

# SOW what?

SEED TREATMENTS GUIDE  
PLANTING SEASON 2007

## Cost effective seed treatment can save your crop from smut diseases.

Of all the diseases that affect cereals, smut diseases can be the most devastating. This is because a crop cannot be treated once seed is planted, and because zero or very low tolerance levels at receival centers ensures that affected grain is only sold as lower value stock feed.

Dr Grant Hollaway, Senior Research Scientist with the Department of Primary Industry at Horsham, stressed to grain growers the importance of preventing this disease. He said, "Big dollars are involved. High value grain becomes lower value stock feed once smut infection has taken hold. But even though it can decimate a crop's worth, it's actually a disease that can be prevented very cheaply."

Dr Hollaway said, "Smuts and bunts of cereals can be very effectively controlled by correctly applying an appropriate registered fungicide to seed every year. As there is no cure for smut diseases, prevention is the only answer."

With drought conditions affecting so many growers, every pre-season dollar must be accounted for. This means that some will choose not to treat their seed for the coming season. This strategy must be carefully weighed up against the safer alternative of treating seed, especially as it can cost from as little as \$2 per hectare. In fact, treating seed could be considered cheap

insurance against a crop that might end up un-saleable.

Geoff Robertson, Market Manager Seed Treatments at Bayer CropScience put it another way when he explained why smut diseases can end up so costly for grain growers. He said, "If treating your seed for smut saves you once, then it has paid for itself for the next 50 years!"

Geoff Robertson added, "Dollars are tight, no doubt about it. But not treating seed can cost more than treating it when all factors are taken into account. What's worse, saving less than 1% of production costs by not treating seed, or risking yield loss, downgrading and rejection of your grain?"

**"Dollars are tight, no doubt about it. But not treating seed can cost more than treating it . . ."**

Wheat, barley and oats are all susceptible to various smut diseases, and each is affected by distinct species specific to each crop. These include covered smut (bunt), loose smut and flag smut in wheat, covered smut and loose smut in barley and covered smut and loose smut in oats. In general, infection is not noticed until ear or head



Flag smut in wheat



Loose smut in wheat

emergence, when dark or black spores are seen to have replaced grain. These spores are then released at harvest, infecting and damaging the rest of the crop.

Raxil<sup>®</sup> and Baytan<sup>®</sup> Seed Treatments from Bayer CropScience effectively treat cereal smut diseases. Geoff Robertson pointed out that these seed treatments are both cost conscious choices. He said, "Raxil is an economical smut control product in tough times. While Baytan costs a little more, it's also extremely cost effective, as it controls smuts and bunts as well as providing suppression for foliar diseases

including powdery mildew and leaf scald of barley and stripe rust and leaf blotch of wheat."

In conclusion, Geoff Robertson also offered a timely reminder to some Western Australian growers. He said, "In Western Australia in particular some growers opt for using Impact<sup>®</sup> on fertilizer for foliar disease control, but it should not be overlooked that this practice will not control smut diseases. It doesn't make sense to spend the money up front for premium disease control and not make the small additional investment to control smuts."

## The pasture is always better on the Gaucho side.

- Optimises productivity right from sowing, germination and early growth stage.
- Protects each and every seed from red-legged earth mites and blue oat mites.
- Reduces the need to spray, encouraging beneficial species to flourish.
- Applied professionally and delivered on seed for convenience and peace of mind.

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Bayer CropScience



# Stress Shield™ can help increase yields.

Research has identified beneficial side-effects of imidacloprid, a seed treatment insecticide used in many crops including cereals. This side-effect has been dubbed Stress Shield™, and field trials are already indicating yield increases in many locations in the absence of obvious insect pest pressure.

Imidacloprid is the insecticidal active ingredient in Hombre® Cereal Seed Treatment and Zorro® Cereal Seed Treatment by Bayer CropScience, two products with strong aphid and barley yellow dwarf virus control credentials. What has now been shown is that they may also offer benefits to plant health and vigour in conditions of plant stress caused by drought, excessive heat, extremely wet conditions or sudden cold snaps.

Geoff Robertson, Market Manager Seed Treatments at Bayer CropScience cites the work of Bayer researchers who made the fortunate discovery. He said, "Originally the purpose of the trials was to find out how protected and unprotected plants grew when exposed to insect infestation. Our researchers were surprised to note that plants treated with imidacloprid grew much better, especially if they were subject to drought or heat stress, irrespective of whether insects were present."

Overall, Geoff Robertson said researchers were able to demonstrate that shoot and root growth in young plants were enhanced. 'Stress Shield' effects include a delay in the onset of the drought stress, a positive impact on the efficiency of photosynthesis, and stimulation of the plants' own defense mechanisms against fungal disease.

Mr Robertson highlighted the field performance of Hombre and Zorro in Australia. "In 41 yield observations, Hombre and Zorro gave an average yield increase of 350 kg/ha. Some of the biggest increases came from areas where the standard treatment yielded less than 3.0 t/ha, or where no insect pest activity was observed."

Quenten Knight, Agronomist at Precision Agronomics Australia in Esperance, Western Australia, has been trialing Zorro for use in barley since early 2002 and his own results support these findings. He said, "In the early days I saw good growth responses to Zorro even in the absence of early aphid pressure and disease. In a trial undertaken last year in a medium rainfall zone near Esperance an increase of 300 kg/ha was achieved compared to the district standard where alpha-cypermethrin was applied at the five-leaf crop stage as an aphid anti-feed."

Barley yellow dwarf virus affects all cereals, but is particularly prevalent in barley. Quenten Knight added, "It's an issue in barley, especially in areas such as mine with a medium to high rainfall. Baudin is the variety most commonly grown around here, and it has shown to have had good growth responses when Zorro has been used. Compared to standard treatments, Zorro has increased returns by \$85/ha."

More work is being undertaken to support the Stress Shield findings, with the aim of further securing crop yields in the longer term.



Top right: Seedling on left treated with Hombre and on right untreated. Compare results for yourself.

Bottom right: In this trial site at Esperance, Hombre yielded 320 kg/ha more than the standard treatment (Raxil). The extra profit from this was \$60 /ha.



# The practical effect of data protection law.

Many growers would be aware that the release of new active ingredients for protection of key crops has reduced in recent years as new products become increasingly difficult to find and the cost to develop and register new compounds has escalated. This has contributed to a reduction in the number of chemical manufacturers releasing new crop protection products into the Australia market.

Data protection law was introduced in Australia in 2005 to encourage companies who develop agricultural chemicals to continue to develop new and improved uses for their products. The law enables unpublished data that is submitted for registration for a new crop protection product or use pattern to be protected for a period of 5 to 11 years. Other manufacturers of similar products are prevented from registering their product or inserting these new uses onto their labels unless they generate their own data, or otherwise arrange access to the protected data.

For example, there are currently two commercial brands of Jockey® Fungicide – one from Crop Care, the other from Bayer CropScience. Jockey from Bayer CropScience has three data protected use patterns;

- it is registered in barley,
- it has a registered 3.0 L/t rate in wheat, and
- it has a 6 week grazing withholding period (Crop Care Jockey has a 12 week grazing WHP).

With the extra flexibility of Jockey from Bayer CropScience, it makes you wonder why anyone would choose Crop Care

Jockey – especially considering both are a similar price!

Data protection law provides for common law remedies if agronomists, consultants, other registrants or distributors make off-label recommendations involving protected data.



Champion jockey Damien Oliver has reinforced the Bayer CropScience Jockey brand with it's 3 litre and barley claims.

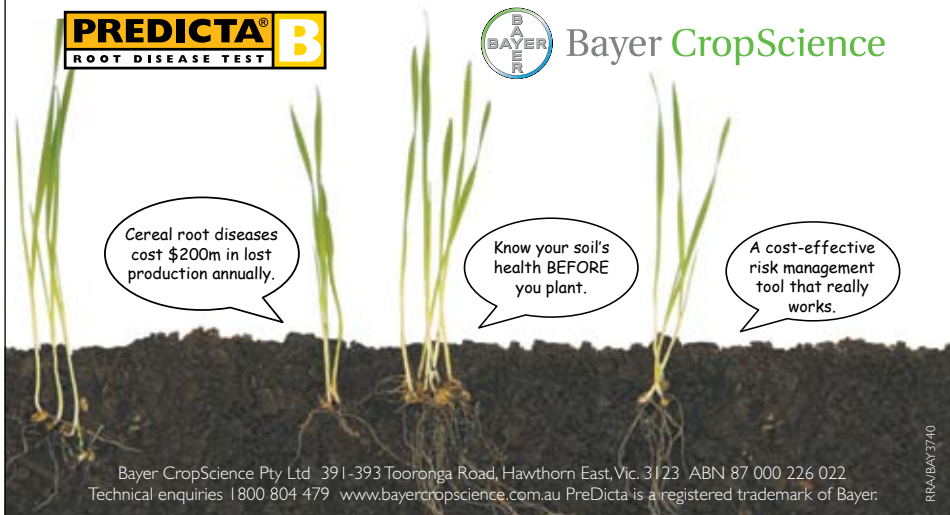
# Let your soil speak to you.

## PreDicta® B. Identifies problems. Predicts outcomes.

Cereal growers now have an innovative and comprehensive **root disease risk management tool**. Called PreDicta B, the test is **DNA-based**, unlike a conventional soil nutrition test. It enables growers to **detect and quantify important soil-borne pathogens** that may significantly reduce crop yield if not treated.

Most importantly, with drought affecting soil and crop health, now's the time to invest in a **practical and cost effective** tool that will assist your agronomic decision-making, including crop selection and paddock rotation. So **use PreDicta B**, and be sure of your soil's health **BEFORE** you sow.

For further information call 1800 804 479.



Cereal root diseases cost \$200m in lost production annually.

Know your soil's health BEFORE you plant.

A cost-effective risk management tool that really works.



# Gauche® boosts ryegrass production.



Improved plant growth with the Gauche treated ryegrass compared to the untreated. High populations of RLEM, blue oat mite and lucerne flea were evident on the existing clover in the pasture.

Many farmers have already adopted Gauche® Insecticidal Seed Treatment for their clovers, lucernes and herbs. Farmers can also utilise the benefits of Gauche in their pasture grasses, including ryegrass and fescue.

In 2006, Bayer CropScience conducted commercial trials across Victoria to evaluate Gauche use on ryegrass seed. Across 10 sites, Gauche increased

ryegrass establishment by an average of 29%, and increased biomass prior to first grazing by an average of 30% compared to untreated ryegrass seed.

In one trial, pasture grown from Gauche treated seed continued to provide increased production after four successive grazings. This underlines the benefits of protecting newly sown pastures through the vulnerable early growth period.

'Over a range of varieties and sometimes in the absence of obvious insect activity, pastures grown from Gauche treated seed had better plant establishment, increased growth rates prior to first grazing and greater root development,' explained Bayer CropScience Business Support Manager, Ken Blowers.

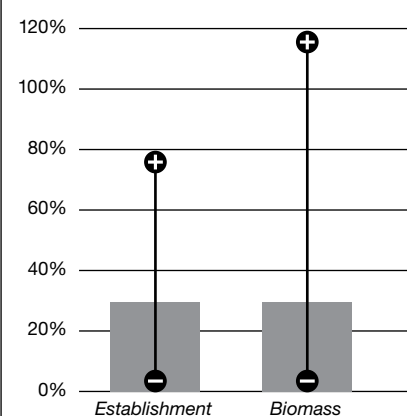
'This means that pastures will have improved composition, superior productivity and are more persistent,' says Ken.

'Using Gauche on all types of pasture seed can increase profit by allowing earlier grazing of renovated pastures, by improving stocking rates or by increasing hay production.'

Gauche is professionally applied and delivered on the seed when purchased – simply request it when you order your pasture seed. It protects seedlings for the critical period after germination from redlegged earth mites and blue oat mites.

Gauche is highly systemic and is rapidly absorbed by the emerging plant. This results in a rapid translocation to cotyledons and leaves. Using Gauche treated seed reduces the need to apply post-emergent insecticides and is safe to beneficial organisms, including earthworms, when used as directed.

Establishment and biomass increases with Gauche treated ryegrass seed compared to untreated.



Average percentage increase in establishment and biomass across 10 commercial trials. Lowest (-) and highest (+) recorded increases shown.

**In one trial, pasture grown from Gauche treated seed continued to provide increased production after four successive grazings.**

# Barley growers beware of leaf scald in previously resistant varieties.

Leaf scald in barley is a disease that can substantially reduce crop yields when seasonal conditions are favourable for disease development. Until recent years, growers have managed the disease using a number of management strategies, including growing resistant varieties. What is extremely important to note is that the previously resistant variety, Gairdner, is now susceptible to a new strain of scald.

This new strain of leaf scald was identified in Gairdner crops growing near Hamilton in Victoria in 2000, and after a severe outbreak in 2001, has since been spreading north and east from Hamilton.

Dr Grant Holloway, Senior Research Scientist at Department of Primary Industry at Horsham, warned that it's quite an aggressive strain that can take yield and quality. He said, "This new strain is now well established in the Western District, with smaller outbreaks in the Wimmera. It's been virulent on Gairdner, as well as other susceptible varieties including Barque and Baudin.

Grant Holloway stated that variety

choice is important. He said, "Gairdner is still a good variety in many areas. Growers simply need to be aware, and protect accordingly."

Geoff Robertson, Market Manager Seed Treatments at Bayer CropScience, said that growers can stay ahead with the implementation of a multi-faceted management plan, including the use of seed treatments, to effectively control the disease. He said, "Destroying infected stubble can be an option. Growing barley following barley and planting susceptible varieties should be avoided too. Importantly, the use of seed treatments is extremely effective at managing leaf scald infections in barley."

The fungicidal seed treatment Jockey® by Bayer CropScience is proven to be the most effective treatment for leaf scald. Geoff Robertson added, "Jockey® is a specially formulated systemic seed treatment fungicide that when used at 3.0 L/t offers growers a distinct advantage against both leaf scald and powdery mildew infection."

Geoff Robertson also pointed out that Baytan® seed treatment fungicide by Bayer CropScience is another cost effective option, especially coming off a severe drought. He said, "Baytan® also provides excellent suppression of leaf scald in barley and is a cheaper alternative that will suit some growers better in a tight year."

As previously resistant varieties are now known to be susceptible to leaf scald, and yield loss can significantly undermine profit margins, growers need to remain vigilant to the disease and ensure their management practices help control it.

Yield losses due to leaf scald have been reported to be as high as 35 to 40 percent, and are often between one and 10 percent. Geoff Robertson concluded, "It's such a common disease, and very costly to growers in some years. That's why it's so important to treat seed and minimise its effects."



Geoff Robertson advising growers to beware of resistant varieties.

## Why smart growers make this the business end of the season

A small investment in the right seed treatment now can really pay off in extra crop quantity and quality at the other end of the season. Get your wheat, barley and oats off to a strong start with the high-powered disease protection of Baytan® Seed Treatment.

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Bayer CropScience Pty Ltd, ABN 87 000 226 022, 391-393 Tooronga Road, Hawthorn East, Vic 3123. Technical Enquiries 1800 804 479 enquiries.australia@bayercropscience.com Baytan® is a Registered Trademark of Bayer.



**BAYTAN®**



# Canola growers beware of blackleg in 2007.

*“Cutting corners can mean coming unstuck. Therefore, it’s vitally important to manage all aspects of blackleg control.”*

As canola growers know, blackleg is a debilitating fungal disease that is costly to both individual growers and the industry as a whole. What is also important to know is that planting this season’s canola in the same paddocks as last year’s failed crops increases the risk of infection from remaining stubble.

An integrated approach to resistance management is an important aspect in the control of blackleg. This includes growing resistant canola varieties, rotating crops and using fungicides when necessary.

Dr Steve Marcroft, of Marcroft Grains Pathology, stressed the importance of an integrated approach. He said, “Good management is the best defense against blackleg. With less stubble after a failed drought affected crop, some growers are considering sowing canola on canola, as these paddocks are set up and ready to go. I urge them to avoid this, as yield losses can increase.”

A vital part of an integrated approach is using an effective fungicide such as

Jockey® Systemic Seed Fungicide by Bayer Crop Science.

Geoff Robertson, Market Manager Seed Treatments at Bayer CropScience, outlined some important aspects of canola management. He said, “Isolating this year’s crop from last year’s stubble is extremely important, but so is choosing a suitable variety. Some of the highest yielding triazine tolerant, Clearfield™, and conventional varieties have a blackleg resistance less than 7 out of 10. Trial work has shown that growers should use Jockey on these varieties to suppress blackleg and maximise yields.”

“In many situations, especially those of high disease risk such as this year’s summer volunteers starting early blackleg spore release, seed treatment with Jockey offers growers added insurance in varieties with a rating of greater than 7 out of 10.”

Geoff Robertson also pointed out that compared to applying a fungicide to fertiliser, seed treatment with Jockey

gives growers comparable control at a lower cost and greater flexibility.

Avoiding planting this year’s crop in last year’s canola paddocks and leaving 500 metres between this year’s crop and last year’s stubble are industry wide recommendations. Growers should always check the current year’s blackleg resistance ratings before choosing to plant a variety that is suited to their rainfall and farming system, and monitor their crop for blackleg severity each year. It is by combining all these strategies that individual growers and the entire canola industry are best equipped to manage blackleg now and into the future.

In conclusion, Steve Marcroft said some growers may be less vigilant post drought, but that in reality, they shouldn’t be. He said, “Cutting corners can mean coming unstuck. Therefore, it’s vitally important to manage all aspects of blackleg control.”



The benefits of blackleg control from Jockey (right) is clearly evident compared to untreated canola (left).

# Vigilance is needed to control stripe rust, including new strain.

While stripe rust was not a significant problem for cereal growers in 2006, past experience suggests that post drought conditions can lead to an increase in outbreaks. Also, the detection of a new strain of stripe rust that could potentially undermine and overcome resistance in some varieties means growers must be on-the-alert this coming season.

Until now the Yr17 gene has been a major defence against stripe rust for

Colin Wellings stressed the importance of variety choice. He said, “A variety with at least a moderate resistance rating is a prudent decision. If a risk is taken with the variety chosen, then growers must be prepared to commit to on-going monitoring and take appropriate and timely action.”

Jockey® Systemic Seed Fungicide by Bayer CropScience is proven to control stripe rust for up to five weeks



varieties grown in New South Wales including Carinya, Ellision, Marombi, Sunbri, Sunlin, Sunstate, Sunvale and Ventura.

Colin Wellings, Principal Research Pathologist at the University of Sydney, explained the potential consequences. He said, “New strains sometimes persist and sometimes they don’t. Conditions need to be right. This new strain has the ability to overcome the Yr17 gene, potentially reducing resistance in some varieties. It could be damaging if it has survived the summer. If this is the case, and it persists into the early phase of the growing season, this is the time it is potentially at its most harmful.”

As is the same with many diseases, a careful management plan throughout the growing season offers growers the best way to minimise risk to crop health and yield.

For stripe rust suppression, choosing a wheat variety with good rust resistance for the particular target region is certainly an important step. Also included in growers’ management plans should be the control of volunteer wheat plants over summer and autumn, the use of fungicide treatment in high risk areas and on the more susceptible varieties, and on-going in-crop monitoring right throughout the growing season.

after sowing with effective suppression thereafter at the new 3 L/t rate. Ben Smith, Business Manager Seed Treatments at Bayer CropScience explained further. He said, “Jockey is a specially formulated systemic seed treatment fungicide that when used at the new 3 L/t rate has been proven to significantly reduce stripe rust infection at flag leaf emergence. The new rate offers growers more flexibility, and most importantly, is cost effective.”

Ben Smith suggested that Baytan® Seed Treatment by Bayer CropScience is also an option for cost effective suppression of seedling infections. He said, “Coming out of a drought means every penny counts. Baytan is a cheaper alternative and in certain circumstances is an option worth considering.”

As the battle against cereal rusts, including stripe rust, continues to affect the grains industry, especially with the emergence of new strains such as the current West Australian pathotype, all growers need on-going vigilance and have effective management plans in place.

Ben Smith concluded, “Dry conditions kept stripe rust off the agenda in 2006, but as 2002 and 2003 experiences show, a post drought outbreak is possible. I therefore urge growers to pay careful attention to fungal diseases such as stripe rust this season.”

## One Jockey. Two new claims.

COST EFFECTIVE  
3 LITRE RATE

Jockey® is now registered for use at 3.0 L/tonne, providing a cost effective alternative for foliar disease control in wheat when take-all suppression is not required.

NOW REGISTERED  
FOR BARLEY

Jockey Systemic Seed Fungicide is the most effective seed treatment for leaf scald and powdery mildew control in barley.

Two more reasons why there is only one Jockey. The proven winner against fungal diseases in wheat, canola and now barley.

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