

# (9) Nutrition Plan


**Steven Falivene (NSW Department of Primary Industries)**





# Start plan (Winter)

- Collate and analyse all monitoring data
  - Yield
  - Internal quality
  - Rind quality
  - Tree vigour
  - Leaf visual inspection (i.e. deficiencies)
  - Leaf & soil solution analysis
  - Soil EC & pH (or full test)
- Estimate next season yield
- Check crop accumulation charts
- Determine a fertiliser rate



# Revise plan (Early summer)

- Do a yield estimate and reassess fertiliser rates in Dec after main fruit drop has occurred
- Do not make dramatic changes
  - Easy to cause a nutrient imbalance that can have significant fruit quality effect
  - Make a moderate change and then monitor
  - Suggested not to make more than a 33% change in any year for macro nutrients

# Making a plan

- Example of fruit from a commercial orchard where N application was changed from 150kg/ha to 300kg/ha in one season
  - Grower changed program because saw higher N rates on overseas trip
  - Fruit had delayed colour, rough texture and increased incidence of red scale
  - Block went from being the best in the district to the worst



# Example of a Planner

Fruit Stage	Estimated		Foliar Application					Soil			Total foliar + soil
	% Total appl	units	Fert. Type & %N	Kg appl / ha	No. appl	Total units	Total unit + loss	Soil Fert type & %N	Fert Kg appl / ha	Total N units	
(1) Pre Flower											
(2) Cell Division											
(3) Cell Expansion											
(4) Maturation											



# Conclusion & final comments




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**NSW DPI Citrus Nutrition Seminar (9) Develop a nutrient program**



# Conclusion


- Nutrition management is just not getting a simple recipe from a book or your next door neighbour :
  - False sense of security or misleading information
  - Large variation : leaching losses, soil type, crop load, variety etc
- Good nutrition management involves
  - Understanding crop effects (learned today)
  - Monitoring,
  - Assessing
  - Adjusting program from year to year and during the season



# Conclusion

- Be careful when observing overseas or other district fertiliser trial results
  - Brazil, India, USA, Spain & Israel
  - Can have vastly different growing conditions, especially soil type
  - Usually many trials are conducted to highlight major soil deficiencies or limitations that are not present in your situation
    - Excellent information to better understand nutrition, but poor information to immediately implement without local trials





# Conclusion

- If trying something new it is highly beneficial to conduct a trial
  - Block trials are little value
    - Too much natural variation between blocks
  - Need to conduct row trials within a block of at least three separate rows within the block
  - Need to measure results – pack-out & bins, or fruit size measurements
    - Waste of time to do visual assessments unless differences are large
    - Difficult to visually assess fruit size differences less than 3mm
    - Visual assessment leads to bias – you see what you want to see
    - Contact your NSW DPI citrus officer for assistance with conducting the trial



# The End