



# Mettle®

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## Fungicide

An Agricultural fungicide for the control of stem-base, foliar and ear diseases in winter and spring barley and oats.

An emulsifiable concentrate formulation containing 100 g/L prothioconazole and 100 g/L fluoxastrobin.



### Safety information

#### METTLE

Contains 100 g/L prothioconazole and 100 g/L fluoxastrobin.

#### Danger

**Harmful if inhaled.**

**Causes serious eye damage.**

**Very toxic to aquatic life with long lasting effects.**

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Protect from sunlight.

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

Contains 2-[2-(1-chlorocyclopropyl)-2-hydroxy-3-phenylpropyl]-2,4-dihydro-3H-1,2,4-triazole-3-thione. May produce an allergic reaction

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



PCS No. 03788

For Professional use only

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## SAFETY PRECAUTIONS

### Operator Protection

Wear suitable protective clothing, gloves, and eye protection/face protection.

### 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).

To protect aquatic organisms respect an unsprayed buffer zone of 5 m to surface water bodies. Spray must be aimed away from water.

### Storage and Disposal

Do not re-use container for any other purpose and dispose of safely.

Keep out of reach of children

Keep away from food, drink and animal feedingstuffs.

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.

PROTECT FROM FROST

STORE IN A COOL DRY PLACE

**READ ALL INSTRUCTIONS CAREFULLY BEFORE USE**



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To access the **Safety Data Sheet** for this product scan the code or use the link below:

[www.bayercropscience.ie/sds/mettle.pdf](http://www.bayercropscience.ie/sds/mettle.pdf)

or alternatively contact your supplier

Authorisation holder: Bayer CropScience Ltd, 230 Cambridge Science Park, Milton Road, Cambridge, CB4 0WB, United Kingdom

Marketing company: Bayer CropScience Ltd, Bayer Ltd, The Atrium, Blackthorn Road, Sandyford, Dublin 18. Freephone: 1800 818534

For 24 hour emergency information contact Bayer CropScience Ltd. Telephone: 00800 1020 3333

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## 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.

Mettle is a mixture of a strobilurin and a triazolothione fungicide recommended for control of a wide range of diseases on winter and spring barley and oats.

### RATE OF USE

<b>Maximum individual dose:</b> Winter and spring barley and oats	1.25 litres product per hectare
<b>Maximum number of applications:</b> Winter and spring barley and oats	2 per season
<b>Maximum total dose:</b> Winter and spring barley and oats	2.5 litres product per hectare
<b>Latest time of application:</b> Winter and spring barley and oats	At any stage before beginning of flowering (GS 61)
Method of application	Tractor mounted/trailed sprayer

A spray pressure of 2-3 bar is recommended. Apply Mettle in 100-300 litres per hectare water. Apply as a medium spray quality.

Apply Mettle in 100 to 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.

<b>DISEASES CONTROLLED</b>	<b>Barley</b>	<b>Oats</b>
Eyespot ( <i>Oculimacula spp.</i> )	R	R
Sharp eyespot ( <i>Rhizoctonia cerealis</i> )	R	
Take-all ( <i>Gaeumannomyces graminis</i> )	R	
<i>Fusarium</i> foot rot ( <i>Fusarium culmorum</i> , <i>Microdochium nivale</i> var <i>nivale</i> and <i>majus</i> )	R	
Powdery mildew ( <i>Blumeria graminis</i> )	C	C
Brown rust	C	
Crown rust		C
<i>Rhynchosporium</i> Leaf blotch	C	
Net blotch	C	
R = Reduction C = Control		

**APPLICATION TIMING**

**Stem Base Disease Complex and Take-all**

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

**Sharp eyespot (*Rhizoctonia cerealis*)**

**Take-all (*Gaeumannomyces graminis*)**

***Fusarium* foot rot (*Fusarium culmorum*,  
*Microdochium nivale* var *nivale* and *majus*)**

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).

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

Strains of powdery mildew resistant to Qol fungicides are common in Ireland.

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.

**Brown Rust (*Puccinia hordei*)**

Apply Mettle 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.

**Crown Rust (*Puccinia coronata*)**

Apply Mettle 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.

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

Apply Mettle 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 Mettle 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.

**CAUTION:** The possible development of disease strains resistant to Mettle cannot be excluded or predicted. Where such resistant strains occur, Mettle is unlikely to give satisfactory control.

#### **MANAGEMENT STRATEGY TO MINIMISE THE LIKELIHOOD OF RESISTANCE**

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

Mettle contains fluoxastrobin, a member of the Qol cross-resistance group. Mettle should be used preventatively and should not be relied on for its curative potential.

**Use Mettle 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 Qol-containing products to any cereal crop.**

The Fungicide Resistance Action Committee (FRAC) produces recommendations that may be consulted for additional information.

#### **FACTORS AFFECTING CROP SAFETY**

Occasionally, after the application of Mettle, some transient leaf chlorosis on barley may occur, but these symptoms have not been shown to adversely affect yield responses accruing from the benefits of disease control.

**CROP SPECIFIC INFORMATION**

Mettle may be used on all commercial varieties of winter and spring barley and winter and spring oats.

**Mixing**

Thoroughly shake the pack before use.

Add the required quantity of Mettle 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.

**General**

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 detergent after use.

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