Cutting Edge

RESEARCH NEWS FROM CITRUS RESEARCH INTERNATIONAL

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POST-HARVEST DECAY WARNING 2008

by
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Erratum to Cutting Edge # 67 "Post-Harvest Decay Warning 2008"

PHYTOPHTHORA BROWN ROT

"Spray **contact fungicides only** (100 g **copper** plus 100 mℓ **Sporekill** per 100 ℓ)"

This is **not a registered recommendation.** Please ignore this recommendation.

Copper oxychloride, as a contact fungicide, is the standard recommended formulation for Phytophthora brown rot control. Read the **product label** before using any other **copper** formulation. **Do not** spray **Sporekill** for brown rot control.

Reports of major fluctuations in environmental conditions, ideal for the development of high waste levels, are being experienced in certain production areas. Severe wind storms, high rainfall and flooding in winter rainfall areas and also some late rain and hail damage in some of the summer rainfall areas has already led to the following problems.

- poor internal quality due to a drop in acid levels.
- report of hail damage in two production areas – infected fruit on trees, after harvest and after degreening (Anthracnose).
- report of intense wind storm followed by high rainfall and flooding - infected fruit on trees (possible infection by wound pathogens)
- splitting of navels ends (possible infection by wound pathogens).

These severe conditions have contributed to an increase in pathogen inoculum levels in orchards on all surfaces with a potential risk of high decay levels by the following pathogens:

- infections by latent pathogens – Anthracnose and *Diplodia* Stem end rot.
- infections by wound pathogens – Green and blue mould and sour rot.
- infections by soil pathogens – Phytophthora brown rot.

PRECAUTIONS and RECOMMENDATIONS

- minimise injuries to fruit during picking, handling and transport to packhouse.
- handle the fruit as a perishable product because it is a perishable product
- minimise delay between picking and treatment. The longer the delay the higher the risk for high decay.

RECOMMENDATIONS TO PACKHOUSES THAT ARE STILL DEGREENING

- selectively pick for degreening; Place only fruit that has reached colour break in bins, not colour break fruit and green (T6-T7) fruit together.
- **DRENCH WITH RECOMMENDED MIXTURES WITHIN 24 HRS**
- fruit must not spend too long in degreening (Ideally 48 hrs; maximum 72 hrs)
- extended time in degreening predisposes fruit to poor quality and waste.
- DO NOT DUMP WASTY FRUIT (ESPECIALLY GREEN AND BLUE MOULD AND SOUR ROT), FOUND IN BINS AFTER DEGREENING, INTO PACKHOUSE WASHING SYSTEMS. REMOVE THIS INFECTED FRUIT BEFORE THE FRUIT MOVES INTO THE PACKHOUSE.

RECOMMENDATIONS TO PACKHOUSES THAT ARE NOT DEGREENING

- Drench with Sporekill and allow bins to stand for 2-3 days before packing.

- **REMOVE WASTY FRUIT IN BINS.** DO NOT DUMP WASTY FRUIT INTO PACKHOUSE WASHING SYSTEMS.

PHYTOPHTHORA BROWN ROT

- Spray **contact fungicides only** (**copper** at 200 g per 100ℓ) as a preventive measure against Phytophthora brown rot after rainfall, once orchards have dried out. **Please note that Phytex and Aliette are not registered for brown rot control and**

the registration of Fighter for brown rot control, on all citrus cultivars, has been temporarily withdrawn pending further investigation.

- After having sprayed **copper**, GF120 should be used for fruit fly baiting rather than protein hydrolysate as it is less likely to cause fruit burn.
- Do not pick skirt (low hanging) fruit for packing. Remove this fruit and discard.
- **DO NOT WASTE TIME AND MONEY SPRAYING SPOREKILL FOR BROWN ROT. SPOREKILL ALONE HAS NO EFFECT AGAINST BROWN ROT.**

PACKHOUSE

- Ensure that packhouse chemicals are applied at recommended concentrations and packhouse procedures and critical control points are managed diligently.
- Pack very strictly with regard to injuries, creasing, over mature fruit, etc.

IMPORTANT POINTS TO REMEMBER

Fruit in trees that are damaged in a severe hail- or wind storm are a **HIGH RISK** for export.

Latent and wound pathogen infections on the tree lead to further development of latent pathogen infections, and the spread of wound pathogen infections in exported cartons.

Over ripe fruit, past optimum internal quality (possibly mid-season navels; Palmers, Bahianinhas and Washingtons), that are destined for cold disinfestation markets are less resistant to cold storage/shipping.

Fruit arriving in the market with quality problems often sells at reduced prices and ultimately becomes a major loss for the grower.

PRODUCERS MUST BE AWARE OF THE RISK INVOLVED IN EXPORTING THIS FRUIT AND DECIDE WHETHER TO EXPORT OR NOT.

Acknowledgement to Paul Cronje, Tim Grout, Mark Fry and Steve Turner for inputs.

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NA-OES BEDERF WAARSKUWING

deur
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Erratum vir Snykant # 67 "Na-oes Bederf Waarskuwing 2008"

PHYTOPHTHORA BRUINVROT

"Spuit **kontakswamdoders alleen** (100 g **koper** plus 100 mℓ **Sporekill** per 100ℓ)"

Hierdie is **nie 'n geregistreerde aanbeveling nie.** Ignoreer hierdie aanbeveling asseblief.

Koper oksiechloried, as kontak swamdoder, is die standaard aanbevole formulasie vir Phytophthora bruinvrot beheer. Lees die **produk etiket** voor enige ander **koper** formulasie gebruik word. **Moet nie Sporekill** vir bruinvrot beheer spuit nie.

Terugvoer van wisselende gewingstoestande, wat gunstig vir die ontwikkeling van hoë bederf is, word in sekere produksiegebiede ndervind. Strawwe windstorms, hoë reënval en oorstroming in die winter reënvalstreke en 'n mate van laat reën en haelskade in sekere somer reenvalgebiede het alreeds die volgende probleme veroorsaak.

- swak interne gehalte as gevolg van die val van suur vlakke.
- terugvoering van haelskade in twee produksie gebiede – besmette vrugte in die bome, na pluk en na ontgroening (Antraknose).
- terugvoering van 'n hewige windstorm, opvolg reënval en oorstroming - besmette vrugte in die bome (moontlike wondpatogeen besmetting).
- kraakskil op nawelente (moontlike wondpatogeen besmetting).

Die strawwe toestande het ook bygedra tot hoë patogeen inokulumvlakke in boorde en op alle oppervlakke, met 'n moontlike risiko van hoë vlakke van bederf deur die volgende patogene:

- besmetting deur die latent patogene – Antraknose en *Diplodia* stingelentvrot.
- besmetting deur die wondpatogene – Groen en blouskimmel en suurvrot.
- besmetting deur die grondpatogene – Phytophthora bruinvrot.

VOORSORGMAATREËLS EN AANBEVELINGS

- verminder beserings op vrugte tydens pluk, hantering en vervoer na pakhuis.
- hanteer die vrugte soos 'n bederfbare produk omdat dit 'n bederfbare produk is.
- verminder die vertraging tussen pluk en behandeling. Hoe langer die vertraging hoe meer die kans vir hoë bederf.

AANBEVELINGS VIR PAKHUISE WAT NOG ONTGROEN

- pluk selektief vir ontgroening: Plaas kleurbreek vrugte alleen in kratte, nie kleurbreek en groen vrugte (T6-T7) saam nie.

STORT ("DRENCH") MET AANBEVOLE MENGSELS BINNE 24 URE

- vrugte moet nie te lank in ontgroening bly nie. (Ideaal 48 ure: maksimum 72 ure).
- verlengde tyd in ontgroening stel vrugte bloot aan swak gehalte en bederf.
- MOET NIE BEDORWE VRUGTE (VERAL GROEN EN BLOUSKIMMEL EN SUURVROT), WAT IN KRATTE NA ONTGROENING GEKRY WORD, IN PAKHUIS WAS- STELSELS DOMPEL NIE. VERWYDER HIERDIE BESMETTE VRUGTE VOOR DIE VRUGTE OP DIE PAKLYN KOM.

AANBEVELINGS VIR PAKHUISE WAT NIE ONTGROEN NIE

- Stort ("Drench") met Sporekill en laat die kratte vir 2-3 dae staan voor verpakking.

- **VERWYDER BEDORWE VRUGTE UIT DIE KRATTE.** MOET NIE BEDORWE VRUGTE IN PAKHUIS WAS STELSELS DOMPEL NIE.

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PHYTOPHTHORA BRUINVROT

- Spuit **kontakswamdoders alleen** (**koper teen 200 g** per 100 ℓ) as 'n voorkomendemaatreël teen Phytophthora bruinvrot na reënval, sodra die boorde uitdroog. **Neem kennis dat Phytex en Aliette nie teen sitrus bruinvrot geregistreer is nie, en die registrasie van Fighter teen sitrus bruinvrot, op alle sitruskultivars, tydelik onttrek is tot verdere kennisgewing.**
- Gebruik GF 120 as vrugtevlieg lokaas in plaas van proteïen hidrolisaat na bespuiting met **koper** om die moontlikheid van vrugbrand te voorkom.
- Moet nie die laaghangende vrugte pluk vir verpakking nie. Verwyder hierdie vrugte.
- **MOET NIE TYD EN GELD MORS OM SPOREKILL VIR BRUINVROT TE SPUIT NIE. SPOREKILL ALLEEN HET GEEN EFFEK TEEN BRUINVROT NIE.**

PAKHUIS

- Sorg dat pakhuis chemikalieë teen die aanbevole konsentrasies aangewend word en dat pakhuis prosedures en kritiese beheer punte deeglik bestuur word.
- Streng verpakking vir beserings, kraakskil en oor ryp vrugte ens. moet toegepas word.

BELANGRIKE PUNTE OM TE ONTHOU

Vrugte in bome wat deur swaar hael en wind beskadig word sal 'n **Hoë Risiko** uitvoer produk word.

Latente en wondpatogeen besmette vrugte op die boom veroorsaak verdere ontwikkeling van latente besmetting en verspreiding van wond besmetting in uitvoer kartonne.

Oorryp vrugte, wat verby die optimale interne gehalte is (moontlik mid-seisoen nawels; Palmers, Bahianinhas en Washingtons), en wat vir kouesterilisasie markte gepak word, is minder bestand teen koue opberging/verskeping.

Vrugte wat met gehalte probleme in die markte aankom word gereeld teen laer pryse verkoop. Dit is dan 'n groot verlies vir die produsent.

PRODUSENTE MOET BEWUS WEES VAN DIE RISIKO OM HIERDIE VRUGTE UIT TE VOER EN DAN BESLUIT OM UIT TE VOER OF NIE UIT TE VOER NIE.

Erkenning aan Paul Cronje, Tim Grout, Mark Fry en Steve Turner vir insette gelewer.