



Timing of start of citrus black spot (CBS) fungicide spray programmes

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The timing of the first fungicide spray is critical in the control of CBS. Fungicide sprays must be applied effectively to provide full protection during the critical fruit susceptibility period. Citrus fruit are susceptible to CBS infection from 80% petal fall until 4 to 5 months after petal fall, depending on variety/cultivar. The recommended periods of fruit protection against CBS infection are given in Cutting Edge 351.

The two most important factors that are used to determine the start of a CBS spray programme are:

1. 80% petal fall date
2. Occurrence of infection periods during the fruit susceptibility period

Fruit should be protected from 80% petal fall until the end of the recommended period of fruit protection. The timing of the first CBS sprays is difficult, as fungicides applied on closed flowers or on fruitlets covered with petals will not be effective and will lead to unprotected fruitlets during a critical period for infection. To maximise the proportion of exposed fruitlets, the recommendation is to apply the first CBS spray “at or **after 80% petal fall**”.

The recommended timing of the first CBS fungicide sprays is traditionally from mid-October, which is typically the 80% petal fall period in the northern regions. However, CBS sprays can start earlier or later than mid-October, depending on fruit phenology (specifically the occurrence of 80% petal fall) and the occurrence of infection periods. It is important to plan the timing of the first CBS sprays according to the 80% petal fall date (rather than the traditional mid-October start), as this period might differ between orchards and cultivars. **For this reason, growers must also record the 80% petal fall date for orchards, as accurately as possible.**

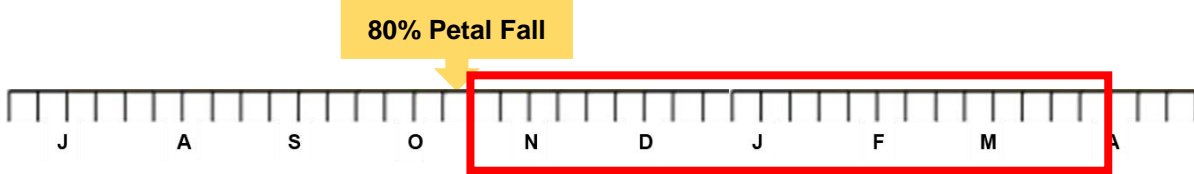
The situation gets complicated when CBS-favourable conditions are experienced during the flowering period: CBS cannot infect fruitlets in closed blossoms on trees, but exposed early fruitlets can be infected. In such cases, fruit must be protected using repeated applications of contact fungicides, or ideally using a product with sufficient curative action applied after petal fall.

Fungicide spray programmes must be followed through until the recommended end, irrespective of the initial spray date. Interrupted periods of fruit protection are acceptable, but only if no CBS infection period occurred during these unprotected periods; this can be demonstrated using CRI-PhytRisk or spore trap data as explained in Cutting Edge 351. It is, however, recommended to avoid gaps in the spray programme as far as possible. It is also important to adhere to the label of each fungicide product and therefore, various fungicides must be used within the recommendations specified on the labels.

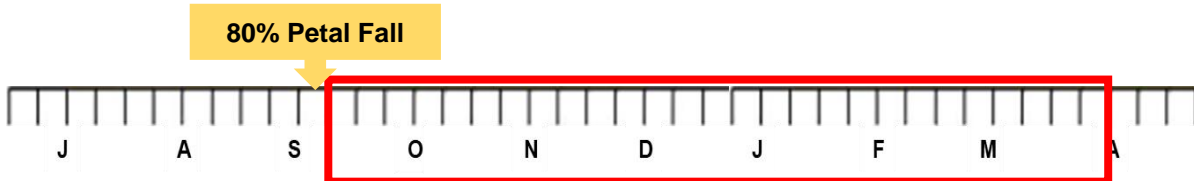


Below are some examples of the timing of the first CBS sprays:

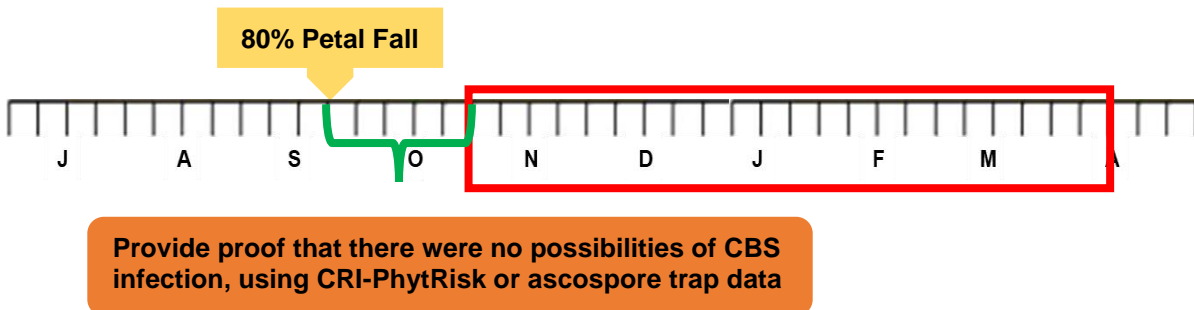
First CBS fungicide spray in mid-October, which is the recommended timing of the first CBS fungicide sprays; note that this should be at or after 80% petal fall



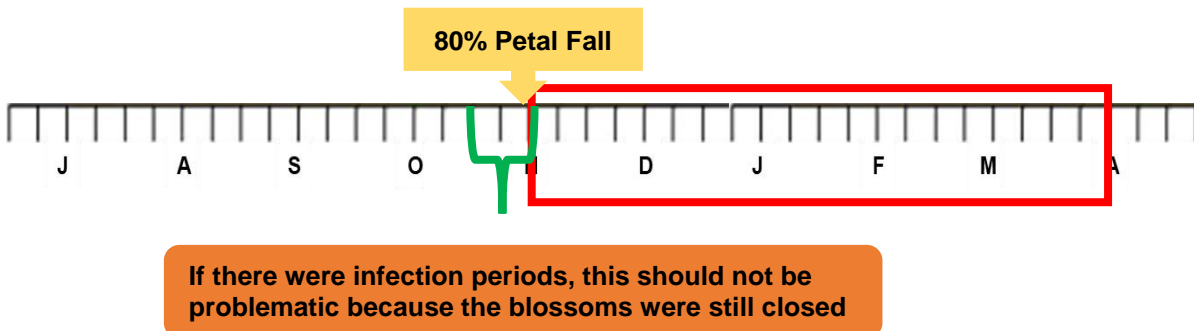
First CBS fungicide spray before mid-October due to earlier 80% petal fall date



First CBS fungicide spray in mid-October, but 80% petal fall date was recorded earlier.
In such cases, growers must demonstrate that no CBS infection periods occurred during this unprotected period, by using either CRI-PhytRisk or spore trap data.



First CBS fungicide spray later than mid-October due to later 80% petal fall date





Tydsberekening van die begin van sitruswartvlek (SSV) swamdoderspuitprogramme

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Die tydsberekening van die eerste swamdoderbespuiting is van kritieke belang in die beheer van SSV. Swamdoderbespuitings moet doeltreffend toegedien word om volle beskerming gedurende die kritieke vrugvatbaarheidsperiode te bied. Sitrusvrugte is vatbaar vir SSV-infeksie vanaf 80% blomblaarval tot 4 tot 5 maande ná blomblaarval, afhangende van die variëteit/kultivar. Die aanbevole periodes van vrugbeskerming teen SSV-infeksie word in Snykant 351 gegee.

Die twee belangrikste faktore wat gebruik word om die begin van 'n SSV-spuitprogram te bepaal, is:

1. 80% blomblaarvaldatum
2. Voorkoms van infeksieperiodes gedurende die vrugvatbaarheidsperiode

Vrugte moet vanaf 80% blomblaarval tot aan die einde van die aanbevole tydperk van vrugbeskerming beskerm word. Die tydsberekening van die eerste CBS-bespuitings is moeilik, aangesien swamdoders wat op geslote blomme of op vruggies wat met blomblare bedek is, toegedien word, nie doeltreffend sal wees nie en tot onbeskermdede vruggies gedurende 'n kritieke tydperk vir infeksie sal lei. Om die verhouding van blootgestelde vruggies te maksimeer, is die aanbeveling om die eerste SSV-bespuiting "met of **ná 80% blomblaarval**" toe te dien.

Die aanbevole tydsberekening van die eerste SSV-swamdoderbespuitings is tradisioneel vanaf middel Oktober, wat tipies die 80% blomblaarvalperiode in die noordelike streke is. SSV-bespuitings kan egter vroeër of later as middel Oktober begin, afhangende van vrugfenologie (spesifiek die voorkoms van 80% blomblaarval) en die voorkoms van infeksieperiodes. Dit is belangrik om die tydsberekening van die eerste SSV-bespuitings volgens die 80% blomblaarvaldatum te beplan (eerder as die tradisionele middel-Oktober-begin), aangesien hierdie tydperk tussen boorde en kultivars kan verskil. **Om hierdie rede moet**

produsente ook die 80% blomblaarvaldatum vir boorde so akkuraat as moontlik aanteken

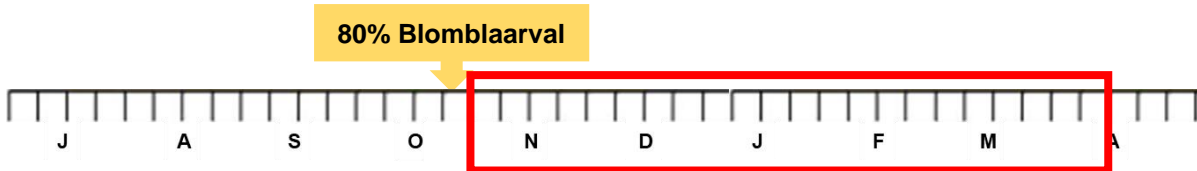
Die situasie raak ingewikkeld wanneer SSV-gunstige toestande gedurende die blomperiode ervaar word: SSV kan nie vruggies in geslote bloeisels op bome infekteer nie, maar blootgestelde, vroeë vruggies kan geïnfekteer word. In sulke gevalle moet vrugte beskerm word deur herhaalde toediening van kontakswamdoders, of ideaal deur gebruik te maak van 'n produk met voldoende kuratiewe werking, toegedien ná blomblaarval.

Swamdoderspuitprogramme moet tot die aanbevole einde gevolg word, ongeag die aanvanklike spuitdatum. Onderbroke periodes van vrugbeskerming is aanvaarbaar, maar slegs indien geen SSV-infeksieperiode gedurende hierdie onbeskermdede periodes plaasgevind het nie; dit kan gedemonstreer word deur gebruik te maak van CRI-PhytRisk of spoorlokvaldata soos verduidelik in Snykant 351. Dit word egter aanbeveel om gapings in die spuitprogram so ver moontlik te vermy. Dit is ook belangrik om die etiket van elke swamdoderprodukt korrek te volg, gevolglik moet die verskillende swamdoders binne die aanbevelings, soos op die etikette gespesifiseer, gebruik word.

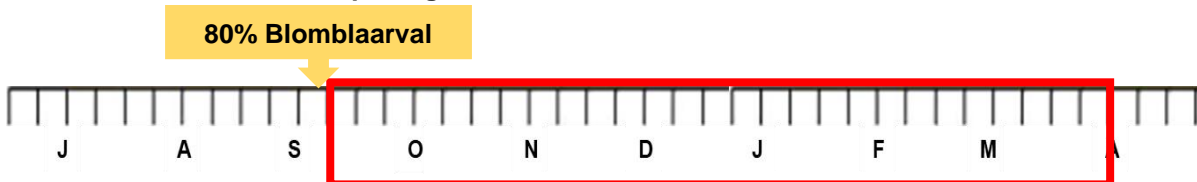


Hieronder is 'n paar voorbeelde van die tydsberekening van die eerste SSV-bespuittings:

Eerste SSV-swamdoderbespuiting in middel Oktober, wat die aanbevole tydsberekening van die eerste SSV-swamdoderbespuittings is; let daarop dat dit met of ná 80% blomblaarval moet wees

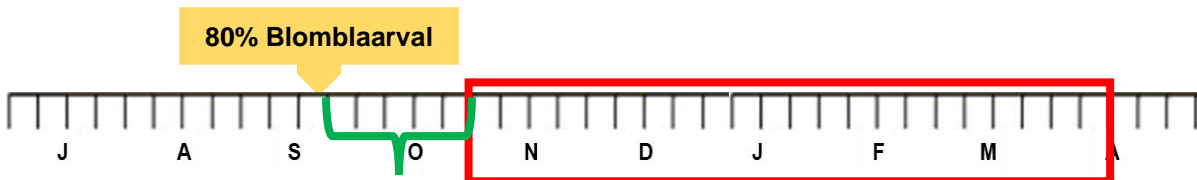


Eerste SSV-swamdoderbespuiting vóór middel Oktober weens vroeër 80% blomblaarvaldatum



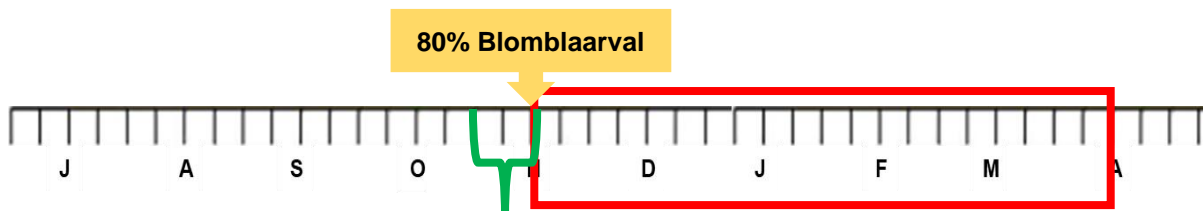
Eerste SSV-swamdoderbespuiting in middel Oktober, maar 80% blomblaarvaldatum is vroeër aangeteken

In sulke gevalle moet produsente toon dat geen CBS-infeksieperiodes gedurende hierdie onbeskermdede periode plaasgevind het nie, deur óf CRI-PhytRisk óf spoorlokalvaldata te gebruik



Verskaf bewyse dat daar geen moontlikheid van SSV-infeksie was nie, deur gebruik te maak van CRI-PhytRisk of askosporlokalvaldata

Eerste SSV-swamdoderbespuiting later as middel Oktober weens later 80% blomblaarvaldatum



Indien daar infeksieperiodes was, sal dit nie 'n probleem wees nie, aangesien die bloeisels nog toe was

JOU HEFFING WERK VIR JOU – PRODUSENTE SE HEFFINGS WORD AANGEWEND OM DIE AKTIWITEITE VAN DIE CRI TE BEFONDS