

EXTENSION BRIEFS OCTOBER & NOVEMBER 2004

HENNIE LE ROUX

CRI - Nelspruit

CITRUS BLACK SPOT

G.C. SCHUTTE

South-Africa experienced a dry summer during the past season. Growers should, however, not assume that the inoculum will therefore be lower the coming season. The leaves (the primary source of inoculum) are present on the tree for up to two years before they drop and the serious problems that we had with CBS during the 2001/2002 season could therefore be carried forward. Control programmes consisting of copper fungicides, dithiocarbamates, benzimidazoles and strobilurins are recommended.

Research trials with different copper formulations indicated that two or more successive applications of copper fungicides (viz. a:b:b:a) are the cause of stippling. If the copper fungicides are altered with mancozeb for instance, no stippling was observed (viz. a:b:a:b). Furthermore, research trials where mancozeb was replaced with copper in tank mixtures with strobilurins and oils, showed that it was not only effective, but that the copper and oil mixtures had no effect on the trees and it also had a cost benefit.

If growers are interested in spraying such a programme where the strobilurins are applied in November and December (according to the label), then copper can only be used in one of the tank mixtures as the next treatment or successive treatment can not be copper as it will result in copper stippling.

With regards to the dithiocarbamates, new legislation by the Canadians to limit the MRL to 0.1 ppm, will have a huge effect in the selection of fungicides to cater for this market. Currently only 2-3% of the South African growers do export to Canada and they must familiarise themselves with the restrictions and protocols before they consider to spray mancozeb or maneb. Residue analysis done from fruit treated with one, two or four mancozebs in different spray programmes, showed that four successive mancozeb treatments sprayed at monthly intervals during the susceptible period from October to January, resulted in a MRL of 0.45 ppm before the packhouse treatment and 0.26 ppm after the packhouse treatment. Where a single mancozeb treatment was used in a tank mixture with a strobilurin and spray oil (sprayed in January) and preceded with a strobilurin, copper and spray oil (sprayed in November), no mancozeb residues were detected after the fruit was also subjected to packhouse treatments. CONTINUED ON PAGE 48

DIE JOERNAAL VIR DIE VRUGTEBEDRYF IN SUID-AFRIKA

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Tindrum 4/105A

CONTINUED FROM PAGE 47 and procedures. Due to the past dry season, only a couple of samples were received by the DC for benzimidazole resistance testing. No new regions with benzimidazole resistance were detected. Growers should adhere to the alteration of spray programmes (for instance with strobilurins) to prevent resistance development. The same precautionary measurements should be taken with strobilurins.

Alternaria brown spot spray programmes should start with the appearing of the first spring flush and growers must also adhere to the spray intervals set for the control of the disease in the summer rainfall regions. Strobilurins, sprayed according to the black spot registration in mid-November and mid-December with mancozeb/copper or copper/ mancozeb, will also control the disease. Growers in these areas must then carry on with mancozeb at 24 day intervals until harvest. Remember that dew plays an even greater role than rain in the infection process. New spray programmes with strobilurins will only be developed this coming season for the winter rainfall region, but the commencement dates of the spray programme are also with the first spring flush.

Alternaria black core rot (abcr) ABCR is associated with dry, hot

(RH < 20%; temperature > 30°C) weather conditions during blossom, accompanied with dew during the evening. The dry weather conditions results in the drying out of the primary style (exterior) while the secondary style (interior) is not affected. This results in cracks in the dry style through which ABCR can infect and stays latent within the fruit until harvest. Certain regions that experienced extremely dry conditions during blossom last year, had serious ABCR infections at harvest and in extreme cases, fruit drop also occurred. Growers can rely on triazole fungicides as registered for control.

CROP LOAD AND FRUIT QUALITY MANAGEMENT

G.H. BARRY

Fruit set treatments according to cultivar requirements need to be applied. Specific treatments include the application of gibberellic acid (GA) and girdling. A general guideline cannot be given as fruit set treatments differ by cultivar and, in many cases, by orchard depending on previous crop load. Water stress must be avoided during the flowering and fruit set period.

Fruit growth must be optimised during stage 1 of fruit development. Optimal nutrition and irrigation prac-

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CONTINUED FROM PAGE 48 tices are required. In addition, thinning practices (chemical or hand thinning) need to be applied where required to reduce inter-fruit competition and optimise fruit growth.

The acidity of fruit at harvest is largely determined within 6 weeks of fruit growth and development. Thereafter, only minor modifications to acidity can be achieved. Under conditions of anticipated high acidity at harvest, calcium arsenate can be applied approximately 6 weeks after full bloom. Specific concentrations for various cultivars can be found in the Production Guidelines for Export Citrus. However, depending on target market, growers should only apply this product where permitted by the importing country. Alternative products that have a lesser effect on acid reduction include mono-ammonium phosphate (MAP) and mono-potassium phosphate (MKP) applied at 1%, i.e. 1 kg per 100 litres of water, 6 weeks after full bloom. Please note that these phosphate sources have not been tested on all citrus cultivars; until now 1% MAP or MKP has reduced acidity on Valencia orange and Temple tangor, but not on grapefruit. A higher concentration, e.g. 5%, has worked well in Israel.

INTEGRATED PEST MANAGEMENT

S.D. MOORE

Parasitoid releases Growers planning to augment parasitoids for control of red scale, mealybug or false codling moth should initiate

releases as early in the new season as possible. Augmentative releases of parasitoids are not a corrective option, and growers should therefore not wait until the pest reaches a problematic level. Research trials with mealybug and FCM parasitoids indicate that better suppression of the pest is achieved with releases initiated as early as October.

Preventative sprays for mealybug Pre-harvest blemish analyses or winter inspections of trees might have indicated that preventative spraying for mealybug is unnecessary. This can be confirmed or refuted by inspecting fruit in October and November for the presence of mealybug. Sprays applied before calyx closure will most likely be more effective than those applied thereafter. An infestation level in excess of approximately 5% at petal fall, up to 20% six weeks after petal fall, indicates the need for immediate chemical intervention.

It appears that the biocontrol complexes of oleander mealybug and longtailed mealybug, in particular, may not be as effective as that of citrus mealybug.

Therefore, more conservative treatment thresholds can be used when either of these species are identified as the dominant species in a particular orchard. If citrus mealybug is not the dominant species, augmentative releases of *Coccidoxenoides peregrinus* should be considered unsuitable.

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T.G. GROUT

Thrips management During October and November, citrus fruit are highly susceptible to damage from citrus thrips and orchards should be scouted at least once a week for this pest. Citrus thrips larvae cause more serious damage than adult thrips so low numbers of adults in the absence of larvae may not require immediate intervention. The intervention threshold for citrus thrips larvae is 2% for the first four weeks after petal fall, 3% for five to six weeks after petal fall, then 4% for seven to eight weeks after petal fall. These thresholds can be approximately doubled if the population comprises mostly adults.

If thripicide treatments are required, use products suited to both the thrips population density and the spray machinery available for reapplication at short notice. The use of dedicated spray machines for the rapid application of thrips baits prevents clashes with black spot and red scale spray programmes. Citrus thrips are genetically predisposed towards developing resistance to pesticides so remember do not apply more than two consecutive sprays of the same active ingredient.

J.H. HOFMEYR

Lokvalle vir valskodlingmot Dit is belangrik om betyds te weet hoe groot die bedreiging is wat valskodlingmot (VKM) vir die oes inhou. Die enigste manier waarop dit maklik gedoen kan word is om VKM met behulp van lokvalle te monitor. Deur rekord te hou van mannetjiemotvangste, kan VKM-bestryding ten beste beplan word. Sulke gegewens kan help om mettertyd jaarlikse neigings te vergelyk wat 'n verdere hulpmiddel tot VKM-bestuur kan wees.

Lokvalle kan van Oktober af in boorde versprei word om mot-aktiwiteit vroegtydig op te spoor. Dit is uiters belangrik om noukeurig op die aanwysings te let wat saam met lokvalle en feromoon versprei word. Die lokvalstelsel sal nie reg werk as dit nie streng volgens aanbevelings gebruik word nie. Onbetroubare inligting sal ingewin word wat swak VKM-bestuur tot gevolg sal hê. Die lokvalstelsel kan van CRI (Edms) Bpk in Citrusdal verkry word.

BEMESTING EN BESPROEING

H. COETZEE

Stikstoftoedienings is tydsgebonde en die meeste stikstof moet teen dié tyd al toegedien wees. Slegs op ligte grond kan 'n klein bietjie stikstof nog in Oktober en November toegedien word. Waar drupbesproeiing toegepas word, veral enkellyn druppers, kan sowat 25% van die totale N in September + Oktober en 25% in November + Desember toegedien word. By vroeë kultivars, veral in die warmer dele van die land, moet die N-bemesting betyds gestaak word.

October is the most popular time to apply the foliar sprays to correct trace element deficiencies like zinc, manganese and boron. Usually these three are compatible and where the nitrates and sulphates are used, also compatible with magnesium nitrate.

Ensure that the spraying conditions are as optimal as can be. In a nut shell the optimal conditions are the correct concentration of the active element, large droplets, intermediate humidity, not too high temperatures, low operating pressure which will all contribute towards keeping the leaves wet for at least 15 to 20 minutes.

Kalium kan ook in die periode op die grond of deur die druppers toegedien word. Een van die doeltreffendste metodes om die opname van kalium te bevorder is om klein massas kaliumchloried (100 tot 150g per boom) oor die hele besproeiingsiklus gedurende die dag toe te dien. Selfs onder toestande waar die opname van kalium tradisioneel baie swak is.

Applying single or double super phosphate in a narrow strip of about 10cm wide, below the drip line of the trees, is a very effective method to increase the phosphorus status of the trees where micro jets are used. Please note that ammoniated supers like MAP or DAP or even phosphoric acid should not be applied in this manner.

Blaarbespuitings met kaliumnitraat is baie duur (R6-00 tot R9-00 per boom) en moet net gebruik word waar die moontlikheid op sukses goed is. Dit is toestande waar die kaliumstatus in die blare net-net nie normaal tot so halfpad in die normale gebied vir die kultivar, val. Waar hoë of baie lae K-vlakke heers is die kans op sukses klein. Waar bespuitings met kalium- of magnesiumnitraat beplan word, is dit uiters belangrik dat die toestande tydens die bespuiting baie na aan optimaal moet wees.

Where lime is required, the application should start after the last nitrogen application. Spread the lime evenly over the area from the stem to 50 cm beyond the drip line. In fact you need to apply the lime where you apply the fertiliser and the water. Using lime with drip irrigation is not recommended and a short cut to disaster.

GRONDGEDRAAGDE SIEKTES

M.C. PRETORIUS

Wortelsorg: Aalwurms en *Phytophthora*

'n Gesonde wortelstelsel is essensieël vir opbrengs, vruggrootte en algemene boomgesondheid. Onder droë toestande sal wortel probleme en simptome duideliker sigbaar wees. Daarom is dit belangrik dat alle faktore wat 'n invloed op die boom se wortelstelsel mag hê, in ag geneem behoort te word wanneer 'n aalwurmbeheerstrategie beplan word. Al die geregistreerde aalwurmdoders Temik uitgesluit, het heelwat water nodig, minstens 40mm, om die produkte effektief deur die grondprofiel te was om enigsins effektief te kan wees.

Probleem boorde, boorde met 'n kleinvrug- en opbrengsprobleme, behoort eerstens gemonster te word om te bepaal of aalwurmpopulasies wel bo die drempel waarde is en of *Phytophthora* nie dalk die probleem is nie maw alle moontlike faktore wat 'n invloed op die wortelstelsel het moet uitgeskakel word. Besproeiingstelsels behoort gereeld nagegaan te word om sodoende optimum besproeiing te verseker. Indien die aalwurmpopulasie wel

die drempelwaardes oorskrei moet die aalwurmdodertoediening volgens die effektiewe benattingsarea toegedien word. Geen aalwurmdodertoediening behoort gedoen te word indien besproeiing nie optimaal toegedien kan word op die behandelde area nie.

Monsterneming vir aalwurms kan regdeur die jaar gedoen word maar behandelingstye van besmette boorde in die verskillende reënvalgebiede sal van mekaar verskil, aangesien reënval 'n groot rol speel tydens die inwas van die middels in die grond. Geregistreerde middels kan dus nou met ses tot agt weke intervale toegedien word in die somerreënvalgebiede.

Indien *Phytophthora* wortel en/of kraagvrot voorkom kan twee of drie fosfonaat blaarbespuitings of stamaanwendings volgens geregistreerde dosisse aangewend word met ses tot agt weke intervale. Wat uiters belangrik is, is dat die voorsorgmaatreëls soos op die etiket gespesifiseer, streng nagevolg moet word. Geen boom behoort 'n blaar/stamaanwendingsstoediening te ontvang indien die bome onder enige vorm van stres is nie. Die stresfaktore sluit warm droë dae, onder- of oorbesproeiing, hoë temperature en warm bergwind toestande in. ■ ■

MAXIMUM RESIDUE LEVELS (MRLs)

V. HATTINGH

Growers are reminded that many sprays applied as early as the period petal fall to four weeks after petal fall may result in detectable residues at harvest. It is therefore recommended that the most current version of the document "Restrictions on the use of plant protection products on export citrus" as periodically updated and distributed by CRI, be consulted prior to the application of any sprays to citrus being produced for export. This reminder is particularly relevant this year as a number of important changes have been made and it is expected that further changes will be forthcoming.

SITRUSVERBETERINGSKEMA

M.N. DU TOIT

Die volgende kwekerie is tans deur die SVA geakkrediteer: Apapanzi, B.F. Joubert, Capricorn, Casmar, Du Roi, Esselen, Letsitele, Mistkraal, Nucellar, Paksaam, Stargrow, Tweeling, Vaalharts, Waterval en Witkrans.

Produsente word weereens gemaan om te verseker dat slegs gesertifiseerde bome aangeplant word.

fruit journal
DIE JOERNAAL VIR DIE VRUGTEBEDRYF IN SUID-AFRIKA



The year 1997 brought about turbulent times in the fruit industry with deregulation of exports instantaneously creating a multitude of opportunities. With the number of export agents increasing from 2 to over 300 in a short few years, the need for new forms of information control became apparent. DiPAR Systems realized this at the outset, and the DiPAR Fruit Exporter System was designed to meet this need. Ever since,

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cartons passing through the DiPAR Fruit Exporter System for the current season, DiPAR has firmly cemented its place in the industry.

For more information, refer to the insert inside of this magazine.

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