Growing in unison

SIVANTO® prime – Inspired by nature

/ SIVANTO® prime contains Flupyradifurone, inspired by the natural product stemofoline – a derivate from the Asian plant Stemona japonica. Stemofoline is an alkaloid with insecticidal properties.

/ SIVANTO® prime belongs to the butenolide group which targets the nicotinic acetylcholine receptor (nAChR) in targeted pests. Due to its unique binding structure it is clearly distinct from other products in IRAC group 4 such as the neonicotinoid insecticides and sulfoxaflor.

Translaminar & Systemic movement

/ SIVANTO® prime’s active ingredient is taken up into the leaves and stems with spray application.

/ SIVANTO® prime’s systemic translocation properties distributes the active substance rapidly throughout the leaves to reach even hidden pests.

Insects controlled at the base on the bottom of the leaf.

Insects controlled on the distal and on the bottom of the leaf.

Leaf cross-section: Translaminar distribution throughout the leaf.

Droplet placement
Flupyradifurone is an agonist that mimics the natural neurotransmitter Acetylcholine (nAChR).

Due to its unique binding system flupyradifurone is clearly chemically distinct from neonicotinoid insecticides and sulfoxaflor.

Mode of action – graphical illustration

// Flupyradifurone is an agonist that mimics the natural neurotransmitter Acetylcholine (nAChR).
// Due to its unique binding system flupyradifurone is clearly chemically distinct from neonicotinoid insecticides and sulfoxaflor.

SIVANTO® prime is a unique Butenolide which differs from other IRAC group 4 products

**NEONICOTINOIDS**

<table>
<thead>
<tr>
<th>N-Nitroguanidines</th>
<th>Nitromethylenes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imidacloprid</td>
<td>Nitenpyram</td>
</tr>
<tr>
<td>Thiamethoxam</td>
<td></td>
</tr>
<tr>
<td>Clothianidin</td>
<td></td>
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<tr>
<td>Dinotefuran</td>
<td></td>
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</tbody>
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**SULFOXIMINES**

<table>
<thead>
<tr>
<th>Sulfoxaflor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

**BUTENOLIDES**

<table>
<thead>
<tr>
<th>Flupyradifurone</th>
</tr>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

Efficacy

CEREALS

Withholding Period:
- Wheat - 65 days
- Barley - 54 days

Registered at 200 ml/ha against
- Russian aphid (Diuraphis noxia)
- Oat aphid (Rhopalosiphum padi)
- Aphid spp.

SIVANTO® prime 200 SL
@ 0.2 L/ha ground application - Barley

% control

100 90 80 70 60 50 40 30 20 10 0
14 DAYS 21 DAYS 28 DAYS

SIVANTO® prime 200 SL
@ 0.2 L/ha ground application - Wheat

% control

100 90 80 70 60 50 40 30 20 10 0
13 DAYS 22 DAYS

SIVANTO® prime 200 SL
Control of Oat Aphids - Wheat

% control

100 90 80 70 60 50 40 30 20 10 0
14 DAYS
Selectivity to beneficia ls / IPM fit

Based on the results at the recommended field rates of SIVANTOTM prime the compound is selective to most beneficials in fruit and vegetable crops.

<table>
<thead>
<tr>
<th>BENEFICIAL GROUP</th>
<th>SPECIES</th>
<th>STAGE</th>
<th>IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predatory mites</td>
<td>Amblyseius swirskii</td>
<td>Motile</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Typhlodromus pyri</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Kampimodromus aberrans</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Predatory bugs</td>
<td>Orius laevigatus</td>
<td>Mixed</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Anthocoris nemoralis</td>
<td>Mixed</td>
<td>3</td>
</tr>
<tr>
<td>Coccinellidae</td>
<td>Coccinella septempunctata</td>
<td>Larvae</td>
<td>1</td>
</tr>
<tr>
<td>Hover flies</td>
<td>Episyrphus balteatus</td>
<td>Larvae</td>
<td>1</td>
</tr>
<tr>
<td>Lacewing</td>
<td>Chrysoperla spp.</td>
<td>Adult</td>
<td>1 - 2</td>
</tr>
<tr>
<td>Parasitoid wasps</td>
<td>Encarsia formosa/ Eretmocerus</td>
<td>Mixed/mumies</td>
<td>1 - 3</td>
</tr>
<tr>
<td></td>
<td>Aphidius colemani</td>
<td>Mixed</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Aphelinus mali</td>
<td>Mixed</td>
<td>1 - 2</td>
</tr>
</tbody>
</table>

Key: IOBC rating based on Abbott mortality
1: Harmless (<25 % Mortality)  2: Slightly Harmful (25 - 50 % Mortality)  3: Moderately harmful (50 - 75 % Mortality)  4: Harmful (75 % Mortality)

Honey bee safety

SIVANTOTM prime has been tested in laboratory and extensive semi-field and field studies using highly bee attractive crops.

Acute and chronic laboratory studies show that SIVANTOTM prime has a low intrinsic toxicity to adult and immature honey bees.

When applied at proposed label rates SIVANTOTM prime confers low risk to honey bees even when applied to flowering crops during bloom.

Studies indicate that SIVANTOTM prime has no adverse effects on honey bees, foraging activity, brood and colony development, hive vitality and honey bee health or on over-wintering when used according to proposed label instructions.
STONE FRUIT
// Withholding Period: 35 days
// Registered at 25 ml/100 L water against
  / Peach Aphid (Myzus persicae)

TOMATOES
// Withholding Period: 3 days
// Registered at 75 ml/100 L water against
  / Glasshouse Whitefly (Trialeurodes vaporariorum)
  / Cotton Whitefly (Bemisia tabaci)

Total White Fly Control (All stages)
Three trials evaluated 7 days after the 3rd application
(T03HS01 T03AB01 T03HS01 T03AB01 T03HS02)

% Control of White Fly Larvae
Two trials 7 days after 3rd application (T03HS01 & T03HS02)

% Control of White Fly Adults
Two trials 7 days after 3rd application (T03HS01 & T03HS02)
Excellent safety profile

// Non-hazardous for humans and mammals
   “Favourable mammalian toxicity risk profile”
// No adverse effects to honey & bumble bees
   “Honey and bumble bee-friendly profile”
// Selectivity to beneficials
   “Fits well with integrated pest management (IPM) systems”
// SIVANTO® prime was approved as reduced risk candidate by the U.S. EPA*

Insecticide with special features

// SIVANTO® prime provides excellent speed of action, quick feeding cessation and, thus effective virus & bacteria vector control.

Efficacy

// SIVANTO® prime provides a wide window of application and treatment during flowering.

Compatible with bees

4D

Uniqueness

IPM fit

// The active ingredient of SIVANTO® prime, flupyradifurone, belongs to a unique chemical class of butenolides.

IRAC

Resistance management

// Its selectivity to most beneficials provides a perfect fit for IPM programs.

SIVANTO® prime Reg. No. L10776 (Act No. 36 of 1947). SIVANTO® prime contains Flupyradifurone (Butenolide) (Caution). Sivanto® prime is registered trademark of Bayer AG, Germany. Use strictly according to instructions on label.

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