



Product Guide

EverGo[®]
Prime



Bayer CropScience



Let's all rise up
against rhizoctonia.

A new standard in fungicidal seed treatments for the suppression of rhizoctonia and the control of smut diseases in wheat and barley.



Bayer SeedGrowth[™]

seedgrowth.bayer.com

EverGol Prime is an innovative new generation fungicidal seed treatment from Bayer.

Featuring the new proprietary active ingredient penflufen, EverGol Prime will set a new benchmark in fungicidal protection and plant health in wheat and barley. In addition to controlling smut diseases, EverGol Prime delivers superior activity on rhizoctonia, the most yield depleting root disease in Southern and Western Australia.

Due to the powerful disease control of penflufen, EverGol Prime improves plant vigour helping to develop stronger, fitter plants with improved plant biomass. The high-performing root system allows for

optimal access to water and nutrients due to reduced root damage and increased root growth.

EverGol Prime improves the growers' ability to maximise the yield potential of their wheat and barley crop. Trial results demonstrate that EverGol Prime can increase yield by up to 20% against untreated crops in rhizoctonia infected sites.

EverGol Prime offers excellent crop safety with no impact on germination or coleoptile length, unlike some triazole formulations. Limited systemicity and low water solubility means penflufen penetrates the seed and stays in and around the seed and root zone where it is required.

AT A GLANCE

Product name	EverGol Prime
Fungicide mode of action group	Group 7 Carboxamides
Formulation	Flowable concentrate for seed treatment (FS)
Active ingredient	Penflufen 240 g/L
Application rate	40-80 mL/100 kg seed
Water dilution rate	No more than 600 mL/100 kg seed
Disease spectrum	Rhizoctonia, smut diseases
Crop usage	Wheat, barley

KEY FEATURES

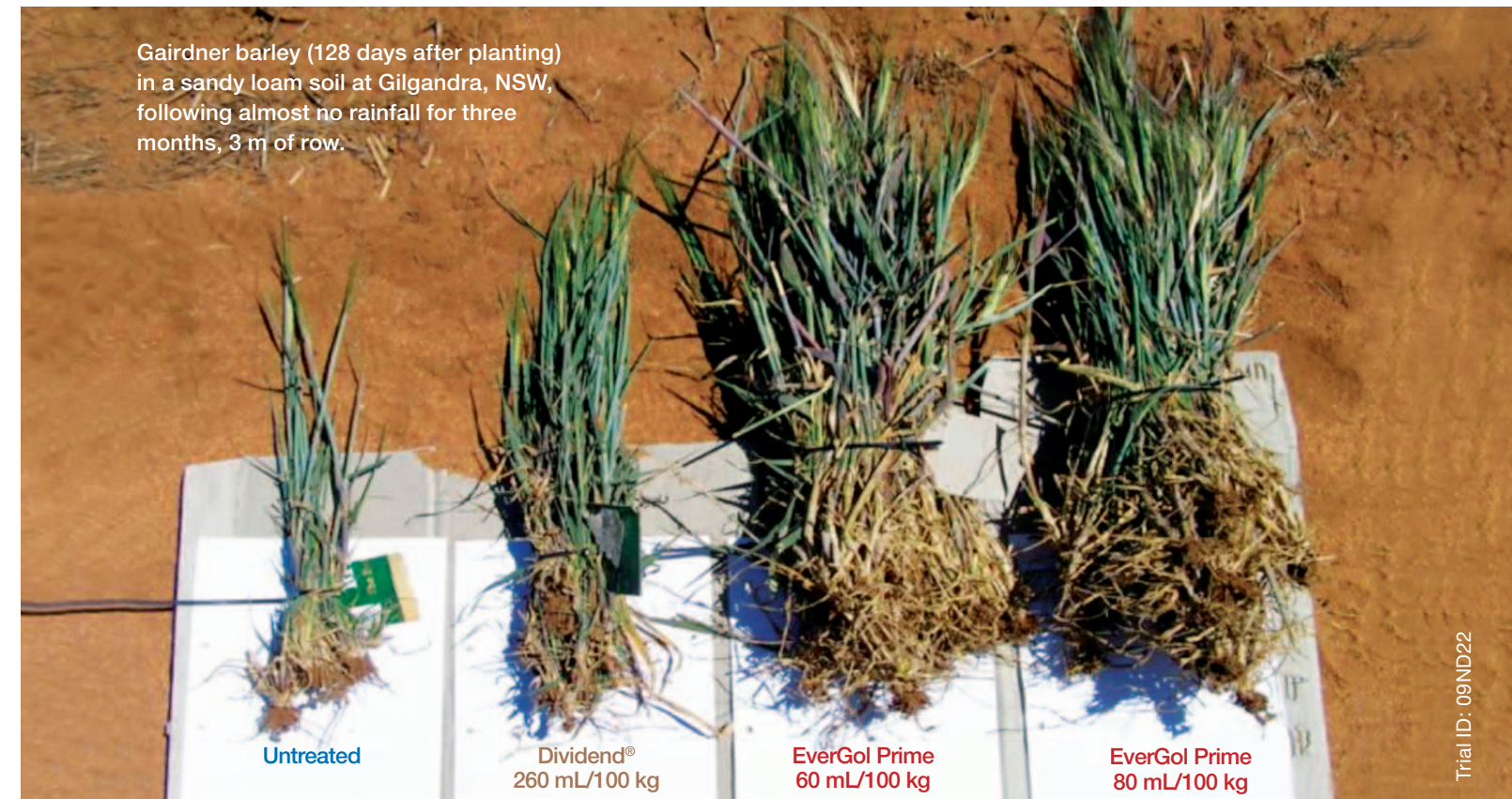
- ▶ Superior activity against rhizoctonia[^]
- ▶ Can increase yield in wheat and barley by up to 20%
- ▶ Powerful new Group 7 SDHI active ingredient penflufen
- ▶ Excellent crop safety with no impact on seed germination or coleoptile length
- ▶ Effective disease control resulting in stronger plants with improved biomass
- ▶ Effective disease control resulting in increased root growth
- ▶ Control of smut diseases* (including bunt in wheat)
- ▶ Variable use rate 40-80 mL/100 kg seed

[^]Suppression of rhizoctonia root rot. *Suppression of soil-borne flag smut.



Protection of seminal roots by seed treatments in Gairdner barley (38 days after planting).

Trial ID: 09ND22



Gairdner barley (128 days after planting) in a sandy loam soil at Gilgandra, NSW, following almost no rainfall for three months, 3 m of row.

Trial ID: 09ND22

RHIZOCTONIA ROOT ROT (*Rhizoctonia solani*)

Rhizoctonia root rot is a fungal soil-borne disease that attacks and damages the roots of plants. The symptoms of rhizoctonia are often highly visible and may be seen as uneven crop growth, weak or bare patches in paddocks.

Its presence in the soil is strongly influenced by environmental conditions but is becoming more widespread due to the adoption of conservation farming systems and intense cereal rotations. The fungus damages the roots of the plant limiting its

access to water and nutrients, hampering plant growth. Yield losses from rhizoctonia are generally in the range of 5-20%, but may be higher in situations of severe infection.

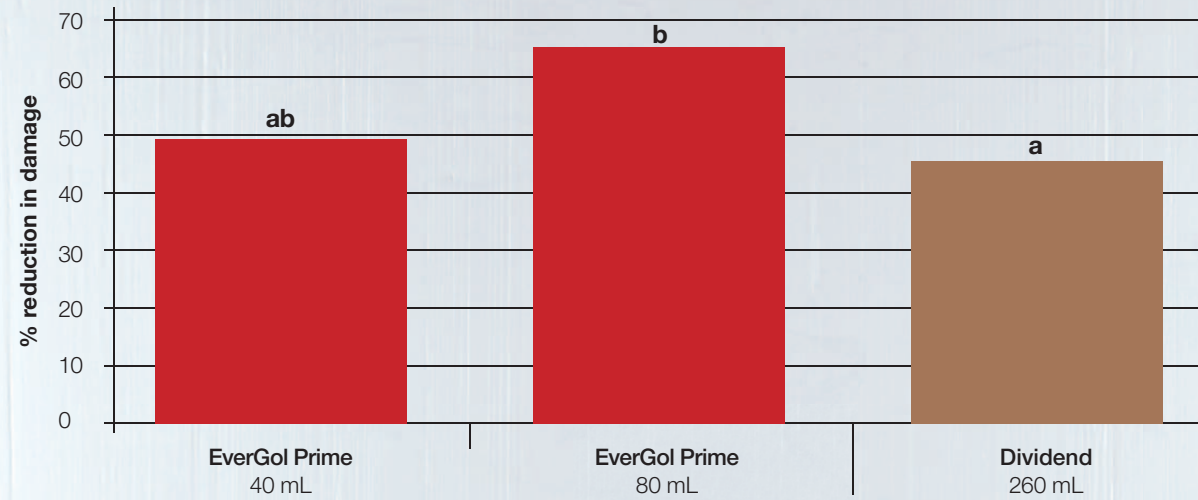
The GRDC believes rhizoctonia is the most devastating root disease in Southern and Western Australia costing the industry \$77 million annually*.

*Data source: Brennan & Murray, GRDC Wheat & barley disease loss reports 2009.

TRIAL RESULTS

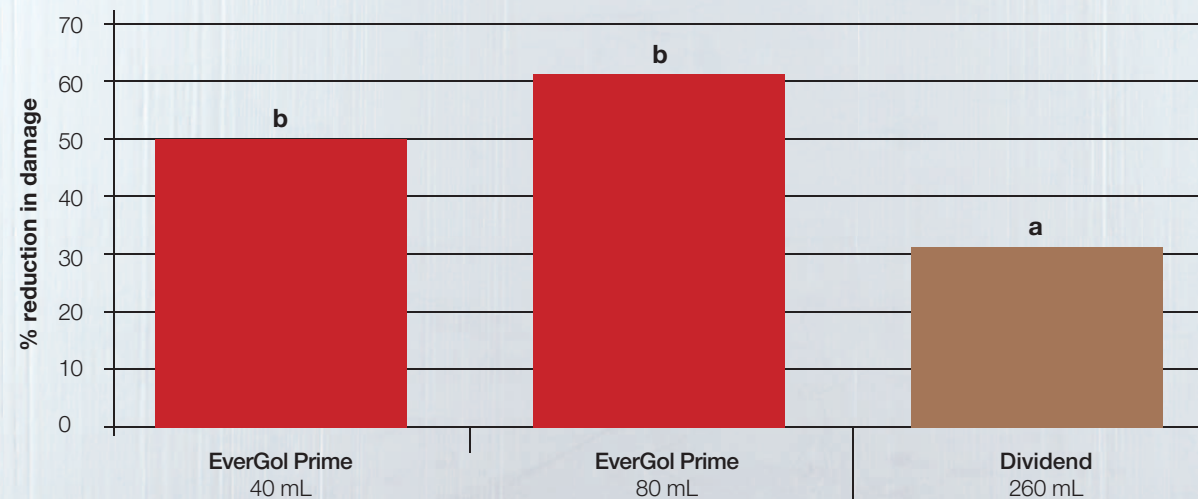
Trial results suggest that EverGol Prime offers superior suppression of rhizoctonia in wheat and barley.

Graph 1: Reduction (%) in damage of seminal roots in rhizoctonia infected wheat trials.



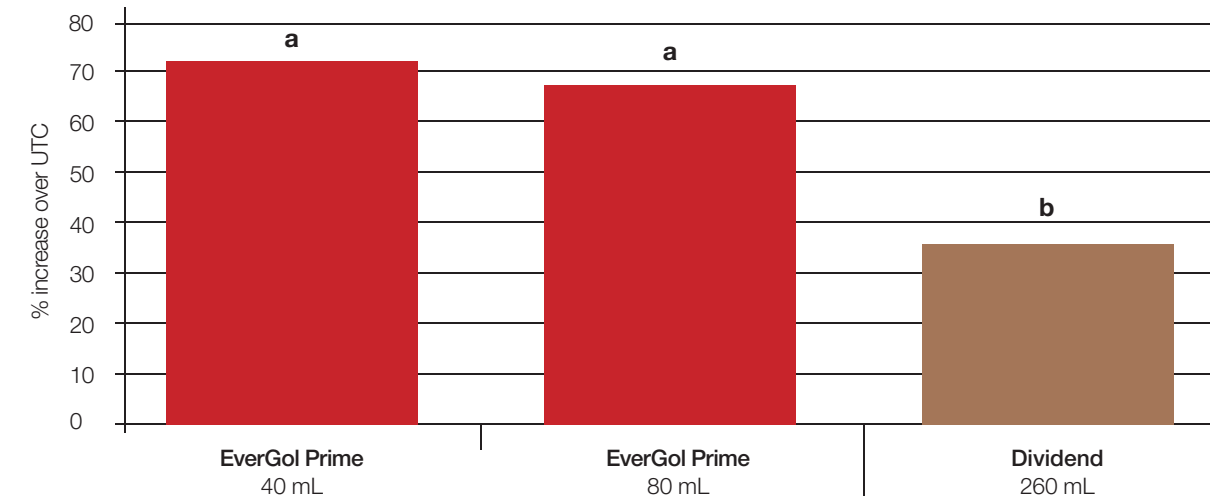
Trial ID: 08ND12, 09NW13, 09VA08, 10ND01, 10WA11, 10WE22 All rates per 100 kg of seed.
Treatments marked by the same letter do not significantly differ. P = 0.05.

Graph 2: Reduction (%) in damage of seminal roots in rhizoctonia infected barley trials.



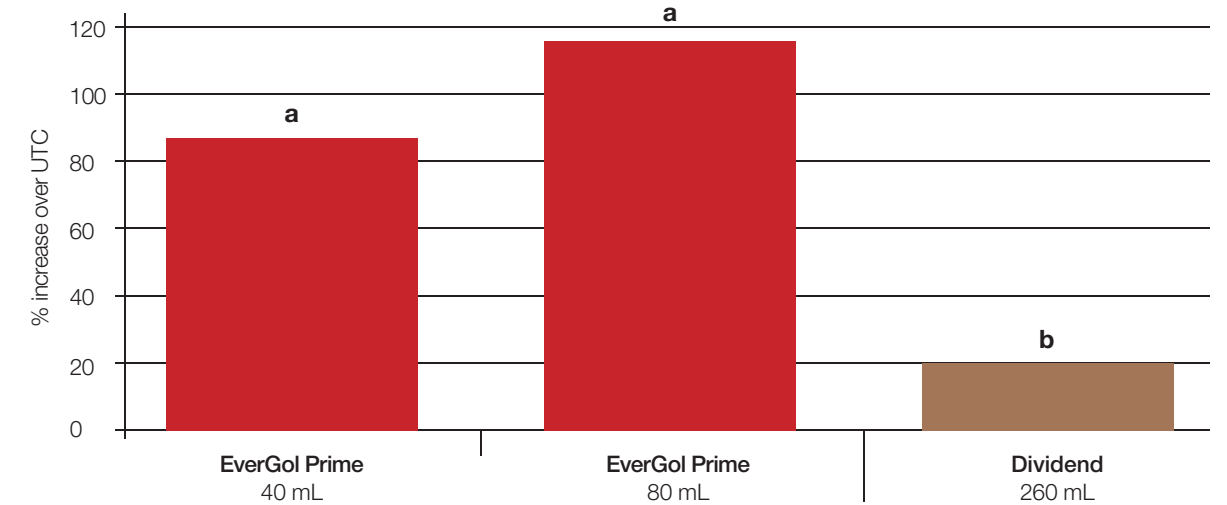
Trial ID: 08ND12, 09NW13, 09VA08, 10ND01, 10WA11, 10WE22 All rates per 100 kg of seed.
Treatments marked by the same letter do not significantly differ. P = 0.05.

Graph 3: Increase (%) in plant weights in rhizoctonia infected wheat trials (average 44 days after planting).



Trial ID: 08ND12, 09NW13, 09VA08, 10ND01, 10WA11 All rates per 100 kg of seed.
Treatments marked by the same letter do not significantly differ. P = 0.10, Untreated = 0.

Graph 4: Increase (%) in plant weights in rhizoctonia infected barley trials (average 49 days after planting).



Trial ID: 08WA19, 09ND21, 09ND22, 09WA17, 10SA11, 10NW01, 10ND02, SED1098 All rates per 100 kg of seed.
Treatments marked by the same letter do not significantly differ. P = 0.05, Untreated = 0.



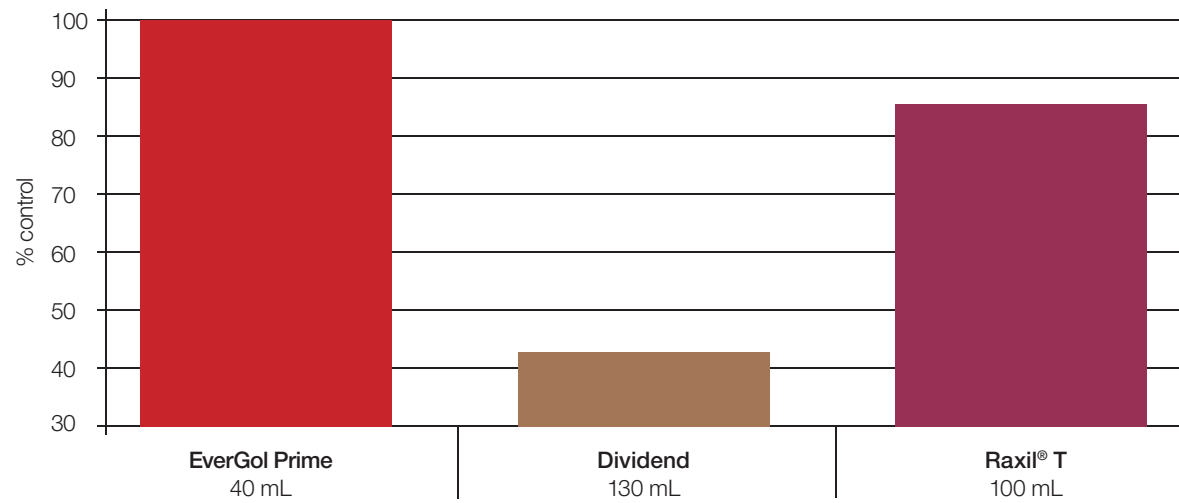
Damage to seminal roots in late sown Baudin barley near Badgingarra, WA 2012 resulting in a bare patch.

INTERNALLY SEED-BORNE DISEASES

Smut diseases, including bunt in wheat, have the potential to devastate a grower's income by rendering their harvested grain unsaleable. It is therefore vital to use a seed treatment that offers protection from these diseases. The hardest smut diseases to control are internally seed-borne such as loose smut in barley (*Ustilago nuda* f.sp. *hordei*) and wheat (*Ustilago nuda* f.sp. *tritici*). EverGol Prime offers outstanding control of these internally seed-borne diseases because it penetrates the seed at germination unlike some other seed treatments.



Graph 5: Average loose smut control in barley.



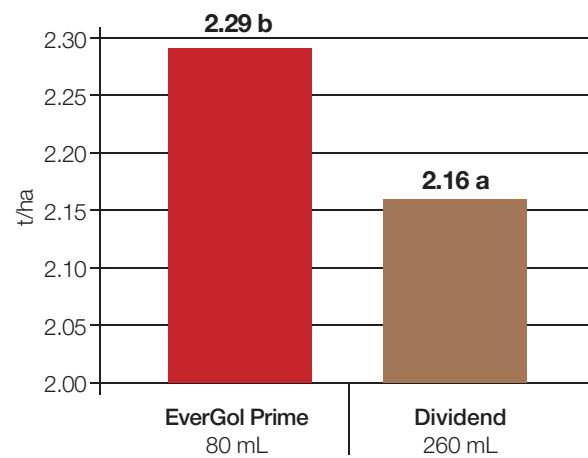
Trial ID: 05NW20, 05VA04, 05WB21, 05WB22

All rates per 100 kg of seed.

YIELD RESULTS

Through its effective disease management, EverGol Prime provides superior suppression against rhizoctonia allowing crops to develop stronger root systems with greater biomass which leads to improved yields for growers.

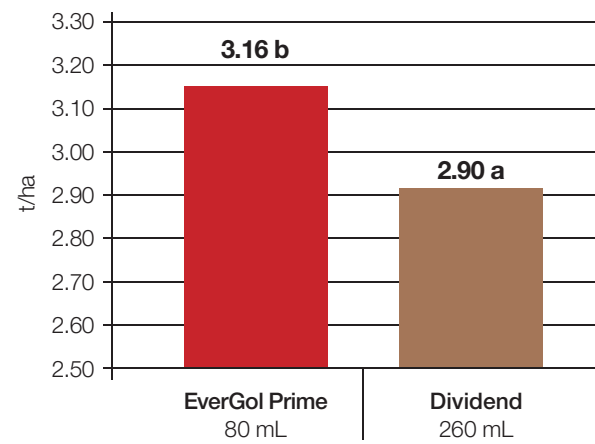
Graph 6: Grain yield (t/ha) in rhizoctonia infected wheat trials.



Trial ID: 10WA11, 10WE22, 11SB05, 12NA10, 12WE02, 12WE04, 12NA09, 12VD15

All rates per 100 kg of seed. Treatments marked by the same letter do not significantly differ. P = 0.10.

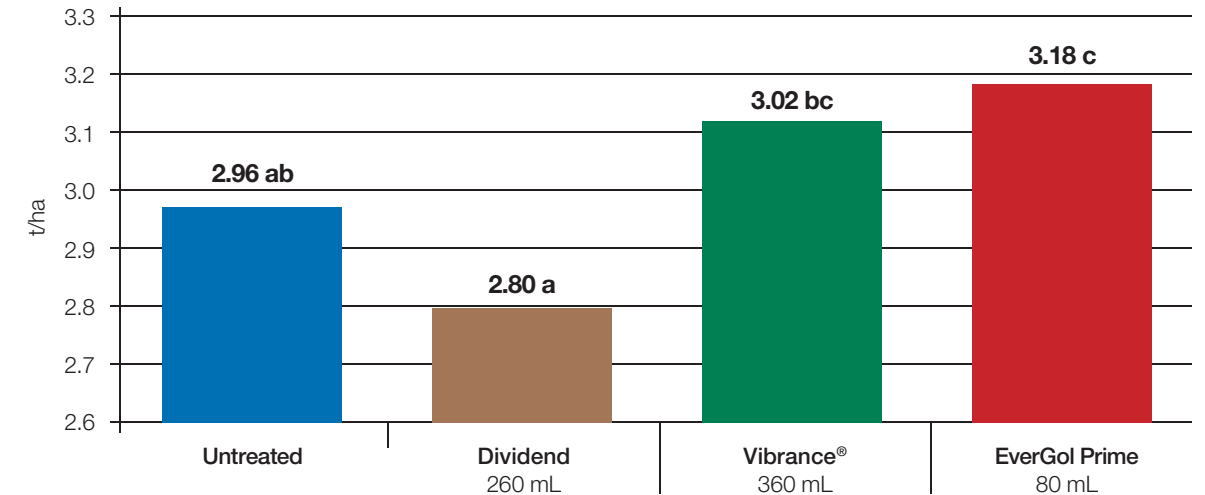
Graph 7: Grain yield (t/ha) in rhizoctonia infected barley trials.



Trial ID: 10SA11, 11WE01, 11NA02, 11WA07, 12WE01, 12WE03, 12WE41*, 12WC01, 12VD15, 10VD06, 11VD04, 11VD06, 11SA25, 12SB06**, 12SB13, 12SB17, 12SB18, 12SB19, 12SB20, 12SB21, 12SB22, 12VD14

All rates per 100 kg of seed. Treatments marked by the same letter do not significantly differ. P = 0.05.

Graph 8: Grain yield (t/ha) in rhizoctonia infected barley trials.



Trial ID: 12WE41*, 12SB06**

Treatments marked by the same letter do not significantly differ. P = 0.05.

All rates per 100 kg of seed.

RETURN ON INVESTMENT (ROI)

To evaluate the economic benefit of using EverGol Prime, ROI calculations have been made based on trial data. Market assumptions have been made for the purpose and are stated below. ROI data should not be looked at in isolation, in addition to yield data, disease protection and grain quality data should also be considered.

Wheat ROI

Product	APPLICATION RATE (mL/100 kg)	PRODUCT COST (\$/ha)	GRAIN PRICE (\$/t)	GRAIN YIELD (t/ha)	RETURN (\$/ha)	INCREASE(% IN RETURN)	INCREMENTAL RETURN (\$/ha)
Dividend	260	7.80	266.00	2.16	566.76	-	-
EverGol Prime	80	8.58	266.00	2.29	600.56	6.0	33.80

Barley ROI

Product	APPLICATION RATE (mL/100 kg)	PRODUCT COST (\$/ha)	GRAIN PRICE (\$/t)	GRAIN YIELD (t/ha)	RETURN (\$/ha)	INCREASE(% IN RETURN)	INCREMENTAL RETURN (\$/ha)
Dividend	260	7.80	250.00	2.90	717.20	-	-
EverGol Prime	80	8.58	250.00	3.16	781.42	9.0	64.22

EverGol Prime versus Vibrance

Product	APPLICATION RATE (mL/100 kg)	PRODUCT COST (\$/ha)	GRAIN PRICE (\$/t)	GRAIN YIELD (t/ha)	RETURN (\$/ha)	INCREASE(% IN RETURN)	INCREMENTAL RETURN (\$/ha)
Vibrance	360	8.10	250.00	3.02	746.90	-	-
EverGol Prime	80	8.58	250.00	3.18	786.42	5.3	39.52

ROI assumptions

- Average end-user pricing has been used based on market pricing January 2013. EverGol Prime \$143/L, Dividend \$40/L, Vibrance \$30/L.
- Average seeding rate of 75 kg/ha.
- Yield data has been taken from trials shown in graphs 6 - 8.
- Grain pricing is based on 20 year average grain prices[#] ex-farm. Wheat ASW \$266 (\$/t), barley malt \$250 (\$/t).

Graph 7 and 8: Trial data courtesy of * Landmark, Narrogin, WA, ** Cummins Ag Services, SA. #Data courtesy of Neil Clark & Associates.

PHYSICAL COMPATIBILITIES

EverGol Prime is physically compatible for use with the following products: Baytan® T, Jockey® Stayer®, Gaucho®, K-Obiol® Combi, Actellic® 900, Divap® 1140, Fenitrothion 1000, Reldan®, Reldan Plus IGR, Rizacon® S IGR, Flexi-N®, Twin-Zinc™ and Activist Max Zinc.

For further compatibility information, contact Bayer.

FAQS

What is the active ingredient in EverGol Prime?

EverGol Prime contains the new active ingredient penflufen (240 g/L). Penflufen is a powerful SDHI Group 7 (carboximides) molecule with a new mode of action and superior levels of activity against rhizoctonia.

What are the key features of EverGol Prime?

EverGol Prime is registered for the suppression of rhizoctonia root rot and the control of smut diseases* and can increase yield by up to 20% in wheat and barley. Through effective disease management, EverGol Prime delivers a new standard in plant health with higher yielding, fitter crops and stronger root systems which improve water and nutrient uptake. EverGol Prime also has excellent crop safety with increased speed of emergence over untreated crops.

On what types of seed can EverGol Prime be used?

EverGol Prime is registered for use in wheat and barley.

What is the application rate and water dilution rate of EverGol Prime?

EverGol Prime is registered for application at 40-80 mL/100 kg of seed. This should be diluted with clean water to a total slurry volume of 400-600 mL/100 kg seed (4-6 L per tonne). The addition of water helps to evenly spread EverGol Prime over each and every seed to provide effective coverage and disease protection.

What colour is EverGol Prime on treated seed?

EverGol Prime is red in colour when applied to seed.

What pack size is available for EverGol Prime?

EverGol Prime is available in a 10 L container. This will treat 25 t of seed at a 40 mL/100 kg application rate or 12.5 t of seed at a higher rate of 80 mL/100 kg seed.

Why doesn't EverGol Prime contain an insecticide?

Stored grain pests have developed resistance to many of the traditional insecticides used in grain storage protection. As part of any resistance management program, it is best to review what has been used in the past and alternate between different chemical groups. Synthetic pyrethroids, organophosphates and growth regulators should be rotated so that no one chemical group is used all the time.

What is rhizoctonia root disease (*Rhizoctonia solani*)?

Rhizoctonia is a fungal soil-borne disease that attacks the roots of plants and is often seen as uneven crop growth, weak or bare patches in paddocks. Its presence in the soil is strongly influenced by environmental conditions but is becoming more widespread due to the adoption of conservation farming and intense cereal rotations. The fungus diminishes the roots of the plant limiting its access to water and nutrients, hampering growth.

*Suppression of soil-borne flag smut.



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Disclaimer

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