



Luna[®]
SENSATION



Technical Guide

Exceptional in-crop
control of key diseases



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*Not all trials are shown, however, are representative of all trial results.



Introduction

Luna® Sensation offers a novel way to protect your crops from diseases, as well as manage resistance. Its exceptional in-field control of fungal diseases increases the quality and quantity of growers' yields, and can result in improved storability and increased shelf-life.

The innovative active ingredient in Luna Sensation, fluopyram, belongs to the chemical family called pyridinylethylbenzamides and was first synthesised by Bayer in 1999.

Fluopyram belongs to the succinate dehydrogenase inhibitor (SDHI) fungicide group, which inhibits complex II or succinate dehydrogenase production. For resistance management purposes, fluopyram is a Group 7 fungicide.

Luna Sensation is a coformulation of fluopyram and trifloxystrobin (the active ingredient in Flint®) registered for use in stone fruit, apple, pear and almond crops. As well as providing very effective control of key diseases in the fruit crops, Luna Sensation is the first treatment registered for use against hull rot in Australian almond crops.

Fluopyram is effective as a protectant against fungal infection early in the spray programs, prior to a build-up of disease pressure.

Summary of benefits

Exceptional in-field disease control

Luna Sensation trial results on most key target diseases match or exceed existing industry standards.

Reduced spoilage and wastage

The very high level of in-crop disease control can result in a reduction of post-harvest produce spoilage along the food chain from the farm to the consumer.

Lasting protection through continuous penetration

The active sticks to the leaf and fruit surface, and small amounts continue to penetrate the plant material over time.

Good beneficial species profile

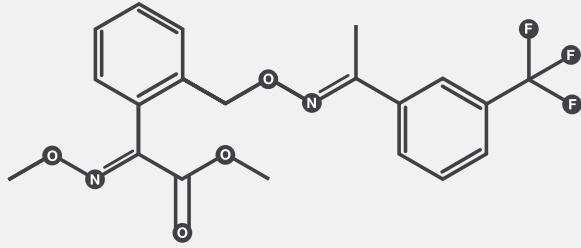
Local trials confirm that Luna Sensation is compatible with IPM programs.

Protection of non-treated surfaces

Translaminar movement through the leaf protects the underside as well as the treated area.

Product formulation

Trade name	Luna Sensation Fungicide
Formulation type	Suspension concentrate (SC)
Active constituents	A. fluopyram 250 g/L B. trifloxystrobin 250 g/L
Active constituent A	Fluopyram
Chemical name	N-[2-[3-chloro-5-(trifluoromethyl)-2-pyridinyl]ethyl]-2-(trifluoromethyl)benzamide
Chemical family	Pyridinylethylbenzamide
Structural formula	

Active constituent B	Trifloxystrobin
Chemical name	methyl (αE)-α-(methoxyimino)-2-[[[(1E)-1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]benzeneacetate
Chemical family	Oximinoacetate
Structural formula	

Physical properties

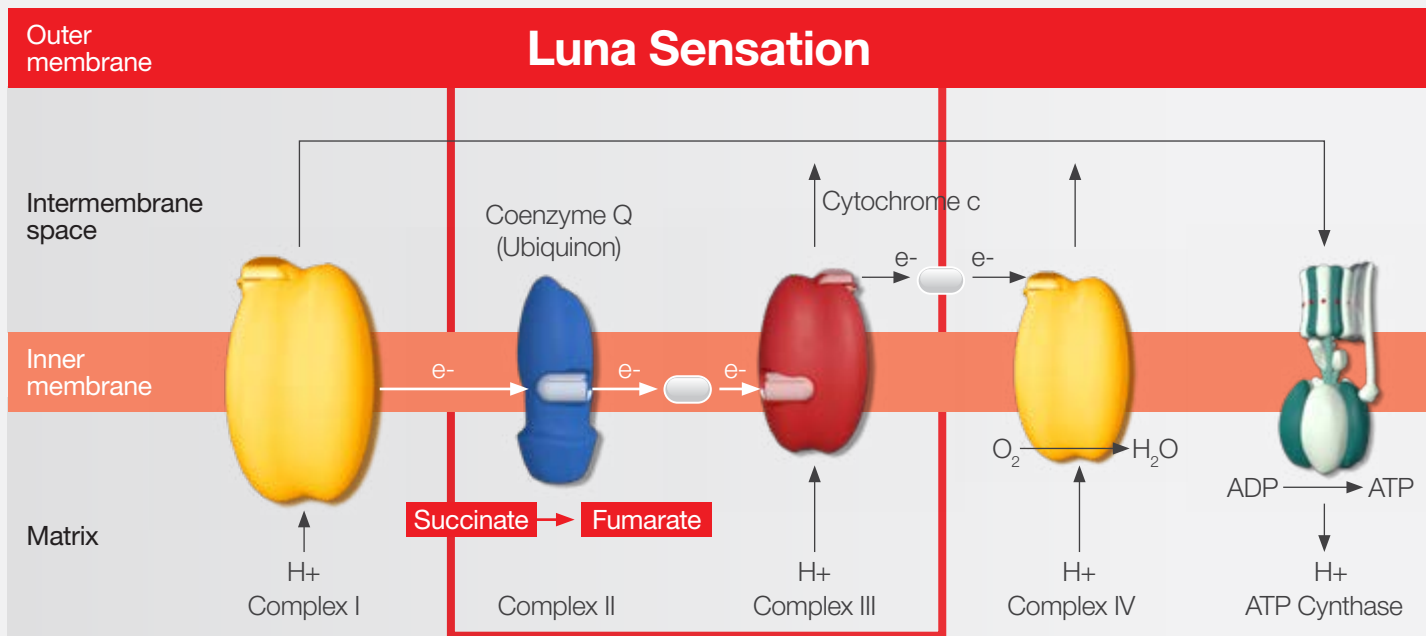
Form	Suspension
Colour	White to beige
Odour	Characteristic
pH	5.0 to 8.0 undiluted (23°C)
Flashpoint	> 100°C
Ignition temperature	370°C
Density	approx. 1.17 g/cm ³ (20°C)

Biological properties

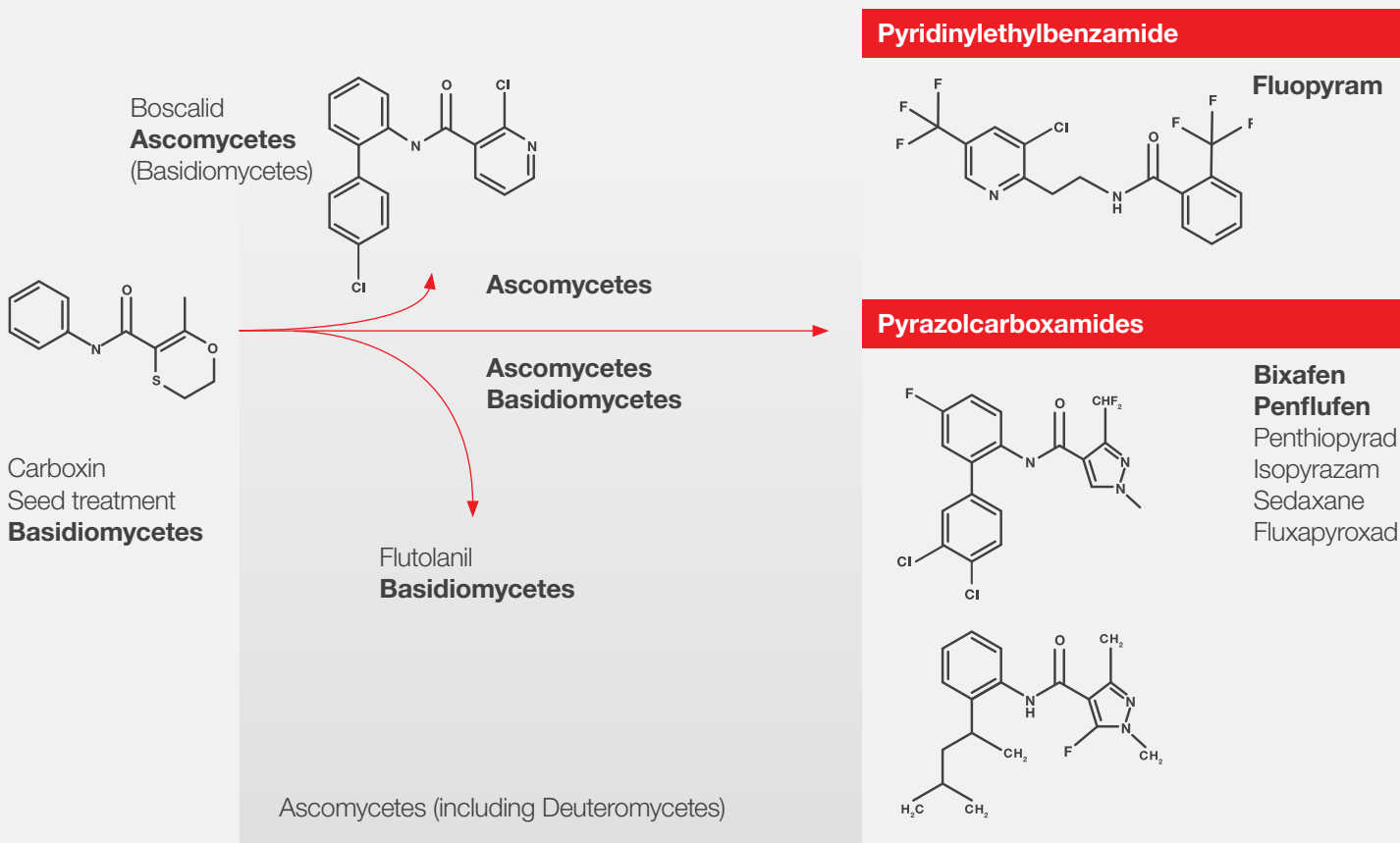
How fluopyram works

Fluopyram disrupts the citric acid cycle by inhibiting the succinate hydrogenase, at complex II of the fungi's respiratory chain. In simple terms it blocks electron transfer in the mitochondria. Because it binds at this site, fluopyram is unlikely to develop cross-resistance with strobilurin chemistry which binds at complex III of the respiration chain.

Fluopyram allows growers to protect their crops against ascomycetes, zygomycetes and deuteromycetes fungi while using lower use rates and stronger activity. Its wide spectrum of activity against these fungi means that diseases like powdery mildews (erysiphales) and monilinia can be controlled.

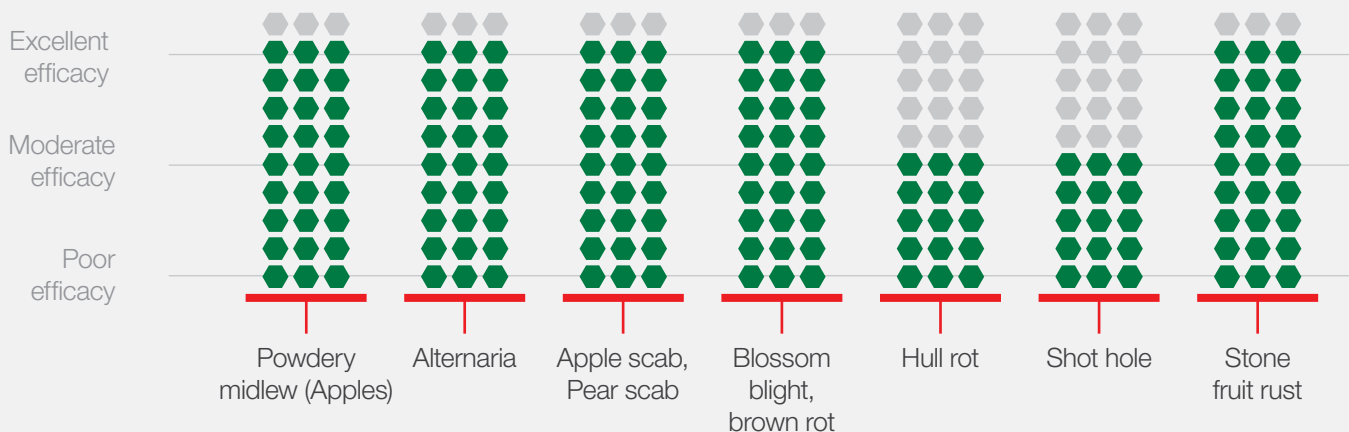


As this diagram shows, fluopyram is in its own chemical group.



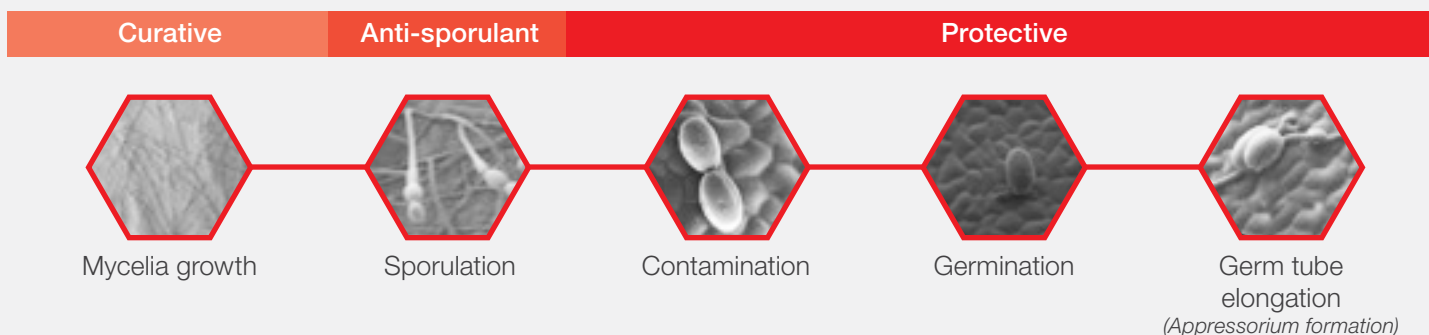
Efficacy

Relative strengths of fluopyram plus trifloxystrobin against different diseases:



Luna in action

Fluopyram retards the growth of fungal populations by reducing the fungi's ability to germinate, colonise and sporulate on the plant's surface.

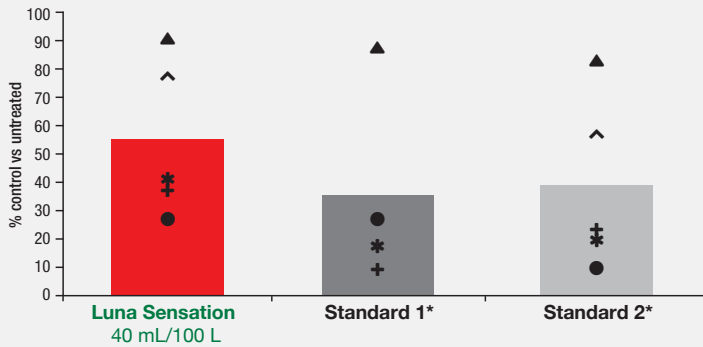




Trial results

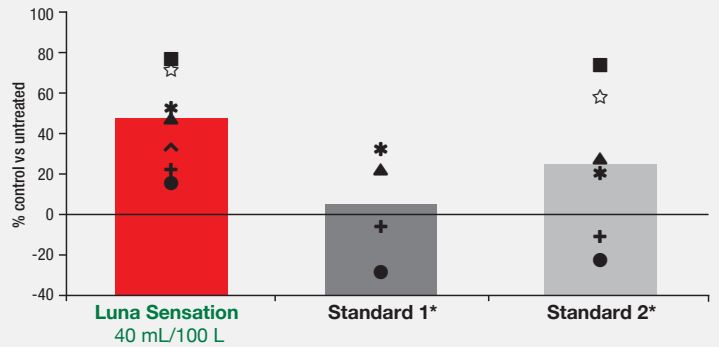
in almonds

Hull rot nut recovery



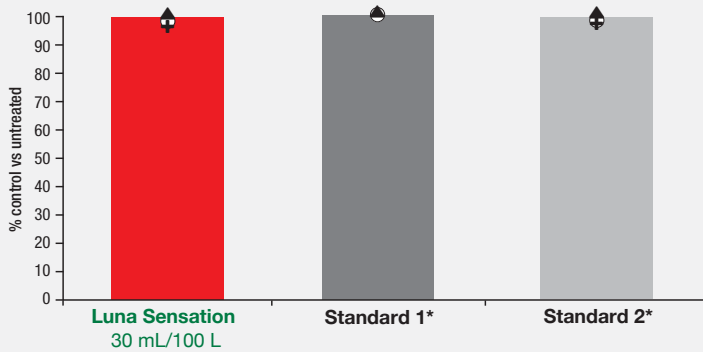
- + 08VE19 95 DAD
- ▲ 08VE19 95 DAD (Com)
- 08VE17 118 DAE
- * 08VE18 118 DAE
- ^ 09NW35 31 DAB

Hull rot supression (nuts)



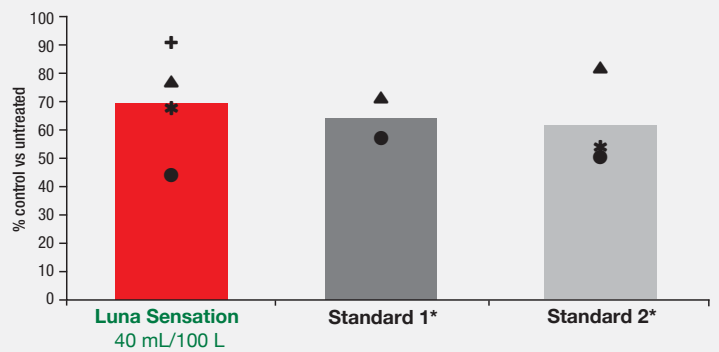
- + 07VE01 17 DAE
- ▲ 08VE18 40 DAE
- 08VE19 19 DAD
- * 08VE17 26 DAE
- ^ 08VE19 19 DAD (Com)
- ☆ 09VA26 12 DAB
- 09NW35 31 DAB

Stone fruit rust (leaves)



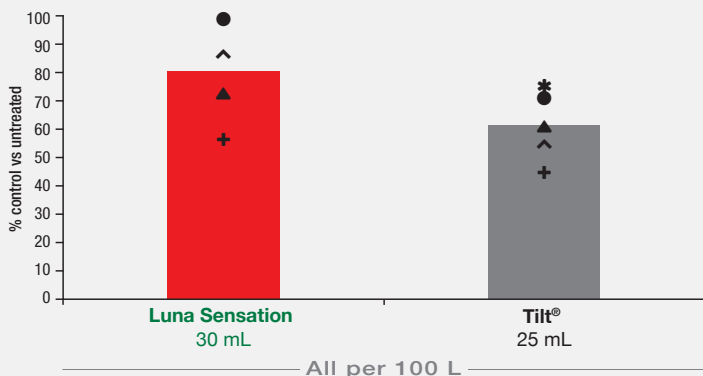
- + 07VE12 72 DAE
- ▲ 08VE11 80 DAE
- 08VE12 91 DAE

Shot hole (leaves)



- + 08VE11 26 DAE
- ▲ 08VE08 27 DAD
- 08VE09 26 DAD
- * 08VE10 15 DAE

Blossom blight



- + 08VA21
- ▲ 08VB29
- 08VE07
- * 08VE08
- ^ 08VE09

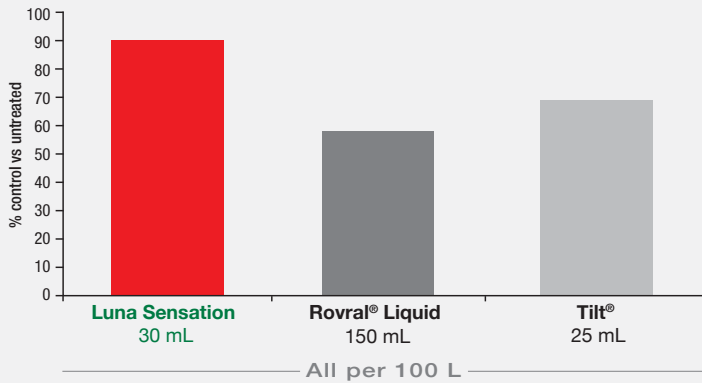
* Standard 1 and 2 are non-registered commercial standards



Trial results

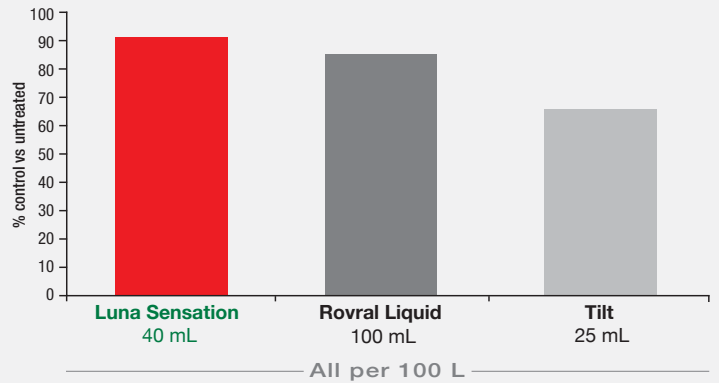
in stone fruit

Brown rot



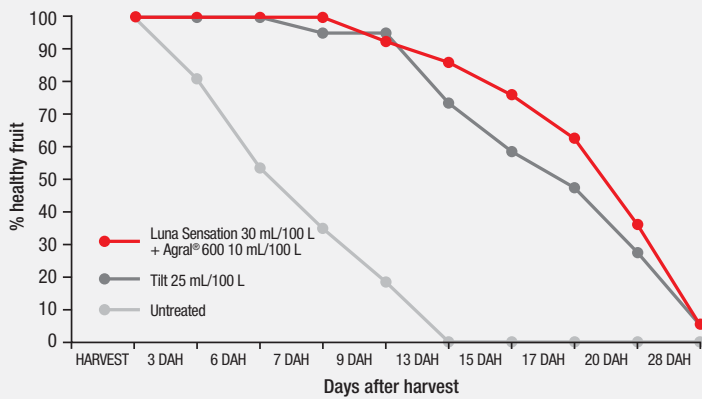
TRIAL IDs: 2011NC07*, 2010NC10*, 2010VB20*, 2009VB24, 2008VB29, 2010VC16, 2010VC17*, 2010VC18*, 2010WB14*, 2009WB23. *Agral® 600 at 0.01% v/v applied with Luna Sensation.

Blossom blight



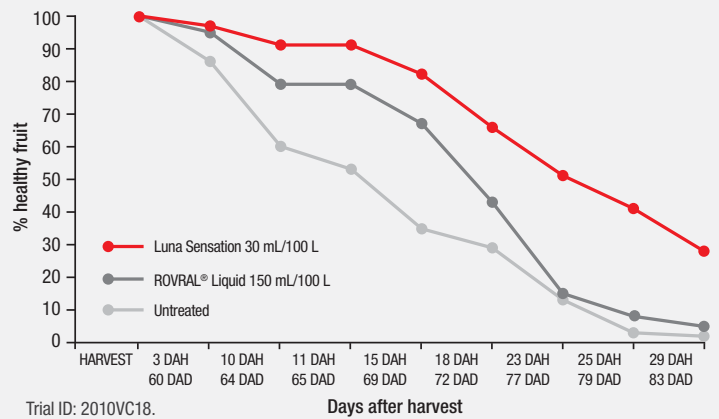
Trial IDs: 2010VC16, 2008VE08, 2008VE09.

Infield disease control improving the shelf life of peaches



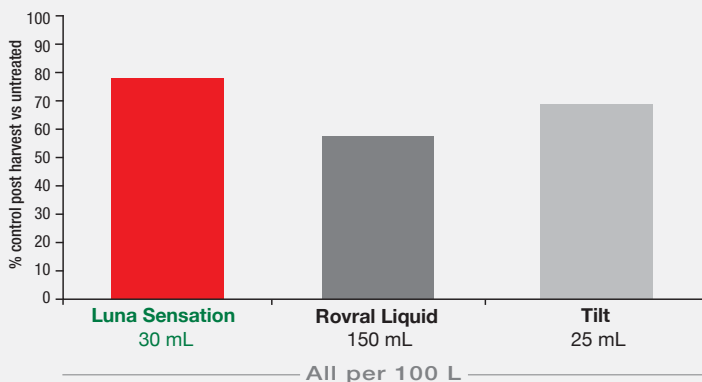
Trial ID: 2010VC18.

Infield disease control improving the shelf life of cherries



Trial ID: 2010VC18.

Infield disease control improving the shelf life of stone fruit



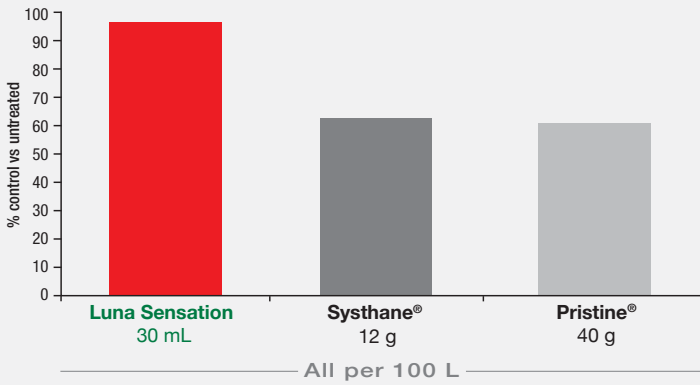
Trial IDs: 2010NC10*, 2010VC16, 2010VC17*, 2010VC18*. *Agral® 600 at 0.01% v/v applied with Luna Sensation. DAH = Days After Harvest; DAA = Days After Application.

A close-up photograph of two green pears hanging from a tree branch. The pears are unripe and have a smooth, light green skin. They are surrounded by lush green leaves, some of which are in sharp focus while others are blurred in the background, creating a bokeh effect. The lighting is bright, suggesting a sunny day.

Trial results

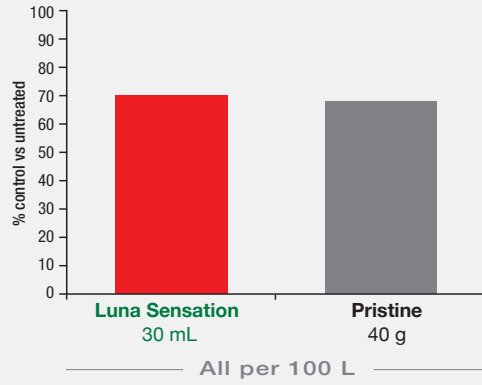
in apples and pears

Powdery mildew



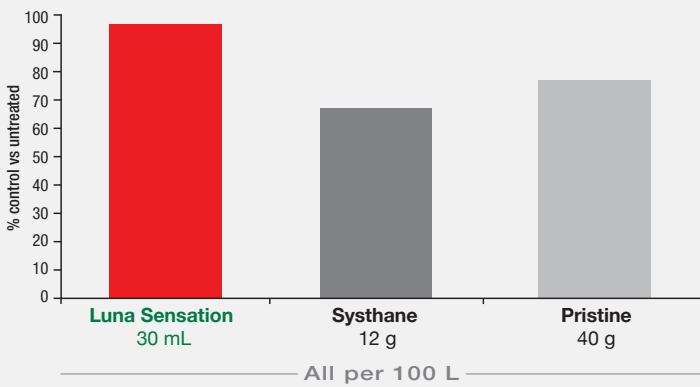
Trial IDs: 2009NC11, 2010QB06, 2010VB18, 2011VB19, 2009VB23, 2010VC12, 2009VC14, 2010WB12, 2009WB20.

Alternaria



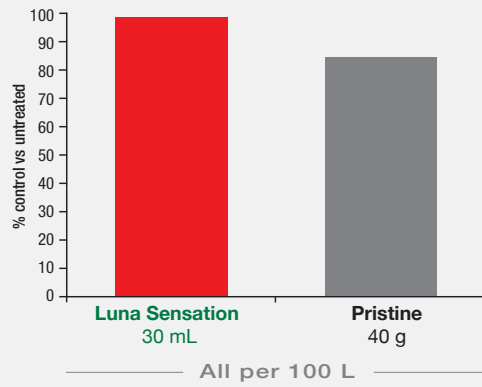
Trial IDs: 2011NC05, 2010NC07, 2010QB06, 2010VC12.

Black spot (apple scab)



Trial IDs: 2010QA17, 2010QB06, 2009QC06, 2009QC07, 2010VB18, 2011VB19, 2009VB23, 2010VC12, 2010VC13.

Black spot (pear scab)



Trial IDs: 2010NC08, 2010QA18, 2009VC14, 2011QC04, 2010NC06.

Crop safety and IPM

Extensive studies have demonstrated that fluopyram does not impair the foraging activities of bees, harm adult bees or influence bee brood. Best bee safety guidelines should be followed.

Assessments of fruit weight, as an indicator of pollination performance, were conducted during the development of fluopyram. From either pre-flowering or flowering applications, fluopyram had no effect on pollination performance.

Trial work has been completed to determine the effect of fluopyram on beneficial species and the trials indicate that fluopyram has a favourable safety profile.

Beneficial group	Class Order	Species	Stage tested	Ranking IOBDC
Ladybird beetles	Coleoptera Coccinellidae	<i>Coccinella transversalis</i>	Adult	Harmless
		<i>Coccinella septempunctata</i>	Larvae	Harmless
		<i>Adalia bipunctata</i>	Adult-Pupae-Larvae	Harmless
Predatory mites	Arachnida Acari	<i>Typhlodromus pyri</i> <i>Phytoselius persimilis</i>	Adult	Harmless
		<i>Amblyseius swirskii</i>	Adult	Harmless Slightly harmful
Predatory bugs	Hemiptera	<i>Anthocoris nemoralis</i>	Adult	Harmless
		<i>Nabis kinbergii</i>	Nymph	Harmless
Predatory midges	Diptera	<i>Aphidoletes aphidimyza</i>	Adult	Harmless
Parasitoids wasps	Hymenoptera	<i>Aphidius colemani</i>	Mummies	Harmless
		<i>Encarsia formosa</i>	Adult	Harmless
		<i>Trichogramma pretiosum</i>		Harmless
Lacewings	Neuroptera Chrysopidae	<i>Mallada signata</i>	Larvae	Harmless
White fly parasitoid wasp	Hymenoptera	<i>Eretmocerus warrae</i>		Harmless
Bees and bumblebees	Hymenoptera	<i>Apis mellifera</i> <i>Bombus terrestris</i>	Adult-Pupae-Larvae	Harmless

International Organisation of Biological Control (IOBC) – Luna Privilege (Fluopyram SC 500 g/L)
Classification: 1 = Harmless, 2 = Slightly harmful, 3 = Moderately harmful, 4 = Harmful

IOBC Scale



Local data summary

The fungicide formulation containing the active ingredients mixture of fluopyram (250 g/L) and trifloxystrobin (250 g/L) was tested by laboratory bioassays to determine its impact on seven beneficial insect and mite species. The beneficial species were *Mallada signata*, *Coccinella transversalis*, *Nabis kinbergii*, *Trichogramma pretiosum*, *Encarsia formosa*, *Eretmocerus warrae* and *Phytoseiulus persimilis*. Two types of bioassays for each species (except *P. persimilis*) measured the effects of direct spray application and by contact with dried treatment residue.

Overall fluopyram-trifloxystrobin treatments were harmless by direct spray contact to all species, and the treatments were mostly harmless through contact with dried residues. Two exceptions were that dried residues of the fluopyram-trifloxystrobin mixture caused moderate mortality to *Nabis kinbergii* and moderate-high mortality to *Encarsia Formosa*.

Selectivity

Luna Sensation has been tested under widely different conditions in annual and perennial crop species, varieties, spray volumes and various modes of application. Fluopyram formulations are very selective on a wide range of crops.

Preliminary tests on a small number of representative plants are always recommended when using tank mixtures with other plant protection products, adjuvants and fertilisers for the first time to confirm the selectivity for a particular crop variety, before any large applications are carried out.

Resistance management

GROUP 7/11 FUNGICIDE

Resistant fungi will not be controlled by Luna Sensation or other Group 7 and/or Group 11 fungicides, resulting in a reduction in efficacy and possible yield loss. Since the occurrence of resistant fungi is difficult to detect prior to use, Bayer CropScience Pty Ltd accepts no liability for any losses that may result from the failure of Luna Sensation to control resistant fungi.

Resistance management statements are given on the product label. It is essential that these statements are followed and that Luna Sensation is applied according to the CropLife Australia fungicide resistance management strategy.

Current resistance management guidelines are available at the CropLife Australia website: croplife.org.au.

Residues

For all registered uses, applications up until the stated withholding period will result in some chemical residue in produce. Maximum Residue Limits (MRLs) have been established to reflect these residues. When Luna Sensation is used according to label directions and good agricultural practice, residues in produce should not exceed these MRLs. The latest MRL position for fluopyram and trifloxystrobin can be found at the APVMA website (apvma.gov.au), by contacting the appropriate industry body or calling the Bayer Technical Enquiries line: 1800 804 479

MRLs in export destinations

MRLs for fluopyram and trifloxystrobin may not have been set in some export destinations or the values established for them may be lower than those in Australia. This may present a barrier to the export of crops treated with Luna Sensation to such countries. In some cases the export requirements may still be met by limiting the number of Luna Sensation applications and/or imposing a longer withholding period than specified above.

If you are growing produce for export, please check with Bayer Crop Science or your industry body for the latest information on any potential trade issues and their management before using Luna Sensation.

Residues in livestock commodities

Animals should not feed on produce or processing waste from crops treated with Luna Sensation as they may ingest chemical residues, which in turn may result in residues in animal commodities such as milk, meat and offal. In overseas markets for our livestock commodities, MRLs for fluopyram and trifloxystrobin may not exist, or the established values may be lower than those set in Australia.

To protect Australia's livestock trade from potential unacceptable residues, a number of specific measures are described on the Luna Sensation label.

Grazing: DO NOT GRAZE LIVESTOCK IN TREATED ORCHARDS.

EXPORT SLAUGHTER INTERVAL (ESI) - 30 days
Livestock that has been grazed on or fed treated crops should be placed on clean feed for 30 days prior to slaughter.

Application

Thorough coverage of the target area is essential.

! Do not apply with spray droplets smaller than a **medium** spray droplet size category according to nozzle manufacturer specifications that refer to the ASAE S572 Standard or the BCPC Guideline.

! Do not apply when wind speed is less than 3 or more than 20 kilometres per hour as measured at the application site.

! Do not apply during surface temperature inversion conditions at the application site.

Critical factors

The Luna Sensation label has been carefully developed to ensure the most effective control of disease. Ineffective applications can result in the development of resistance. Ensure that all label directions are adhered to at all times.

- The recommended rate for the targeted disease must be used to ensure best disease control results.

- Luna Sensation must be applied prior to the development of the disease.
- Thorough coverage is essential to ensure that the best results can be achieved in preventing disease over an extended period.
- Appropriate timing and targeting of a specific disease is critical to ensure best control.



Dilute spraying

- Use a sprayer designed to apply high spray volumes, up to the point of run-off and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy. Apply sufficient water to cover the crop to the point of run-off. Avoid excessive run-off.
- The required spray volume may be determined by applying different test volumes, using different settings on the sprayer, or from industry guidelines or expert advice.
- Add the amount of product specified in the Directions for use table for each 100 L of water. Spray to the point of run-off.
- The required dilute spray volume will change as the tree canopy and size changes, as a result, the sprayer set-up and operation may also need to change.

Concentrate spraying

- Use a sprayer designed and set up for concentrate spraying (that is a sprayer which accurately and efficiently applies spray volumes less than those required to reach the point of run-off) and matched to the crop being sprayed.
- Set up and operate the sprayer to achieve even coverage throughout the crop canopy using your chosen spray volume.
- Determine an appropriate dilute spray volume (see Dilute spraying above) for the crop canopy. This is needed to calculate the concentrate mixing rate.
- The mixing rate for concentrate spraying can then be calculated in the following way:
 1. Determine a suitable dilute spray volume as explained above: e.g. 1500 L/ha
 2. Choose your chosen concentrate spray volume: e.g. 750 L/ha
 3. The concentration factor in this example is 2X (i.e. $1500 \text{ L} \div 750 \text{ L} = 2$)
 4. If the dilute label rate is 30 mL/100 L, then the concentrate rate becomes 2×30 , that is, 60 mL/100 L of concentrate spray
- The chosen spray volume, amount of product per 100 L of water, and the sprayer set-up and operation may need to be changed as the canopy changes and the crop grows.

For further information on concentrate spraying, users are advised to consult relevant industry guidelines, undertake appropriate competency training and follow industry best practice.

Application records

Users of Luna Sensation MUST make an accurate written record of the details of each spray application within 24 hours following application and KEEP this record for a minimum of two years. The spray application details that must be recorded are:

1. Date, with spraying start and finish times;
2. Location address and paddock/s sprayed;
3. Full name of this product;
4. Amount of product used per hectare and number of hectares sprayed;
5. Crop/situation and weed/pest;
6. Wind speed and direction during application;
7. Air temperature and relative humidity during application;
8. Nozzle brand, type, spray angle, nozzle capacity and spray system pressure measured during application;
9. Name and address of person applying this product

Additional record details may be required by the State or Territory where this product is used.

Application timing

Early disease control is vital to ensure good quality produce at harvest. Luna Sensation will target fungi at all growth stages. To ensure best results, applications need to occur prior to a disease event and Luna Sensation should be used in rotation with alternative products with a different mode of action.

Mixing

Half fill the spray tank with water, pour in the required quantity of Luna Sensation with agitators running, then top up with water. Use the spray mixture immediately after preparation, do not allow it to stand.

Rainfastness

Luna Sensation should be applied at least 4 hours prior to rainfall or overhead irrigation as this allows the product to bind for the best efficacy.

Toxicological properties

Acute toxicology of Luna Sensation

Acute oral toxicity LD₅₀ (rat) 2,000 mg/kg

Acute inhalation toxicity LC₅₀ (rat) > 1.7 mg/L
Exposure time: 4 h
Highest attainable concentration
No deaths

Acute dermal toxicity LD₅₀ (rat) > 2,000 mg/kg

Skin irritation No skin irritation (rabbit)

Eye irritation No eye irritation (rabbit)

Sensitisation Sensitising
(based on trifloxystrobin)

Chronic toxicology of individual active constituents

Assessment of mutagenicity

Fluopyram and trifloxystrobin were not mutagenic or genotoxic in a battery of *in vitro* and *in vivo* tests.

Assessment of carcinogenicity

Fluopyram at high dose levels caused an increased incidence of tumours in rat liver and in the thyroid gland of mice. The tumours have been accepted as being caused through a non-genotoxic mechanism, which is not considered relevant to humans.

Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment of reproduction toxicity

Fluopyram and trifloxystrobin only caused reproduction toxicity in two-generation studies in rats at dose levels also toxic to the parent animals.

Assessment of developmental toxicity

Fluopyram and trifloxystrobin only caused developmental toxicity at dose levels toxic to the dams, i.e. developmental effects are related to maternal toxicity.

Poisons Schedule classification

Luna Sensation has been classified as a schedule 5 poison (CAUTION).

Behaviour in the environment

Degradation

Fluopyram degrades slowly, with a half-life in European soils ranging from 162 to 464 days. In a water/sediment system fluopyram dissipates to the sediment with a half-life in water of 15 to 25 days, and a half-life in the sediment of over 648 days.

Trifloxystrobin is rapidly degraded in soil and aquatic environments, with half-lives in the order of several days. However the main metabolite has a considerably longer half-life.

Mobility in soil

Fluopyram Moderately mobile in soils

Trifloxystrobin Slightly mobile in soils

Environmental effects

Aquatic organisms

Fluopyram tends to be of low toxicity to fish and aquatic invertebrates (e.g. water flea), and of moderate toxicity to some algae. Trifloxystrobin is highly toxic to fish, aquatic invertebrates and algae.

The Luna Sensation formulation tends to exhibit toxicity reflecting that of trifloxystrobin.

Birds

Both fluopyram and trifloxystrobin are practically non-toxic to birds.

Aquatic organisms

Fish (Rainbow trout)	Acute LC ₅₀ 96 h	0.091 mg/L
Invertebrates (<i>Daphnia magna</i>)	Acute EC ₅₀ 48 h	0.086 mg/L
Algae (<i>Pseudokirchneriella subcapitata</i>)	IC ₅₀ 72 h	0.292 mg/L

Protection of aquatic environments

A mandatory no spray zone of 20 metres downwind from the application area is required to protect aquatic or wetland areas, including aquacultural ponds, from spray drift.

General instructions

Re-entry period

Do not allow entry into treated areas until the spray has dried, unless wearing cotton overalls buttoned to the neck and wrist (or equivalent clothing) and chemical resistant gloves. Clothing must be laundered after each day's use.

Protection of wildlife, fish, crustaceans and environment

Very toxic to aquatic life. **Do not** contaminate wetlands or watercourses with this product or used containers.

Luna Sensation may have an adverse effect on predatory bugs (*Orius* spp.) if used where IPM is practised. Safety to ladybird beetles, syrphid flies and lacewings has not been evaluated with this co-formulation.

Protection of crops, native and other non target plants

A spray-drift minimisation strategy should be employed at all times. Spray drift may occur under adverse meteorological conditions or from certain spraying equipment. Do not allow spray to drift onto sensitive areas including, but not limited to, susceptible plants/ crops, cropping land, pasture, natural streams, rivers, wetlands, waterways or human dwellings.

Storage and disposal

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. **DO NOT** burn empty containers or product. Do not re-use empty container for any other purpose.

Sprayer clean up

If clean-up of spray equipment is required, rinse the equipment twice with clean water after use.

Safety directions

Harmful if swallowed. When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length chemical resistant gloves. If product on skin immediately wash area with soap and water. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

First Aid

If poisoning occurs, contact a doctor or Poisons Information Centre (telephone 13 11 26).

Safety Data Sheets

Additional information is listed in the Safety Data sheets, which can be obtained from crop.bayer.com.au



Directions for use – Almonds

Luna Sensation is the first product registered in Australia for use against hull rot. While early trials produced exceptional results, the results of subsequent trials have been less consistent, hence a claim for disease suppression rather than for disease control.

Disease	Rate	WHP	Critical comments
Blossom blight	Dilute spraying 30 mL/100 L		Apply in a fungicide spray program according to target disease, observing the restrictions on total number of applications detailed below.
Stone fruit rust	Concentrate spraying Refer to the Application section		<p>Blossom blight</p> <p>Apply as part of a blossom blight spray program. The critical application timings for blossom blight control are early (1-10%) blossom, full bloom and petal fall/shuck fall.</p> <p>Stone fruit rust</p> <p>Apply at or prior to the first signs of disease. Repeat applications may be required later in the crop cycle if weather conditions favour disease development or new foliage growth occurs.</p> <p>Shot hole</p> <p>Apply as part of a protectant spray program at intervals of 10 to 14 days starting at early pink bud. Repeat applications may be required later in the crop cycle if weather conditions favour disease development. Use the short spray intervals when disease pressure is high or plants are growing rapidly or weather conditions favour disease development.</p>
Shot hole	Dilute spraying 40 mL/100 L	14 days	<p>Hull rot</p> <p>Apply at early hull split. Repeat at the first sign of infection. Apply to the point of run-off to give thorough coverage of fruit. A reduction in the percentage of nuts infected and a consequent reduction in nuts retained on the tree after harvest can be expected following applications as directed.</p> <p>General</p> <p>Apply a maximum of 3 applications of Luna Sensation per season. Apply a maximum of 2 litres of Luna Sensation per hectare per season.</p>
Hull rot (suppression only)	(not appropriate for hull rot control)		<p>Apply thoroughly to ensure complete coverage. Apply by dilute or concentrate spraying equipment (except for hull rot applications where concentrate application is not appropriate). Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. For concentrate spraying, do not use at rates greater than two times the dilute spraying rate (i.e. at a concentration factor greater than 2X) – refer to Application section in General Instructions.</p> <p>Tank mixes with foliar fertilizers may result in minor leaf tipping.</p> <p>Resistance Management</p> <p>This use is subject to a CropLife Australia fungicide resistance management strategy which limits the total number and consecutive number of applications of Luna Sensation and other Group 7 and 11 fungicides.</p>



Directions for use – Stone fruit

Storage and shelf-life are critical issues in stone fruit, so the potential for extended vitality through high levels of infield disease control is particularly valuable.

Disease	Rate	WHP	Critical comments
Blossom blight	Dilute spraying 40 mL/100 L	1 day	Apply in a fungicide spray program according to target disease, observing the restrictions on total number of applications detailed below. Blossom blight Apply as part of a blossom blight spray program. The critical application timings for blossom blight control are early (1-10%) blossom, full bloom and petal fall/shuck fall.
Shot hole	Concentrate spraying Refer to the Application section		Shot hole Apply as part of a shot hole spray program at intervals of 10 to 14 days starting at early pink bud. Repeat applications may be required later in the crop cycle if weather conditions favour disease development.
Brown rot	Dilute spraying 30 mL/100 L Concentrate spraying Refer to the Application section		Brown rot Apply as part of a brown rot spray program. The critical period for brown rot control begins at fruit ripening and extends through to harvest. A spray interval of 7-10 days should be utilised. General Apply a maximum of 2 applications of Luna Sensation per season. Apply a maximum of 2 litres of Luna Sensation per hectare per season. Apply thoroughly to ensure complete coverage. Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. For concentrate spraying, do not use at rates greater than three times the dilute spraying rate (i.e. at a concentration factor greater than 3X) – refer to Application section in General Instructions . Resistance Management This use is subject to a CropLife Australia fungicide resistance management strategy which limits the total number and consecutive number of applications of Luna Sensation and other Group 7 and 11 fungicides.



Directions for use – Apples and pears

Luna Sensation provides Australian pome fruit growers with excellent efficacy on black spot and powdery mildew as well as effective suppression of alternaria. Exceptional in-field disease control can lead to improved fruit finish and shelf-life.

Disease	Rate	WHP	Critical comments
Apples	Dilute spraying 30 mL/100 L Concentrate spraying Refer to the Application section	14 days	Apply in a fungicide spray program according to target disease, observing the restrictions on total number of applications detailed below. Black spot Apply as part of a black spot (apple scab and pear scab) spray program at 7 to 10 day intervals, commencing applications at green tip or at spur burst following a recommended green tip fungicide spray. Powdery mildew Apply as part of a powdery mildew spray program at 14 day intervals commencing applications at early pink stage. Alternaria leaf blotch Apply as part of an alternaria spray program at 14 day intervals commencing following blossom and extending through early fruit development.
Black spot (apple scab)			
Powdery mildew			
Alternaria leaf blotch (suppression only)			
Pears			General Apply a maximum of 3 applications of Luna Sensation per season. Apply a maximum of 2 litres of Luna Sensation per hectare per season. Apply thoroughly to ensure complete coverage. Apply by dilute or concentrate spraying equipment. Apply the same total amount of product to the target crop whether applying this product by dilute or concentrate spraying methods. For concentrate spraying, do not use at rates greater than three times the dilute spraying rate (i.e. at a concentration factor greater than 3X) – refer to Application section in General Instructions . Resistance Management This use is subject to a CropLife Australia fungicide resistance management strategy which limits the total number and consecutive number of applications of Luna Sensation and other Group 7 and 11 fungicides.
Black spot (pear scab)			



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Always consult the product label for detailed information.

The information and recommendations set out in this brochure are based on tests and data believed to be reliable at the time of publication. Results may vary, as the use and application of the products is beyond our control and may be subject to climatic, geographical or biological variables, and/ or developed resistance. Any product referred to in this brochure must be used strictly as directed, and in accordance with all instructions appearing on the label for that product and in other applicable reference material. So far as it is lawfully able to do so, Bayer CropScience Pty Ltd accepts no liability or responsibility for loss or damage arising from failure to follow such directions and instructions.

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