



HORTGRO Stone Fruit Research Showcase

7 June 2023

(08:50 – 09:00) WELCOME ADDRESS – Charl Herbst, Hortgro Stone

CROP PRODUCTION

(09:00 – 09:10) OVERVIEW – W Steyn, Crop production programme manager

(09:10 – 09:22) IRRIGATION AND NUTRITION

(09:10-09:22) Water use of high-performing full-bearing Japanese plum (*Prunus salicina*) in two major production regions of the Western Cape. (N Jovanovic)

(09:22 – 09:55) GROWING SEASON CLIMATE AND DORMANCY

(09:22-09:34) Adaptability indexing of plum and cherry cultivars in diverse South African growing areas. (P Solomon, K Vahrmeijer)

(09:34-09:41) Historic and future modelling and mapping of early season temperature patterns and extremes and impacts for pome and stone fruit production in South Africa. (S Midgley)

(09:41-09:48) Quantification of the effect of near-harvest temperatures on pitburn and heat damage in cold stored plums and prediction method development. (H Viljoen)

(09:48-09:55) Evaluate the effect of drape nets on the overall fruit quality of plums. (H Viljoen)



(09:55 – 10:14)

REPRODUCTIVE BIOLOGY AND OTHER



(09:55-10:07) Screening mainstream plum cultivars for the duration of the effective pollination period and other factors influencing successful fruit set. (L Blomerus)

(10:07-10:14) An economic analysis focused on income or loss to the fruit producer related to new deciduous fruit cultivar choice. (M Smit)

(10:14 – 10:47)

ROOTSTOCK AND NURSERY TREE QUALITY

(10:14-10:26) Recently completed, current and new peach and nectarine rootstock trials. (C van Wyk)

(10:26-10:33) Recently completed, current and new plum rootstock trials. (C van Wyk)

(10:33-10:40) Growth synchronisation of stone fruit rootstocks and scions with different chilling requirements. (C van Wyk)

(10:40-10:47) Calculating the projected profits for an orchard planted to different rootstocks based on actual tree costs and fruit prices as well as production data collected for a rootstock evaluation trial conducted within the orchard. (M van der Westhuizen)

(10:47 – 11:00)

QUESTIONS

(11:00-11:30)

TEA BREAK

CROP PROTECTION

(11:30 – 11:40) OVERVIEW – M Addison, Crop protection programme manager



(11:40 - 12:08)

PRE- AND POST-HARVEST PATHOLOGY



(11:40-11:47)

Bioreactor and process development to produce antimicrobial lipopeptides produced by *Bacillus* spp. for biological control of postharvest phytopathogens in the perishable fruit industry. (R Pott)

(11:47-11:54)

The status of fungicide resistance for *Monilinia laxa* and *Botrytis cinerea* against pyrimethanil and fludioxonil in stone fruit orchards. (P Louw)

(11:54-12:01)

Survey of stem canker pathogens on stone fruit propagation material and young stone fruit trees. (L Mostert) – Pre-recorded

(12:01-12:08)

Atmospheric cold plasma (CP) treatment as an alternative non-thermal fruit surface decontamination. (Z Belay)

(12:08 - 12:15)

PRECISION AGRICULTURE

(12:08-12:15)

Developing a centralised industry-driven industry/area-wide geographic database supporting the information needs of the pome & stone fruit industries. (R Light)

(12:15 - 12:27)

PHYTOSANITARY AND MARKET ACCESS

(12:15-12:27)

PHYLA: Current projects updates (R Smit)

(12:27 – 13:15)

LUNCH

(13:15 – 13:22)

ORCHARD ECOLOGY

(13:15-13:22)

Orchard floor ecology and bioindicators in deciduous fruit orchards. (M Addison)



(13:22 – 13:43)

NEMATODOLOGY

(13:22-13:29)

Mass culture and formulation of entomopathogenic nematodes for improved field application against key insect pests. (M Dunn)

(13:29-13:36)

Control of the mealybug, *Pseudococcus viburni*, using entomopathogenic fungi in deciduous fruit orchards. (L Mathulwe)

(13:36-13:43)

A survey to determine the occurrence, diversity, and pathogenicity of *Pratylenchus* species in South African stone fruit orchards. (R Knoetze)

(13:43 – 14:04)

INTEGRATED PEST MANAGEMENT

(13:43-13:50)

Applied biological control of the banded fruit weevil species complex. (S Hansen)

(13:50-13:57)

Assessing the threat of the polyphagous shot-hole borer beetle (PSHB, *Euwallacea fornicatus*) and its symbiotic fungus (*Fusarium euwallaceae*) to deciduous fruit trees in the Western Cape Province of South Africa. (F Roets)

(13:57-14:04)

Implementation of biological control options against false codling moth in laboratory and field trials. (F du Preez)

(14:04 – 14:20)

QUESTIONS

POSTHARVEST

(14:20 – 14:30)

OVERVIEW – W Steyn, Postharvest programme manager



(14:30 – 14:56)

QUALITY MANAGEMENT



(14:30-14:42)

Technology testing for the ability to control shrivel in cold-stored plums and nectarines. (H Viljoen)

(14:42-14:49)

Scanning plum cultivars for CO₂ sensitivity and effect of closed vents in shipping containers on relative humidity and CO₂ levels. (H Viljoen)

(14:49-14:56)

Survey of commercial stone fruit cold room relative humidity and temperature to ascertain possible impact on moisture management. (H Viljoen)

(14:56 – 15:20)

TEA BREAK

(15:20 – 15:27)

STORAGE TECHNIQUES

(15:20-15:27)

Detection of internal heat damage and identification of techniques to prevent the expression of the disorder in plums. (H Viljoen)

(15:27 – 15:59)

PACKAGING / LOGISTICS

(15:27-15:39)

Implementation of next-generation packaging systems in high cube refrigerated containers for efficient cooling and improved volume usage. (T Berry)

(15:39-15:51)

Application of postharvest edible coatings to alleviate shrivel in plums and nectarines. (O Fawole) – Pre-recorded

(15:51:15:59)

Evaluate edible coatings on plums and nectarines currently used worldwide – (H Viljoen)

(15:59 – 16:15)

QUESTIONS AND CLOSE



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