



Use of Strobilurins in the Management of Alternaria Brown Spot (ABS)

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CRI has received reports of more than two applications of strobilurin-based fungicides planned or recommended to be used in a season as part of the Citrus Black Spot (CBS) programme, with the aim to simultaneously manage/control Alternaria Brown Spot (ABS) and CBS on ABS-susceptible cultivars. This Cutting Edge serves to advise growers on the **correct and responsible** use of this group of fungicides to prevent resistance development in *Alternaria alternata*, the pathogen causing ABS on citrus.

Please refer to Cutting Edge No. 335 “Management of Alternaria Brown Spot” for information on the pathogen and epidemiology of the disease, as well as general management practices.

An integrated approach is key in the management of ABS. This should include both non-chemical and chemical management practices.

The first of the non-chemical strategies is reduction of inoculum. This can be achieved by removing infected fruit from orchards and destroying or burying it. Good pruning of trees is also important to prevent build-up of inoculum and to improve airflow in trees (Refer to Cutting Edge 335). Pruned debris and fallen leaves should also be removed and burned outside the orchard to reduce inoculum pressure.

Chemical management of ABS can be integrated with fruit protection programmes aimed at CBS control. There are, however, a **few critically important points to note when using strobilurins** in a spray programme aimed at simultaneous ABS and CBS management.

1. Although azoxystrobin, pyraclostrobin and trifloxystrobin are registered for CBS control, **currently only ONE specific azoxystrobin product is registered for ABS and CBS management.** Please consult the product labels for details.
2. **No other strobilurins (e.g. pyraclostrobin or trifloxystrobin) are currently registered for ABS control.**
3. Due to the high risk of some fungal pathogens, including *Alternaria alternata*, to develop resistance to the QoI fungicides in particular (FRAC Group 11, which includes the strobilurins), it is imperative to follow the FRAC Recommendations for QoI Fungicide usage ([FRAC Recommendations for QoI Fungicides](#)).
4. **Recommendations include avoiding repeated (more than twice in a season) use of the same fungicide from the same FRAC group (in this case, Group 11).**
5. Alternate or tank mix with registered products from different chemical classes.
6. Integrate cultural management strategies (Cutting Edge 335) into the management programme.
7. QoI fungicides **must** be used preventatively for ABS (and also CBS) management. They will **not** have a curative effect on ABS infections.

Given the points above, and in light of the importance of resistance management of plant protection products, **a maximum of ONLY two strobilurin applications must be used in a season on ABS susceptible cultivars** for CBS and ABS control. Furthermore, and as per label registration, strobilurins must also be combined in a tank mix with registered contact fungicides to help delay resistance development.



Gebruik van Strobiluriene in die Bestuur van Alternaria-bruinplek (ABS)

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CRI het verslae ontvang van meer as twee toedienings van strobiluriene-gebaseerde swamdoders wat beplan of aanbeveel word om in 'n seisoen as deel van die Sitrus Swartvlek (CBS)-program gebruik te word, met die doel om Alternaria-bruinplek (ABS) en CBS gelyktydig op ABS-vatbare kultivars te bestuur/beheer. Hierdie Snykant dien om produsente te adviseer oor die **korrekte en verantwoordelike** gebruik van hierdie groep swamdoders om weerstandsontwikkeling in *Alternaria alternata*, die patogeen wat ABS op sitrus veroorsaak, te voorkom.

Verwys asseblief na Snykant No. 335 “Bestuur van Alternaria-bruinplek” vir inligting oor die patogeen en epidemiologie van die siekte, sowel as algemene bestuurspraktyke.

'n Geïntegreerde benadering is sleutel in die bestuur van ABS. Dit moet beide nie-chemiese en chemiese bestuurspraktyke insluit.

Die eerste van die nie-chemiese strategieë is vermindering van inokulum. Dit kan bereik word deur geïnfekteerde vrugte uit boorde te verwyder en dan te vernietig of begrawe. Goeie snoei van bome is ook belangrik om opbou van inokulum te voorkom en om lugvloei in bome te verbeter (Verwys na Snykant 335). Snoeiafval en blare wat geval het moet uit die boord verwyder en gebrand word om inokulum druk te verminder.

Chemiese bestuur van ABS kan met vrugbeskermingsprogramme, gerig op CBS-beheer, geïntegreer word. Daar is egter **'n paar krities belangrike punte om op te let wanneer strobiluriene** in 'n spuitprogram gebruik word, wat op gelyktydige ABS- en CBS-bestuur gemik is.

1. Alhoewel azoksistrobien, piraklostrobien en trifloksistrobien vir CBS-beheer geregistreer is, is daar **tans slegs EEN spesifieke asoksistrobienprodukt vir ABS- en CBS-bestuur geregistreer**. Raadpleeg asseblief die produk-etiket vir besonderhede.
2. **Geen ander strobiluriene (bv. piraklostrobien of trifloksistrobien) is tans vir ABS-beheer geregistreer nie.**
3. As gevolg van die hoë risiko van sommige swampatogene, insluitend *Alternaria alternata*, om weerstand teen veral die QoI-swamdoders (FRAC Groep 11, wat die strobiluriene insluit) te ontwikkel, is dit noodsaaklik om die FRAC-aanbevelings vir QoI-swamdodergebruik ([FRAC Recommendations for QoI Fungicides](#)) te volg.
4. **Aanbevelings sluit in die vermyding van herhaalde (meer as twee keer in 'n seisoen) gebruik van dieselfde swamdoder van dieselfde FRAC-groep (in hierdie geval, Groep 11).**
5. Wissel af of maak tenkmengsels met geregistreerde produkte van verskillende chemiese klasse.
6. Integreer verbouingsbestuurstrategieë (Snykant 335) in die bestuursprogram.
7. QoI-swamdoders **moet** slegs voorkomend gebruik word vir ABS (en ook CBS) bestuur. Hulle sal **nie** 'n uitwissende effek op ABS-infeksies hê nie.

Gegewe die punte hierbo, en in die lig van die belang van weerstandsbestuur, moet **'n maksimum van SLEGS twee strobilurientoedienings per seisoen gebruik word op ABS-sensitiwe kultivars** vir CBS- en ABS-bestuur. Verder, volgens etiket registrasie, moet strobiluriene met geregistreerde kontak swamdoders in tenkmengsels gekombineer word om weerstandsontwikkeling te vertraag.