

WHEAT CROP GUIDE



Aviator
Xpro



PROSARO

Aviator Xpro and Prosaro

Choosing the best fungicide programme for Wheat.

Aviator Xpro and Prosaro offer the perfect solution for developing fungicide programmes for wheat, whatever the disease threat is that you are trying to combat.

Wheat is at threat from a number of key diseases in New Zealand: Speckled leaf blotch (SLB), leaf rust, stripe rust and the ear disease complex being the main ones. When devising your fungicide programmes it is important to consider a number of factors but the principle one is, when was your crop planted? Evidence shows that crops planted by the middle of May are at greater risk of disease infection, especially by SLB.

This autumn, after an early harvest many crops were planted by mid-May. This, coupled with a mild, wet winter, has encouraged SLB infection such that the disease can easily be found in many paddocks.

Choosing the right fungicide

Aviator Xpro and Prosaro are both very effective fungicides that will control the key wheat diseases

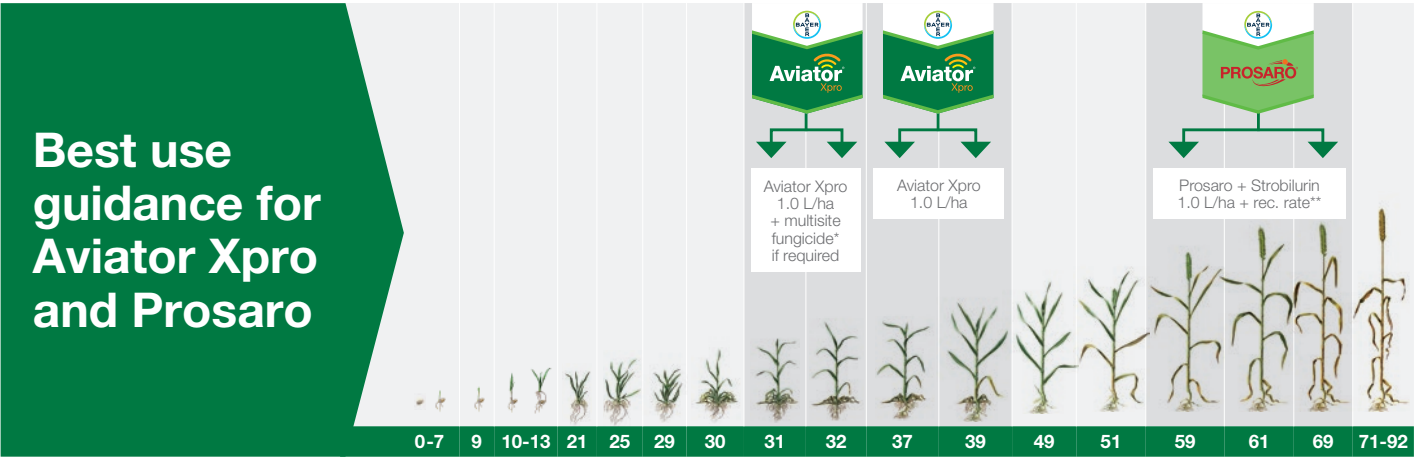
Aviator Xpro is the powerhouse of the Bayer fungicide portfolio. It contains the market leading DMI fungicide prothioconazole along with a very active SDHI fungicide, bixafen. It not only delivers excellent control of all key wheat diseases, it provides very strong physiological activity helping to produce large yield responses even when disease levels are low. Prosaro also controls all of the key wheat diseases extremely effectively but its principle strength is against leaf rust and ear diseases.

The threat of disease resistance

All fungicides carry a risk that diseases will either become resistant or more tolerant to them.

SDHI fungicides	DMI fungicides
In the case of SDHI fungicides, such as Aviator Xpro, it is resistance that develops and if this was to happen not only would Aviator Xpro not work but neither would other products containing SDHI fungicides. To guard against this happening it has been agreed that in cereals no more than two applications of a SDHI fungicides can be made each year and that SDHI fungicides should be mixed with a fungicide with a different mode of action. Aviator Xpro contains the highly active DMI prothioconazole in mixture with the powerful SDHI fungicide bixafen and the two fungicides have been formulated in the optimal ratio to help guard against resistance.	For DMI fungicides it is increased tolerance that develops. In other words a higher dose is needed to obtain adequate disease control. One way to help reduce this is to apply a mixture of DMI fungicides, with each fungicide affecting the disease in a slightly different way. Prosaro combines two DMI fungicides in an easy-to-use, ready-mixed, co-formulation.

Wheat - Fungicide programme



*Apply a multisite fungicide as recommended by your advisor. Maintain the dose rate of Aviator Xpro if applying a multisite fungicide. **Apply rate recommended by your advisor.

By following the fungicide programme above you will match the strengths of Aviator Xpro and Prosaro with the key disease threats you will encounter whilst also adopting a sound resistance strategy.

Applying Aviator Xpro at 1.0 L/ha at GS31-32 ensures Speckled leaf blotch and any stripe rust present will be controlled. Applying Aviator Xpro again at GS37-39, also at

1.0 L/ha, protects the key yield producing leaves against Speckled leaf blotch, leaf rust and delivers green leaf retention. A third fungicide application, this time of Prosaro in mixture with a strobilurin fungicide, will maintain control of leaf rust and ear disease through to harvest. Always ensure that the interval between the fungicide applications does not exceed 25-28 days.

The key disease threats for 2018

Speckled Leaf Blotch



A great risk

The reason the date your crop was planted is so important is due to one disease: Speckled leaf blotch (SLB). This disease can have a devastating impact on yield, especially for crops planted by the middle of May.

SLB infection results from airborne spores, the majority of which tend to “lift-off” from stubble soon after harvest. Crops emerging during April and May are therefore at greater risk of infection.

SLB has a long infection period. The period between disease infection and the disease becoming visible is temperature dependent and it can be as long as 50 days during early spring. During this time the disease cannot be seen, plants look healthy and while emerged leaves do not show disease symptoms, SLB is developing within the leaves. The long incubation period of SLB and the fact that most wheat crops showed active SLB symptoms during winter, means that as we enter spring, it makes sense to assume that all wheat crops are infected.

In 2017 controlling SLB with an Aviator Xpro based programme resulted in a yield increase of 2.1 t/ha and a profit of \$615/ha.

Stripe Rust



Remain vigilant

The other key early season disease of wheat is stripe rust which is now rarely seen due to the widespread use of the Bayer seed treatment Galmano®. Stripe rust should not be forgotten as, if left uncontrolled, it too can devastate yields.

Both Speckled leaf blotch (SLB) and stripe rust are usually under control after the flag leaf emergence fungicide has been applied but this doesn't mean you can relax your guard. In recent years Bayer have observed damaging infections of stripe rust and SLB, occurring around ear emergence.

In 2017 controlling stripe rust with an Aviator Xpro based programme resulted in a yield increase of 4.1 t/ha and a profit of \$1389/ha.

With most wheat crops showing active SLB infection during winter it makes sense to assume that all wheat crops are infected with Speckled leaf blotch as we enter the spring.



Leaf Rust



It has a serious impact

Leaf rust is a late season disease that thrives under hot, humid conditions. While leaf rust will infect all leaves, it is the serious impact it can have on the flag leaf and leaf 2 that reduces yield. These upper leaves produce around 70% of a crop's yield and so it is important to protect these leaves proactively with a preventative fungicide application.

In 2017 controlling leaf rust with an Aviator Xpro based programme resulted in a yield increase of 4.1 t/ha and a profit of \$1395/ha.

Ear Disease Complex



Just a nuisance?

Ear diseases are often seen as being just a nuisance but they do impact the quality of grain. Not only is it true to say that good-looking grain is always the easiest to sell, but having nurtured your crops all season, it can be very upsetting to see them turn black almost as you watch.

Later in the season leaf rust and ear diseases such as glume blotch and sooty moulds increase in importance as they thrive under warm, moist conditions. If these diseases are allowed to attack they can undo all of your earlier fungicide investment.

Aviator Xpro and Prosaro in action



Untreated crop showing severe Speckled leaf blotch infection on the lower leaves



An Aviator Xpro/Prosaro fungicide programme has resulted in excellent Speckled leaf blotch control and enhanced green leaf retention

Aviator Xpro Benefits

- Powerful disease control, especially of Speckled leaf blotch, and beneficial physiological effects such as enhanced crop greening, means Aviator Xpro will help your crops achieve their full yield potential
- Straightforward recommendations ensure Aviator Xpro is simple and convenient to use
- Formulated in the optimal ratio to minimise resistance risk
- Supported by the expertise of one of the world's leading agrochemical companies

Prosaro Benefits

- The dual activity of Prosaro results in a very effective late season wheat fungicide delivering excellent leaf rust and ear disease control
- The flexibility of Prosaro means it is in the perfect partner for Aviator Xpro reducing the number of fungicides you are required to stock
- Straightforward recommendations ensure Prosaro is simple and convenient to use
- Prosaro combines two DMI fungicides to guard against the development of DMI fungicide tolerance
- Supported by the expertise of one of the world's leading agrochemical companies

Both Aviator Xpro and Prosaro combine fungicides in an optimal ratio to provide a strong anti-resistant defence. Co-formulated fungicides are commonly used around the world and no wonder - they offer excellent disease control, reduced risk of mistakes and reduced costs, all conveniently packaged in a single can.

AVIATOR XPRO AND PROSARO: USE AT A GLANCE FOR WHEAT

	AVIATOR XPRO	PROSARO
DISEASE	A range of diseases (see table below)	A range of diseases (see table below)
RATE	1.0 L/ha	1.0 L/ha
APPLICATION TIMING	Apply at the first sign of disease. Re-apply 3-4 weeks later if required	
APPLICATION METHOD	By tractor mounted hydraulic boom sprayer or using aerial application	
APPLICATION RATE	Ground: 120 L/ha Aerial: 50 L/ha	Ground: 200 L/ha Aerial: 50 L/ha
RAINFESTNESS	Rainfast immediately when applied to a dry crop	Rainfast 1 hour after application when applied to a dry crop
WITHHOLDING PERIOD	56 days (grain) or 42 days (forage)	56 days (grain) or 42 days (forage)
COMPATIBLE	Compatible with a wide range of commonly used herbicides and insecticides	Compatible with a wide range of commonly used herbicides, fungicides and insecticides
PACK SIZE	10 litres	10 litres
CERTIFIED HANDLER	Not required	Not required

SUMMARY OF DISEASES CONTROLLED:

	Speckled leaf blotch	Speckled leaf blotch
	Stripe rust	Stripe rust
	Leaf rust	Leaf rust
	Tan spot	Powdery mildew
		Glume blotch
		Ear disease complex

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Insist on Wheat fungicides from Bayer.

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