



# Mandarin<sup>®</sup>

Xpro

2.5 L e

## Fungicide

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

An emulsifiable concentrate formulation containing 60 g/L (6.2% w/w) bixafen and 200 g/L (20.2% w/w) prothioconazole



### Safety information

#### **MANDARIN Xpro**

Contains 60 g/L (6.2% w/w) bixafen, 200 g/L (20.2% w/w) prothioconazole and N,N,-Dimethyl decanamide.



#### **Warning**

**Harmful if swallowed. May cause an allergic skin reaction. May cause respiratory irritation. Causes serious eye irritation. Very toxic to aquatic life with long lasting effects.** Wear protective gloves/protective clothing/eye protection/face protection. IF exposed or if you feel unwell: Call a POISON CENTER/doctor/physician. 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. **To avoid risks to human health and the environment, comply with the instructions for use.**

**PCS No. 05258**

For Professional use only

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## SAFETY PRECAUTIONS

### Operator Protection

WHEN USING DO NOT EAT, DRINK OR SMOKE.  
WASH ANY CONTAMINATION from eyes immediately.  
WASH HANDS AND EXPOSED SKIN before meals  
and after work.  
IF YOU FEEL UNWELL, seek medical advice (show the  
label where possible).  
Do not apply by hand held equipment.

### Environmental Protection

To protect aquatic organisms respect an unsprayed  
buffer zone of 5 m to surface water bodies. Aim spray  
away from water.  
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).



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

or alternatively contact your supplier

Collect spillages.

### Storage and Disposal

KEEP IN ORIGINAL CONTAINER tightly closed in a  
safe place.  
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.  
DO NOT RE-USE CONTAINER for any purpose.  
PROTECT FROM FROST

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.

Mandarin<sub>xpro</sub> is a mixture of a carboxamide and triazolinthione fungicide recommended for control of a wide range of diseases on winter and spring barley and oats.

### RATE OF USE

Crop	Maximum individual dose	Maximum number of applications	Latest time of application
Winter and spring barley, winter and spring oats	1.0 litres product per hectare	2 per crop	Up to beginning of flowering, (GS 61)

Method of application: Tractor mounted sprayer

A spray pressure of 2-3 bar is recommended. Apply Mandarin<sub>xpro</sub> in 100-300 litres water per hectare. Apply as a medium spray quality.

### CROPS

Mandarin<sub>xpro</sub> may be used on all commercial varieties of winter and spring barley and oats

## **APPLICATION**

### **Water Volume**

Apply Mandarin<sub>xpro</sub> 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.

### **Latest Permitted Timing**

In barley and oats Mandarin<sub>xpro</sub> may be applied at any stage up to the beginning of flowering.

### **Mixing**

Thoroughly shake the pack before use.

Add the required quantity of Mandarin<sub>xpro</sub> 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 with water and detergent after 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.

## DISEASES CONTROLLED

	<b>Barley</b>	<b>Oats</b>
Eyespot	R	R
Powdery Mildew	C	C
Yellow rust	C	
Brown rust	C	
Fusarium ear blight	MC	
Sooty moulds	R	
Rhychosporium	C	
Net blotch	C	
Ramularia	C	
Crown rust		C
C = Control    MC =Moderate control    R= Reduction		

### **Other specific restrictions**

A maximum of 2 foliar applications of product(s) containing SDHIs can be applied to any cereal crop.

## **APPLICATION TIMING**

### **CEREALS**

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

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*)**

Apply Mandarin<sub>xpro</sub> at the first signs of disease. Where disease pressure remains high application may be repeated.

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

Apply Mandarin<sub>xpro</sub> 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*)**

Apply Mandarin<sub>xpro</sub> 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 Mandarin<sub>xpro</sub> at the first signs of disease. Mandarin<sub>xpro</sub> controls crown rust in winter and spring oats. 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 Mandarin<sub>xpro</sub> soon after ear emergence until the beginning of flowering (GS 61) for moderate control of *Fusarium* ear blight and reduction of sooty moulds in barley. Control of ear diseases can result in cleaner, brighter ears.

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

Apply Mandarin<sub>xpro</sub> 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 Mandarin<sub>xpro</sub> 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.

### **Ramularia (*Ramularia collo-cygni*)**

Apply Mandarin<sub>xpro</sub> at the first signs of disease. Applications made to established infections are likely to be less effective.

## **RESISTANCE STRATEGY**

No more than two applications of SDH inhibitors must be applied to the same crop.

Isolates of certain cereal diseases with decreased sensitivity to DMI fungicides are known to exist. Where these occur or develop Mandarin<sub>xpro</sub> may not give satisfactory control.

Mixtures of two or more SDHI fungicides do not provide an anti-resistance strategy. Each application of such a mixture counts as one SDHI application.

Tank mixtures or alternation with fungicides having a different mode of action against the diseases present have been shown to protect against the development of resistant forms of disease.

Do not tank mix Mandarin<sub>xpro</sub> with other SDHI containing fungicide formulations.

Mandarin<sub>xpro</sub> should be used in accordance with the instructions for use for the target diseases at the specific growth stages indicated.

Use Mandarin<sub>xpro</sub> as part of an Integrated Crop Management (ICM) strategy incorporating other methods of control.

For further advice on resistance management contact your agronomist or specialist advisor and visit the FRAG-UK website.

**CAUTION:** The possible development of disease strains resistant to Mandarin<sub>xpro</sub> cannot be excluded or predicted. Where such resistant strains occur, Mandarin<sub>xpro</sub> is unlikely to give satisfactory control.

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