

User guide

Boosting yield and profit through exceptional disease control in wheat, barley, triticale and ryegrass seed crops.



iblon[®]
TECHNOLOGY



Increase your yield & profit



VIMOY iblon and CALEY iblon fungicides contain isoflucypram (ISY), a recently registered SDHI fungicide active ingredient that delivers outstanding disease control, exceptional plant health, consistently higher yields and greater profit.

Choose CALEY iblon if you would like the convenience of applying a complete, top performing fungicide that delivers the right balance of isoflucypram and prothioconazole (available in Proline® and Prosaro®). But if you prefer to create your own fungicide mixtures then VIMOY iblon, a standalone formulation of isoflucypram, allows you to choose the partner fungicide. By applying either CALEY iblon or VIMOY iblon you will achieve outstanding results.



BENEFITS OF FUNGICIDES CONTAINING iblon TECHNOLOGY



HIGH YIELDS AND PROFIT

Through exceptional disease control iblon fungicides deliver higher yields and profit. Trialed in New Zealand on both wheat and barley against comparable fungicide treatments, VIMOY iblon plus Proline and CALEY iblon increased both yield and profit.



OUTSTANDING DISEASE CONTROL

Both VIMOY iblon plus Proline or Prosaro and CALEY iblon provide exceptional disease control of all key, yield-reducing diseases of wheat, barley, triticale, and ryegrass seed crops.



EXCEPTIONAL PLANT HEALTH

Trials carried out in New Zealand and Europe have shown that the outstanding disease control given by VIMOY iblon plus Proline or CALEY iblon delays senescence which leads to higher yields.

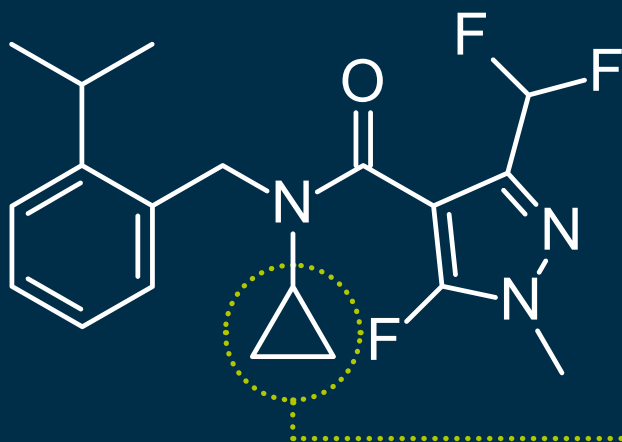


SUITED TO NZ CONDITIONS

Developed and supported in New Zealand by the Bayer field team, you can be sure you're using a fungicide suited to New Zealand conditions and backed by a team passionate about helping you increase your profit.



ISOFLUCYPRAM - A NEW AND HIGHLY VALUABLE SUB-CLASS OF SDHI FUNGICIDES



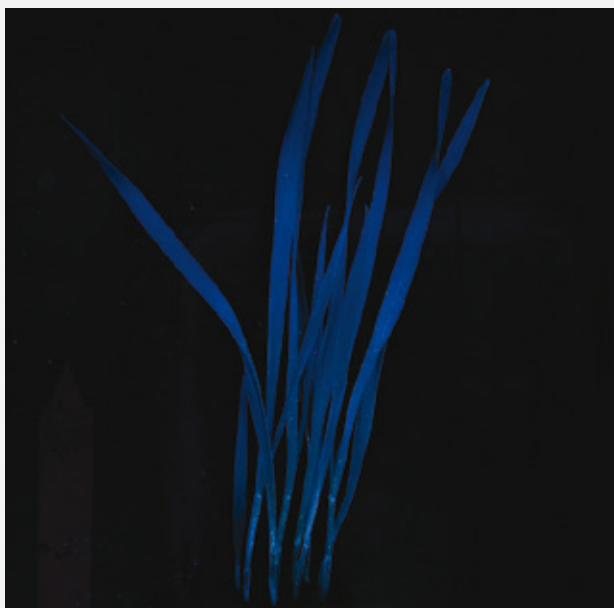
Isoflucypram is unique among SDHI fungicides in that it contains a cyclopropyl unit as part of its molecular structure. It is this that makes iblon fungicides so effective and ensures long-lasting disease control.



INNOVATIVE FORMULATION - EXCEPTIONAL LEAF COVERAGE

The innovative iblon formulations ensure very effective spray adhesion on the plant, comprehensive coverage and rapid drying. This leads to fungicides that are rainfast in one hour under most conditions.

WATER



ISOFLUCYPRAM FORMULATION (EC200)*



The images above of leaves treated with water (left) and isoflucypram (right), both applied at 80 L/ha water, demonstrate the superb leaf coverage provided by this isoflucypram formulation.

**Isoflucypram EC200 is a European formulation very similar to CALEY iblon EC150*

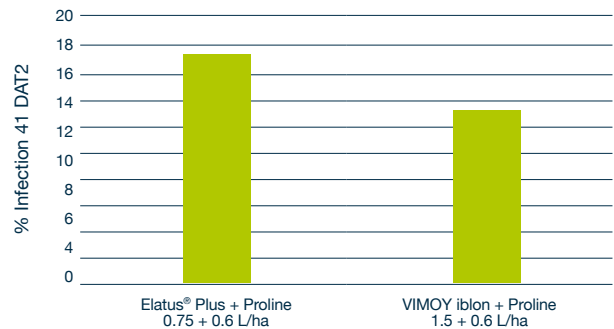
VIMOY iblon and CALEY iblon

driving profit forward in wheat

Both VIMOY iblon and CALEY iblon are registered for use on wheat between GS30 and GS69 for the control of the key diseases: speckled leaf blotch, stripe rust and leaf rust. Control of these diseases is illustrated below, along with the resulting green leaf retention and yield benefits.

Speckled leaf blotch (SLB)

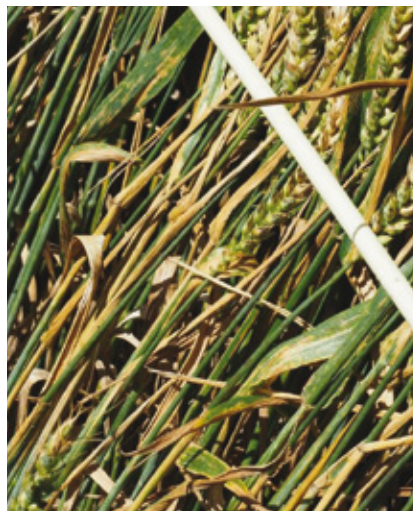
This is the most challenging disease attacking wheat in New Zealand. When conditions are right for disease development, massive yield losses can result if left uncontrolled. Even when disease pressure is low, yield losses between 1-2 t/ha are regularly recorded.



Cv Oakley All treatments received Sportak® EW + Phoenix® 1.0 + 1.5 L/ha at GS32. Untreated plots had no remaining green leaf area due to a combined infection of stripe rust and speckled leaf blotch. No fungicide applied at GS60-69 (T3). Differences between treatments were not significant. FD19NZL084RS07



Timaru, cv. Oakley. Mid-January 2019. No fungicide.



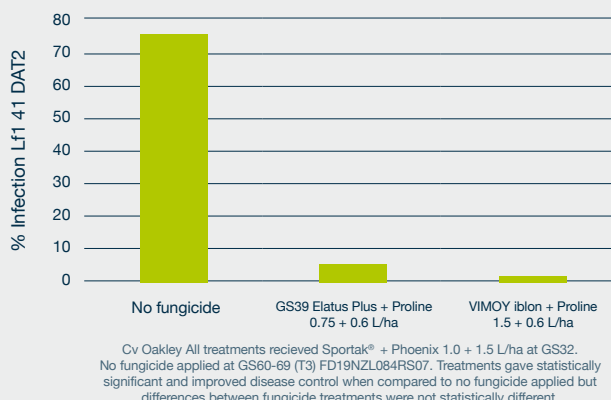
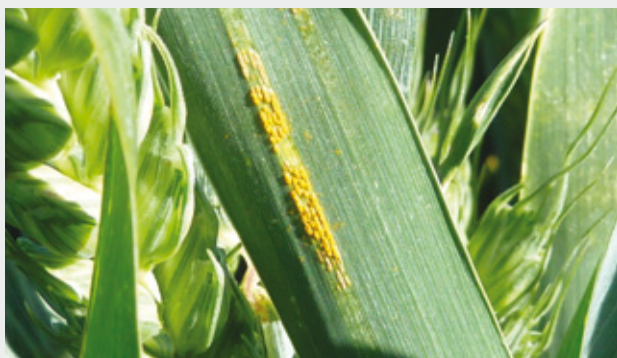
Elatus Plus + Proline 0.75 + 0.6 L/ha. 74 days after application. Standard fungicide at GS32, no fungicide at GS60.



VIMOY iblon + Proline 1.5 + 0.6 L/ha. 74 days after application. Standard fungicide at GS32, no fungicide at GS60.

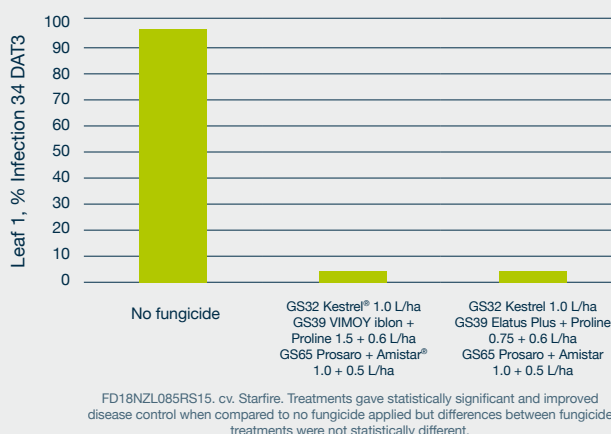
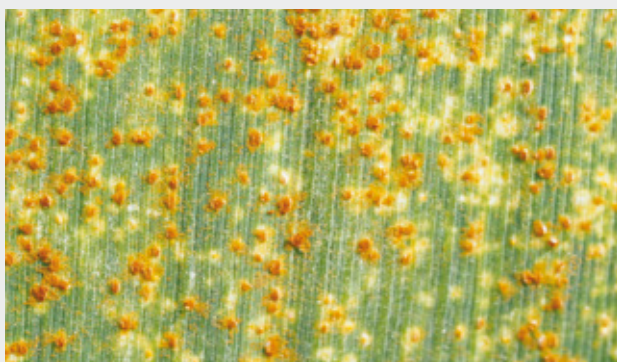
Stripe rust

This disease, which enjoys the cool, moist conditions of spring, can develop very rapidly if left uncontrolled. On susceptible cultivars, stripe rust can cause very rapid and extensive leaf loss, leading to significant yield losses.



Leaf rust

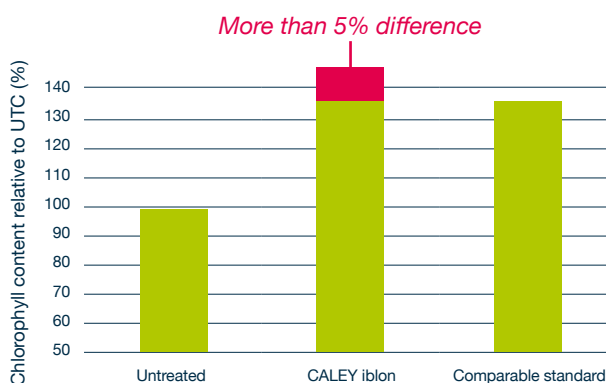
Leaf rust can be found in crops at any time of the year but usually becomes a problem in early summer, as it is favoured by warmer, drier conditions. Again, if not controlled, leaf rust can devastate yield.



Outstanding disease control delays senescence

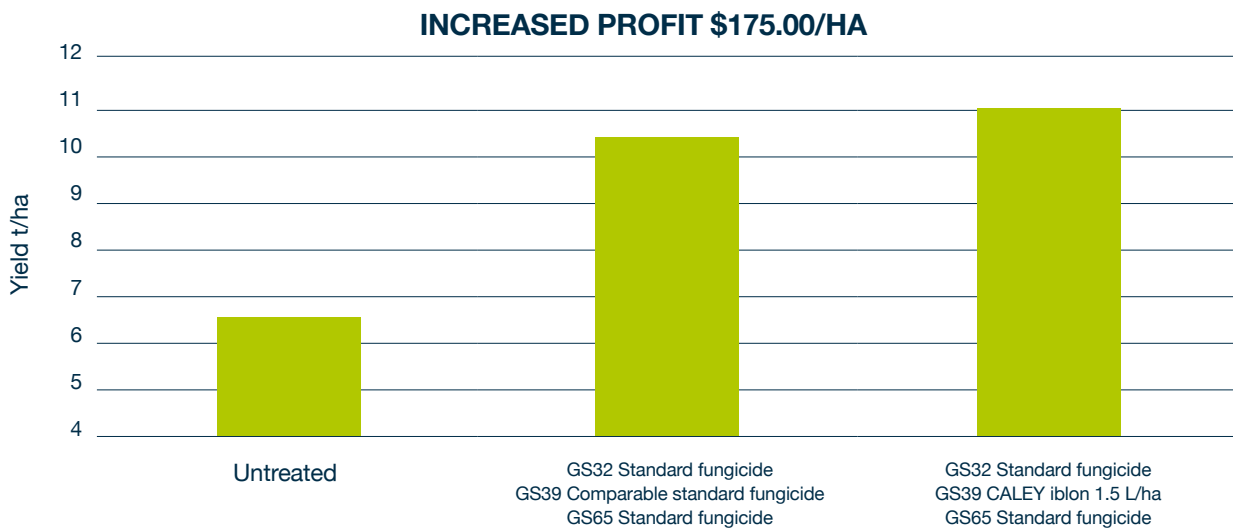
Analysis of wheat plants treated with CALEY iblon has shown an increased amount of chlorophyll compared to plants treated with alternative fungicides. The outstanding disease control of CALEY iblon allows crops to retain more green tissue but not to the point that it delays harvest. This is illustrated in the chart opposite showing trials conducted in Europe.

More chlorophyll results in more sunlight interception, enhanced sugar production and, ultimately, higher yields.



Summary of 12 European wheat trials from 2017 and 2018, measured at BBCH 75

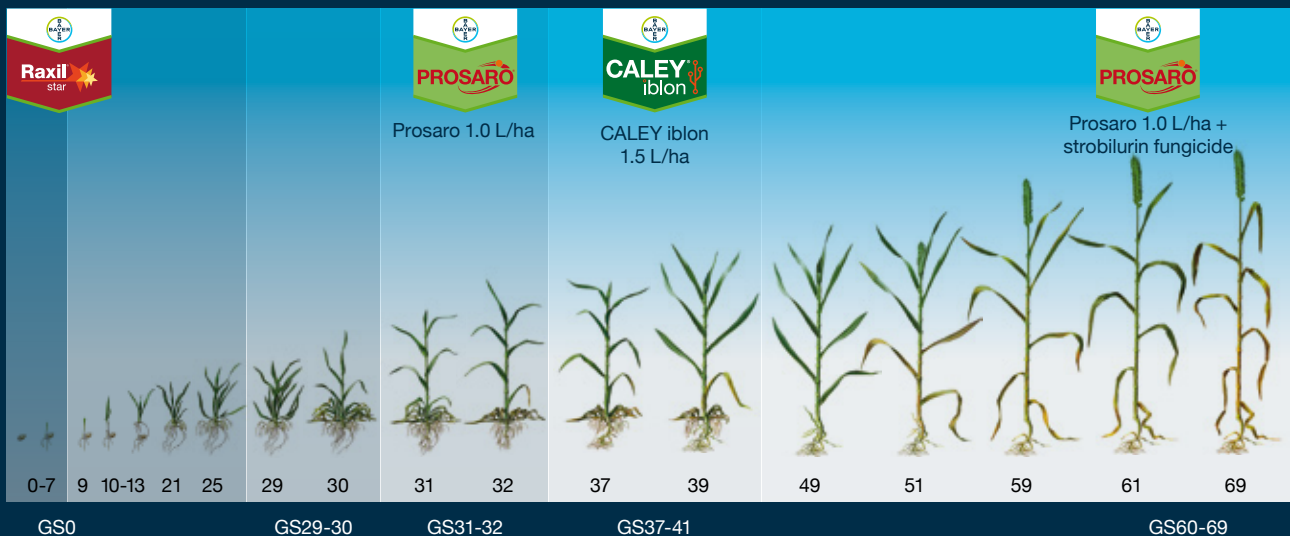
Switch to CALEY iblon for higher yield and increased profit



Across 7 NZ trials carried out during the 2017/18 and 2018/19 seasons a fungicide programme incorporating CALEY iblon gave an average yield increase of 0.5 t/ha when compared to a high performing and comparable competitor fungicide. This resulted in an additional profit of \$175/ha. Both treatments received the same fungicide at GS32. At GS65 all plots again received the same fungicide. Whilst the yield difference was not always significant, across 7 trials it demonstrated the high performance of Bayer fungicides.

Wheat Spray Programme

Please refer to the table on page 11 for application instructions and the diseases controlled.



The top 2 leaves and the ear are key for yield production in wheat and so it is vital to protect them from disease infection. This makes flag leaf fully emerged (GS39) the time to apply CALEY iblon. For high potential crops, replace Prosaro + strobilurin fungicide with VIMOY iblon + Prosaro or Aviator® Xpro at GS65.

VIMOY iblon

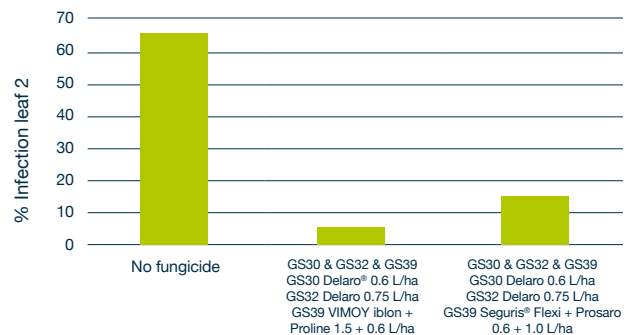
driving profit forward in *barley*

Barley is attacked each year by a number of aggressive diseases, which if not treated can lead to very significant yield loss. VIMOY iblon and CALEY iblon are registered for use on barley between GS30 and GS61 for the control of all key diseases: scald, net blotch, leaf rust and ramularia leaf spot.

Control of these diseases is illustrated below, along with the resulting yield benefits.

Scald

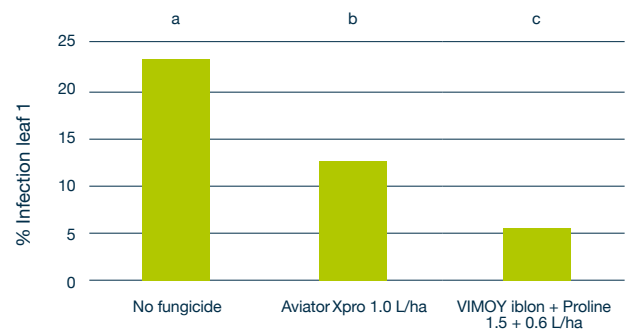
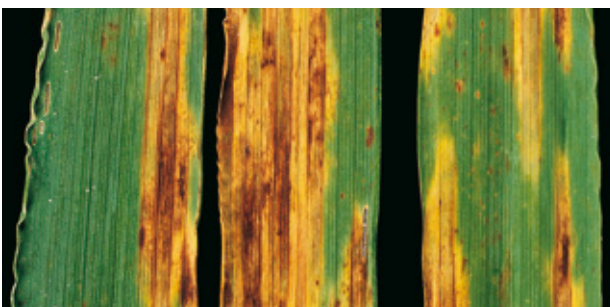
This is one of the first diseases to attack barley, being regularly found in late winter and early spring, as it thrives in cool, moist conditions. In spring, with the right weather conditions, scald will progress rapidly, infecting new leaves as they emerge, to eventually infect all leaves and the stem. When not effectively controlled, significant yield losses occur.



FD19NZL096QS02 cv Tavern assessment 45 DAT T0, 14 DAT T3. Treatments gave statistically significant and improved disease control when compared to no fungicide applied but differences between fungicide treatments were not statistically different.

Net blotch

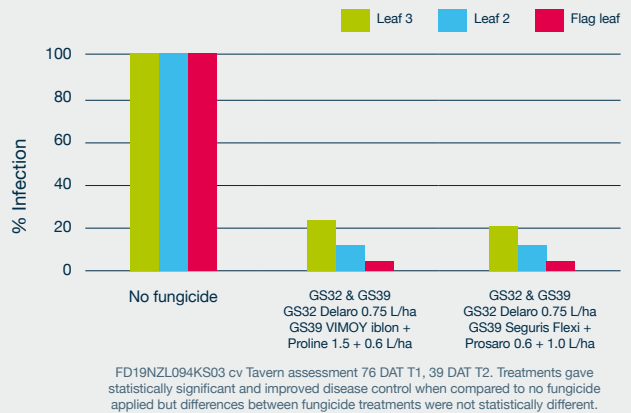
In some years, it can be quite hard to find net blotch, as it requires a susceptible cultivar and usually a second-year barley crop to develop. Like scald, it is a disease favoured by cool, moist conditions, and is often seen in early spring. However, under the right conditions, it can develop very rapidly and lead to significant yield losses.



FD17NZL054RS51 cv Bumpa assessment 41 DAA L1

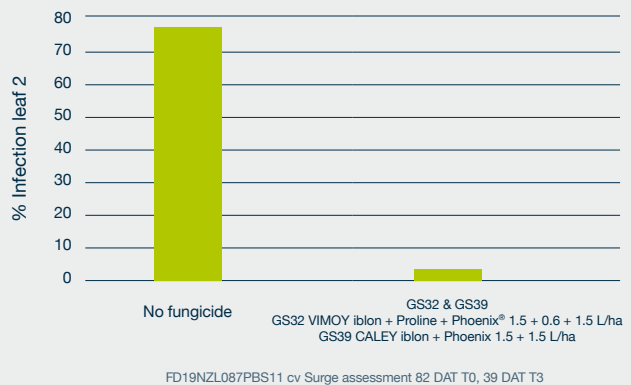
Leaf rust

In recent years, this disease has become easier to find, with infections becoming more severe and starting earlier in spring. All rust diseases complete their life cycle very quickly and have multiple life cycles per season, which is why they can have such a devastating impact.



Ramularia leaf spot (RLS):

RLS is now an important pathogen of barley throughout New Zealand and leads to rapid leaf loss in early summer.



RLS has the ability to rapidly develop resistance to fungicides and is now resistant to strobilurin fungicides within New Zealand. In Europe, and now in New Zealand, it seems RLS is becoming resistant to SDHI fungicides. While VIMOY iblon + Prosaro or CALEY iblon significantly reduces the level of RLS, it needs to be viewed as part of a disease management tool to be used in combination with other chemical classes to provide RLS management.



FAR site Chertsey mid-December 2018. No fungicide.

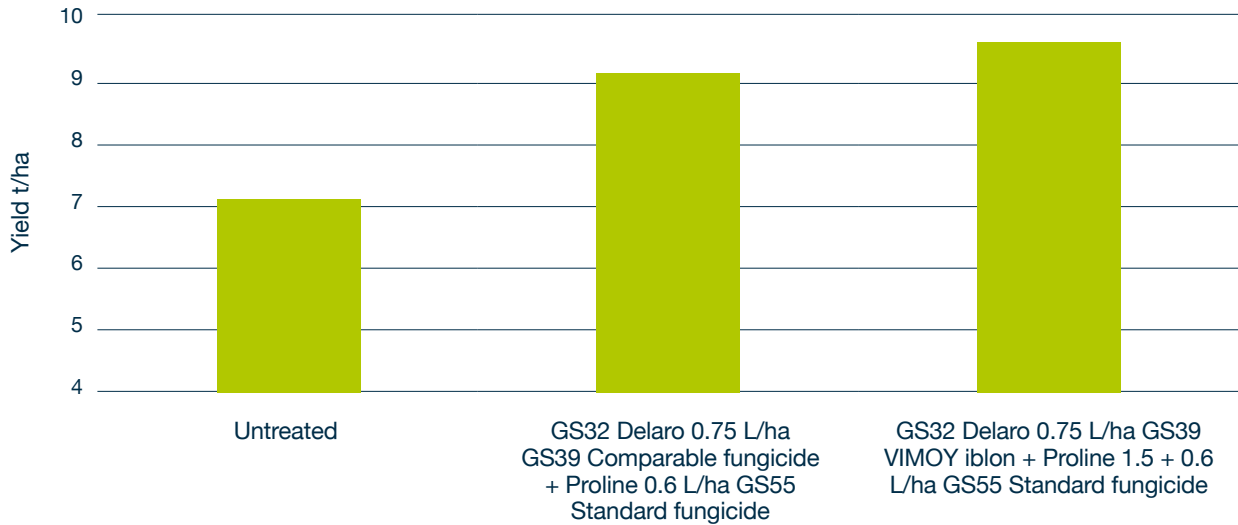


Significant reduction in RLS following a Delaro / iblon fungicide programme.



VIMOY iblon DELIVERS INCREASED YIELDS AND HIGHER PROFITS.

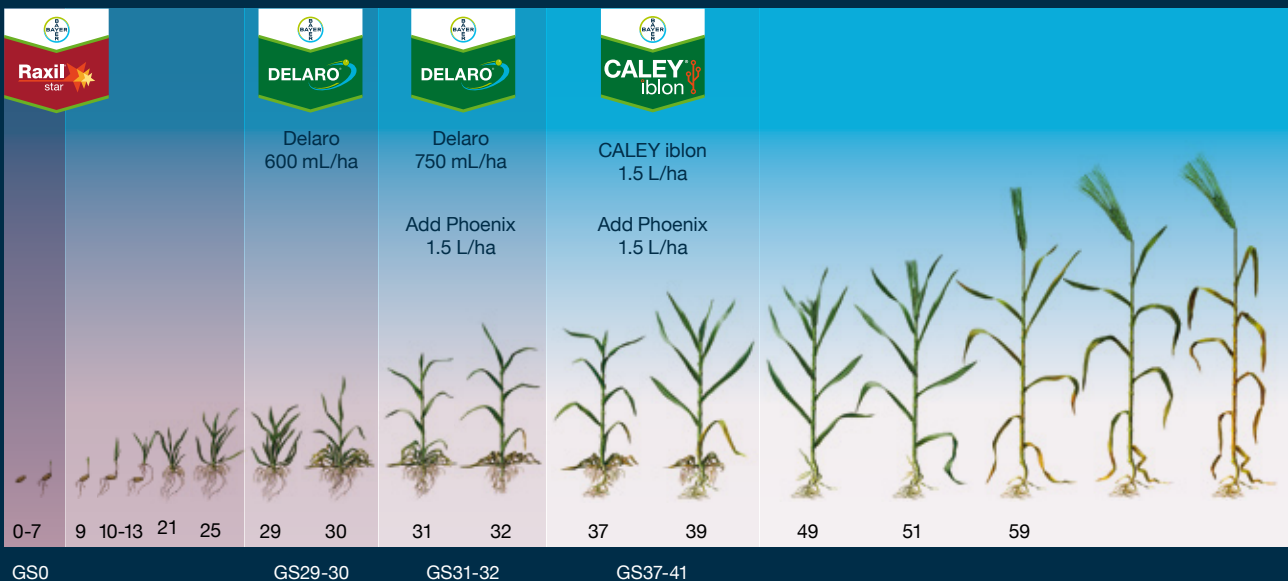
INCREASED PROFIT \$72.00/ha



Across 8 NZ trials carried out during the 2017/18 and 2018/19 seasons a fungicide programme incorporating Delaro and VIMOY iblon gave an average yield increase of 0.26 t/ha when compared to a high performing and comparable competitor fungicide programme. This resulted in an additional profit of \$72.00/ha. Whilst the yield difference was not always significant, across 8 trials it demonstrated the high performance of Bayer fungicides.

Barley Spray Programme

Please refer to the table on page 11 for application instructions and the diseases controlled.



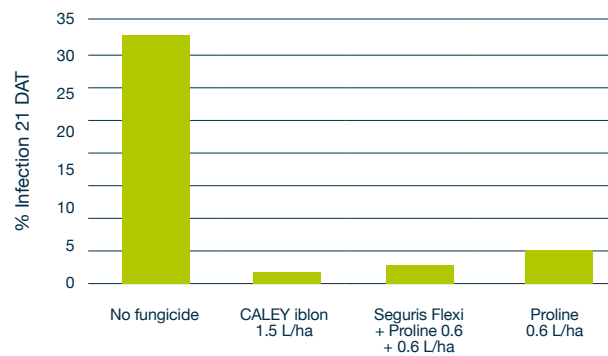
For barley crops, the most important period for yield production is early spring, with the lower leaves and stem delivering the most yield. Delaro provides excellent control of scald and net blotch, the main early spring diseases. In early summer, RLS and leaf rust are the main diseases and CALEY iblon will provide excellent disease management. (Please note: the level of RLS reduction is dependent on the resistance status of RLS in your paddock).

VIMOY iblon

use in ryegrass

Stem rust

In terms of disease infection, the main challenge when growing ryegrass crops for seed is stem rust. The disease can develop very rapidly in December, often to the extent the crop turns brown. If not effectively controlled, yield can be seriously impacted.



FD19NZL087RS30 Methven, cv. Coliseum turf grass. Treatments gave statistically significant and improved disease control when compared to no fungicide applied but differences between fungicide treatments were not statistically different.



General view of a trial evaluating VIMOY iblon and CALEY iblon against stem rust in a ryegrass seed crop. The high disease pressure is evident.



General view of a ryegrass seed crop in early January, located in Mid-Canterbury.



VIMOY iblon AND CALEY iblon KEY POINTS FOR USE

DISEASE	Key foliar diseases of arable crops.												
CROP	Wheat, barley, triticale, ryegrass seed crops.												
RATE	1.5 L/ha.												
APPLICATION TIMING	Main use period GS39 wheat, barley, and triticale. First sign of disease for ryegrass seed crops. But anytime between GS30-GS69 wheat and triticale, GS30-61 barley, and no later than GS61 ryegrass seed crops.												
APPLICATION METHOD	By tractor mounted hydraulic boom sprayer or by aerial application.												
WATER RATE	100-300 L/ha water by ground application or 50 L/ha by aerial application - medium to coarse droplets.												
RAINFASTNESS	Rainfast one hour after application under most conditions.												
WITHHOLDING PERIOD	<table border="0"> <tr> <td>Wheat and triticale grain and straw/stubble:</td> <td>42 days</td> </tr> <tr> <td>Wheat and triticale green feed/silage:</td> <td>28 days</td> </tr> <tr> <td>Barley grain and straw/stubble:</td> <td>56 days</td> </tr> <tr> <td>Barley green feed/silage:</td> <td>42 days</td> </tr> <tr> <td>Ryegrass seed crops regrowth:</td> <td>49 days</td> </tr> <tr> <td>Ryegrass seed crops straw/stubble:</td> <td>35 days</td> </tr> </table>	Wheat and triticale grain and straw/stubble:	42 days	Wheat and triticale green feed/silage:	28 days	Barley grain and straw/stubble:	56 days	Barley green feed/silage:	42 days	Ryegrass seed crops regrowth:	49 days	Ryegrass seed crops straw/stubble:	35 days
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BUFFER ZONE	Relative to a downwind waterbody. VIMOY iblon: None. CALEY iblon: 2 metres with ground-based application, 50 metres with aerial application.												
COMPATIBILITY	Compatible with a wide range of commonly used fungicides and insecticides.												
PACK SIZE	10 litre.												
APPROVED HANDLER	Approved handler status is not required.												

SUMMARY OF DISEASES CONTROLLED

WHEAT	BARLEY	TRITICALE	RYEGRASS SEED CROPS
Speckled leaf blotch Stripe rust Leaf rust	Scald Net blotch Ramularia leaf spot Leaf rust	Stripe rust Leaf rust	Stem rust

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We're with you in the field

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