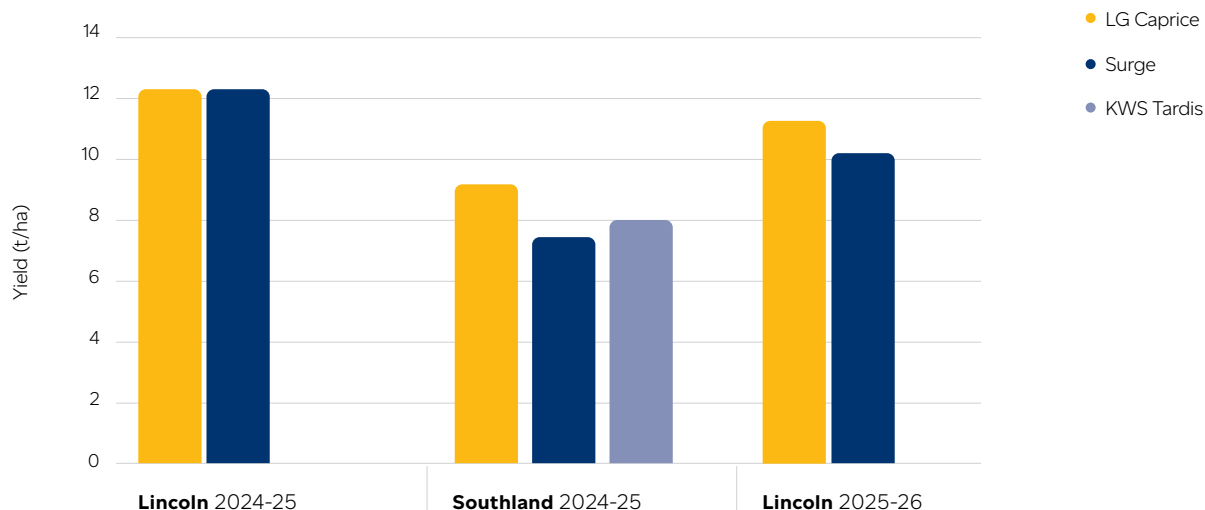
## DISEASE RESISTANCE

LG CAPRICE has an excellent disease resistance profile and is mostly resistant to scald, net blotch and powdery mildew. It is moderately resistant to leaf rust. Some diseases may be present in late winter on older leaves, but this will disappear with new spring growth. Considering this disease profile, fungicide programmes should be tailored for the control of Ramularia. Please contact your PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

LG CAPRICE is a medium height cultivar with good straw strength and stand-ability, however, it can brackle on ripening. Due to its high yield potential, it will require a moderate plant growth regulator programme, focussing on early season stem strength and late season height reduction to prevent lodging or brackling. The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

## PGW Grain and FAR Winter Barley Trials 2024-26



## GRAIN QUALITY

### LG CAPRICE (2025-2026)

Kernel weight (1000 seed weight)

Lincoln

58

Test Weight (kg/hl)

60

Screenings (%)

2.6

LG CAPRICE produces a medium size grain of good test weight with low to moderate screenings.

## LIMAGRAIN DISEASE RATINGS

(9 highly resistant, 1 highly susceptible)

Scald

6

Net blotch

5

Leaf rust

7

Powdery mildew

7

## PLANT POPULATIONS

Typical plant populations for LG CAPRICE in Canterbury:

Months Planted      Plants/m<sup>2</sup>

March – Early April      125-150

Mid April      150

Late April – Mid May      175

## SPEED OF DEVELOPMENT

Typical heading dates for LG CAPRICE in Canterbury:

Month Planted

Late March      Late October

Mid-April      Early November

Early May      Mid-November

LG CAPRICE is a cultivar with early to mid-maturity at harvest.

# Surge

- ✓ Average yielding winter barley
- ✓ Medium height, stiff-strawed
- ✓ Excellent disease resistance
- ✓ Earlier harvest benefits

**SURGE** is a true winter barley bred in the UK by Syngenta. It requires vernalisation and time for tiller development, therefore is only suitable for autumn sowings. It performs best from earlier sowings in late March and April to take advantage of its high tillering habit and disease resistance, especially to scald.



## YIELD

In previous PGW Grain and FAR trials, SURGE was competitive against other commercially available varieties but is now surpassed by LG Caprice.

## TIME OF DRILLING

The optimum drilling time for SURGE is late March to late April. There may be some reduction in yield in early May, more so on dryland, lighter country and higher altitude areas. From early May sowings, yields will tend to decrease but will be similar to spring barley planted at this time. However, its superior disease resistance makes it an alternative to spring barley for early May planting. By mid-May, the grower should switch to a spring barley like SY Transformer or Belter. On drier country where summer moisture stress is expected, this cut off can come in late April or the first week of May.

## SEED RATE AND TILLERING CHARACTERISTICS

SURGE winter barley is able to produce a large number of tillers. It will produce around 25 tillers per plant by the end of tillering but reduce to 7-10 per plant at harvest. In comparison to other varieties, it will produce more tillers than Cassia and Padura, but less than Sanette or Tavern. Based on limited trial data, the optimal sowing rates are as shown on the page to the right.

## SOIL TYPE, ROTATION AND GEOGRAPHY

SURGE can be planted on all soil types where barley is already grown and can be grown as a first or second-year cereal. As a second-year cereal, barley is generally more take-all tolerant than wheat, however, yield will be lower than a first-year barley crop.

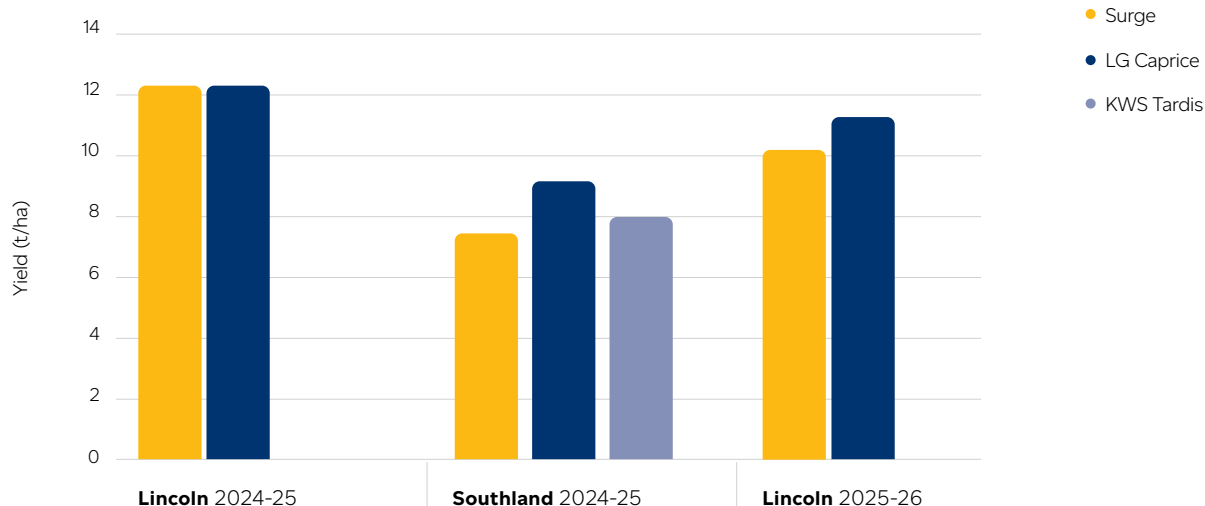
## DISEASE RESISTANCE

SURGE has an excellent disease resistance profile and is mostly resistant to scald, net blotch and powdery mildew. It is moderately resistant to leaf rust. Some diseases may be present in late winter on older leaves, but this will disappear with new spring growth. Considering this disease profile, fungicide programmes should be tailored for the control of *Ramularia*. Please contact your PGW Representative for site specific recommendations.

## STRAW STRENGTH AND HEIGHT

SURGE is a medium to tall cultivar with good straw strength and stand-ability, however, it can brackle on ripening. Due to its yield potential, it will require a moderate plant growth regulator programme, focussing on early season stem strength and late season height reduction to prevent lodging or brackling. The actual programme is determined by a combination of sowing date, seed rate, nitrogen use, crop thickness and yield potential. As with any cultivar, do not apply if the crop is under any form of stress. Please contact your local PGW Representative for site specific recommendations.

### PGW Grain and FAR Winter Barley Trials 2024-26



### GRAIN QUALITY

#### SURGE (2025-26)

Kernel weight (1000 seed weight)

Lincoln

54

Test Weight (kg/hl)

61

Screenings (%)

7

SURGE produces a medium size grain of good test weight with low to moderate screenings.

### PGW GRAIN DISEASE NURSERY RATINGS

(9 highly resistant, 1 highly susceptible)

Scald

9

Net blotch

7

Leaf rust

6

Powdery mildew

8

### PLANT POPULATIONS

Typical plant populations for SURGE in Canterbury:

Months Planted      Plants/m<sup>2</sup>

March – Early April      125-150

Mid April      150

Late April – Mid May      175

### SPEED OF DEVELOPMENT

Typical heading dates for SURGE in Canterbury:

Month Planted

Late March      Late October

Mid-April      Early November

Early May      Mid-November

SURGE is a cultivar with early to mid-maturity at harvest.

## Terms of Trade 2026/2027

(In addition to the standard PGG Wrightson Seeds Limited Terms of Trade)

### Pricing

All prices quoted are exclusive of GST per tonne.  
Prices are subject to change without prior notice.

### Payment Terms

Payment is due on the 20th of the month following the date of invoice.

### Orders

E-mail orders only will be accepted, verbal orders will not be processed.

Orders must be accompanied by an order number if applicable and full details.

**Any order not collected within two weeks of the advised Dispatch Date will be automatically cancelled without advice to the purchaser.**

### Returns

Any stock to be returned must meet the following criteria before a credit will be processed:

- No seed with Systiva seed treatment or any other special seed treatments will be accepted.
- No seed will be accepted after 30 days from date of delivery.
- Unopened bags only – part bags will not be accepted.
- Bags must be in a good, clean condition.
- All labels/tickets must be attached to bags.
- Original Order Number or Invoice Number to accompany returned goods.
- All seed to be returned to the original PGG Wrightson Grain Dispatch Point at the cost of the purchaser.

### Freight

All freight costs are at the cost of the purchaser (customer).

- If you would like us to provide a quote for transport via Mainfreight, please let us know when ordering.
- If no freight preference is indicated on the order, we will subsequently use Mainfreight and charge to the respective customer.

#### Delivery

Delivery will be made from the closest distribution centre holding stock.

#### Stock damaged in transit

Claims must be in writing and received by PGG Wrightson Grain within 3 days of receipt of goods.

#### Short delivered stock

Claims must be in writing and received by PGG Wrightson Grain within 3 days of receipt of goods.

### Pallets

Pallets branded with either PGG Wrightson Seeds or Seedtrac™ remain the property of PGG Wrightson Seeds.

Pallets will be invoiced at nil cost, however, we request that these be returned to the closest PGG Wrightson Grain Dispatch Point.

# Contact Details

## For seed orders and enquiries:

**Melanie Morris/Justine Johnson/Cassidy Sprott**

**P.** (03) 966 9302

**Freephone.** 0508 GRAINS (0508 472 467)

**Email orders.** [cerealseeds@pggwrightsongrain.co.nz](mailto:cerealseeds@pggwrightsongrain.co.nz)

## Merchants Only:

 **SeedsOnline**

For seed orders and enquiries: SeedsOnline ordering for Cereal Seeds is now available.

**E.** [info@seedsonline.co.nz](mailto:info@seedsonline.co.nz)

**Freephone.** 0800 805 505 | and select option 3

## For cultivar and planting information:

**Ian Ormandy**

**CEREAL SEEDS MANAGER**

**M.** 027 593 9536

**E.** [iormandy@pggwrightsongrain.co.nz](mailto:iormandy@pggwrightsongrain.co.nz)

**Nick Brooks**

**PRODUCT DEVELOPMENT MANAGER**

**M.** 027 596 3972

**E.** [nbrooks@pggwrightsongrain.co.nz](mailto:nbrooks@pggwrightsongrain.co.nz)

**Ashley Harrison**

**CEREAL AGRONOMIST**

**M.** 027 247 3634

**E.** [aharrison@pggwrightsongrain.co.nz](mailto:aharrison@pggwrightsongrain.co.nz)

## For more information visit our website:

[pggwrightsongrain.co.nz](http://pggwrightsongrain.co.nz)



**PGG Wrightson Grain**





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This information has been generated by the Cereal Performance Trial (CPT) committee. CPT represents the collaboration of New Zealand Flour Millers Association, Foundation for Arable Research, Bioeconomy Science Institute, the New Zealand Plant Breeding & Research Association and individual seed and/or processing companies.