

syngenta.

Reg. No. **L6230** Act No. 36 of 1947 **N-AR 0713** (Namibia) **W130321** (Botswana)

A suspension concentrate systemic, translaminar and contact fungicide for the preventative control of different diseases in crops as listed.

**GROUP FUNGICIDE** 

**Active Ingredient:** azoxystrobin (strobilurin)...... 250 g/ℓ

Product names marked ® or  $^{\rm TM}$ , the ALLIANCE FRAME the SYNGENTA Logo and the PURPOSE ICON are Trademarks of a Syngenta Group Company  $\searrow$ 



WARNING

#### Hazard statement:

Harmful if inhaled. Very toxic to aquatic life with long-lasting effects.

## Precautionary statements:

**Prevention:** Avoid breathing dust/fumes/gas/mist/vapours/spray. Use outdoors only or in a wellventilated area.

Response: If inhaled, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell. Collect spillage.

Disposal: Dispose of contents/container to an approved waste disposal plant.

**EMERGENCY TEL NO.:** +27 82 446 8946 (Griffon)



Syngenta South Africa (Pty) Ltd Co. Reg. No. 1998/013761/07 Private Bag X 60 HALFWAY HOUSE,



## 1. WARNINGS:

Hazard statements: Harmful if inhaled. Very toxic to aquatic life with long-lasting effects.

Withholding periods: Minimum number of days between last application and harvest.

ASPARAGUS	100 days
BULB VEGETABLES (Garlic and shallot)	1 day
BULB VEGETABLES (Onions)	20 days
BULB VEGETABLES (Leeks)	3 days
CANOLA	30 days
CARROTS	1 day
CELERY	1 day
CLOVER	14 days
CRUCIFERAE (Brassica)	14 days
CUCURBITS	3 days
DRY BEANS	45 days
GRAIN SORGHUM	14 days
GRASSES	8 days
GRASSES (Pasture grass)	7 days
LEAFY VEGETABLES (Except brassica)	1 day
LEGUME VEGETABLES (Beans, lentils and	
peas)	1 day
MAIZE AND SWEETCORN	7 days
NON-GRASS ANIMAL FEEDS (Forage,	
fodder, straw and hay)	14 days
OILSEED CROPS (Sunflower)	30 days
PEPPERS	14 days
POTATOES	7 days
TOBACCO	14 days
TOMATOES	7 days
TUBEROUS AND ROOT VEGETABLES:.	
LEAVES	1 day
TUBEROUS AND CORM VEGETABLES	14 days

NOTE: Compliance with these withholding periods will ensure that residues do not exceed local maximum residue limits (MRL).

- Harmful if swallowed.
- Toxic to fish and harmful to other aquatic life.
- Avoid contact with skin and eyes since product may cause eye and skin irritation.
- Store away from food and feed.
- Keep out of reach of children, uninformed persons and animals.

Re-entry: Do not enter treated area until spray deposit has dried.

Aerial application: Notify all inhabitants in the immediate vicinity of the area to be sprayed and issue the necessary warnings. Do not spray over or allow drift to contaminate water or adjacent areas.

Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the disease against the remedy concerned, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation and the environment, or harm to people or animals or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions, that could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.

## 2. PRECAUTIONS:

Precautionary statements: Avoid breathing dust/fumes/ gas/mist/vapours/spray. Use outdoors only or in a wellventilated area. Response: If inhaled, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell. Collect spillage. **Disposal:** Dispose of contents/container to an approved waste disposal plant.

- Do not eat, drink, or smoke while handling this product.
- Prevent contamination of food, feed, drinking water and eating utensils.
- Wear rubber gloves and a face shield when handling the concentrate. If you get it in your eyes, flush it out at once. If you get it on your skin, wash it off at once. If you spill it on your clothes, change and wash them.
- Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three (3) times with a volume of water equal to a minimum

- of 10% of that of the container. Add the rinsate to the contents of the spray tank before destroying the container in the prescribed manner.
- While spraying, avoid contact with the spray as much as possible. Avoid spray drift onto other crops, grazing, rivers, or dams.
- Clean applicator thoroughly after use and dispose of wash water where it will not contaminate crops, grazing, rivers, or dams.
- Do not use empty container for any other purpose.
- · Change and wash your work clothes. Wash yourself.

## 3. RELEVANT SUBSTANCES:

Chemical name	
azoxystrobin (ISO)	
Classification	Concentration (% w/w)
Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	
M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	≥ 20 - < 25

## 4. RESISTANCE MANAGEMENT:

**AMISTAR** is classified as a group code 11 fungicide. Any fungus population may contain individuals naturally resistant to **AMISTAR** and other group code 11 fungicides. The resistant individuals can eventually dominate the fungus population if these fungicides are used repeatedly and exclusively in programs. These resistant fungi may not be controlled by **AMISTAR** or any other group code 11 fungicides.

## To delay fungicide resistance:

- Avoid exclusive repeated use of fungicides from the same fungicide group code. Alternate or tank-mix with products from different fungicide group codes.
- Refer to individual product labels when alternating products or when using tank mixtures with products in fungicide group codes 7, 27, 28, 29, 30 and M.
- Integrate other control methods (chemical, cultural, biological) into disease control programs.

For specific information on resistance management contact the registration holder of this product or refer to the FRAC guidelines at http://www.frac.info/frac/index.html.

## 4.1 General

- To prevent pathogen populations from becoming resistant to AMISTAR, it is essential that applications of AMISTAR be alternated with other registered fungicides from a different chemical class than azoxystrobin (strobilurin). This resistance management strategy should not include alternation with or tank mixes of fungicides to which resistance has already developed or fungicides with the same mode of action.
- AMISTAR should always be applied preventatively as described in the RECOMMENDATIONS table.
- DO NOT reduce the dosage rates below that which are recommended on the label.
- Never use any of the other strobilurin or strobilurin-related

- chemicals in the same program with AMISTAR.
- NEVER use AMISTAR as a corrective treatment, or after an unsuccessful application of any product.
- DO NOT apply AMISTAR at the first or last application in the spray program.

## 5. DIRECTIONS FOR USE: Use only as indicated.

## 5.1 Compatibility

**AMISTAR** is compatible with KARATE ZEON (L6330) or methamidophos (585 g/ $\ell$ ).

## 5.2 Mixing Instructions

- Half-fill the spray tank with clean water.
- Add the required amount of AMISTAR to the spray tank and top-up with water to the required volume while agitating continuously.
- If AMISTAR needs to be used in tank-mix combinations, first mix small quantities of the chemicals separately with water. Add these mixtures together while agitating and check for any signs of incompatibility e.g., flocculation, etc. In this instance, full cognisance must be taken of all WARNINGS, PRECAUTIONS and DIRECTIONS FOR USE on that label.
- Continue agitation throughout application and do not allow the tank mixture to stand still for any period of time.

## 5.3 Application

Ensure that the applicator to be used is in a good working condition and correctly calibrated. Use the spray volumes as indicated to ensure good coverage.

## 5.3.1 Aerial application

Aerial application of **AMISTAR** may only be done by a registered aerial application operator using a correctly calibrated, registered aircraft according to the instructions of SANS 10118 (Aerial Application of Agricultural Remedies). It is important to ensure that the spray mixture is distributed evenly over the target area and that the loss of spray material during application is restricted to a minimum. It is therefore essential that the following criteria are met:

## a) Application parameters:

- Volume: A volume of 30 40 \( \ell \) water/ha is recommended in potatoes and maize. As **AMISTAR** has not been evaluated at a reduced volume rate, the registration holder cannot guarantee efficacy or be held responsible for any adverse effects if the product is applied aerially at a lower volume rate than recommended above.
- **Droplet coverage:** A droplet coverage of 25 35 droplets per cm<sup>2</sup> must be recovered at the target.
- Droplet size: A droplet spectrum with a VMD of 280 - 300 microns is recommended. Ensure that the production of fine droplets (less than 150 microns - high drift and evaporation potential) is restricted to a minimum.
- **Flying height:** The height of the spray boom should be maintained at 3 4 metres above the target. Do not spray when aircraft is in a climb, at the top, during a dive, or when banking.

## b) Equipment:

Use suitable atomising equipment (hydraulic nozzles or

rotary atomisers) that will produce the desired droplet size and coverage but which will ensure the minimum loss of product either through endodrift (within target field) or exodrift (outside target field).

- The operator must use a set-up that will produce a droplet spectrum with the lowest possible relative span.
- All nozzles/atomisers should be positioned within the inner 60 - 75% of the wingspan to prevent droplets from entering the wingtip vortices.
- c) Meteorological conditions:
- The difference in temperature between the wet and dry bulb thermometers, of a whirling hydrometer, should not exceed 8°C. The addition of a suitable anti-evaporant is recommended if the VMD of the droplets is less than 200 - 250 microns.
- Stop spraying if the wind speed exceeds 15 km/h.
- Aerial application of **AMISTAR** must not be done under turbulent, unstable conditions during the heat of the day when rising thermals and downdraughts occur. Also note that the application of this product under temperature inversion conditions (spraying in or above the inversion layer) may lead to the following:
  - Reduced efficacy due to suspension and evaporation of small droplets in the air (inadequate coverage).
  - Damage to other sensitive crops and/or non-target areas through the movement of the suspended spray cloud away from the target field.

**Influence of rain on application:** Should it rain within two (2) hours after application, the application must be repeated.

## 6. RECOMMENDATIONS:

For the best results, study sections 4 and 5 thoroughly. To enhance the activity of AMISTAR, apply COMPLEMENT SUPER (L8169) at a rate of 100 ml/ha for most crops unless specifically instructed not to be used.

## **ASPARAGUS**

Disease	Dosage
Stemphyllium purple spot (Stemphyllium vesicarium)	Ground and aerial application 500 - 1 000 mℓ/ha

## Remarks

- Apply as a full-cover preventative spray prior to disease development and continue throughout the season.
- Apply two (2) consecutive sprays at 7 10-day intervals. Use the higher rate when disease pressure
- DO NOT apply more than two (2) applications of AMISTAR before alternating with a fungicide in a different chemical class.
- DO NOT apply more than six (6) applications of AMISTAR per crop per season.

## Spray volume

- Ground application: Use a minimum of 100 ℓ/ha
- Aerial application: Use a minimum of 30  $\ell$ /ha

## **BULB VEGETABLES**

(Garlic and shallot)

Disease	Dosage
Foliar diseases Purple blotch (Alternaria porri)	Ground and aerial application

## **BULB VEGETABLES** cont.

	Rust (Puccinia allii)	500 - 870 mℓ/ha	
4	Remarks	130°	_

Apply as a full-cover preventative spray.

- Apply two (2) consecutive sprays 7 14 days apart when risk of disease development is high and use the higher rate when disease pressure is high.
- DO NOT apply more than six (6) applications of AMISTAR in the same season.

## Spray volume

- Ground application: Apply in 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use the highest rate to ensure adequate disease control.

(Peronospora destructor)	Ground and aerial application
Botrytis leaf blight (Botrytis aclada)	660 - 1 100 mℓ/ha

#### Remarks

- For downy mildew, make preventative applications on a 5 - 7-day schedule.
- Follow the rest of the information as for foliar diseases.

(Rhizoctonia solani)	In-furrow or banded application 4 - 8 mℓ/100 m row
----------------------	--

#### Remarks

- For in-furrow treatment, apply just before seed placement.
- Apply preferably as a banded application applied at plant emergence or during herbicide application.
- Alternatively, apply as an in-furrow application at planting just before seed is covered. Apply in a volume of 10 - 30 \( \empty \) water/ha.
- Follow the rest of the information as for foliar diseases.

#### **BULB VEGETABLES**

(Onions and leeks)

Disease	Dosage
Foliar diseases Purple Blotch (Alternaria porri)	Ground application 400 mℓ/ha
Stemphylium leaf blotch (Stemphylium vesicarium)	140
Downy mildew (Peronospora destructor)	<b>Ground application</b> 400 - 870 mℓ/ha
Botrytis leaf blight (Botrytis aclada)	
Rust (Puccinia allii)	7)
4	

## Remarks

- Apply as a full-cover preventative spray.
- Apply two (2) consecutive sprays 14 days apart, starting when leaf bases begin to thicken or later in the season when risk of disease development is high.
- Apply in sufficient water volumes to ensure adequate coverage.
- For downy mildew, apply a preventative application on a 5 - 7-day schedule.
- DO NOT apply more than six (6) applications of AMISTAR to onions in the same season.

	In-furrow or banded application 4 - 8 mℓ/100 m row
Remarks	

Apply preferably as a banded application applied at

## BULB VEGETABLES (Onions and leeks) cont.

plant emergence or during herbicide application.

- Alternatively apply as an in-furrow application at planting just before seed is covered. Apply in a volume of 10 - 30 \( \ell \) water/ha. Apply the higher dosage when conditions are conducive to disease development.
- Follow the rest of the information as for foliar diseases.

#### Note:

Due to the waxy nature of the leaves, it is recommended that **AMISTAR** be applied with COMPLEMENT SUPER at a rate of 0.25% to ensure adequate coverage and subsequent disease control.

## **CANOLA**

Disease	Dosage
Blackleg (Leptosphaeria maculans)	Ground application 500 - 1 000 mℓ/ha
Alternaria blackspot (Alternaria spp.)	
Sclerotinia stem rot (Sclerotinia sclerotiorum)	5

#### Remarks

- Apply as a full-cover preventative spray.
- DO NOT apply more than three (3) applications of AMISTAR in the same season.
- DO NOT apply more than one (1) application of AMISTAR before alternating with fungicides in a different chemical group.
- Generally, apply 500 mℓ/ha AMISTAR at early bud, followed by 1 000 mℓ/ha 45 days before harvest. A third application of 500 mℓ/ha can be made 30 days before harvest. Use the higher rate under conditions of high disease pressure.
- Targeted disease control:
  - For blackleg, applications should be made at the 2 4-leaf stage.
  - For Alternaria and Sclerotinia control, 660 1 000 mℓ/ha should be applied at 10 25% flowering (7 10 days following first flowering).
  - For the control of Alternaria alone, apply 580 mℓ/ha at pod stage (95% petal fall).

## Spray volume

 Ground application: Use a minimum water volume of 100 ℓ/ha.

## **CARROTS**

Disease	Dosage
Leaf blight	Ground and aerial
(Cercospora carotae)	application
(Alternaria dauci)	500 - 1 000 mℓ/ha
White mould	
(Sclerotium rolfsii)	

## Remarks

- Apply as a full-cover preventative spray.
- Apply two (2) consecutive sprays seven (7) days apart when the weather favours the disease and use the higher rate when disease pressure is high.
- DO NOT apply more than three (3) applications of AMISTAR in the same season.
- Apply in a spray program together with RIDOMIL GOLD FLO and BRAVO 720.

## Spray volume

- Ground application: Apply in 450 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30 ℓ/ha.

## **CARROTS** cont.

	In-furrow or banded application 4 - 8 mℓ/100 m row
	1 - 0 1116/100 11110W

#### Remarks

- Apply preferably as a banded application applied at plant emergence or during herbicide application. Alternatively apply as an in-furrow application at planting just before seed is covered. Apply in a volume of 10 - 30 ℓ water/ha. Apply the higher dosage when conditions are conducive to disease development.
- DO NOT apply more than three (3) applications of AMISTAR in the same season.
- DO NOT apply more than two (2) consecutive applications of AMISTAR before alternating with fungicides in a different chemical group.

## **CELERY**

Disease	Dosage
	Ground and aerial
(Cercospora apii)	application
Late blight (Septoria apicola)	660 - 1 000 mℓ/ha

## Remarks

- Apply as a full-cover preventative spray.
- Apply 7 10 days apart when the weather favours the disease and use the higher rate when disease pressure is high.
- DO NOT apply more than six (6) applications of AMISTAR in the same season.
- DO NOT apply more than one (1) application of AMISTAR before alternating with fungicides in a different chemical group.

## Spray volume

- Ground application: Apply in 200 700 ℓ water/ha.
- Aerial application: Use a minimum of 30 ℓ/ha.

	In-furrow or banded application 4 - 8 mℓ/100m row
--	---

## Remarks

- Apply preferably as a banded application at plant emergence or during herbicide application.
- Alternatively, apply as an in-furrow application at planting just before seed is covered.
- Apply the higher dosage when conditions are conducive to disease development.
- DO NOT apply more than six (6) applications of AMISTAR in the same season.
- DO NOT apply more than one (1) application of AMISTAR before alternating with fungicides in a different chemical group.

## Spray volume

Apply in a volume of 10 - 30 ℓ water/ha.

## CLOVER

V = V 1 = 11	
Disease	Dosage
Rust ( <i>Phakopsora</i> spp.)	Ground and aerial application
<b>Alternaria leaf spot</b> (Alternaria spp.)	500 - 1 000 mℓ/ha
Cercospora leaf spot (Cercospora spp.)	
Powdery mildew (Oidium spp.)	5)

## **CLOVER** cont.

(Erysiphe spp.)  Downy mildew (Peronospora spp.)	Ground and aerial application 500 - 1 000 mℓ/ha	
Sclerotinia crown rot and wilt (Sclerotinia trifoliorum)		5)

#### Remarks

Apply as a full-cover preventative spray.

 Apply 7 - 14 days apart when the weather favours the disease and continue throughout the season and use the higher rate when disease pressure is high.

 DO NOT apply more than four (4) applications of AMISTAR in the same season.

 DO NOT apply more than two (2) sequential applications of AMISTAR before alternating with fungicides in a different chemical group.

 For pure stand of clover or clover stands mixed with grasses, DO NOT apply more than 840 g/ha of AMISTAR.

## Spray volume

- Ground application: Apply in 200 700 ℓ water/ha.
- Aerial application: Use a minimum of 30  $\ell$ /ha.

## CRUCIFERAE

(Brasica: Broccoli, brussel sprouts, cabbage, cauliflower, kale and cultivars and hybrids of these)

Disease	Dosage
White blister (Albugo candida)	Ground application 500 - 1 000 mℓ/ha
Alternaria leaf spot (Alternaria spp.)	Ground or aerial application
Pin rot (Alternaria spp.)	500 - 1 000 mℓ/ha
Black spot (Alternaria spp.)	
Cercospora leaf spot (Cercospora spp.)	6

## Remarks

Apply as a full-cover preventative spray.

- Apply two (2) consecutive sprays seven (7) days apart when the weather favours the disease.
- Use the higher rate when disease pressure is high.
- AMISTAR can be used in a spray program with RIDOMIL GOLD FLO (L6669) and BRAVO 720 (L7005).
- DO NOT apply more than three (3) applications of AMISTAR in the same season.
- DO NOT apply more than two (2) consecutive applications of AMISTAR before alternating with fungicides in a different chemical group.

## Spray volume

- **Ground application:** Apply in 450 700  $\ell$  water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30 ℓ/ha.

## **CUCURBITS**

(Cucumber, melon, muskmelon, watermelon, pumpkin, squash, zucchini and all hybrids and cultivars of these)

squash, zucchini and ali hybrids and cultivars of these)	
Disease	Dosage
Anthracnose (Colletotrichum lagenarium)	Ground and aerial application
Belly rot (Rhizoctonia solani)	400 - 500 mℓ/ha
Downy mildew (Pseudoperonospora cubensis) Leaf spot (Alternaria spo.)	syn8

## **CUCURBITS** cont.

	Powdery mildew	Ground and aerial application 400 - 500 mℓ/ha
- 1		

#### Remarks

- Application should start prior to disease development, starting at flower initiation to fruit maturity.
- Apply seven (7) days apart in sufficient water volumes to ensure adequate coverage.
- For downy mildew and powdery mildew, make preventative applications on a 5 - 7-day schedule.
- For belly rot control, the first application should be made at the 1 - 3-leaf stage with a second application prior to vine tip over, or 10 - 14 days later, whichever occurs first.
- DO NOT apply more than four (4) applications of AMISTAR to cucurbits in the same season.
- DO NOT apply more than one (1) application of AMISTAR before alternating with fungicides in a different chemical group.
- An adjuvant may be added at specific rates but DO NOT tank-mix **AMISTAR** with COC, MSO or silicon adjuvants.
- DÓ NOT apply AMISTAR with any wetting agents such as COMPLEMENT (L4853).

## Spray volume

- **Ground application:** Apply a volume of 300 1 000  $\ell$ /ha depending on the stage of growth.
- Aerial application: Use a minimum of 30 ℓ/ha.

Rhizoctonia seedling	In-furrow application
blight	4 - 8 mℓ/100 m row
(Rhizoctonia solani)	

## Remarks

- Apply as an in-furrow spray at planting just before seed is covered. Apply the higher dosage when conditions are conducive to disease development.
- Follow the rest of the information as specified in the section above.

## Spray volume

Apply in a volume of 10 - 30 ℓ water/ha.

#### **DRY BEANS**

Disease	Dosage
Anthracnose (Colletotrichum lindemuthianum)	Ground application 400 mℓ/ha

## Remarks

- Apply as a full-cover preventative spray.
- Apply two (2) consecutive sprays 14 days apart starting at flower initiation.
- Apply in sufficient water volumes to ensure adequate coverage.
- For optimal fungal disease control, apply in a spray program together with SCORE.
- This rate of AMISTAR will also control rust (Uromyces appendiculatus) if present. (Refer to resistance management strategy.)
- DO NOT apply more than two (2) applications of AMISTAR to dry beans in the same season.

## **GRAIN SORGHUM**

Disease	Dosage
Anthracnose (Colletotrichum graminicola)	Ground and aerial application
Grey leaf spot (Cercospora sorghi)	500 - 1 000 ml/ha

## **GRAIN SORGHUM** cont.

#### Remarks

- Apply as a full-cover preventative spray.
- Apply in sufficient water volumes to ensure adequate coverage.
- An adjuvant may be added at specific rates.
- DO NOT apply more than three (3) applications of AMISTAR to the same crop in the same season.
- DO NOT apply more than two (2) sequential applications of AMISTAR before alternating with a fungicide in a different chemical group.

Soil-borne diseases
Damping-off
(Rhizoctonia solani)
(Pythium aphanadermatum)

In-furrow or banded application 4 - 8 m $\ell$ /100 m row

#### Remarks

- Apply preferably as a banded application at plant emergence or during herbicide application.
- Alternatively, apply as an in-furrow application at planting just before seed is covered. Apply in a volume of 10 - 30 \( \ell\) water/ha.
- Apply the higher dosage when conditions are conducive to disease development.

### **GRASSES**

(Grown for seed)

Disease	Dosage
Rust (Puccinia spp.)	Ground and aerial application
Powdery mildew (Erypsiphe graminis)	440 - 1 100 ml/ha
Ergot stem diseases	

#### Remarks

- Apply AMISTAR prior to disease development and repeat application at 10 - 14-day intervals.
- DO NOT apply more than two (2) sequential applications
   AMISTAR before alternating with a fungicide in a different resistance class.
- DO NOT apply more than three (3) applications of AMISTAR per season.
- An adjuvant may be added at specific registered rates.
- DO NOT feed treated straw, seed, or screenings to livestock.

## **GRASSES**

[Pastures: ryegrass (Lolium sp.)]

Disease	Dosage
Grey leaf spot/blast Pyricularia grisea	<b>Ground application</b> 600 - 1 200 mℓ/ha

## Remarks

 Apply one (1) application of AMISTAR prior to disease development at early plant establishment stage.

## **LEAFY VEGETABLES**

(Except brassica. Including edible chrysanthemum, coriander, corn salad, dandelion, fennel, lettuce head and leaf, parsley and spinach)

ara spiriacri)	
Disease	Dosage
Foliar diseases Alternaria leaf spot (Alternaria spp.)	Ground and aerial application
Anthracnose (Colletotrichum dermatium)	500 mℓ/ha
Cercospora leaf spot (Cercospora spp.)	9)

## **LEAFY VEGETABLES** cont.

Septoria leaf spot (Septoria petroselini)	Ground and aerial application 500 me/ha
--	---

### Remarks

- Application should start prior to disease development and continue throughout the season at 7 - 10-day intervals.
- DO NOT apply more than six (6) foliar applications of AMISTAR to the same crop in a year.
- DO NOT apply more than one (1) application of AMISTAR before alternating with fungicides in a different chemical group.
- Under certain circumstances, AMISTAR applied to foliar regions of leafy vegetables may contribute to phytotoxic symptoms.

## Spray volume

- **Ground application:** Apply in 200 700  $\ell$  water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30  $\ell$ /ha.

(Bremia lactucae)	Ground and aerial application
Powdery mildew (Erysiphe cichoracearum)	800 - 1 000 mℓ/ha

## Remarks

- Application should start prior to disease development and continue throughout the season on a 5 - 7-day schedule.
- DO NOT apply more than six (6) foliar applications of AMISTAR to the same crop in a year.
- DO NOT apply more than one (1) application of AMISTAR before alternating with fungicides in a different chemical group.
- Under certain circumstances, AMISTAR applied to foliar regions of leafy vegetables may contribute to phytotoxic symptoms.

## Spray volume

- **Ground application:** Apply in 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30  $\ell$ /ha.

Rhizoctonia seedling	In-furrow application
blight	4 - 8 ml/ 100 m row
(Rhizoctonia solani)	

## Remarks

- Apply as an in-furrow spray at planting just before seed is covered.
- Apply in a volume of 10 30 ℓ water/ha and apply the higher dosage when conditions are conducive to disease development.

## **LEGUME VEGETABLES**

[Dry, succulent and legume vegetables as well as foliage of field pea and bean cultivars, *lupinus* spp., *phaseolus* spp. and *vigna* spp.; broad beans (fava bean); chickpeas peas (*pisum* spp.) and lentils]

Disease	Dosage
Alternaria blight (Alternaria spp.)	Ground and aerial application
Alternaria leaf spot (Alternaria alternata)	500 - 1 000 mℓ/ha
Anthracnose (Colletotrichum lindemuthianum)	5)
Ascochyta blight (Mycosphaerella pinodes)	
Ascochyta leaf spot (Ascochyta phaseolorum)	5)

Ascochyta leaf and pod spot (Ascochyta spp.)	Ground and aerial application 500 - 1 000 mℓ/ha
Rust (Phakopsora spp.)	
Southern blight (Sclerotium rolfsii)	9)
Web blight (Rhizoctonia solani)	43®

#### Remarks

- Application should start prior to disease development and continue throughout the season at 7 - 10-day intervals.
- Use the higher rates with severe disease pressure.
- With rust disease control, a non-ionic surfactant is recommended as an adjuvant.
- DO NOT apply more than six (6) foliar applications of AMISTAR to the same crop in a year.
- DO NOT apply more than two (2) sequential applications of AMISTAR before alternating with fungicides in a different chemical group.

## Spray volume

- Ground application: Apply in 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30 ℓ/ha.

Bean rust	Ground and aerial
(Uromyces appendiculatus)	
105	500 mℓ/ha

#### Remarks

- Application should start prior to disease development and continue throughout the season at 7 - 10-day intervals.
- Use the higher rates with severe disease pressure.
- A non-ionic surfactant is recommended as an adjuvant.

## Spray volume

- Ground application: Apply in 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30  $\ell$ /ha.

Rhizoctonia root rot	In-furrow application
(Rhizoctonia solani)	4 - 8 mℓ/100 m row
D I .	

## Remarks

- Apply as an in-furrow spray at planting just before seed is covered.
- Apply in a volume of 11 30 ℓ/ha and apply the higher dosage when conditions are conducive to disease development.

## MAIZE AND SWEETCORN

- Start application before 3% of the total leaf surface area shows disease symptoms OR when symptoms are present on the basel 3 - 5 leaves.
- With short season hybrids when the first spray was applied after pollination, it will probably be sufficient to control the disease, a second spray might not be necessary.
- AMISTAR can be used in a spray program with SCORE (L5132).
- DO NOT apply more than two (2) applications of **AMISTAR** to maize in the same season.

When multiple applications are necessary to control the disease, the last application for the season should be done with fungicides from a different chemical group other than strobilurin namley, triazoles (SCORE). Consult the SCORE label for full particulars.

#### MAIZE AND SWEETCORN cont.

Disease	Dosage
Grey leaf spot (Cercospora zeae-maydis)	Ground and aerial application 400 - 750 ml AMISTAR/ha,
Musel	or 300 - 500 m $\ell$ AMISTAR/ha followed by 300 m $\ell$ SCORE/ha

#### Remarks

 With medium to long-season hybrids or if the first application was applied within three (3) weeks before pollination, a follow-up application with SCORE must be applied 4 - 5 weeks later.

	Ground and aerial application
9 /	300 - 500 m $\ell$ <b>AMISTAR</b> /ha followed by 300 - 500 m $\ell$ <b>AMISTAR</b> /ha followed by 300 m $\ell$ SCORE/ha

## Remarks

- In certain cases where the initial application was applied at a very early stage, a third application might be necessary.
- In this case the first two (2) applications are made with AMISTAR at intervals of 4 - 5 weeks.
- The last application must be done with SCORE 4 5 weeks after the second application.

## Spray volumes

- Tractor application: 300 450 ℓ water/ha
- High-clearance tractor application: 150 300 \( \ell \)
   water/ha
- Aerial application: 40 ℓ water/ha
- Knapsack sprayer application: 60 70 \ell water/ha

Suggested spray program				
No. of app/season	No. of <b>AMISTAR</b> app/season	AMISTAR rate: product/ha	No. of triazole app/season	SCORE rate: product/ ha
1	1	400 - 750 mℓ	0	N/A
2	1	300 - 500 mℓ	1	Registered rate
3	2	300 - 500 mℓ	1	Registered rate

## NON-GRASS ANIMAL FEED FORAGE, FODDER, STRAW AND HAY

(Alfalfa)

Dise	ease	Dosage
Rust (Pha	t kopsora spp.)	Ground and aerial application
	rnaria leaf spot ernaria spp.)	500 - 1 000 mℓ/ha
	cospora leaf spot cospora spp.)	136
	dery mildew ium spp./Erysiphe spp.)	e,
	vny mildew onospora spp.)	100

#### Remarks

- Apply prior to disease development and continue throughout the season.
- Use the higher rates under severe disease pressure.
- DO NOT use in rangeland.
- DO NOT apply more than 280 g/ha per cutting.

## NON-GRASS ANIMAL FEED FORAGE, FODDER, STRAW AND HAY cont.

- For pure stands or mixed stands with grasses, DO NOT apply more than 840 g/ha per season.
- DO NOT apply more than two (2) sequential applications of AMISTAR before alternating with a fungicide in a different chemical group.

## Spray volume

- Ground application: 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30 ℓ/ha.

## **OILSEED CROPS**

(Sunflower)

Disease	Dosage
Alternaria leaf diseases (Alternaria spp.)	Ground and aerial application
Downy mildew (Plasmopara halstedii)	500 - 1 000 mℓ/ha

## Remarks

- Apply prior to disease development.
- Apply 500 m\ell at early bud, followed by 1 000 m\ell approximately 45 days before harvest.
- A third application of 500 mℓ may be made 30 days before harvest.
- DO NOT apply more than two (2) sequential applications of AMISTAR before alternating with a fungicide in a different chemical group.

## Spray volume

- Ground application: Use a minimum of 100 ℓ water/ha.
- Aerial application: 40 ℓ water/ha.

## **PEPPERS**

(Sweet peppers, chilli peppers, bell- and non-bell peppers, pepino and piquante)

Disease	Dosage
Powdery mildew	Ground application
(Leveillula taurica)	60 mℓ/100 ℓ water

## Remarks

- Apply as a full-cover preventative spray.
- Apply two (2) consecutive sprays seven (7) days apart starting at flower initiation.
- Apply in sufficient water volumes to ensure adequate coverage.
- Application can be repeated at 14-day intervals, depending on the disease pressure and spray program being used. If a 14-day interval is used, ensure that an alternate product is used after seven (7) days, particularly if weather conditions are conducive to disease development.
- The total number of AMISTAR applications per season, must not exceed 30% (maximum of six) of the total number of applications in the spray program.

Powdery mildew	Ground application
(Sphaerotheca spp.)	500 - 1 000 mℓ/ha
Anthracnose	
(Colletotrichum spp.)	

## Remarks

- Apply as a full-cover preventative spray.
- Apply at 7 10-day intervals and continue throughout the season.
- An adjuvant may be used at specific rates.
- DO NOT apply more than one (1) application before alternating with a fungicide in a different chemical group.

## PEPPERS cont.

(Rhizoctonia solani)	In-furrow or banded application 4 - 8 mℓ/100 m row
----------------------	--

#### Remarks

- Apply preferably as a banded application at plant emergence or during herbicide application. Alternatively, apply as an in-furrow application at planting just before seed is covered.
- Apply in a volume of 10 30 ℓ water/ha.
- Apply the higher dosage when conditions are conducive to disease development.

#### **POTATOES**

Disease	Dosage
Black scurf (Rhizoctonia solani) Silver scurf (Helminthosporium solani) Black dot (Colletotrichum coccodes)	In-furrow application Apply 20 mℓ AMISTAR/ 100 m row Apply in 1 - 3 ℓ water/100 m row

## Suggested spray program for the control of black scurf and silver scurf

- Apply once as an in-furrow spray at planting. Spray a 15 -20 cm band before seed is covered.
- Ensure that the water volume is not too high as to wash off previous seed treatments.
- DO NOT apply AMISTAR if environmental conditions or seed quality favour bacterial rots, as these diseases may be aggravated if seed comes into contact with additional moisture.
- DO NOT apply AMISTAR if planting in hot, sandy soil as bacterial rots may be aggravated.
- DO NOT mix with any other products when applying as an in-furrow spray.
- Harvest potatoes immediately after skin set for effective control of soil-borne diseases.
- DO NOT keep potatoes in soil for long periods of time.

Early blight (Alternaria solani)	Ground application Use 300 mℓ AMISTAR/ha alternated with BRAVO 720 at 1 - 2 ℓ/ha
	Aerial application Use 330 me AMISTAR/ha alternated with BRAVO 720 at 1 - 2 e/ha

## Remarks

- Apply in a preventative spray program and alternate with BRAVO 720 every seven (7) days. Start application before the disease appears or when weather conditions favour the development of the disease. Ensure good coverage.
- DO NOT apply AMISTAR when the disease is already present. In this case, an appropriate systemic product should be applied.
- Apply at least two (2) applications with a systemic product (e.g., SCORE or RIDOMIL GOLD FLO), then return to the preventative spray program as suggested.
- The total number of AMISTAR applications per season, must not exceed 30% (normally three) of the total number of applications in the AMISTAR/BRAVO 720 spray program.

## Spray volume

- Ground application: Use minimum 500 ℓ water/ha.
- Aerial application: Use 30 40 ℓ water/ha.

## Suggested spray program for the control of early and late blight

The first 2 - 3 applications must be made with BRAVO

## POTATOES cont.

720 followed by an **AMISTAR** application seven (7) days later in the early flowering stage. Maintain this 7-day alternating product spray program with BRAVO 720 until a maximum of three (3) **AMISTAR** applications (or equal to a third of the total fungicide applications) have been made. (Refer to resistance management strategy above.) Thereafter, continue with the BRAVO 720 applications throughout the rest of the growing season.

- Do not apply AMISTAR as the first or last application in the spray program.
- Apply BRAVO 720 at the rates indicated on the BRAVO 720 label.
- The first 2 3 BRAVO 720 applications can be replaced by a RIDOMIL GOLD FLO (L6669) application according to the label.

The suggested spray program on potatoes will also control late blight (*phytophthora infestans*).

## **TOBACCO**

Disease	Dosage
Frogeye leaf spot (Cercospora nicotianae)	Ground and aerial application
Target spot (Rhizoctonia solani)	500 - 1 000 mℓ/ha

#### Remarks

- Apply as part of a full-cover preventative spray program.
- If the presence of blue mould is confirmed, apply a curative fungicide application prior to AMISTAR.
- Apply AMISTAR at 7 10-day intervals.
- For ground application, apply with a sufficient volume of water for adequate coverage and canopy penetration.
   For aerial application, volumes should be 10 - 15 GPA.
- DO NOT apply on greenhouse seedlings.
- DO NOT apply more than a third of the total number of applications of fungicides in the same season.
- DO NOT apply more than one (1) application of AMISTAR before alternating with a fungicide in a different chemical group.
- DO NOT tank mix with EC formulation insecticides due to possible crop injury.

**NOTE: AMISTAR** may enhance weather flecking on the leaves of certain tobacco types. This does not affect yield and quality.

## **TOMATOES**

Disease	Dosage
Late blight	Ground application
(Phytophthora infestans)	80 - 120 mℓ <b>AMISTAR</b> /100 ℓ
	water alternated with BRAVO
R	720 at 100 - 380 ml/
	100 ℓ water according to the
	disease pressure as specified
	on the BRAVO 720 label

## Remarks

- Apply in a preventative spray program and alternate with BRAVO 720 every 7 days. Start application before the disease appears or when weather conditions favour the development of the disease. Ensure good coverage.
- DO NOT apply AMISTAR when the disease is already present. In this case, an appropriate systemic product should be applied. Apply at least two (2) applications with a systemic product (e.g., SCORE or RIDOMIL GOLD FLO), then return to the preventative spray program as suggested.
- The total number of AMISTAR applications per season, must not exceed 30% (up to six) of the total number

#### TOMATOES cont.

of applications in the **AMISTAR**/BRAVO 720 spray program.

## Spray volume

 AMISTAR and BRAVO 720 should be applied in water volumes of a minimum of 300 ℓ to a maximum of 1 000 ℓ/ha on tomatoes from 10 - 130 cm high respectively.

## Suggested spray program for tomatoes

- The first 2 3 applications must be made with BRAVO 720 followed by an **AMISTAR** application 7 days later in the early flowering stage. (**AMISTAR** may be applied earlier if weather conditions favours infection.) Maintain this 7-day alternating product spray program with BRAVO 720 until a maximum of six (6) **AMISTAR** applications (or equal to a third of the total fungicide applications) have been made. (Refer to resistance management strategy.) Thereafter, continue with the BRAVO 720 applications throughout the rest of the growing season.
- The first 2 3 BRAVO 720 applications can be replaced by RIDOMIL GOLD FLO applications according to the label.

The suggested spray program on tomatoes will also control early blight (altenaria solani).

## **TUBEROUS AND ROOT VEGETABLES: LEAVES**

(Garden beet, sugar beet, cassava, ginger, parsley, parsnip, radish and sweet potato)

Disease	Dosage
Foliar diseases Alternaria leaf spot (Alternaria alternata)	Ground and aerial application
Rust (Uromyces betae) (Puccinia helianthi)	500 - 1 000 ml/ha
White rust (Albugo tragopogonis)	

## Remarks

- Apply as part of a full-cover preventative spray program throughout the season every 7 - 10 days.
- DO NOT apply more than one (1) application of AMISTAR before alternating with a fungicide in a different chemical group.
- DO NOT apply more than six (6) applications per crop per season.
- DO NOT tank mix with EC formulation insecticides due to possible crop injury.

## Spray volume

- **Ground application:** 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30 ℓ/ha.

	Ground and aerial
(Cercospora betae)	application
(Cercospora pastinaceae)	650 - 1 000 mℓ/ha
Powdery mildew (Erysiphe polygoni) (Leveillula taurica)	enta

## **Remarks**

- Apply as part of a full-cover preventative spray program throughout the season every 7 - 10 days.
- For powdery mildew, make preventative applications on a 5 - 7-day schedule.
- DO NOT apply more than one (1) application of AMISTAR before alternating with a fungicide in a different chemical group.
- DO NOT apply more than six (6) applications per crop

## TUBEROUS AND ROOT VEGETABLES: LEAVES cont.

per season.

DO NOT tank mix with EC formulation insecticides due to possible crop injury.

## Spray volume

- Ground application: 200 700 \( \ell \) water/ha depending on the growth stage of the plants.
- **Aerial application:** Use a minimum of 30  $\ell$ /ha.

Soil-borne diseases Circular spot/Southern blight (Sclerotium rolfsii)

In-furrow or banded application 4 - 8 mℓ/100 m row

Rhizoctonia stem canker/ crown rot (Rhizoctonia solani)

Pvthium root rot

(Pythium aphanidermatum)

## Remarks

- Apply preferably as a banded application at plant emergence or during herbicide application. Alternatively, apply as an in-furrow application at planting just before seed is covered.
- Apply in a volume of 10 30 \( \ell \) water/ha. Apply the higher dosage when conditions are conducive to disease development.
- For sugar beets, apply banded applications at the 2 8-leaf stage.

#### TUBEROUS AND CORM VEGETABLES

(Cassava, ginger and sweet potato)

Disease	Dosage
Foliar diseases Alternaria leaf spot (Alternaria alternata)	Ground and aerial application
Rust (Uromyces betae) (Puccinia helianthi)	500 - 1 000 mℓ/ha
White rust (Albugo tragopogonis)	

### Remarks

- Apply as part of a full-cover preventative spray program throughout the season every 7 - 10 days.
- DO NOT apply more than one (1) application of AMISTAR before alternating with a fungicide in a different chemical group.
- DO NOT apply more than six (6) applications per crop per season.
- DO NOT tank mix with EC formulation insecticides due to possible crop injury.

## Spray volume

- Ground application: 200 700 ℓ water/ha depending on the growth stage of the plants.
- Aerial application: Use a minimum of 30  $\ell$ /ha.

Cercospora leaf spot (Cercospora betae) (Cercospora pastinaceae) **Ground and aerial** application 650 - 1 000 ml/ha

## Powdery mildew (Leveillula taurica)

# (Erysiphe polygoni)

## Remarks

- Apply as part of a full-cover preventative spray program throughout the season every 7 - 10 days.
- For powdery mildew, make preventative applications on a 5 - 7-day schedule.

  DO NOT apply more than one (1) application of
- AMISTAR before alternating with a fungicide in a different chemical group.

## TUBEROUS AND CORM VEGETABLES cont.

- DO NOT apply more than six (6) applications per crop per season.
- Never use AMISTAR as a corrective treatment or after an unsuccessful application of any product.
- DO NOT tank mix with EC formulation insecticides due to possible crop injury.

## Spray volume

- Ground application: 200 700 ℓ water/ha depending on the growth stage of the plants.
- **Aerial application:** Use a minimum of 30  $\ell$ /ha.

Soil-borne diseases Circular spot/Southern blight

(Sclerotium rolfsii)

Rhizoctonia stem canker/ crown rot

(Rhizoctonia solani) Pvthium root rot

(Pythium aphanidermatum)

## In-furrow or banded application

4 - 8 mℓ/100 m row

## Remarks

- Apply preferably as a banded application at plant emergence or during herbicide application. Alternatively, apply as an in-furrow application at planting just before seed is covered.
- Apply in a volume of 10 30 \( \ell \) water/ha. Apply the higher dosage when conditions are conducive to disease development.

AMISTAR®, KARATE®, BRAVO®, RIDOMIL® GOLD, THIOVIT JET®, TOPAZ®, SCORE®, COMPLEMENT SUPER® and COMPLEMENT® are registered trade marks of a Syngenta Group Company.

© SYNGENTA AG, 2000. Copyright of this document is reserved. Any unauthorised reproduction is forbidden.

SA. Reg.: 2015-02-20