Fathom

Product Registration Number MAPP 17452 An emulsifiable concentrate containing 200 g/litre tebuconazole A broad spectrum systemic fungicide for use in winter and spring wheat, barley, rye and oats, oil seed rape, cabbages, swedes, turnips, field beans, carrots, horseradish, parsnips and linseed. The Control Substances Hazardous to Health Regulations (CoSHH) may apply to the use of this product at work





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Product identifier: Tebuconazole 200 g/l EC Contains: Tebuconazole

Warning

May cause an allergic skin reaction Causes serious eye damage Suspected of damaging the unborn child Very toxic to aquatic life with long lasting effects

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

Crops/situations:	Maximum individual dose: (I product / ha)	Maximum total dose:	Maximum number of treatments: (per crop)	Latest time of application:
Barley, oats, rye, triticale, wheat	1.25	-	1	End of flowering (BBCH 69)
Oilseed rape	1.25	-	2	BBCH 65
Cabbage, field bean,	1.25	-	1	35 days before harvest
linseed, swede, turnip				
Carrot, horseradish, parsnip	1.25	-	1	21 days before harvest
The following Aquatic Buffe	r Zones must be observed:			
Crops/situations:		Aquatic buffer zone distance (metres):	Comment:	
Cabbage, carrot, field bean, horseradish, linseed, oats, oilseed rape, parsnip, rye, swede, triticale, turnip, wheat		5	see Environmental Protection Phrase 1	

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DIRECTIONS FOR USE

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

Fathom is a systemic fungicide for use in winter and spring wheat, barley, rye and oats, oil seed rape, cabbages, swedes, turnips, field beans, carrots, horseradish, parsnips and linseed.

Restrictions/Warnings

Fungicide Resistance

FATHOM is a triazole fungicide. It is advisable to alternate the use of FATHOM with a fungicide with a different mode of action (e.g. a piperazine or morpholine fungicide) to avoid the build-up of resistant strains of disease.

Disease control may be reduced if strains of a disease less sensitive to FATHOM develop.

FATHOM contains a DMI fungicide. Resistance to some DMI fungicides has been identified in Septoria leaf blotch (Mycospharerella graminicola) which may seriously affect the performance of some products. For further advice on resistance management in DMIs, contact your agronomist or specialist advisor and visit the Fungicide Resistance Action Group (FRAG) U.K.website.

Strains of Light Leaf Spot resistant to azole fungicides are known to exist. To avoid development of resistance apply product protectively in response to disease forecasts. Where possible, when Light Leaf Spot is present use a fungicide with an alternative mode of action or mixes containing an alternative mode of action when targeting other diseases such as Sclerotinia at mid flowering.

Crops, Application Rates and Timings

Winter and spring cereals

As a general rule, disease control and yield benefit will be optimal when treatment is made at an early stage of development.

Rate of Application: 1.25 litre/ha

<u>Volume of Water:</u> Use at least 200 litres of water/ha. Increase the water volume to 300 litres/ha in very dense crops or susceptible varieties.

<u>Crops:</u> Fathom can be applied to all varieties of winter and spring barley, winter and spring wheat (except Durum wheat), rye and oats.

Diseases Controlled and Application Timing

Fathom can be applied to cereal crops up to the end of flowering (BBCH 69). Where disease pressure remains high application with an alternative effective product may be required to maintain control but only one application of Fathom may be applied per crop.

- 1. Control of Powdery Mildew (oats and rye)
 - (wheat and triticale moderate control)
 - (barley some reduction)

Apply FATHOM at the first signs of disease. In wheat, barley, triticale and nye, when treating established infestations or varieties that are particularly susceptible, tank-mixing with a piperazine or morpholine fungicide may improve control.

- 2. Control of Septoria Leafspot (wheat and triticale) and Septoria Glume Blotch (wheat) To protect the flag leaf, apply FATHOM from the 'flag leaf emerged' stage (BBCH 37) up to the 'ear fully emerged' stage (BBCH 59). If there is a high risk of Septoria leaf spot, apply when the disease is active but before it appears on the upper leaves. Applications made when foliar symptoms are already present on the upper leaves will be less effective.
- Control of Yellow Rust and Brown Rust (wheat, barley, triticale and rye). Apply as soon as the disease is seen. Applications made to established infestations will be less effective.

- Control of Fusarium Ear Blights, Sooty Moulds (wheat) An application of FATHOM shortly after ear emergence will give a good reduction of Fusarium Ear Blight and 'Sooty Moulds' (*Alternaria and Cladosporium*).
- Control of Rhynchosporium Leaf Blotch (barley and rye moderate control) Apply FATHOM at the onset of disease.
- Control of Net Blotch (barley reduction)
 Apply at the first sign of disease in the spring or early summer. If the disease develops
 after flag leaf emergence, a single application should provide good protection.
- Control of Crown Rust (cats)
 Apply FATHOM on first appearance of disease. Applications made to control mildew on
 oats will reduce Crown Rust infections occurring at the same time.

Oilseed Rape

As a general rule, disease control and yield benefit will be optimal when treatment is made at an early stage of development.

Rate of Application: 1.25 litres/ha and a maximum of 2 treatments per crop

<u>Volume of Water</u>: Use at least 200 litres of water/ha. Increase the water volume to 400 litres/ha in very dense crops.

Crops: Fathom can be applied to all varieties of winter and spring oilseed rape.

Diseases Controlled and Application Timing: Fathom can be applied to oilseed rape up to BBCH 65

FATHOM can be applied to oilseed rape from BBCH 20 (no side shoots)) up to full flowering; 50% flowers on main raceme open, older petals falling (BBCH 65). Do not apply more than 500 gms ai/ha total dose of FATHOM per crop.

1. Control of Light Leaf Spot

Apply 1.25 litre/ha depending on disease development from BBCH 20. An application of 1.25 litre/ha either before or after flowering will control late development of disease on the leaves and pods. This treatment will also give some reduction of Ringspot if present in the crop.

2. Control of Phoma Leaf Spot / Stem Canker

Apply 1.25 litre/ha from BBCH 20 in early spring. The treatment regime for Light leaf spot (1 above) will also give a useful reduction of Leaf spot and Stern canker

3. Control of Dark Leaf Spot/ Pod Spot (Alternaria)

Apply 1.25 litre/ha from BBCH 20 when the black pin-head spots first appear on the pods. Applications for control of light leaf spot after flowering may give useful control of Alternaria.

4. Sclerotinia Stem Rot (reduction)

Apply 1.25 litre/ha at early to full flower. Do not mix FATHOM with any other product when applying during the flowering period of oilseed rape.

5. Ringspot (Mycosphaerella) (reduction)

If the disease has developed over winter, an application from BBCH 20 in the early spring may be made, at 1.25 litre/ha. An application of 1.25 litre/ha either before or after flowering will control late development of disease on the leaves and pods

6. Botrytis

Apply 1.25 litres/ha before and during flowering as soon as disease develops

Field Beans

Rate of Application: 1.25 litre/ha

<u>Volume of Water</u>: Use at least 200 litres of water/ha. Increase the water volume to 600 litres/ha in very dense crops.

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Crops: Fathom can be applied to all varieties of field beans

Diseases Controlled and Application Timing

FATHOM can be applied to field beans from the flower buds present, still enclosed by leaves stage (BBCH 50) up to 35 days before hannest. Do not apply more than 250 gms ai/ha total dose of FATHOM per crop. Where disease pressure remains high application with an alternative effective product may be required to maintain control but only one application of Fathom may be applied per crop.

 Control of Chocolate Spot and Bean Rust Apply 1.25 litre/ha at the first signs of disease from BBCH 50.

Cabbages

Rate of Application: 1.25 litre/ha

Volume of Water: Use at least 200 litres of water/ha. Increase the water volume to 600 litres/ha in very dense crops.

<u>Crops</u>: Fathom can be applied to all varieties of cabbages. Consult the processor before using Fathom on crops intended for processing.

Diseases Controlled and Application Timing FATHOM can be applied to cabbages from the beginning of heart formation (GS 40) up to 35 days before harvest. Do not apply more than 250 gms ai/ha total dose of FATHOM per crop. Where disease pressure remains high application with an alternative effective product may be required to maintain control but only one application of Fathom may be applied per crop.

 Control of Light Leaf Spot, Powdery Mildew, Ringspot and Alternaria Apply 1.25 litres/ha as soon as disease is seen but not before beginning of heart formation.

Swedes and Turnips

Rate of Application: 1.25 litre/ha

Volume of Water: Use at least 200 litres of water/ha. Increase the water volume to 600 litres/ha in very dense crops.

<u>Crops</u>: Fathom can be applied to all varieties of swedes and turnips. Consult the processor before using Fathom on crops intended for processing.

Diseases Controlled and Application Timing FATHOM can be applied from when the roots begin to expand stage (BBCH 40) to 35 days before harvest. Do not apply more than 250 gms al/ha total dose of FATHOM per crop. Where disease pressure remains high application with an alternative effective product may be required to maintain control but only one application of Fathom may be applied per crop.

1. Control of Powdery Mildew

Apply 1.25 litre/ha at the first signs of disease but not before BBCH 40

Carrots, parsnips, horseradish

Rate of Application: 1.25 litre/ha

Volume of Water: Use at least 400 litres of water. Increase the volume to 600 litres in very dense crops. Good foliar cover is extremely important.

<u>Crops</u>: Fathom can be applied to all varieties of carrots, parsnips and horseradish. Consult processor before using Fathom on crops intended for processing.

Diseases Controlled and Application Timing FATHOM can be applied at any stage from BBCH 20 up to 21 days before harvest. Do not apply more than 250 gms ai/ha total dose of FATHOM per crop. Where disease pressure remains high application with an alternative effective product may be required to maintain control but only one application of Fathom may be applied per crop. 1. Control of Alternaria and Sclerotinina

Apply at the early signs of *Alternaria* but not before BBCH 20. This treatment will also give useful reduction of *Sclerotinia*.

Apply when the disease is first seen in the crop but not before BBCH 20

2. Powdery Mildew

Linseed

Rate of Application: 1.25 litre/ha (see below)

Volume of Water: Use at least 200 litres of water. Increase the volume to 400 litres in very dense crops.

Crops: Fathom can be applied to all varieties of linseed.

Diseases Controlled and Application Timing FATHOM can be applied between the beginning of stem elongation (BBCH 30) to when nearly all pods have reached final size (BBCH 79). Do not apply more than 250 gms ai/ha total dose of FATHOM per crop. Where disease pressure remains high application with an alternative effective product may be required to maintain control but only one application of Fathom may be applied per crop.

 Control of Powdery Mildew Apply once, when the first signs of disease appear in the crop.

Mixing and Application:

Shake the container thoroughly before opening and use.

Half-fill the sprayer tank with clean water and begin agitation. Add the correct amount of Fathom using a filling device (e.g. an induction hopper) or by direct addition to the tank, followed by the rest of the water.

Rinse the container clean, preferably with an integrated pressure rinsing device, otherwise manually 3 times. Add the washings to the spray tank at the time of filling, Apply without delay. Maintain agitation while travelling and throughout the spraying operation. Apply as a 'Medium' spray at a pressure of 2-3 bar. Do not apply in frosty weather. Apply to dry foliage.

Thoroughly clean the sprayer after use.

Compatibility: Fathom is physically compatible with a wide range of agricultural chemicals. Consult your distributor for the latest recommendations. Alternatively, up-todate compatibility information may be found at www.headland-aq.co.uk

SAFETY PRECAUTIONS

Operator Protection

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

Operators must wear suitable protective clothing (coveralls), suitable protective gloves and face protection (faceshield) when handling the concentrate.

Operators must wear suitable protective clothing (coveralls) when handling contaminated surfaces or applying by hand-held equipment.

However, engineering controls may replace personal protective equipment if a CoSHH assessment shows they provide an equal or higher standard of protection.

Environmental Protection

Crops/situations with 5m buffer zone:

Since there is a risk to aquatic life from use, direct spray from horizontal boom sprayers must not be allowed to fall within 5m of the top of the bank of any static or flowing waterbody or within 1m of the top of a ditch which is dry at the time of application.

Spray must be aimed away from water.

Spray from hand-held sprayers must not be allowed to fall within 1m of the top of the bank of a static or flowing waterbody. Spray must be aimed away from water.

Buffer zones must be measured in accordance with the guidance set out in the booklet 'Local Environment Risk Assessment for Pesticides - Horizontal Boom Sprayers' available from HSE

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Chemicals Regulation Directorate's website and any amendments made to it. The results of the LERAP must be recorded in written form and must be available for a period of three years for inspection to any person entitled to exercise enforcement powers under or in connection with the Plant Protection Products Regulations 2011 or the Plant Protection Products (Sustainable Use) Regulations 2012. (An electronic record will satisfy the requirement for a written record, providing it is similarly available for inspection and can be copied).

Other Specific Information

Do not handle treated crops for at least 3 days after treatment. Application to linseed may only be made between BBCH 30-79.

Storage and Disposal

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS KEEP OUT OF REACH OF CHILDREN KEEP IN ORIGINAL CONTRINER, 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 the time of filling and dispose of safely. DO NOT RE-LOSE CONTAINER for any purpose

Store in a suitable pesticide store. Keep dry.

Protect from frost.

Made in Denmark

TERMS AND CONDITIONS OF SUPPLY, SALE OR USE

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