



Citrus Black Spot Spray Programmes 2021 – 2022

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Citrus Black Spot (CBS) chemical control programmes are influenced by various factors such as regional and seasonal climate, CBS history, orchard age and condition, citrus type, and alternative control methods including inoculum management. Hence, it is not possible to recommend a single standard programme. However, given the necessity to accomplish high levels of control for export to CBS-sensitive markets, the following guidelines were compiled.

- A. **Start of a chemical control programme (spray programme):** Fruit protection is recommended from approximately mid-October. This period is before the first CBS infections occur, which can be after rainfall that results in >12 hours fruit or leaf wetness after 80% petal fall. However, if fruit phenology, or previous experience regarding first potential infection periods, indicate the need to start CBS sprays earlier than the recommended time, then the timing of the first sprays should be aligned with this period if coinciding with infection periods. Additionally, if the first spray is done after mid-October, records must be kept to show that no CBS infection periods occurred before the initial spray. Two systems are recognized by the Department of Agriculture, Land Reform and Rural Development (DALRRD) to determine the risk associated with CBS namely: CRI-PhytRisk and CBS ascospore trapping data (QMS and Laeveld-Agrochem). A curative fungicide can be applied within a 3- to 28-day period after any CBS infection period, depending on the curative action of the systemic fungicide used (see point E).
- B. Whilst infection cannot occur in dry periods (in absence of fruit wetness periods longer than 12 hours), uninterrupted protection is recommended until the end of the fruit susceptibility period (see point C), unless it can be demonstrated, as outlined above, that no CBS infection period occurred during periods between the end of the recommended protection period of the previous spray and the application (or extent of curative action) of the follow-up spray.

- C. Duration of fruit susceptibility and the recommended period of fruit protection are as follows.
- a. Navels:
 - i. All areas: protection until end-January.
 - b. Valencias:
 - i. Limpopo Valley (area of low pest prevalence): until end January
 - ii. All other areas: protection until end-February.
 - c. Lemons:
 - i. Limpopo Valley (area of low pest prevalence): until end-January.
 - ii. Northern regions: until end-February
 - iii. Southern regions (Eastern Cape Province): until end-March.
 - d. Soft citrus:
 1. Early mandarins (Satsumas + Clementines): protection until mid-January.
 2. Novas: protection until end-January for CBS; longer protection needed for *Alternaria* brown spot.
 3. Late mandarins: protection until end-February.
 - e. Grapefruit: protection until end-January.
- D. **All fungicides used must be registered for CBS control under Act 36 of 1947, and must be used within the recommendations specified on the label.**
- E. The only fungicides with curative control ability are:
- a. Benzimidazoles (benomyl or carbendazim, various companies) applied at the higher dose rate (50 g /100 L for benomyl and 55 mL / 100 L for carbendazim) and at full cover application; curative ability (time) not specified on label, but timing of registered use together with research and development trials indicate a curative action of 4 weeks.
 - b. Strobilurins: Azoxystrobin, trifloxystrobin and pyraclostrobin have a limited curative action, in some cases up to 3 days. Consult the specific product label on details of curative action.
- F. CBS control in organic citrus: a spray programme with copper fungicides during the fruit susceptibility period, and the CBS control programme must include inoculum management; e.g. the removal of fallen leaves and pruning debris.
- G. As a basic principle, continue using the recommended spray programme with which you achieved successful results in






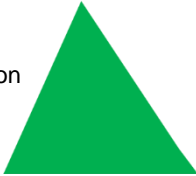

- previous seasons, and make improvements (stricter control measures, including inoculum management strategies, or removal of neglected trees/orchards) whenever possible or required.
- H. Fungicide classes that can be used in the CBS spray programmes, with some specific notes:
- a. Dithiocarbamates
 - i. Mancozeb – **Note MRL restrictions for certain markets. Consult the Recommended Usage Restrictions document regarding limitations for different markets.**
 1. Spray intervals when applied on its own are **NOT** 28 days, **but 25 days.**
 2. When applied in a programme with strobilurins, **if the first application was mancozeb, the first strobilurin tank mixture should be applied within 21-24 days.**
 - ii. Maneb/zinc oxide – **Note MRL restrictions for certain markets.**
 - b. Copper based products (copper oxychloride, cuprous oxide, or copper hydroxide)
 1. Copper sprays used twice within two successive months can result in fruit stippling. Fruit fly protein baits and copper can also give stippling.
 2. Stippling can be reduced by applying half-rates of copper in tank mixtures with Didecyl Dimethyl Ammonium Chloride (DDAC) (Note label recommendations and MRL restrictions for certain markets).
 - c. Benzimidazoles (benomyl, carbendazim)
 - i. Curative action at higher rates (50 g / 100 L for benomyl and 55 mL / 100 L for carbendazim) and at full cover sprays.
 - ii. High-risk for resistance development; use in mixture with chemically unrelated fungicide as registered. Try to avoid more than one application per season.
 - iii. **Resistance should be monitored regularly.**
 - iv. **Note MRL restrictions for certain markets. Consult the Recommended Usage Restrictions document regarding limitations for different markets.**
 - v. For lemons, also note the MRL restrictions for processing fruit.
 - d. Strobilurins
 - i. Limited curative action, in some cases up to 3 days. Consult specific product label.
 - ii. Recent research indicates that the risk for fungicide resistance development is low; however, use in a mixture with a chemically unrelated fungicide (copper, dipotassium phosphate or mancozeb as is registered).
 - iii. **When applied as part of an Alternaria brown spot spray programme, no more than two consecutive sprays should be allowed and no more than a total of 2 applications during the season.** This is to reduce the chances of resistance development by the Alternaria Brown Spot (ABS) pathogen. Only certain strobilurins are registered for ABS and CBS control. Consult specific product label.
 - e. Dipotassium phosphate
 - i. In a tank mixture with strobilurins (pyraclostrobin or azoxystrobin), the first strobilurin + dipotassium phosphate tank mixture should be applied 21 days after the initial application of dipotassium phosphate. When dipotassium phosphate is applied as the last spray in spray programme 4 it will provide up to 28 days of protection. **Consult the label for specific strobilurins compatible with this product.**
 - I. Protection periods: curative and protective actions of different chemical groups are summarised below. These protection periods are the optimal protection periods. Fungicidal action does not immediately stop outside these periods, but the curative and protective actions will decline with time.
 - Dithiocarbamates (Mancozeb): 25 day protection. No curative action.
 - (Maneb/Zinc-oxide): 28 day protection. No curative action.
 - Copper: 5 week protection. No curative action.
 - Strobilurins: 6 week protection. Limited curative action, in some cases up to 3 days. Consult product label.
 - Benzimidazoles: 6-week protection. Four-week curative action at



- higher dosage and thorough full cover sprays (See point E.a).
Dipotassium phosphate: 21-28 days protection. No curative action.
- J. For systemic products (strobilurins and benzimidazoles), only use an adjuvant in a tank mixture as specifically recommended on the SYSTEMIC product's label. **In most cases, ONLY oil is recommended on the labels of these products and should therefore be used.**
- K. At all times keep accurate spray records of products applied and their labels to prove that fruit was protected from infection for the whole fruit susceptibility period.

- L. The programmes given below were discussed with citrus growers who attended the previous CRI Disease Management workshops. There can be deviations from these programmes; e.g. if a grower who decided to use Option 1 runs into spraying problems because of rainfall, it will be possible for him to follow up with a fungicide with a curative action and still be following an acceptable spray programme, taking into account the protection and curative action of the different products mentioned in point I. Should significant rain occur within a few hours of spray application, please contact the fungicide registration holder to determine if re-application of the specific fungicide is necessary.

Examples of typical spray programmes for different regions; deviations from these examples can provide adequate (or improved) control as long as it is compliant with the minimum recommendations stated above and on the different product labels. Extension of spray protection beyond the indicated end of the fruit susceptibility period is optional.

<p>Dithiocarbamates</p> <ul style="list-style-type: none"> • 25 days protection • 21-24 days if part of a programme • No curative action 	<p>Strobilurins</p> <ul style="list-style-type: none"> • 6 Weeks protection • Some have a 3 day curative action 
<p>Copper</p> <ul style="list-style-type: none"> • 5 Weeks protection • No curative action 	<p>Benzimidazoles</p> <ul style="list-style-type: none"> • 6 Weeks protection • 4 Weeks curative action at the higher dosage applied as full cover sprays 
<p>Dipotassium phosphate</p> <ul style="list-style-type: none"> • 3-4 Weeks protection • No curative action • Only use in a programme 	

1. Letsitele, Hoedspruit, Burgersfort, Groblersdal, Nelspruit, eSwatini & KZN

a) Navels, Mid-seasons, Valencias, lemons, mandarins

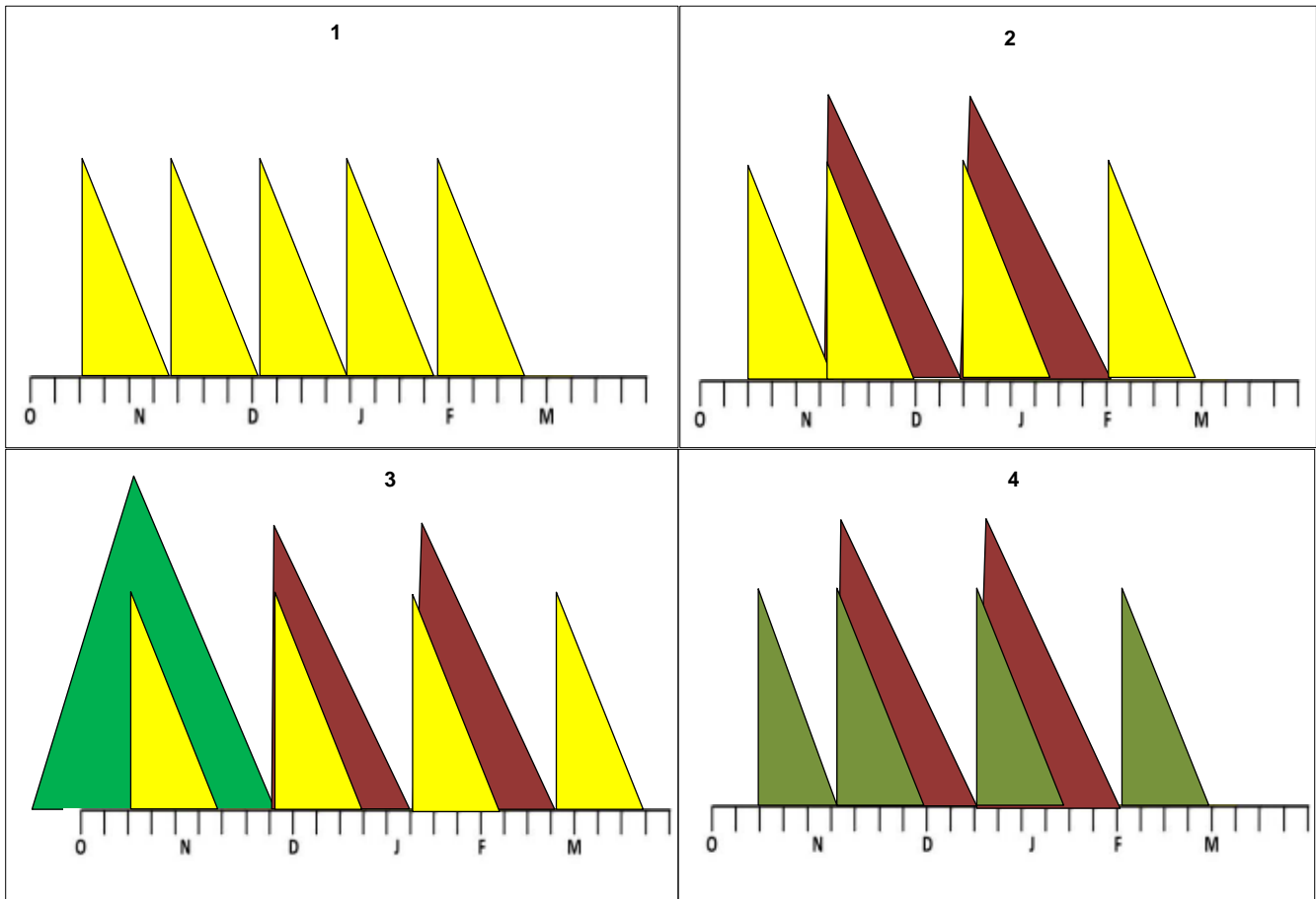
Guidelines for spray applications					
	Start of spray programme	25 days later	25 days later	25 days later	25 days later
1*	Mancozeb (MZ)**	Mancozeb	Mancozeb	Mancozeb	Mancozeb
	Start of spray programme	21-24 days later	6 weeks later	6 weeks later	



2	Mancozeb Start of spray programme	Benz/Strob+MZ+ oil 6 weeks later	Benz/Strob+MZ+oil 6 weeks later	Mancozeb 6 weeks later
3	Benz+MZ+oil Start of spray programme	Strob+MZ+oil 3 weeks later	Strob+MZ+oil 6 weeks later	Mancozeb 6 weeks later
4	Dipotassium phosphate (DP)	DP + Strob + oil	DP + Strob + oil	Dipotassium phosphate

***Programme 1 can also be alternated with copper**

****Can also be applied in a tank mixture at half the dosage with DDAC, but no later than end December (160 day withholding period for DDAC; use less than 8 L/ha DDAC)**





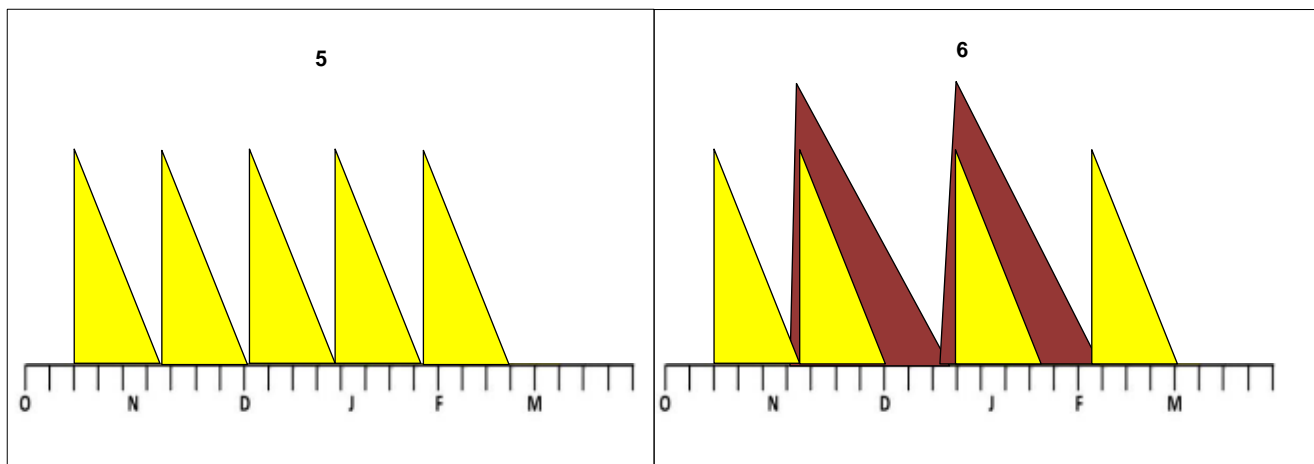
b) Grapefruit specific examples for Letsitele, Hoedspruit, Onderberg, eSwatini & KZN

	Start of spray programme	25 days later	25 days later	25 days later	25 days later
5*	Mancozeb**	Mancozeb	Mancozeb	Mancozeb	Mancozeb
	Start of spray programme	21-24 days later	4 -6 weeks later	4 -6 weeks later	
6***	Mancozeb	Strob + MZ + oil	Strob+MZ+oil	Mancozeb	

*Programme 5 can also be alternated with copper

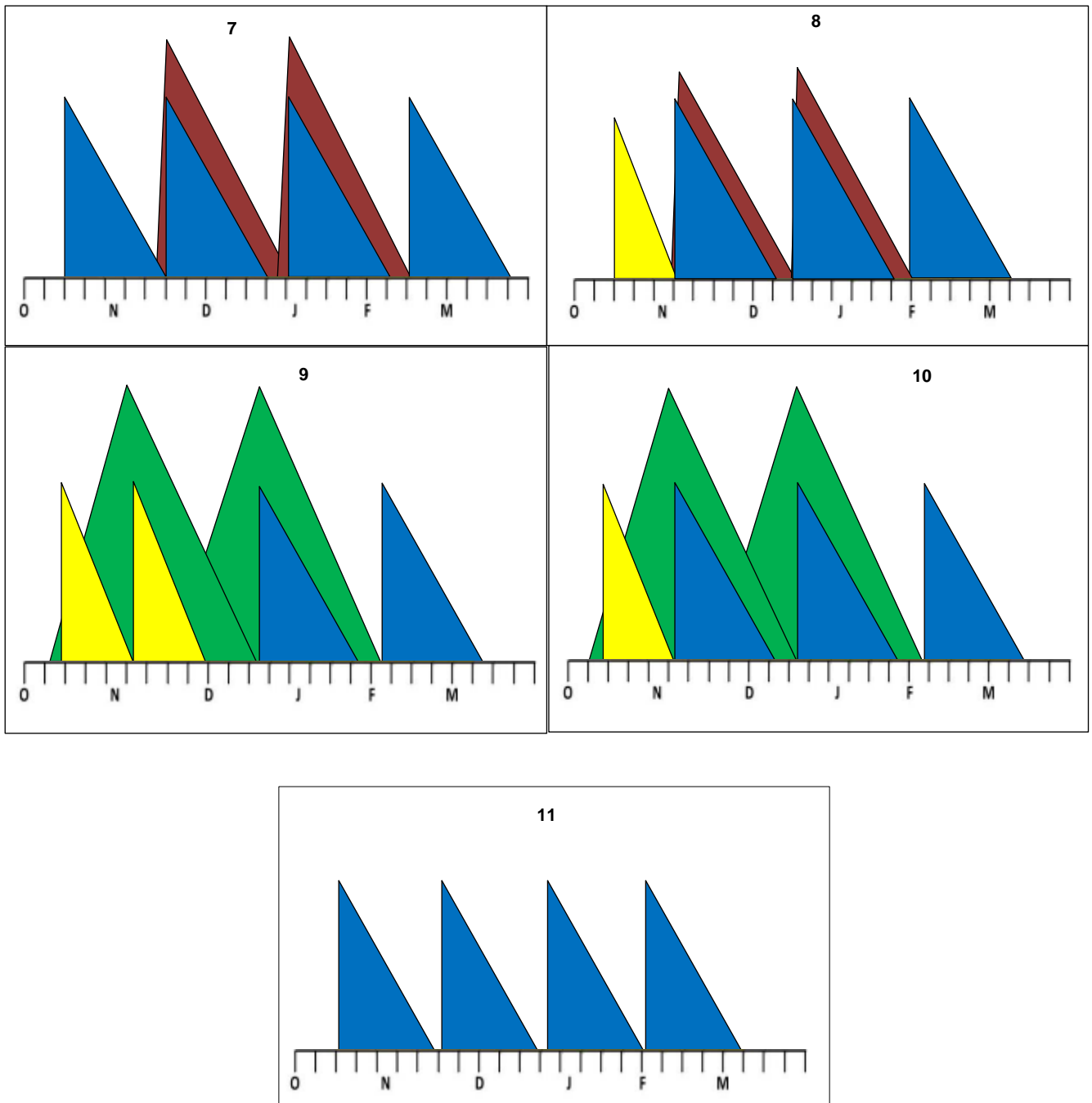
**Can also be applied in a tank mixture at half the dosage with DDAC, but no later than end December (160 day withholding period for DDAC; use less than 8L/ha DDAC)

***Mancozeb in this programme can be substituted with dipotassium phosphate (see programme 4).



	Start of spray programme	4 weeks later	6 weeks later	6 weeks later
7*	Copper	Strob+copper+oil	Strob+copper+oil	Copper
8	Mancozeb	Strob+copper+oil	Strob+copper+oil	Copper
9	Mancozeb	Benz+MZ+oil	Benz+copper+oil	Copper
10	Mancozeb	Benz+copper+oil	Benz+copper+oil	Copper
	Mid October	5 weeks later	5 weeks later	5 weeks later
11	Copper	Copper	Copper	Copper

*Copper can be substituted with dipotassium phosphate. See programme 4.



ONLY certain copper formulations are registered to be sprayed in tank mixtures with strobilurins. It is therefore important to consult the label of the product being sprayed in conjunction with a certain copper formulation.

Canada & USA (Note: For Canada no mancozeb later than end December; for USA no mancozeb or benzimidazoles later than 90% petal fall).

South Korea (Note: no mancozeb/maneb to be applied later than end of December and no benzimidazoles later than 90% petal fall)

Other markets: Restrictions regarding mancozeb are also in place for other markets, not mentioned above. Consult the Recommended Usage Restrictions for Plant Protection Products document.

2. Limpopo River Valley, Tshipise/ Weipe (Area of low pest prevalence)

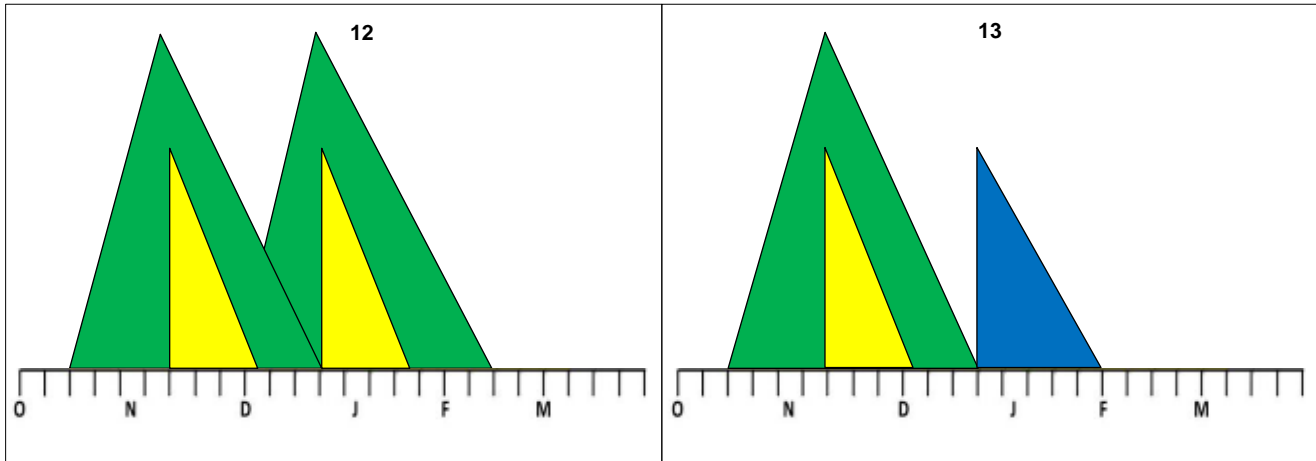


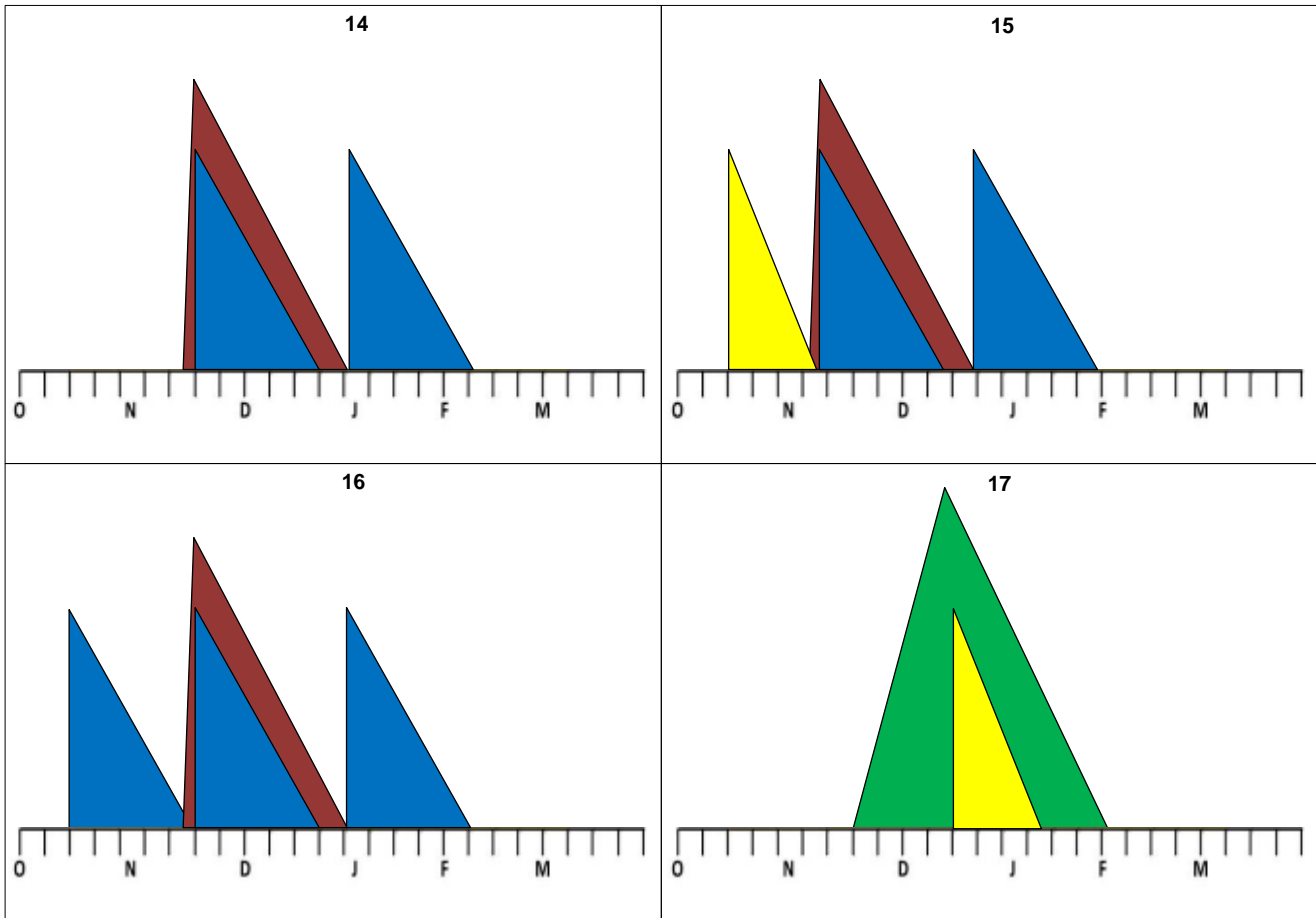
All cultivars (Note: For Canada no mancozeb later than end December; for USA no mancozeb or benzimidazoles later than 90% petal fall)

Note: No mancozeb/maneb to be applied later than end of December and no benzimidazoles later than 90% petal fall for South Korea

Other markets: Restrictions regarding mancozeb are also in place for other markets, not mentioned above. Consult the Recommended Usage Restrictions for Plant Protection Products document.

	80 – 100% petal fall	After first sufficient rainfall	6 weeks later
12		Benz+MZ+oil	Benz+MZ+oil
13		Benz+MZ+oil	Copper
14		Strob +Copper+Oil	Copper
15	Mancozeb	Strob+Copper+Oil	Copper
16	Copper	Strob+Copper+Oil	Copper
		Mid Dec	
17		Benz+MZ+oil	





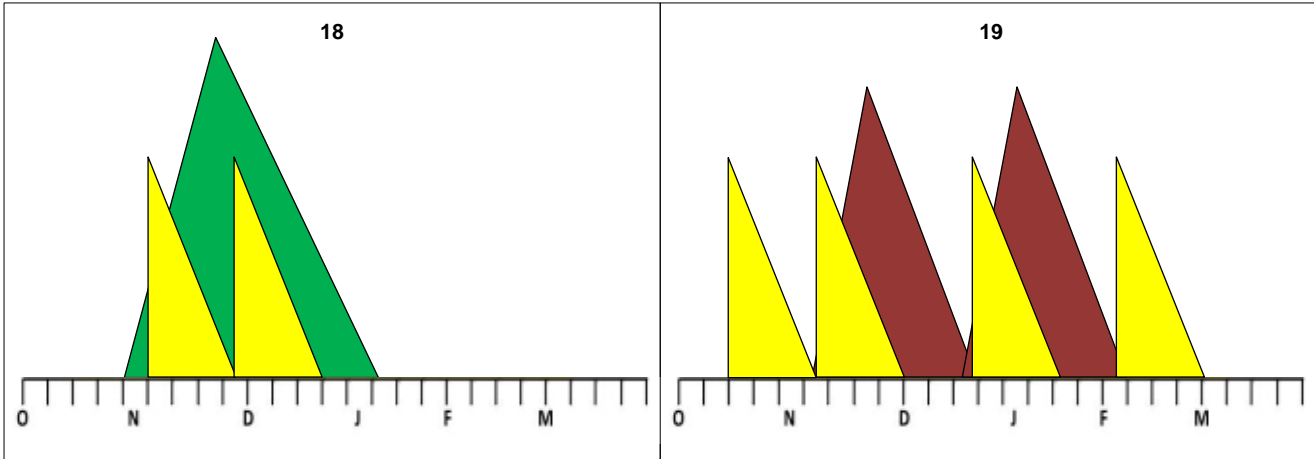
3. Eastern Cape Province

a) Clementines, Satsumas and Novas

	Start of spray programme (Mid-Oct)	Early Nov	Early December	Early January
Satsumas + Clementines				
18		Mancozeb	Benz+MZ+oil	
Novas				
19**	Mancozeb	Strob+MZ+oil	Strob*+MZ+oil	Mancozeb

***Make sure that the PHI for strobilurin is within MRL limits at harvest. Satsumas & Clementines are poor hosts of CBS.**

****In this programme, mancozeb can also be substituted with dipotassium phosphate. See programme 4.**



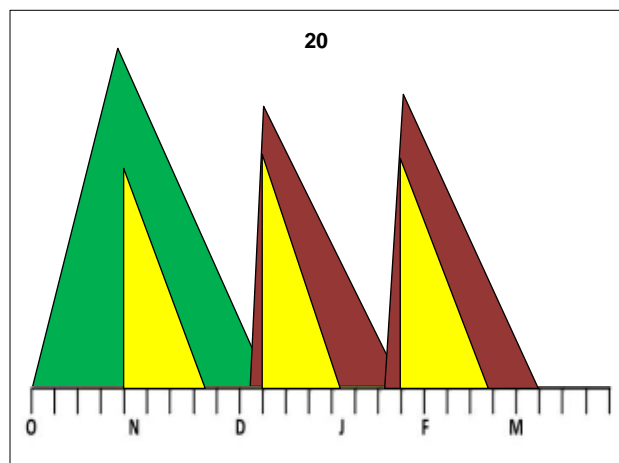
b) Navels

	Start of spray programme (End October)	Beginning December	Early to Mid-January
20	Benz+MZ+oil	Strob+MZ+oil	Strob*+MZ**+oil

*Make sure that the PHI for strobilurin is within MRL limits at harvest

**Note: For Canada and South Korea replace mancozeb with copper after December. For the USA replace mancozeb with copper and benzimidazoles with strobilurins after 90% petal fall. For South Korea, replace benzimidazoles with strobilurins after 90% petal fall.

Other markets: Restrictions regarding mancozeb are also in place for other markets, not mentioned above. Consult the Recommended Usage Restrictions for Plant Protection Products document.

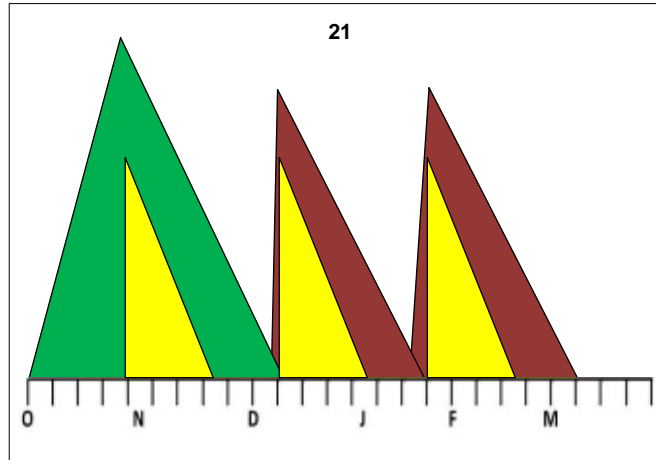


c) Late Mandarins (for CBS) and Valencias

	Start of spray programme (End October)	6 weeks later	6 weeks later
21	Benz+MZ+oil	Strob+MZ+oil	Strob+MZ+oil

Note: For Canada and South Korea replace mancozeb with copper after December. For the USA replace mancozeb with copper after 90% petal fall.

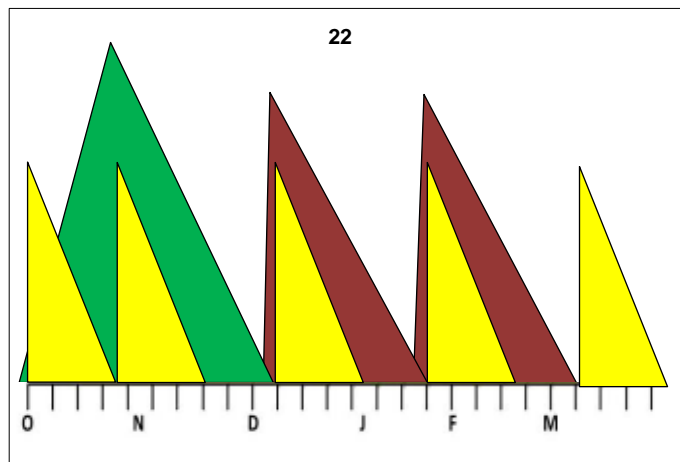
Other markets: Restrictions regarding mancozeb are also in place for other markets, not mentioned above. Consult the Recommended Usage Restrictions for Plant Protection Products document.



d) Lemons

	Start of spray programme (Beginning October)	21-24 days later	6 weeks later	6 weeks later	6 weeks later
22	Mancozeb	Benz+MZ+ oil	Strob+MZ+oil	Strob+MZ+oil	Mancozeb*

***Note: For Canada and South Korea replace mancozeb with copper after December. For the USA replace mancozeb with copper and benzimidazoles with strobilurins after 90% petal fall. For South Korea, replace benzimidazoles with strobilurins after 90% petal fall. Other markets: Restrictions regarding mancozeb are also in place for other markets, not mentioned above. Consult the Recommended Usage Restrictions for Plant Protection Products document.**

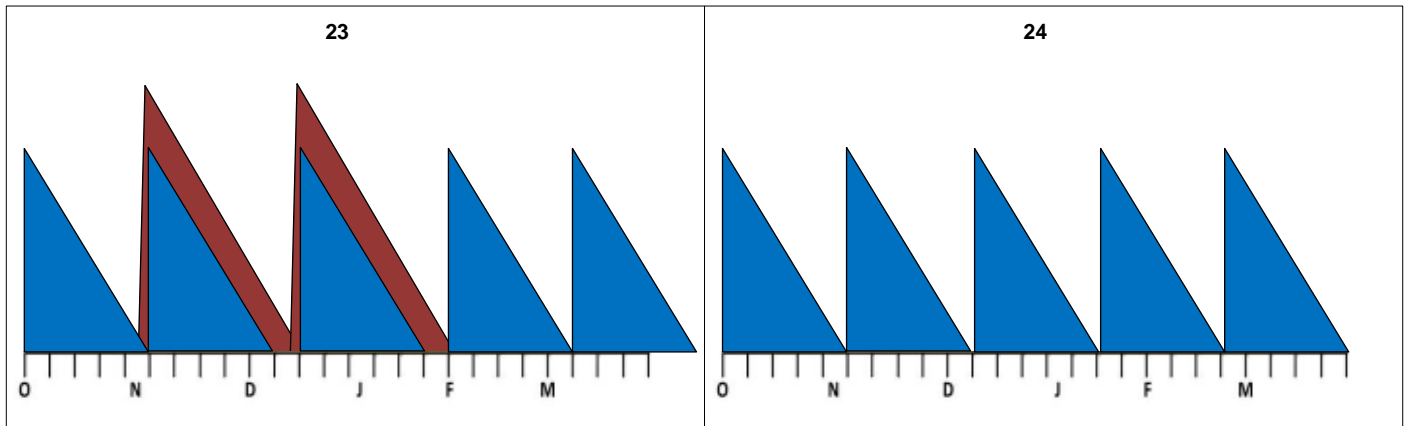




e) Lemons (Fruit processing)*

	Start of spray programme (Beginning October)	5 weeks	6 weeks later	6 weeks later	5 weeks later
23	Copper	Strob+copper+oil	Strob+copper+oil	Copper	Copper*
		5 weeks	5 weeks	5 weeks	5 weeks
24	Copper	Copper	Copper	Copper	Copper

*Note: When processing fruit for juice, only strobilurins and copper or dipotassium phosphate products allowed. Processing fruit for citrus rind oil, only copper products allowed.





Sitrus swartvlek spuitprogramme 2021 – 2022

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Die chemiese beheer-programme van Sitrus swartvlek (SSV) word beïnvloed deur 'n verskeidenheid faktore soos streeks- en seisoenale klimaat, SSV geskiedenis, boordouderdome en -kondisie, sitrustipe en alternatiewe beheermetodes insluitend inokulum-bestuursprogramme. Dit is dus nie moontlik om 'n standaard program aan te beveel nie. Gegewe die noodsaaklikheid om hoë vlakke van beheer vir SSV na sensitiewe markte te handhaaf, word die volgende riglyne vir effektiewe SSV beheer voorgedra. Die riglyne is as volg:

- A. **Begin van 'n chemiese beheerprogram (spuitprogram):** Vrugbeskerming word aanbeveel vanaf mid-Oktober. Hierdie periode is voor die eerste SSV infeksieperiodes wat kan wees na reëns wat tot > 12 ure van vrug- of blaarnatheid na 80% blomblaarval kan lei. Indien vrugfenologie of vorige ervarings van eerste potensiële infeksieperiodes, die nodigheid aandui dat SSV bespuitings vroeër as die aanbevole tyd moet begin, moet die eerste bespuiting met hierdie periode saamval as daar infeksieperiodes was. Bykomend, as die eerste bespuiting na mid-Oktober gedoen word, moet deur rekordhouding bewys kan word dat daar geen SSV infeksieperiodes voor die eerste bespuiting was nie. Twee sisteme word deur die Departement van Landbou, Grondhervorming en Landelike Ontwikkeling (DALRRD) erken om die risiko verbonde aan SSV te bepaal: CRI-PhytRisk en SSV askospor lokvaldata (QMS en Laeveld Agrochem). 'n Kuratiewe swamdoder kan binne 'n 3-28 dae periode na enige SSV infeksieperiode aangewend word, afhangend van die kuratiewe aksie van die swamdoder (sien punt E).
- B. Alhoewel infeksie nie in droë periodes (in afwesigheid van 12 ure vrug of blaarnatheid) kan plaasvind nie, word ononderbroke vrugbeskerming tot aan die einde van die vrugvatbaarheidsperiode aanbeveel (sien punt C), tensy, soos bo verduidelik, daar bewys kan word dat geen SSV infeksieperiodes tussen die einde van die aanbevole bekermingsperiode van die vorige bespuiting en die toediening (of die kuratiewe periode) van die opvolgbespuiting was nie.

- C. Tydsduur van vrugvatbaarheid en die aanbevole periode van vrugbeskerming is as volg:
- Nawels: Alle areas: beskerming tot einde Januarie
 - Valencias: i. Limpopo-vallei (area van lae SSV voorkoms): tot einde Januarie
ii) All ander areas: Beskerming tot einde Februarie
 - Suurlemoene:
 - Limpopo-vallei [area van lae SSV voorkoms]: Tot einde Januarie
 - Noordelike streke: tot einde Februarie
 - Suidelike streke (Oos Kaap provinsie): tot einde Maart
 - Sagte sitrus :
 - Vroeë mandaryne (Satsumas + Clementines): beskerming tot middel Januarie
 - Novas: beskerming tot einde Januarie vir SSV; langer beskerming word vir *Alternaria* bruin vlek benodig
 - Laat mandaryne: beskerming tot einde Februarie.
 - Pomelos: beskerming tot einde Januarie.
- D. **Alle swamdoders wat gebruik word moet vir SSV beheer onder Wet 36 van 1947 geregistreer wees en moet gebruik word binne die aanbevelings soos dit op die etiket beskryf word**
- E. Die enigste swamdoders met kuratiewe beheeraksie is:
- Bensimidazole (benomil of karbendasim, verskeie maatskappye) toegedien teen die hoër dosis (50 g /100 L vir benomyl en 55 mL / 100 L vir karbendasim) teen voldekbespuiting; kuratiewe eienskappe (tyd) is nie op die etiket gespesifiseer op nie, maar die tyd van toediening soos per registrasie tesame met navorsing en ontwikkelingsproewe dui op 'n kuratiewe aksie van 4 weke.
 - Strobilurine: Azoxystrobien, trifloxystrobien en pyraclostrobien het 'n beperkte kuratiewe werking, in sommige gevalle tot 3 dae. Raadpleeg spesifieke produk se etiket vir besonderhede oor kuratiewe aksie.
- F. SSV beheer in organiese sitrus: volg 'n spuitprogram met koperswamdoders tydens die vrugvatbaarheidsperiode. Die SSV beheerprogramme moet ook inokulumbestuur soos die verwydering van blare en snoeiafval insluit.
- G. As 'n basiese beginsel, gaan voort om die aanbevole spuitprogramme te volg wat gedurende die vorige seisoene goeie



- resultate opgelewer het en maak verbeteringe (strenger beheermaatreeë, insluitende inokulumbestuurstrategieë, of verwydering van verwaarloosde bome/boorde) waar moontlik of vereis word.
- H. Swamdoderklasse wat gebruik kan word in SSV spuitprogramme met spesifieke notas:
- a. Dithiokarbamate
 - i. Mankoseb – **Let op daar is MRL beperkinge vir sekere markte. Raadpleeg die “Recommended Usage Restrictions” vir beperkings vir verskillende markte.**
 1. Spuit intervalle wanneer alleen gebruik word, is **NIE** 28 dae nie, **maar 25 dae.**
 2. Wanneer dit deel uitmaak van ‘n spuitprogram waarvan strobiluriene ook deel is, en **as mankoseb die eerste toediening was, moet die eerste strobilurien tenkmengsel binne 21-24 dae daarna toegedien word.**
 - ii. Maneb/Sinkoksied – **Let op daar is MRL beperkinge vir sekere markte.**
 - b. Koper gebaseerde produkte (koper-oksichloried, koper-oksied of koperhidroksied)
 1. Koperbespuitings wat twee keer binne twee opeenvolgende maande gebruik word, kan tot vrug stippeling aanleiding gee. Vrugtevlieg proteïenlokaas en koper kan ook tot stippeling aanleiding gee.
 2. Stippeling kan verminder word deur koper konsentrasies te halveer in tenkmengsels met Didecyl Dimethiel Ammonium Chloried (DDAC) (Let op daar is MRL beperkinge vir sekere markte)
 - c. Bensimidazole (benomyl, karbendasim)
 - i. Kuratiewe aksie teen hoër dosisse (50 g / 100 L vir benomyl en 55 mL / 100 L vir karbendasim) en teen voldekbespuitings.
 - ii. Hoë risiko vir weerstands-ontwikkeling: gebruik in kombinasie met ‘n chemies nie-verwante swamdoder soos geregistreer. Probeer om meer as een bespuiting per seisoen te vermy.
 - iii. Weerstand moet gereeld gemonitor word.
 - iv. **Let op daar is MRL beperkings vir sekere markte. Raadpleeg die “Recommended Usage Restrictions” vir beperkings vir verskillende markte.**
 - v. Vir suurlimoene let ook daar is MRL beperkings op vrugte vir prosessering.
 - d. Strobiluriene
 - i. Beperkte kuratiewe aksie, in sommige gevalle tot 3 dae. Raadpleeg spesifieke produk se etiket vir besonderhede.
 - ii. Onlangse navorsing toon dat die risiko vir fungisied weerstands-ontwikkeling laag is; gebruik nogtans in ‘n mengsel met ‘n chemies nie-verwante swamdoder (koper, dikaliumfosfaat of mankoseb soos geregistreer).
 - iii. **Wanneer aangewend word as deel van ‘n Alternaria Bruinvlek (ABV) spuitprogram, moet nie meer as 2 opeenvolgende toedienings toegelaat word nie en nie meer as 2 toedienings in totaal gedurende die seisoen nie.** Dit is om die kans vir die ontwikkeling van weerstand deur die Alternaria Bruinvlek (ABV) patogeen te verminder. Slegs sekere strobiluriene is geregistreer vir ABV en SSV beheer. Raadpleeg die spesifieke produk se etiket.
 - e. Dikaliumfosfaat
 - i. In ‘n tenkmengsel met strobiluriene (pyraklostrobien of azoxystrobien), moet die eerste strobilurien + dikaliumfosfaat tenkmengsel, 21 dae na die eerste toediening van dikaliumfosfaat, toegedien word. Wanneer dikaliumfosfaat toegedien word as die laaste bespuiting in program 4, sal dit tot 28 dae beskerming gee. **Raadpleeg die etiket vir spesifieke strobiluriene wat verenigbaar met hierdie produk is.**
 - I. Beskermingsperiodes: kuratiewe en beskermende aksies van verskillende chemiese groepe word hier onder opgesom. Hierdie beskermingsperiodes is die optimale beskermingsperiodes. Fungisidiese aksie stop nie onmiddellik na hierdie periodes nie, maar die kuratiewe en beskermings-aksies sal met tyd afneem.

Dithiokarbamate (Mankoseb): 25 dae beskerming. Geen kuratiewe aksie.

(Maneb/Sinkoksied) 28 dae beskerming. Geen kuratiewe aksie.

Koper: 5 weke beskerming. Geen kuratiewe aksie.




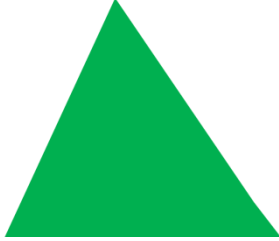



- Strobiluriene: 6 weke beskerming.
Beperkte kuratiewe aksie, in sommige gevalle tot 3 dae. Raadpleeg produk se etiket.
- Bensimidazole: 6 weke beskerming. Vier weke kuratiewe werking teen hoër dosis en deeglike voldekbepuitings (Sien punt E.a.).
- Dikaliumposfaat: 21-28 dae beskerming.
Geen kuratiewe aksie.
- J. Vir sistemiese produkte (bensimidazole of strobiluriene), gebruik SLEGS benatters in tenkingsels soos spesifiek op die SISTEMIESE produk se etiket aanbeveel word. **In meeste gevalle, word SLEGS olie aanbeveel op die etikette van hierdie produkte en moet dus gebruik word.**
- K. Hou ten alle tye akkurate spuitrekords van produkte wat gespuit is en hulle etikette om te bewys dat vrugte teen infeksies beskerm vir die volle vrugvatbaarheidsperiode was.
- L. Die onderstaande programme is met sitrus-producente wat die die vorige CRI produksie werkwinkels bygewoon het, bespreek. Daar kan afwykings van hierdie programme wees, bv. as 'n produsent wat op Opsie 1 besluit het, moeilikheid met bespuitings weens reën

ondervind, sal dit vir hom moontlik wees om dit op te volg met 'n swamdoder wat 'n kuratiewe aksie het en nog steeds 'n aanvaarbare spuitprogram kan volg, inaggenome die beskermende en kuratiewe aksie van die verskillende produkte soos onder punt I genoem. Sou dit baie reën, binne 'n paar ure na die bespuiting, kontak asseblief die swamdoder registrasie houder om te bepaal of 'n herbespuiting van die spesifiek swamdoder nodig is.

Voorbeelde van tipiese spuitprogramme vir verskillende streke; afwykings van hierdie voorbeelde kan voldoende (of verbeterde) beheer tot gevolg hê solank dit in ooreenstemming is met die minimum aanbevelings soos hier bo uiteengesit en op die verskillende produkte se etikette. Verlenging van spuit beskerming tot na die einde van vrugvatbaarheidsperiode is opsioneel.



<p>Dithiokarbamate</p> <ul style="list-style-type: none"> • 25 dae beskerming • 21-24 dae wanneer deel van 'n spuitprogram is; geen kuratiewe aksie 	<p>Strobiluriene</p> <ul style="list-style-type: none"> • 6 weke beskerming • Sommige het 'n 3 dag kuratiewe aksie 
<p>Koper</p> <ul style="list-style-type: none"> • 5 weke beskerming • Geen kuratiewe aksie 	<p>Bensimidazole</p> <ul style="list-style-type: none"> • 6 weke beskerming • 4 weke kuratiewe aksie teen die hoër dosis en toegedien as 'n vol-dek bespuiting 
<p>Dikaliumposfaat</p> <ul style="list-style-type: none"> • 3-4 weke beskerming • Geen kuratiewe aksie • Gebruik slegs in 'n program 	

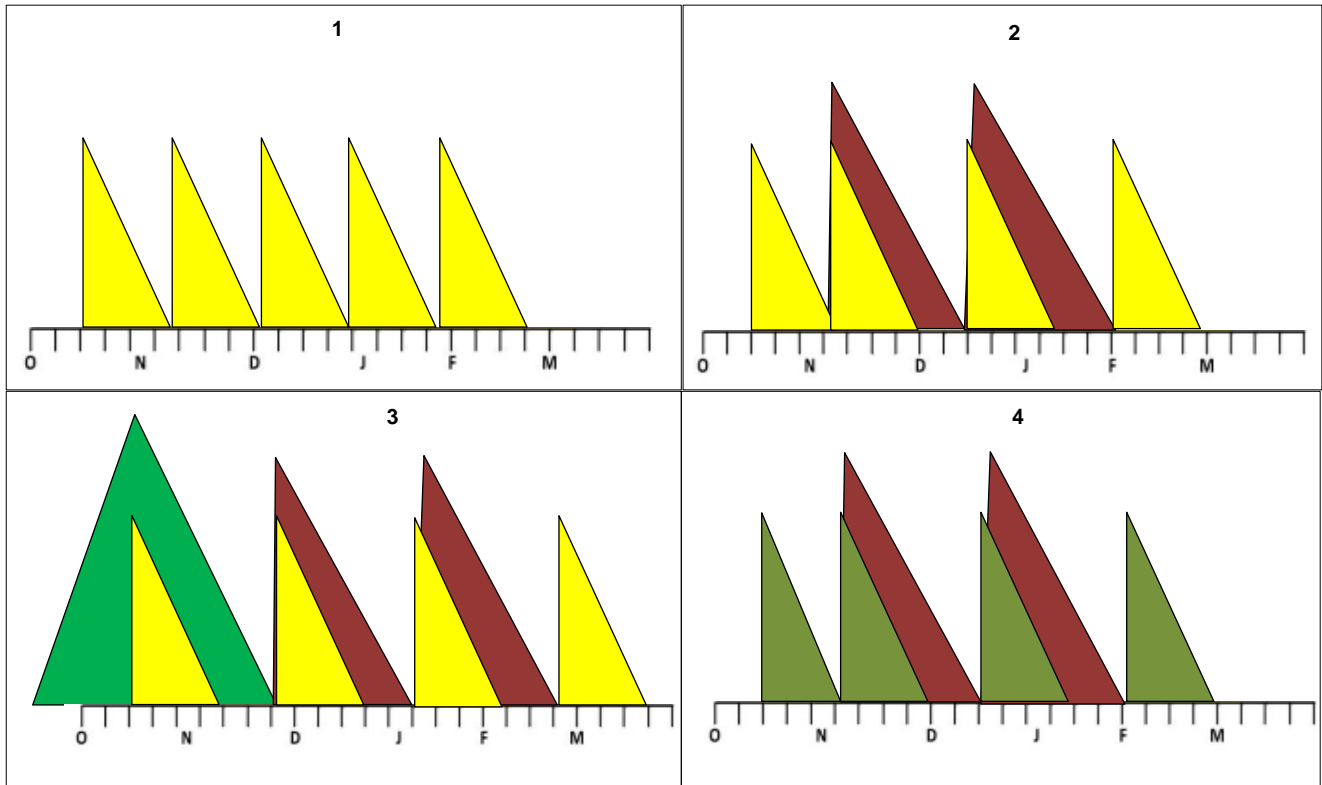
1. Letsitele, Hoedspruit, Burgersfort, Groblersdal, Nelspruit, eSwatini & KZN

a) Nawels, Midseisoene, Valencias, suurlimoene en mandaryne

Riglyne vir spuittoedienings					
	Begin van spuitprogram	25 dae later	25 dae later	25 dae later	25 dae later
1*	Mankoseb (MZ)**	Mankoseb	Mankoseb	Mankoseb	Mankoseb
	Begin van spuitprogram	21-24 dae later	6 weke later	6 weke later	6 weke later
2	Mankoseb	Benz/Strob+MZ+ olie	Benz/Strob+MZ+olie	Mankoseb	Mankoseb
	Begin van spuitprogram	6 weke later	6 weke later	6 weke later	6 weke later
3	Benz+MZ+olie	Strob+MZ+olie	Strob+MZ+olie	Mankoseb	Mankoseb
	Begin van spuitprogram	3 weke later	6 weke later	6 weke later	6 weke later
4	Dikaliumposfaat (DF)	DF+Strob+olie	DF+Strob+olie	DF	DF

* Program 1 kan ook met koper afgewissel word..

** Kan ook in 'n tenkmegsel teen 'n helfte van die dosis met DDAC toegedien word, maar nie later as einde Desember nie. (DDAC het 'n 160 dae weerhoudingsperiode; gebruik minder as 8L/ha DDAC)



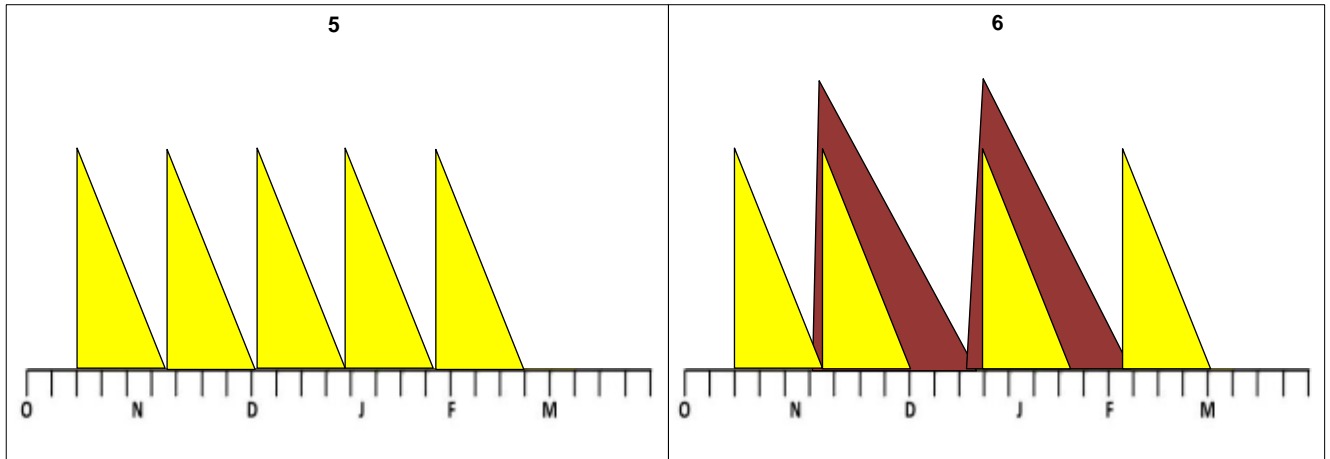
b) Pomelo spesifieke voorbeelde vir Letsitele, Hoedspruit, Onderberg, eSwatini & KZN

	Begin van spuitprogram	25 dae later	25 dae later	25 dae later	25 dae later
5*	Mankoseb**	Mankoseb	Mankoseb	Mankoseb	Mankoseb
	Begin van spuitprogram	21-24 dae later	4-6 weke later	4-6 weke later	
6***	Mankoseb	Strob + MZ + olie	Strob+ MZ + olie	Mankoseb	

*Program 5 kan ook met koper afgewissel word.

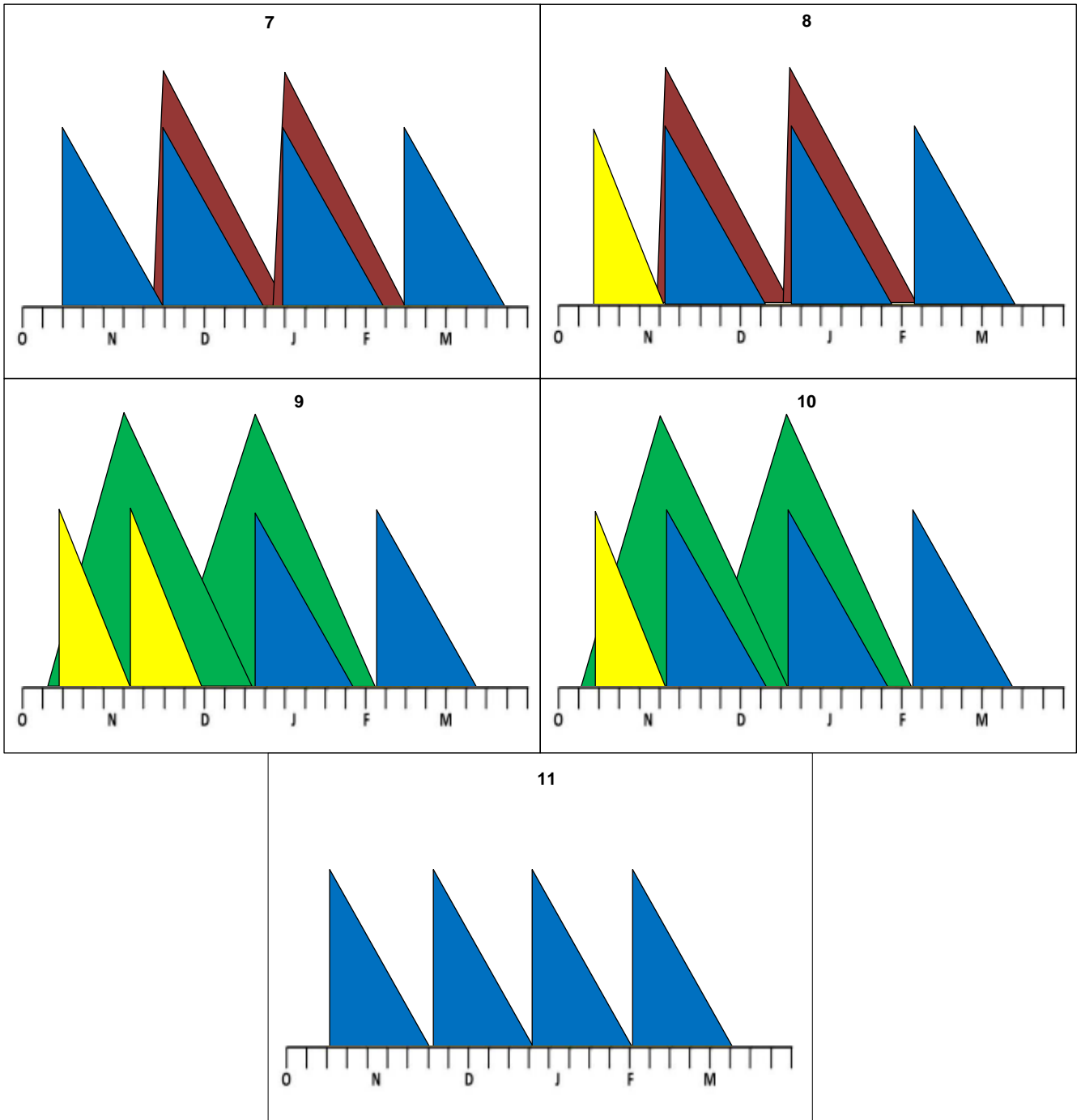
**Kan ook in 'n tenkmeysel teen 'n helfte van die dosis met DDAC toegedien word, maar nie later as einde Desember nie. (DDAC het 'n 160 dae weerhoudingsperiode; gebruik teen minder as 8L/ha DDAC)

***Mankoseb kan in hierdie program ook met Dikaliumposfaat vervang word (sien program 4).



	Begin van spuitprogram	4 weke later	6 weke later	6 weke later
7*	Koper	Strob+Koper+olie	Strob+Koper+olie	Koper
8	Mankoseb	Strob+Koper+olie	Strob+Koper+olie	Koper
9	Mankoseb	Benz+MZ+Olie	Benz+Koper+Olie	Koper
10	Mankoseb	Benz+Koper+Olie	Benz+Koper+Olie	Koper
	Middel Oktober	5 weke later	5 weke later	5 weke later
11	Koper*	Koper	Koper	Koper

*Koper kan met dikaliumfosfaat vervang word. Sien program 4.



SLEGS sekere koper formulasies is geregistreer om saam met strobiluriene in 'n tenkmengsel gespuit te word. Dit is dus belangrik om die etiket van die produk wat saam met 'n sekere koper-formulasie gespuit word, te raadpleeg.

Kanada en VSA (Let op: Vir Kanada - Geen mankoseb na einde Desember nie. Vir VSA - geen Mankoseb of bensimidazole na 90% blomblaarval nie)

Suid-Korea (Let op: Geen mankoseb/maneb kan aangewend word na einde Desember nie en geen bensimidazole na 90% blomblaarval nie).

Ander markte: Beperkings op mankoseb is ook van toepassing op ander markte. Dit word egter nie hierbo genoem nie. Raadpleeg die "Recommended Usage Restrictions for Plant Protection products".

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



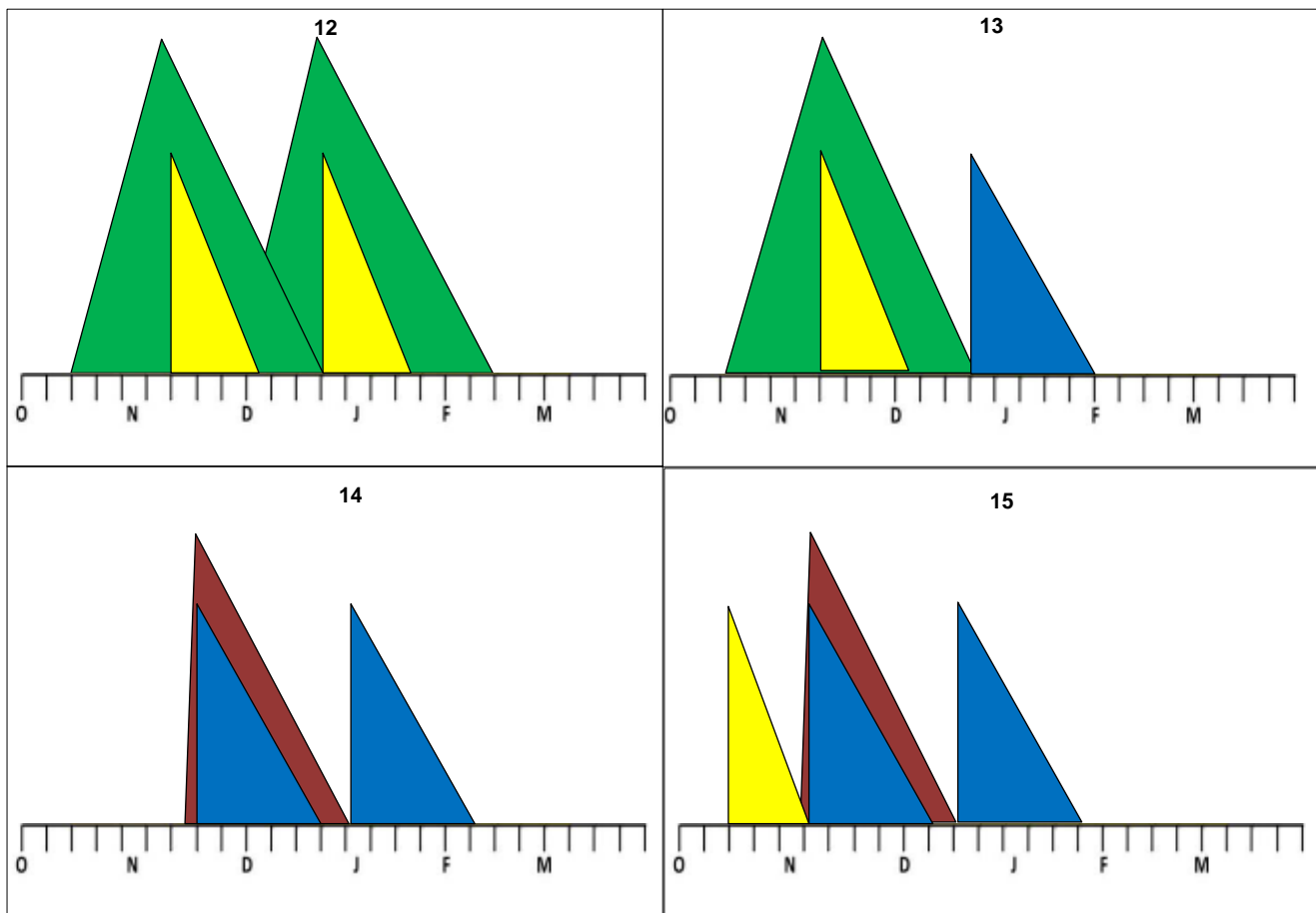
2. Limpoporivier vallei, Tshipise/ Weipe (Area van lae SSV voorkoms)

Alle kultivars (Let op: Vir Kanada - geen mankoseb later as einde Desember nie; vir VSA geen mankoseb en bensimidasole later as 90% blomblaarval nie)

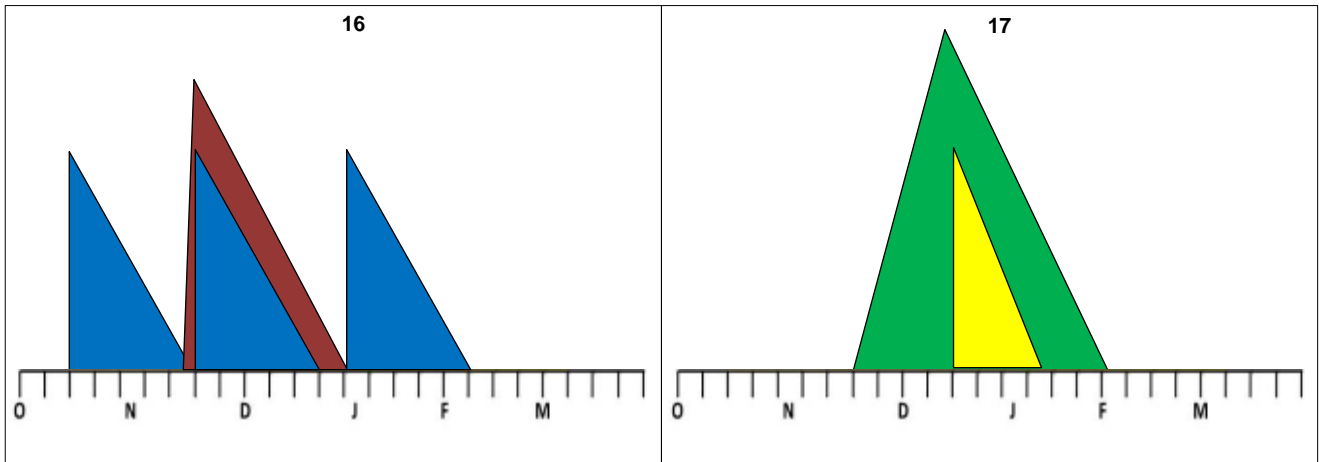
Suid-Korea (Let op: Geen mankoseb/maneb kan aangewend word na einde Desember nie en geen bensimidasole na 90% blomblaarval nie).

Ander markte: Beperkings op mankoseb is ook van toepassing op ander markte. Dit word egter nie hierbo genoem nie. Raadpleeg die "Recommended Usage Restrictions for Plant Protection products".

	80 – 100% blomblaar val	Na eerste voldoende reënval	6 weke later
12		Benz+MZ+olie	Benz+MZ+olie
13		Benz+MZ+olie	Koper
14		Strob +Koper+Olie	Koper
15	Mankoseb	Strob +Koper+Olie	Koper
16	Koper	Strob +Koper+Olie	Koper
		Middel Des	
17		Benz+MZ+olie	



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



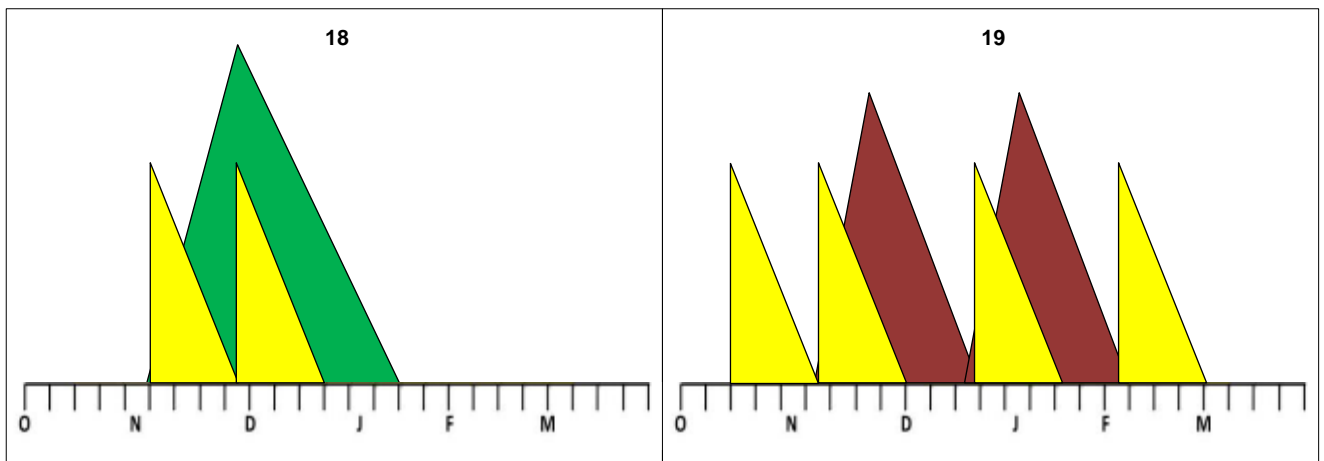
3. Oos-Kaap provinsie

a) Clementines, Satsumas en Novas

	Begin van spuitprogram (Middel Oktober)	Vroeg November	Vroeg Desember	Vroeg Januarie
Satsumas + Clementines				
18		Mankoseb	Benz+MZ+olie	
Novas				
19**	Mankoseb	Strob*+MZ+olie	Strob*+MZ+olie	Mankoseb

*Maak seker dat die VOI van strobiluriene binne die MRL limiete is teen oes . Satsumas en Clementines is swak gashere van SSV.

**In hierdie program kan mankoseb ook met dikaliumfosfaat vervang word. Sien program 4.





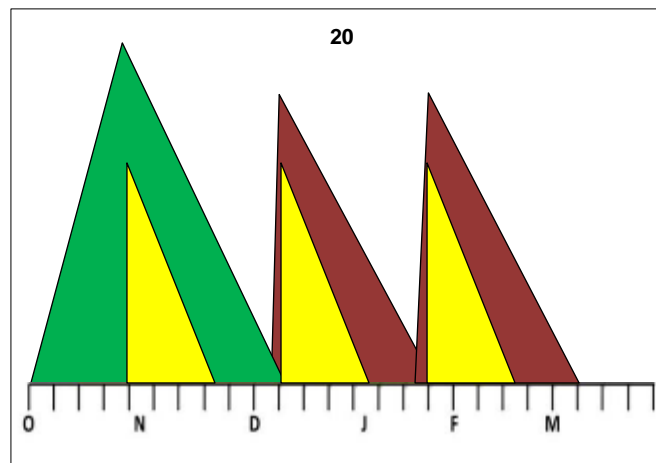
b) Nawels

	Begin van spuitprogram (Einde Oktober)	Begin Desember	Vroeë tot middel Januarie
20	Benz+MZ+olie	Strob*+MZ**+olie	Strob*+MZ**+olie

*Maak seker dat VOI van strobilurienes binne die MRL limiete is teen oes.

**Let op: Vir Kanada en Suid-Korea moet mankoseb met koper na Desember vervang word. Vir die VSA moet mankoseb met koper en bensimidazole met strobilurieni na 90% blomblaarval vervang word. Vir Suid-Korea vervang bensimidazole met strobilurieni na 90% blomblaarval.

Ander markte: Beperkings op mankoseb is ook van toepassing op ander markte. Dit word egter nie hierbo genoem nie. Raadpleeg die "Recommended Usage Restrictions for Plant Protection products".

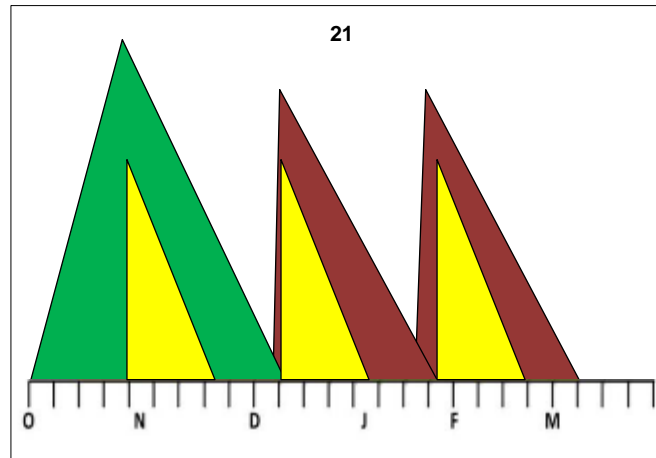


c) Laat Mandaryne (vir SSV) en Valencias

	Begin van spuitprogram (Einde Oktober)	6 weke later	6 weke later
21	Benz+MZ+olie	Strob+MZ+olie	Strob+MZ+olie

Let op: Vir Kanada en Suid-Korea moet mankoseb met koper na Desember vervang word. Vir die VSA moet mankoseb met koper na 90% blomblaarval vervang word.

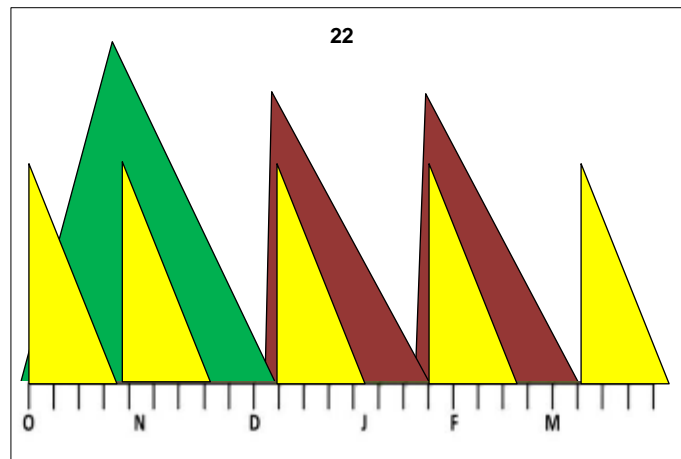
Ander markte: Beperkings op mankoseb is ook van toepassing op ander markte. Dit word egter nie hierbo genoem nie. Raadpleeg die "Recommended Usage Restrictions for Plant Protection products".



d) Suurlemoene

	Begin van spuitprogram (Begin Oktober)	21-24 dae later	6 weke later	6 weke later	6 weke later
22	Mankoseb	Benz+MZ+olie	Strob+MZ+olie	Strob+MZ+olie	Mancozeb*

*Let op: Vir Kanada en Suid-Korea moet mankoseb met koper na Desember vervang word. Vir die VSA moet mankoseb met koper en bensimidazole met strobilurine na 90% blomblaarval vervang word. Vir Suid-Korea vervang bensimidazole met strobilurine na 90% blomblaarval. Ander markte: Beperkings op mankoseb is ook van toepassing op ander markte. Dit word egter nie hierbo genoem nie. Raadpleeg die "Recommended Usage Restrictions for Plant Protection products".





e) Suurlemoene (Vrugte vir prosessering)*

	Begin van spuitprogram (Begin Oktober)	5 weke later	6 weke later	6 weke later	5 weke later
23	Koper	Strob+Koper+olie	Strob+Koper+Olie	Koper	Koper*
		5 weke	5 weke later	5 weke later	5 weke later
24	Koper	Koper	Koper	Koper	Koper

* Let op: Vrugte vir sap prosessering - slegs strobiluriene en koper of dikaliumfosfaat produkte word toegelaat. Vrugte wat vir sitrus skil-olies geprosesseer word - slegs koper produkte word toegelaat.

