



# Zephyr<sup>®</sup>

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## Fungicide

A fungicide for the control of foliar and ear disease in winter and spring wheat, durum wheat, rye, triticale and winter and spring barley.

### MAPP 13174

A suspension concentrate formulation containing 175 g/L prothioconazole and 88 g/L trifloxystrobin.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.

Bayer CropScience Limited  
230 Cambridge Science Park  
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Telephone: 01223 226500

For 24 hour emergency information contact  
**Bayer CropScience Limited**  
Telephone: 00800 1020 3333



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Contains 175 g/L prothioconazole and 88 g/L trifloxystrobin.

**Warning**

May cause an allergic skin reaction.  
Very toxic to aquatic life with long lasting effects.

Wear protective gloves/protective clothing/eye protection/face protection. If skin irritation or rash occurs: Get medical advice/attention. Protect from sunlight.

Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

To avoid risks to human health and the environment, comply with the instructions for use.

**IMPORTANT INFORMATION FOR USE ONLY AS AN AGRICULTURAL FUNGICIDE**

<b>Crops:</b>	Winter and spring wheat, durum wheat, rye, triticale, winter and spring barley.
<b>Maximum individual dose:</b>	Winter and spring wheat, durum wheat, rye, triticale: 1.0 litres of product per hectare. Barley: 0.75 litres of product per hectare.
<b>Maximum total dose:</b>	Wheat, durum wheat, rye, triticale: 2.0 litres of product per hectare per crop. Barley: 1.5 litres of product per hectare per crop.
<b>Latest time of application:</b>	Wheat, durum wheat, rye, triticale: Before grain milky ripe stage (GS 71). Barley: up to beginning of anthesis (GS 61).
<b>Other specific restrictions</b>	To reduce the risk of resistance developing in target diseases the total number of applications of products containing Qol fungicides made to any cereal crop must not exceed two.

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.**



zephyrds

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# SAFETY PRECAUTIONS

## Operator Protection

Engineering control of operator exposure must be used where reasonably practicable in addition to the following

personal protective equipment:  
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when handling the concentrate or when handling contaminated surfaces.  
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) when applying the product.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.  
WHEN USING DO NOT EAT DRINK OR SMOKE.

WASH ANY CONTAMINATION from eyes immediately.

IF YOU FEEL UNWELL, seek medical advice (show label where possible).  
WASH HANDS AND EXPOSED SKIN before eating and drinking and after work.

## Environmental Protection

**Do not contaminate water with the product or its container.** (Do not clean application equipment near surface water. Avoid contamination via drains from farmyards and roads).

DO NOT CONTAMINATE WATER with the product or its container.



DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 m of the top of the bank of a static or flowing water body, unless

a Local Environment Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 m of the top of a ditch which is dry at the time of application. Aim spray away from water. This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer, either a LERAP must be carried out in accordance with CRD's published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for three years.

## Storage and Disposal

KEEP OUT OF REACH OF CHILDREN  
KEEP IN ORIGINAL CONTAINER tightly closed in a safe place.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times. Add washings to sprayer at time of filling, and dispose of safely.

DO NOT RE-USE CONTAINER for any purpose.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

## DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

Zephyr is a triazole and strobilurin fungicide recommended for control of a wide range of diseases on winter and spring barley, winter and spring wheat, durum wheat, rye and triticale.

### RESTRICTIONS

PROTECT FROM FROST

### DISEASES CONTROLLED

#### Wheat, Durum Wheat and Triticale

Eyespot, *Septoria* (leaf and glume blotch), powdery mildew, yellow rust, brown rust, ear disease complex\* – *Fusarium* ear blight.

\* good reduction

#### Barley

Eyespot\*, powdery mildew, yellow rust, brown rust, *Rhynchosporium* and net blotch.

#### Rye

Eyespot, powdery mildew, brown rust and *Rhynchosporium*.

\* reduces the incidence and severity

#### **Eyespot (*Oculimacula* spp.)**

Zephyr controls eyespot in wheat, triticale and rye and reduces the incidence and severity in barley. Spray in the spring at the first sign of disease, from when the leaf sheaths begin to become erect until the 2nd node is detectable (GS 30-32).

#### ***Septoria* Leaf Blotch and Glume Blotch (*Septoria tritici* and *Stagonospora nodorum*)**

Apply before disease is established in the crop. To protect the upper leaves and ear apply Zephyr at full flag leaf emergence (GS 39) up to mid-flowering (GS 65). Where disease pressure remains high application may be repeated.

Applications to upper leaves where *S. tritici* symptoms are present are likely to be less effective.

Zephyr contains a DMI fungicide. Resistance to some DMI fungicides has been identified in *Septoria* leaf blotch (*Mycosphaerella graminicola*) which may seriously affect the performance of some products. For further advice on resistance management in DMI's contact your agronomist or specialist advisor, and visit the FRAG-UK website.

#### **Powdery Mildew (*Blumeria graminis*)**

Apply Zephyr at the first signs of disease. Zephyr controls mildew in barley and when used for control of other diseases will also give control of powdery mildew in wheat, durum wheat, triticale and rye. Where disease pressure remains high application may be repeated.

Strains of wheat and barley powdery mildew resistant to Qol fungicides are common in the UK. Where specific control of wheat mildew is required, this should be achieved through a programme of measures, including products with recommendations for control of mildew that contain different active substances used in mixture or sequence.

#### **Yellow Rust (*Puccinia striiformis*)**

Apply Zephyr at the first signs of disease. A second application may be made 2-3 weeks later if re-infection occurs. Applications made to established infections are likely to be less effective.

### **Brown Rust (*Puccinia hordei*. *P. recondita*)**

Apply Zephyr at the first signs of disease. A second application may be made 2-3 weeks later if re-infection occurs. Applications made to established infections are likely to be less effective.

### **Ear Disease Complex**

Apply Zephyr soon after ear emergence until the end of flowering (GS 59-69) for good reduction of *Fusarium* ear blight and reduction of sooty moulds in wheat. Control of ear diseases can result in cleaner, brighter ears.

### **Leaf Blotch (*Rhynchosporium secalis*)**

Zephyr gives high levels of *Rhynchosporium* control. Apply Zephyr in spring at the first signs of disease. For severe infections a second application may be necessary 2-3 weeks later.

### **Net Blotch (*Pyrenophora teres*)**

Apply Zephyr at the first signs of disease in spring/early summer. For severe infections, a second application 2-3 weeks later will give most effective control when conditions remain favourable for disease development.

### **CROP SPECIFIC INFORMATION**

Zephyr may be used on all commercial varieties of winter and spring barley, winter and spring wheat, durum wheat, triticale and rye.

Apply Zephyr at 1.0 litres per hectare in winter and spring wheat, durum wheat, triticale and rye and 0.75 litre per hectare in barley.

The maximum total dose per crop is:-

2.0 litres per hectare per crop in winter and spring wheat, durum wheat, triticale and rye and 1.5 litres per hectare per crop in barley.

Apply Zephyr in 100-300 litres of water per hectare.

The higher spray volumes are recommended where the crop is dense or disease pressure/risk is high to ensure good penetration to the lower leaves and stem bases. Disease control may be compromised by reducing water volumes, where good spray coverage is difficult to achieve.

A spray pressure of 2-3 bar is recommended. Apply as a **MEDIUM** spray quality (as defined by BCPC).

### **Latest Permitted Timing**

Zephyr may be applied at any stage before grain milky ripe stage (GS 71) in winter and spring wheat, durum wheat, triticale and rye and up to beginning of anthesis (GS 61) in winter and spring barley.

### **MIXING AND SPRAYING**

Thoroughly shake the pack before use. Add the required quantity of Zephyr to the half-filled spray tank with the agitation system in operation and then fill to the required level. Continue agitation at all times during spraying and stoppages until the tank is completely empty. Spray immediately after mixing.

Sprayers should be thoroughly cleaned before use, and filters and jets checked for damage and blockages.

Boom height should be adjusted to ensure even coverage of the crop, particularly at later growth stages. The correct height is one at which the spray from alternate nozzles meets just above the crop. In dense crops, at later growth stages, higher water volumes should be used.

Spray equipment should be thoroughly cleaned with water and detergent after use.

## RESISTANCE

Apply fungicides according to the manufacturer's recommendations for the target disease (or complex) at the specific crop GS indicated. Effective disease management is a critical parameter in delaying the build-up of resistant pathogen populations. Zephyr is a mixture of two fungicides with different modes of action, a strobilurin and a triazolothione.

Zephyr contains trifloxystrobin, a member of the QoI cross-resistance group. Zephyr should be used preventatively and should not be relied on for its curative potential.

Use Zephyr as part of an Integrated Crop Management (ICM) strategy incorporating other methods of control, including where appropriate other fungicides with a different mode of action. You must not apply more than two foliar applications of QoI-containing products to any cereal crop.

Strains of wheat and barley powdery mildew resistant to QoI's are common in the UK.

There is a significant risk of widespread resistance occurring in *Septoria tritici* populations in the UK. Failure to follow resistance management action may result in reduced levels of disease control.

Use of fungicides which have different modes of action have been shown to protect against the development of resistant forms of disease.

A programme of sprays should include no more than two sprays of Zephyr or any other product that contains a strobilurin fungicide.

Limiting the number of sprays is an important factor in delaying the build-up of resistant pathogen populations. Failure to follow resistance management action may result in reduced levels of disease control. Appropriate disease risk assessment or decision support systems must be used when deciding whether to treat with Zephyr.

## CAUTION

The possible development of resistance to Zephyr cannot be predicted. Should it occur Zephyr may not give satisfactory control and no responsibility can be accepted for any loss incurred.

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