## Sivanto Prime ROOTS

# Winning the war on virus vectors



A new insecticide featuring translaminar and contact activity is set to improve aphid control in root crops including sugar beet and potatoes. *CPM* learns more about Sivanto Prime.

By Rob Jones and Janine Adamson

n a world where the chemical crop protection armoury appears to be rapidly shrinking, particularly when it comes to insect pest control, the successful introduction of a new insecticide may come as a surprise to some.

However, the launch of Sivanto Prime (flupyradifurone) is very much a reality, with the product available to use this season; promising to help protect root crops from virus-carrying aphids.

Introduced by Bayer, flupyradifurone belongs to the butanolide class (IRAC group 4D) and was granted authorisation in March this year. Although the active ingredient has been available across the European Union since 2017, Sivanto Prime is the first product authorisation for use in Great Britain and Northern Ireland.

The label stipulates it can be applied once per season to the following crops: sugar beet, fodder beet, potatoes, carrots, combining and vining peas, and field beans. Whereas in terms of control, it has claims against the principle virus vectors, notably peachpotato aphid (*Myzus persicae*), potato aphid (*Macrosiphum euphorbiae*), black bean aphid (*Aphis fabae*), pea aphid (*Acyrthosiphon pisum*) and willowcarrot aphid (*Cavairella aegopodii*).

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**Product benefits** 

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that it's shown activity on both immature and adult aphids through contact and ingestion, offering protection for around seven days. As such, he believes it'll be welcomed by growers.

"Sivanto Prime delivers quick knockdown activity and has translaminar mobility to control a range of aphid species while featuring a favourable environmental profile that's selective to beneficial predators including parasitic wasps," he explains.

"This is likely to be a useful tool for root crop growers for whom virus represents a serious risk to yield and quality. Trials indicate that once an aphid ingests or comes into contact with Sivanto Prime, feeding stops within two hours, with control evident from around two days post application."

### **PRACTICAL ADVICE**

To further support the advice given to growers, Bayer has investigated Sivanto Prime's activity with and without the inclusion of methylated vegetable oil, Mero, says Tom.

"In sugar beet trials there was little apparent benefit from the addition of Mero for control of either peach-potato aphid or black bean aphid. In potato crops however, the addition of Mero improved control by around 15% compared with Sivanto Prime alone. Notably, the addition of Mero resulted in better control than was seen with the mineral oil, Cropspray 11-E," he comments.

Until the recent introduction of Sivanto Prime, sugar beet growers could select from either Teppeki (flonicamid) or Insyst (acetamiprid) for the control of aphids.

And while pyrethroids such as lambdacyhalothrin remain an approved option, their value is considered negligible as most peach-potato aphids are resistant to the chemistry, points out Tom. "Their less selective profile on aphid predators and parasitoids is also seen as a negative," he adds.

Deciding when to apply Sivanto Prime for optimum effect is perhaps easier to determine in sugar beet than potatoes, suggests Tom. "This is due to the limited insecticide options available for use in sugar beet crops. With the unsuccessful application for an emergency authorisation for the seed treatment thiamethoxam (as in Cruiser SB), the first foliar insecticide could be Sivanto Prime.

"Bayer trials show the product has knockdown activity, therefore we suggest positioning it as the preliminary spray

### **Urgent call for CIPC residue data**

# Another batch of samples is required to ensure the CIPC tMRL can remain

IPC was a staple in potato sprout suppression for decades but the legacy residues it leaves behind are putting UK storage capacity at risk. That's according to GB Potatoes' Graham Bannister, who stresses that it's critical the industry continues to supply monitoring data.

It's required because as of 10 April 2024, the Chemicals Regulation Division (CRD) set a temporary Maximum Residue Level (tMRL) for CIPC at 0.35mg/kg. As this threshold is reviewed annually, its continuation depends entirely on whether the industry can provide evidence that it's still necessary, explains Graham.

"If we can't demonstrate that a tMRL above the limit of detection (0.01 ppm) is still required, stores with historic CIPC use may no longer be usable. The consequences for growers, packers, and the wider supply chain would be significant."

Data collected last year suggests that without the tMRL, 22.5% of storage facilities would have exceeded the detection limit, meaning they wouldn't have been permitted for use had the limit been set to the detection threshold.

"That's why it's so important to keep the data flowing," adds Graham. "Most growers already have access to the necessary data through the likes of customer testing of potato samples, or Red Tractor certification sampling."

Equally, this is where the CIPC



Make or break situation If it can't be demonstrated that a tMRL above the limit of detection (0.01 ppm) is still required, stores with historic CIPC use may no longer be usable, stresses GB Potatoes' Graham Bannister.

Residue Monitoring Group (CRMG) steps in – coordinating the anonymised data submission to CRD on behalf of the entire industry. To submit data, send it to Adrian Cunnington at adrian@potatostorageinsight. com – this will then be anonymised before being submitted to CRD.

Importantly, for the 2025 CRD submission, CRMG requires at least 125 new samples. "If you have potato stores previously treated with CIPC and are holding crops for at least two months this season, please provide at least one of your regular multi-residue test results," requests Graham.

The form can be accessed via https://www.gb-potatoes.co.uk/



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### **ROOTS** Sivanto Prime

to control the first colonising aphids."

He believes it makes 'practical sense' to use Sivanto Prime first because both Teppeki and Insyst have a later window of application. "As Sivanto Prime and Insyst are both IRAC group 4 insecticides, ideally they shouldn't be used in consecutive applications. Instead, Teppeki could be used as the second spray with Insyst reserved for use as the final spray if required," suggests Tom.

In potato crops he says an application of Sivanto Prime earlier in the programme could also be beneficial. "Sivanto Prime can be applied in potato crops from 10% of plants meeting in rows (BBCH 31) up until senescence, but in all registered crops, it mustn't be applied after 13 July."

### **COMPLIMENTARY OPTION**

According to Tom, with proven activity on peach-potato aphid, potato aphid and willow-carrot aphid, Sivanto Prime should complement existing insecticide options particularly where there are populations with reduced sensitivity to pyrethroids.

He highlights that potato growers also have the option of Movento (spirotetramat) which is IRAC Group 23. "Movento provides lasting protection and benefits from being selective to many beneficials; there's no evidence of resistance within the target aphid group.

"It can be applied in all varieties of potato, however, can only be applied after flowering (in flowering varieties)," he reminds.

So where does Sivanto Prime offer the greatest contribution to crop protection? It largely depends on the timing of infestation, believes Tom. "On one level, it offers excellent flexibility



### **Target species**

Sivanto Prime has label claims against the principle virus vectors, notably peach-potato aphid (*Myzus persicae*), potato aphid (*Macrosiphum euphorbiae*), black bean aphid (*Aphis fabae*), pea aphid (*Acyrthosiphon pisum*) and willow-carrot aphid (*Cavairella aegopodii*).

due to its wide window of application, short harvest interval of only seven days and good knockdown activity of a wide spectrums of aphids.

"On the other hand, it can be applied only once per crop and its relatively shorter persistence of seven days means it is best applied when populations are at threshold levels and before they reach heavy infestation," he adds.

For most growers across Great Britain, Potato Leaf Roll Virus (PLRV) is the most prevalent aphid-borne virus. The peach-potato aphid is considered the most efficient vector of PLRV and Potato Virus Y (PVY), presenting a crop protection challenge as pyrethroids now offer little protection against this species, with limitations on the



#### **Potato virus vectors**

The peach-potato aphid is considered the most efficient vector of both Potato Virus Y (PVY) and Potato Leaf Roll Virus (PLRV).

use of other insecticide products.

Tom highlights that although not a colonising aphid of potato crops, the willow-carrot aphid is a vector for PVY and numbers typically spike when the pest migrates from willow trees and carrot crops (once straw applied to carrot crops for frost protection is removed in the spring). "Willow-carrot aphid populations exhibit moderate resistance to pyrethroids," he says.

The Rothamsted Insect Survey (RIS) aphid forecast provides an informed assessment of when virus-carrying aphids are likely to pose a threat to crops. Research has shown it's mostly the temperatures in January and February which have the greatest impact on the start of aphid flights for those species which survive past the winter in their active stages, such as the peach-potato aphid and potato aphid.

This winter, Scottish sites monitored as part of the RIS recorded January to February air temperatures in line with the long-term average. Further south, temperatures were around 0.5°C cooler than average from Kirton to Wellesbourne, and 1.0°C cooler from Rothamsted to Silwood Park, with Starcross being around average.

According to Rothamsted Research, this suggests the first aphid flights may occur around average timing in Scotland, but 1-2 weeks later than average across much of England. Additionally, when compared with the past 10 years of weather data, most cities south of Newcastle would be expected to be around two weeks later, it notes. ●