

HILL-STAR

PCS 06809

A suspension concentrate containing 250 g/L of azoxystrobin. Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

HILL-STAR is a broad-spectrum fungicide with translaminar, systemic and protectant properties for use on Brussels sprout, kale (winter greens), collards (spring greens), broccoli, calabrese, cabbage, cauliflower, combining and vining peas, broad bean, Dwarf French bean, lupins, field beans, bulb onion, garlic, shallot, leeks, carrots, asparagus, strawberry (outdoor and protected), endive (outdoor and protected), chicory (outdoor and protected) lettuce (outdoor and protected), potatoes, oilsed rape, wheat, barley, oats, rye and triticale.



Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

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

PCS 06809

GROUP

11 FUNGICIDE

Authorisation holder:

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PROTECT FROM FROST SHAKE WELL BEFORE USE



SAFETY PRECAUTIONS OPERATOR PROTECTION

HEI number:

H4UW

75DA-3KC6-182A-

Date of Manufacture

and Batch number:

ee container

WASH SPLASHES from skin or eyes immediately. DO NOT BREATHE SPRAY. WASH HANDS AND EXPOSED SKIN before meals and after work.

ENVIRONMENTAL PROTECTION

Avoid drift on to non-target plants. To protect aquatic organisms respect a 5m unsprayed buff-

er zone to surface water bodies.

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

STORAGE AND DISPOSAL

KEEP IN ORIGINAL CONTAINER, tightly closed in a safe place.

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

IMPORTANT INFORMATION FOR PROFESSIONAL USE ONLY AS AN AGRICULTURAL AND HORTICULTURAL FUNGICIDE

Crops	Max single dose L/Ha	Maximum number of applications per crop	Maximum total dose L product/ha	Latest time of application
Winter wheat, spring wheat, rye, triticale	1.0	2	2.0	Before grain watery ripe stage (GS71)
Winter barley, spring barley, oats	1.0	2	2.0	Before beginning of flowering (GS61)
Combining pea, field beans, lupins	1.0	-	2.0	35 days before harvest
Broad bean, vining peas (including garden peas, mange tout peas and sugar snap peas)	1.0		2.0	14 days before harvest
Dwarf French bean	1.0	0	2.0	7 days before harvest
Bulb onion, garlic, shallot, carrots	1.0		3.0	14 days before harvest
Leeks	1.0		3.0	21 days before harvest
Asparagus (outdoor)	1.0		2.0	Before senescence
Oilseed rape (winter and spring)	1.0		2.0	21 days before harvest
Outdoor crops of broccoli calabrese, Brussels sprout, cabbage, cauliflower, kale, collards		2	2.0	14 days before harvest
Strawberry (outdoor and protected)		-	3.0	3 days before harvest
Lettuce, endive and chicory (outdoor and protected)	1.0	-	2.0	14 days before harvest
Potato (in-furrow)	3.0	-	3.0	At planting
Potato (foliar spray)	0.5	-	1.5	7 days before harvest

Other specific restrictions:

To reduce the risk of resistance developing in target diseases the total number of applications of product containing QoI fungicides made to any cereal crop must not exceed two.

For uses on crops of broccoli, calabrese, Brussels sprouts, cabbage, cauliflower, collards, kale, lettuce, endive and chicory a maximum total dose of 500g per hectare of azoxystrobin must not be exceeded within a 12 month period on the same field.

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.

GENERAL INFORMATION:

HILL-STAR is approved for use in Brussels sprout, kale (winter greens), collards (spring greens), broccoli, calabrese, cabbage, cauliflower, combining and vining peas, broad bean, Dwarf French beans, lupin, field beans, bulb onion, garlic, shallot, leeks, carrots, asparagus, strawberry (outdoor and protected), endive (outdoor and protected), chicory (outdoor and protected) lettuce (outdoor and protected), potatoes, oilseed rape, wheat, barley, oats, rye and triticale.

HILL-STAR contains azoxystrobin, a Qol fungicide from the strobilurin group, with translaminar, systemic and protectant properties. Azoxystrobin inhibits fungal respiration a mode of action that is different from other fungicidal groups. It should always be used in mixture with fungicides with other modes of action. HILL-STAR shows good crop safety, disease control and maintenance of green leaf area which result in significant yield benefits when used with adequate soil moisture.

HILL-STAR is best used as a protective treatment or during early stages of disease. Disease control in cereals is about four to six weeks in the active stem elongation period, however when applied at flag leaf/ear emergence it can increase.

RESTRICTIONS

When using HILL-STAR avoid poor growing conditions which may give less reliable results and ensure there is adequate soil moisture.

Note: several apple varieties are highly sensitive to HILL-STAR, therefore HILL-STAR should not be applied where there is a risk of spray drift onto neighbouring apple crops. Spray equipment that has been used to apply HILL-STAR should not be used for treating apple crops.

RESISTANCE MANAGEMENT

For all crops: HILL-STAR contains azoxystrobin, a member of the Qol cross resistance group.

To avoid the likelihood of resistance developing, the current FRAC and FRAG-UK guidelines for QoI compounds should be consulted before applications of HILL-STAR are made to any crop.

Use HILL-STAR as part of an Integrated Groo Management (ICM) strategy incorporating other methods of control, including where appropriate other fungicides with a different mode of action.

Additional resistance management is shown below for the crops as specified below:

Potatoes

The risk of resistance developing in *Rhizoetonia solani* (Black scurf and Stem canker) and *Colletotrichum coccodes* (Black dot), to HILL-STAR is thought to be very low. Use of HILL-STAR should be only in potato crops which use good rotation practices.

There is a moderate risk of resistance to QoIs developing in Early blight caused by Alternaria solani.

If an application of HILL-STAR is made, no more than two further ΩoI treatments should be applied sequentially as the first sprays against late blight before using an alternative product.

Cereals

HILL-STAR should be used preventatively and should not be relied upon for its curative potential. You must not apply more than two foliar applications of QoI-containing products to any cereal crop. Disease control may be reduced if strains of other pathogens less sensitive to azoxystrobin develop.

HILL-STAR must always be used in mixture with another product recommended for the control of the same target disease and which contains a fungicide from a different cross resistance group and which is applied at a dose that will give robust control. Users should refer to the current FRAG-UK guidelines for Ωol compounds.

Bulb onions, garlic, shallot, leek and carrots

To avoid the likelihood of resistance developing, applications of HILL-STAR should be made with due regard to current FRAC guidelines for ΩoI compounds as illustrated below in the following table:

Total number of fungicide spray applications per crop	1	2	3	4	5	6	7	8	9	10	11	>12
Maximum recommended solo Qol fungicide sprays	1	1	2	2	2	2	2	3	3	3	3	4
Maximum recommended QoI fungicide sprays in mixture	1	2	2	2	2	3	3	4	4	4	4	4

No more than 3 applications of HILL-STAR are permitted per crop. Refer to the FRAC website for updates on recommendations for resistance management.

Asparagus

HILL-STAR contains a QoI cross resistance group fungicide and should be used preventatively and should not be relied on for its curative potential. If pathogens less sensitive to HILL-STAR develop disease control may be reduced.

To avoid the likelihood of resistance developing, applications of HILL-STAR should be made with due regard to current FRAC guidelines for Ωol compounds as illustrated below in the following table:

Total number of fungicide spray applications per crop	1	2 3	4	5	6	Ģ	≥8
Maximum recommended solo Qol fungicide sprays	5	1 2	2	2	2	2	3
Maximum recommended QoI fungicide sprays in mixture	1	2 2	2	2	3	3	3

No more than 2 applications of HILL-STAR are permitted per oron. Refer to the FRAC website for updates on recommendations for resistance management.

Strawberry

To avoid the likelihood of resistance developing, applications of HILL-STAR should be made with due regard to current FRAC guidelines for Ωol compounds as illustrated below in the following table:

Total number of fungicide spray applications per crop		2	3	4	5	6	7
Maximum recommended solo Qol fungicide sprays	1	1	2	2	2	2	2
Maximum recommended QoI fungicide sprays in mixture		2	2	2	2	3	3

No more than 3 applications of HILL-STAR are permitted per crop.

DISEASES CONTROLLED

Сгор	Disease	Level of expected control				
Wheat	Glume Blotch <i>(Parastagonospora (syn. Septoria)</i> nodorum)	Control				
	Yellow Rust (Puccinia striiformis)	Control				
	Brown Rust (Puccinia triticina)	Control				
	Ear Diseases (Cladosporium, Alternaria)	Control				
	Take-all (Gaeumannomyces graminis var. tritici)	Can reduce severity				
Barley	Net Blotch (Pyrenophora teres)	Moderate control				
	Brown Rust (Puccinia hordei)	Control				
	Leaf Blotch (Rhynchosporium secalis)	Reduction				
	Take-all (Gaeumannomyces graminis var. tritici)	Can reduce severity				
Oats	Crown Rust (Puccinia coronata)	Control				
Rye and triticale	Brown Rust (Puccinia recondita)					
	Leaf Blotch (Rhynchosporium secalis)	Reduction				
	Take-all (Gaeumannomyces graminis var. tritici)	Can reduce severity				
Peas and dwarf French beans	Leaf and Pod Spot (Ascochyta pisi)	Useful reduction				
6	Downy mildew (Peronospora viciae)	Reduction				
Broad beans, field bean and lupin	Rust (Uromyces spp.)	Control				
Bulb onions, garlic and shallot	Downy Mildew (Peronospora destructor)	Moderate control				
Leeks	Leaf Rust (Puccinia porri)	Control				
	Purple Blotch (Alternaria porri)	Moderate control				
	White tip (Phytophthora porri)	Moderate control				
Carrots	Alternaria Leaf Blight (Alternaria dauci)	Control				
	Powdery Mildew (Erysiphe polgoni)	Control				
Asparagus	Stemphylium (Stemphylium botryosum)	Moderate control				
	Rust (Puccinia asparagi)	Moderate control				

Oilseed rape	Dark Leaf and Pod Spot <i>(Alternaria spp.)</i>	Control
	Sclerotinia Stem Rot (Sclerotinia sclerotiorum)	Moderate control
Brussels sprout, cabbage,	White Blister (Albugo candida)	Moderate control
cauli-flower, kale, collards, broccoli and calabrese	Ring Spot (Mycosphaerella bras- sicicola)	Moderate control
	Alternaria (Alternaria brassicae and Alternaria brassicicola)	Moderate control
Strawberry (outdoor and protected)	Powdery mildew (Podosphaera macularis)	Moderate control
Lettuce, endive and chicory (outdoor and protected)	Downy mildew (Bremia spp.)	Control
Potatoes	Stem canker and Black scurf (Bhizoc- tonia solani)	Reduction (in-furrow only)
	Black dot (Collectotrichum coccodes)	Reduction (in-furrow only)
	Early blight (Alternaria solani)	Moderate (foliar use only)

CROP SPECIFIC INFORMATION

Before applying HILL-STAR ensure crops are not under stress through agronomic or environmental effects and straight before spraying, assess the development of the disease.

Best results will be achieved from applications made at the earliest stages of disease development or as a protective treatment following a disease risk assessment of the use of appropriate decision support systems.

POTATOES

Potatoes for Processing

Where a crop of potatoes is destined for processing, consult processors before treating with HILL-STAR.

In-Furrow application

DO NOT use HILL-STAR on high organic matter soils as HILL-STAR will not be effective.

Rate of use:

HILL-STAR can be applied as an in-furrow application made at the time of planting at a rate of 3.0 L product/ha with only one application per crop.

Timing:

When HILL-STAR is used as an in-furrow treatment, it is important that spray is directed into the planting furrow and NOT onto the seed tuber. Application should ensure that HILL-STAR is applied to the soil around the tuber.

Advisory information: It is recommended above to aim at the soil and not the seed tuber so as to reduce any possible delay in emergence. It is advised when possible to use cold-stored seed that has not started sprouting or properly chitted seed as where seed is used that has just broken dormancy may result in emergence delays. Also, using earlier applications of imazalil, pencycuron or imazali/pencycuron will reduce the speed of emergence of the crop. These effects are usually, but not in all cases, outgrown.

Foliar application:

Rate of use:

HILL-STAR can be applied as a foliar application at a rate of 0.5 L product/ha with a total of 3 applications per crop if pressure from disease is high.

Timing:

Treatment with HILL-STAR can be from BBCH 51-85 with a minimum of 7 days between applications, the latest time of application is 7 days before harvest.

WINTER AND SPRING WHEAT, WINTER AND SPRING BARLEY, RYE, TRITICALE, WINTER AND SPRING OATS

Rate of use:

 $1.0\ L$ of product/ha. The maximum number of treatments to any cereal crop is two per crop.

Timing:

Winter and spring wheat, rye and triticale can be treated with HILL-STAR from BBCH 30-69

Winter and spring barley, winter and spring oats can be treated with HILL-STAR from BBCH 30-59

For protection against ear diseases Cladosporium and Alternaria in wheat, apply at ear emergence.

When HILL-STAR is applied at the first or second node stage of wheat, barley, rye and triticale to control the listed foliar diseases, this can reduce the severity of Take-all infection (Gaeumannomyces graminis var. Tritici).

A minimum interval of 14 days must be observed between applications.

Tank mixing: HILL-STAR must always be used in mixture with another product on cereal crops, the other product must be recommended for control of the same target disease and contain a fungicide from a different cross resistance group and is applied at a dose that will give robust control.

PEAS- COMBINING PEAS AND VINING PEAS (including garden peas, mange tout peas and sugar snap peas) Rate of use:

1.0 L product/ha. The maximum number of treatments is 2 per crop.

A second treatment may be required if disease pressure remains high - especially in combining peas.

Timing:

HILL-STAR should be used from BBCH 17-72. A minimum interval of 14 days must be observed between applications. Latest application timing for combining pea is 35 days before harvest, fresh edible podded pea and vining pea is 14 days before harvest.

Peas destined for processing: Consult your processor before treating with HILL-STAR (One year's results indicate that no taints were detected on quick frozen, canned, whing or cenned combining peas).

Crop safety: Before applying HILL-STAR ensure the crop is free from any stress caused by environment or agronomic effects. Good crop safety has been seen on combining and fresh peas. Check wax level if necessary using the Crystal Violet test.

BULB ONIONS, GARLIC, SHALLOT, LEEK AND CARROTS

Rate of use:

1.0 L of product/ha. The maximum number of treatments is 3 per crop.

Timing:

Bulb onions, garlic and shallot - can be treated with HILL-STAR from BBCH 14-48, the latest application timing is 14 days before harvest.

For optimum downy mildew control a 7 to 10 day spray interval should be maintained. Applications to established downy mildew infection are unlikely to give reliable control.

Leeks - can be treated with HIL-STAR from BBCH 16-48, with a minimum spray of interval of 12 days and a latest time of application of 21 days before harvest.

Carrots - can be treated with HILL-STAR from BBCH 16-49, with a minimum spray interval of 7 days and a latest time of application 14 days before harvest.

Crops destined for processing: Consult your processor before treating with HILL-STAR.

ASPARAGUS (OUTDOOR)

Rate of Use:

1.0 L product/ha. The maximum number of treatments is 2 per crop.

Timing:

Asparagus can be treated from BBCH 41-89.

Only apply HILL-STAR after the harvest season (i.e. after commercial cutting).

If a new 'bed' is established, DO NOT treat within three weeks of transplanting out the crowns.

A minimum interval of 10 days is required between applications with the latest time of application until the end of September or before crop senescence, whichever is first.

FIELD BEAN

Rate of use:

1.0 L product/ha. The maximum number of treatments is 2 per crop. A second treatment may be required if disease pressure remains high.

Timing:

HILL-STAR should be used at first sign of disease developing from BBCH 60-69.

A second treatment may be needed if disease pressure remains high. A minimum spray interval of 21 days is required between applications, the latest application timing is 35 days before harvest.

BROAD BEAN, DWARF FRENCH BEAN AND LUPIN

Rate of use:

1.0 L product/ha. The maximum number of treatments is 2 per crop. A second treatment may be required if disease pressure remains high.

Timing:

HILL-STAR should be used at first sign of disease developing from BBCH 17-72.

A second treatment may be needed if disease pressure remains high.

Broad bean – a minimum spray interval of 14 days is required between applications, the latest application timing is 14 days before harvest.

Dwarf French broad bean – a minimum spray interval of 14 days is required between applications, the latest application timing is 7 days before harvest.

Lupin – a minimum spray interval of 14 days is equired between applications, the latest application timing is 35 days before harvest.

WINTER AND SPRING OILSEED RAPE

Rate of Use:

1.0 L product/ha. The maximum number of treatments is 2 per crop. A second treatment may be required if disease pressure remains high.

Timing:

HILL-STAR can be applied to oilseed rape up to 21 days before harvest.

Sclerotinia: HILL-STAR should be applied as a protectant spray during flowering (GS 60-69). Early flowering to mid flowering (GS60–GS65) is the optimum timing.

Alternaria: Use a protective spray of HILL-STAR at early pod formation when the first ten pods are longer than 4 cm,

before they become knobbly and not later than the time the first spots are seen on the pods.

A minimum spray interval of 21 days is required, the latest application timing is 21 days before harvest.

Note: When HILL-STAR is applied against Sclerotinia it will limit significantly the development of Alternaria.

BRUSSELS SPROUTS, CABBAGE, CAULIFLOWER, KALE, COLLARDS, BROCCOLI AND CALABRESE

Rate of Use:

1.0L product/ha. The maximum number of treatments is 2 per crop. The total maximum dose applied must not exceed 500g of azoxystrobin per hectare per year.

Timing:

HILL-STAR can be applied to brassicas from BBCH 16-49.

A second treatment may be required if disease pressure remains high.

A minimum interval of 12 days must be observed between applications to brassicas, the latest application timing is 14 days before harvest.

STRAWBERRY (OUTDOOR AND PROTECTED)

Rate of Use:

1.0 L product/ha. The maximum number of treatments is 3 per crop.

Timing:

Apply HILL-STAR as a protectant spray at the start of flowering for optimum results. If disease pressure remains high then two further applications can be made. A minimum interval of 7 days is required between applications, applications should be made in sequence with other products during flowering as part of a fungicide programme. Strawberries can be treated from BBCH 51-89. The latest time of application is 3 days before harvest.

Processing:

Consult your processor before using HILL-STAR.

ENDIVE (OUTDOOR AND PROTECTED), CHICORY (OUTDOOR AND PROTECTED), AND LETTUCE (OUTDOOR AND PROTECTED) Rate of Use:

1.0 L product/ha. The maximum number of treatments is 2 per crop. The total maximum dose applied must not exceed 500g of azoxystrobin per hectare per year.

Timing:

HILL-STAR can be applied from BBCH 14-49 with a minimum interval of 7 days between treatments. The latest time of application is 14 days before harvest.

MIXING AND SPRAYING Method of application

Tractor mounted/trailed sprayer, handheld (knapsack sprayer).

Before use ensure that all application equipment is clean and set correctly to ensure an even application at the required volume. Add half the required volume of clean water to the tank and start agitation, shake the container add the required quantity of HILL-STAR using a filling device (e.g. closed transfer unit or induction bowl) or by directly adding to the spraying tank. Wash out containers thoroughly, preferably using an integrated pressure rinsing device, or manually rinse three times. Add washings to the sprayer at the time of filling. Complete filling to the required volume and continue to agitate throughout the spraying operation. Do not leave the spray liquid in the sprayer for long periods (such as during meal breaks or overnight).

<u>Volume of water and spraying – Outdoor crops</u>

Apply using a MEDIUM quality spray (BCPC) at a pressure of at least 2 bar. Apply through conventional crop spraying equipment.

Cereals, peas, bulb onions, garlic, shallot, leeks, carrots, field beans, lupins, and oilseed rape: Apply in at least 200L of water per hectare.

To improve coverage in dense crops increase the water volume.

Broad bean, dwarf French bean: Apply in at least 150L of water per hectare.

Asparagus: For conventional tractor-mounted crop spraying equipment, apply in at least 600L of water per hectare using a medium quality spray (BCPC) at a pressure of at least 2 bar. For hand-held spraying equipment, apply in at least 200L of water per hectare.

Potatoes: For in-furrow application use between 50-150 L of water per hectare. Apply using specialist in-furrow application equipment.

For foliar application apply in at least 200L water per hectare.

Brussels sprouts, cabbage, cauliflower, kale, collards, broccoli and calabrese: Apply in at least 250L of water per hectare. Strawberries, Lettuce, Chicory and Endive: Apply in at least 300L of water per hectare

Volume of water and spraying – Indoor crops

Apply via a hydraulic nozzle applicator e.g. motorised sprayer with hand or boom lance or via knapsack sprayer.

Strawberries: Apply in at least 100L of water per hectare

Lettuce, Chicory and Endive: Apply in at least 300L of water per hectare.

AFTER SPRAYING

Thoroughly wash out sprayer according to manufacturer's guidelines and dispose of washing and clean containers according to the Department of Food and the Marine/EPA's "Good Practice Guide for Empty Pesticide containers" and local water authority guidelines.

COMPANY ADVISORY INFORMATION

This information is not part of the approved label but provides additional Company advice on the product use.

Good Field Practice: It is recommended to wear appropriate clothing - coverals and protective gloves, when handling the concentrate.

Integrated Crop Management: Laboratory data indicate that when used as directed HILL-STAR has no adverse effects on the

following beneficial species:

Earthworm (Eisenia fetida); Bees (Apis and Bombus spp.), ParasiticWasps (Trichogramma cacoeciae, Aphidis spp. and Encarsia formosa); Aphid Predators (Coccinell) septempuncata, Chrysoperia carnea, Episyrphus balteatus); Predatory mites (Phytoseiulus persimilis, Amblyseius degenerans); Spider (Pardosa spp.); Predatory bugs (Macrolophus caliginosus, Orius laevigatus); Carabid Beetle (Poecilius cupreus).

DISCLAIMERS

All goods supplied by us are of high grade and we believe them to be suitable, but as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during and after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality of fitness for any purpose of our goods are excluded, and no responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling application or use. These conditions cannot be varied by our staff or agents whether or not they supervise or assist in the use of such goods.

Trademark statements

This Safety Data Sheet does not form part of the approved label.