

HORTGRO Pome Fruit Research Showcase

6 June 2023



(08:00 – 08:10) WELCOME ADDRESS – Stephen Rabe, Hortgro Science Chair

CROP PRODUCTION

(08:10 – 08:20) OVERVIEW – W Steyn, Crop production programme manager

(08:20 – 08:46) IRRIGATION AND NUTRITION

(08:20-08:32) Investigating the potential of fixed and draped netting technology for increasing water productivity and water savings in full bearing apple orchard under micro-irrigation. (S Dzikiti)

(08:32-08:39) Sensitivity of various apple rootstocks to water stress. (S Midgley)

(08:39-08:46) Low flow drip irrigation of apples. (N van der Westhuizen)

(08:46 – 09:12) GROWING SEASON CLIMATE

(08:46-08:58) Internal browning of 'Cripps Pink' apples – effect of growing region temperature on radial browning and effect of canopy position on long term storage quality. (I de Jong)





(08:58-09:05) Adaptability indexing of new apple and pear cultivars in diverse South African growing areas. (T Dorfling)

(09:05-09:12) Evaluation of the effect of drape nets on pear quality and productivity. (D Viljoen)

(09:12 – 09:26) REPRODUCTIVE BIOLOGY AND OTHER

(09:12-09:19) The effect of prohexadione-Ca application on regrowth, crop load and yield alternation in 'Fuji' apple. (A Horne)

(09:19-09:26) An economic analysis focused on income or loss to the fruit producer related to new deciduous fruit cultivar choice. (M Smit)

(09:26 – 09:33) FARMING TECHNOLOGY

(09:26 – 09:33) Development of a best practice guideline for the construction of netting and dwarfing rootstock support structures. (W Visser)

(09:33 – 09:59) ROOTSTOCK AND NURSERY TREE QUALITY

(09:33-09:45) Current and new pome fruit rootstock evaluation trials. (T Dorfling)

(09:45-09:52) Evaluation of Fuji on different rootstocks at 3 sites. (B Ngindi)





(09:52-09:59) Evaluation of apple rootstocks against apple replant disease. (T Dorfling)

(09:59-10:25) TEA BREAK

(10:25 – 10:39) DORMANCY

(10:25-10:32) What is wrong with winter chill models in warm climates? (E Louw)

(10:32-10:39) The result of rest breaking trials on apples (D Craven)

(10:39 – 10:54) QUESTIONS

CROP PROTECTION

(10:54 – 11:04) OVERVIEW – M Addison, Crop protection programme manager

(11:04 – 11:53) PRE- AND POST-HARVEST PATHOLOGY

(11:04-11:11) Tolerance of apple rootstocks against *Phytophthora* root rot and white rot. (A Keuck)

(11:11-11:18) Management of apple replant disease. (A McLeod)

(11:18-11:25) Determining the risk of mulches in the spread of canker pathogens in apple orchards. (R Kallideen)

(11:25-11:32) Evaluating the influence of drape netting on spray deposition and disease control in apple orchards using apple scab as a model pathogen. (G van Zyl)





(11:32-11:39) The South African pear stony pit disease experience. (R Bester)

(11:39-11:46) Continued pursuit of sanitiser products for potential use in the apple and pear industry. (P Louw)

(11:46-11:53) Postharvest mould of pome fruit stems and calyx sepals – an investigation into the incidence, cause, and management. (I Block)

(11:53 – 12:12) PHYTOSANITARY AND MARKET ACCESS

(11:53-12:05) PHYLA: Current projects updates. (R Smit)

(12:05-12:12) Evaluation of the interaction and release of ethyl formate within bio-friendly polymer matrices for postharvest fumigation. (MS Liprini)

(12:12 - 12:19) PRECISION AGRICULTURE

(12:12-12:19) Developing a centralised industry-driven industry/area-wide geographic database supporting the information needs of the pome and stone fruit industries. (R Light)

(12:19 - 12:40) NEMATOLOGY

(12:19-12:26) Screening of apple rootstocks for resistance against the most prevalent *Pratylenchus* species affecting orchards in South Africa. (R Knoetze)





(12:26-12:33) Mass culture and formulation of entomopathogenic nematodes for improved field application against key insect pests. (M Dunn)

(12:33-12:40) Investigating the use of marigolds (*Tagetes spp.*) and brassicaceous cover crops as a tool for the management of lesion nematodes in apple orchards. Phase I - Pot trials. (L Fourie)

(12:40 – 13:20) LUNCH

(13:20 – 13:34) ORCHARD ECOLOGY

(13:20-13:27) Orchard floor ecology and bioindicators in deciduous fruit orchards. (M Addison)

(13:27-13:34) Host status of certain cover crops for the root lesion nematode, a major pest of economic importance in apples. (R Knoetze)

(13:34 – 14:09) INTEGRATED PEST MANAGEMENT

(13:34-13:41) Applied biological control of the banded fruit weevil species complex. (S Hansen)

(13:41-13:48) Control of the mealybug, *Pseudococcus viburni*, using entomopathogenic fungi in deciduous fruit orchards. (L Mathulwe)

(13:48-13:55) Sources and impact of the polyphagous shot-hole borer beetle (PSHB, *Euwallacea fornicatus*) and its symbiotic



fungus (*Fusarium euwallaceae*) on deciduous fruit trees in the Western Cape Province of South Africa. (F Roets)



(13:55-14:02) Evaluation of spray application techniques on pome and stone fruit trees for improved spray deposition parameters for the control of late season red spider mite. (G van Zyl)

(14:02-14:09) Evaluation of apple rootstocks for woolly apple aphid resistance. (M Addison)

(14:09 – 14:21) QUESTIONS

POSTHARVEST

(14:21 – 14:31) OVERVIEW – W Steyn, Postharvest programme manager

(14:31 – 14:50) QUALITY MANAGEMENT

(14:31-14:43) Summary of recent FEMA research. (D Viljoen)

(14:43-14:50) The effect of harvest temperature and maturity on scuff mark susceptibility of Cape Rose pears. (M Gouws)

(14:50 – 15:20) TEA BREAK

(15:20 – 15:46) PHYSIOLOGICAL DEFECTS

(15:20-15:32) Superficial scald on Granny Smith – understanding the mechanisms and limitation of the storage protocols. (M Gerber)



(15:32-15:39)

The effect of different cooling protocols and storage durations on soft scald and bitter pit development in a susceptible apple cultivar (J Ladegourdie)



(15:39-15:46)

Influence of fruit micro-structure on gas exchange and tissue damage. (E Crouch)

(15:46 – 16:07)

STORAGE TECHNIQUES

(15:46-15:53)

Performance evaluation of three controlled atmosphere storage equipment/techniques on Granny Smith apples. (B Mouton)

(15:53-16:00)

Internal browning of 'Cripps Pink' apples – DCA-CF and long-term storage with best practice protocol. (E Crouch)

(16:00-16:07)

Investigate different step-down cooling regimes, utilised in conjunction with 1-MCP, to reduce the risk of internal browning of Cripps' Pink apples and provide year-round supply of good quality fruit. (H Tayler)

(16:07 – 16:26)

PACKAGING / LOGISTICS

(16:07-16:19)

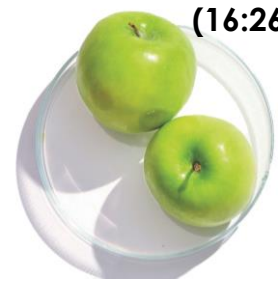
Implementation of next-generation packaging systems in high cube refrigerated containers for efficient cooling and improved volume usage. (T Berry)

(16:19-16:26)

Evaluating the effects of different plastic liners and pallet shrouds on internal and external quality on pome fruit. (H Tayler)

(16:26 – 16:40)

QUESTIONS AND CLOSE





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