



Technical Workshop

27th November 2013

GROWER PRESENTATION

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- The year in review
- Disease Issues and Fungicide Programs
- Pests Issues
- Agrichemicals
- Fruit size and finish
- Nutrition
- Orchard Management
- Compliance
- New Varieties



- **The year in review:**
 - **Weather**
 - During the 6 month fruit set to harvest period of 15 Nov to 15 May we recorded 248mm of rain compared with 866mm for the same period the previous year (March and April 2012 both recorded more rain in each month than the full 6 months of this season)
 - **Quality**
 - Higher Brix & higher acids/lower pH of juice
 - Less rots (Brown Rot) and disease in the orchard but more insect and bird damage
 - Shelf life of some varieties limited with rejections for clear rots and green mould as fungicides not applied
 - **Pack outs**
 - Better pack outs year on year



Disease Issues and Fungicide Programs

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Fungicide Program

- Fungicides need to be applied in the dry as well as the wet
- *Penicillium digitatum* (green mould)
- Fungus lives naturally in the soil
- Does not need water to spread (like *phytophthora*) and wind will distribute spores throughout the canopy



Fungicide Program

- Damaged and rotting fruit on ground produce large numbers of spores
- Any damage to fruit (bird, picker, tractor, branch rub) can become infected and the area around the wound turns soft and clear rot develops within days and the white mycelium and green mould (*Penicillium*) appear later (normally in transit to customer)
- Phosphorous acid does **NOT** control



Fungicide Program





Example Fungicide Program

- Copper
 - After pruning, then pre flower, $\frac{3}{4}$ petal fall (if not using Pristine), later applications as protectant in good drying conditions and pre harvest application
- Pristine
 - New chemistry, Boscalid & Pyraclostrobin timing at $\frac{3}{4}$ petal fall to fruit set
- Mancozeb (Dithane, Manzte, Penncozeb, etc)
 - Dec/Jan-Rust Mite and April/May-Bud Mite and as late protectant if drying conditions risk copper damage
- Phosphorous Acid
 - April/May-avoid application when trees under stress and keep 4 week interval from copper application



Copper

- Copper-mainstay of fungicide programs, preventative only, lower rates for drier seasons to avoid build up,
- Different types-Hydroxide (Champ, Kocide, Blue Shield) larger particle more easily washed off.
- Cupric Coppers (Nordox, Coptrel) smaller particles=better coverage and more rain fastness (especially if used with an adjuvant like Du Wett).
- Pre harvest spray helps in orchard and in pack house and transit. Needs good drying conditions.
- Ground sprays in slow drying conditions assist by killing the fungus on fallen fruit and in the soil.



Mancozeb

- **Mancozeb** = Dithane, Penncozeb, Manzate, Kotek, Rainshield, Neotec, Unizeb, Manco, Supermanz etc
- Protectant broad spectrum fungicide-Good coverage essential for good results
- Applications in Dec/Jan targets Rust Mite and April/May targets Bud Mite
- Keep one up the sleeve to replace a copper in poor drying conditions to avoid fruit marking



Mancozeb

- US access issues solved with Ferbam in the same group of dithiocarbamates
- Maximum 3 applications per season for residue and resistance reasons
- Just be aware of EC formulations when mixing with some foliar sprays



Phosphorous Acid

- What is Phosphorous acid used for
- Timing of application
- Tree stress
- Encore damage -Case Study



Phosphorous Acid

- Phosphorous Acid (Foschek, Phosgard, Perk, Phos400 etc)
- Combination of Phosphorous (Phosphorous Acid) and Potassium (Potassium salts)
- Phosphorous is the trace element for root health and development
- Systemic activity can last for 8-12 weeks
- Extremely effective fungicide (due to its systemic nature) for controlling Brown Rot or Root Rot (*Phytophthora*) has both protectant and curative properties



Phosphorous Acid

- Avoid using during winter months (June-August)
It is systemic for 8-12 weeks so an application mid May should cover coldest months.
- Better used as a preventative than curative.
- Consider use of Mancozeb or Copper as alternatives during winter months (but leave 4 weeks between Phos Acid and Copper sprays)
- If necessary to use in Winter due to rots, consider skirt sprays targeting bottom 1m.
- Too many applications can lead to a nutrient imbalance causing Zinc deficiencies.
- Maximum of 3 applications per season.



Phosphorous Acid

Important Notes

Avoid application when trees or vines are under stress as this may cause a phytotoxic response damaging both leaves and fruit. Heat stress, drought stress, stress caused by excess soil water, and stress caused by heavy cropping are all forms that have been problematic in the past. Easy peeler citrus which tend to set very heavy crops should not be sprayed close to harvest.

Do not apply sprays under conditions of oxygen deprivation at root level, e.g. within six days after heavy rains, or at any time when the soil is so saturated with water to the extent that oxygen is displaced for the soil profile and roots are deprived of oxygen for a period of time, the stress will increase the longer the saturation persists. Sprays should only be applied when the matrix potential is between -18 and -50 kPa. This problem seems to be specific for citrus but may occur on other crops.

Trees and vines should not be treated when suffering from stress as such conditions, even when temporary, may lead to a phytotoxic response (e.g. leaf and fruit burn and gummosis).



Phosphorous Acid





Phosphorous Acid

- Encore damage -Case Study
- Encore Block is not irrigated
- Phosphorous Acid applied 22nd March
- No Copper applications for over 2 months of application
- Rainfall for 6 months prior to application was 112mm (Metservice Data)
- Historical average rainfall for same period is 431 mm
- Not just cold or wet that can trigger stress reaction to Phosphorous Acid



Pristine-Fungicide

- Pristine=Boscalid and Pyraclostrobin
- Locally systemic so will cover new growth as penetrates leaf to stop fungi developement
- Registration overseas for Scab, Melanose, Botrytis, Alternaria and Sclerotinia
- Timing-needs to be used currently by 31 Jan but recommend at fruit set.
- Registration for citrus still 12 months away so use is off label = nil detectable residue
- First Fresh CPP = 31 January
- Good MRL's - higher than NZ in all export destinations.



Pest Issues

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Rust Mite Controls





Rust Mite Controls

- Natural humidity of Gisborne climate helps control populations. Dry years such as last season and forecasted for this season means mite populations could swell.
- ICC notes re spray timing suggest pre-bloom applications of miticides worked better than allowing post bloom populations to develop. This protects post bloom populations of predatory mites. Only really for hot spots.

Rust Mite Controls

- Monitoring should pick up early damage. Unlike other pest damage it will be confined to centralised areas.
- Walk different rows of block to ensure you cover greater area during orchard inspections.
- Mancozeb only controls Rust and Bud mite so is safe for predatory mites populations. Timing in Dec/Jan doubles as broad spectrum fungicide.



Citrus Flower Moth





Citrus Flower Moth





Citrus Flower Moth

- Gissy assessment-is it just a Northland problem?
- NZCGI trial: 6 Gisborne orchards being monitored December and June to assess CFM damage only. Also BOP and Auckland.
- Control/Spray timing late April/Early May
- Success - controls Leafroller, Codling Moth and CFM at caterpillar stage.



Citrus Flower Moth





Movento-KCT action/rates

- Timing - Two applications standard December and January should control sucking insect populations through until March (Scale, Whitefly, Aphids).
- KCT-Thrips are rasping insects and as such the systemic nature of Movento helps suppress KCT but will not by itself control.
- Success may still need to be applied to control KCT numbers if they exceed thresholds.



Mealy Bug

- Timing late November-December
- Initial populations controlled by use of Diazinon and Oil applications
- Anecdotal evidence that multiple Movento applications may help populations increase? Knocking out a natural predator?
- Buprofezin (Applaud, Mortar, Pilan, Ovation) controls. Two applications 10-14 days apart to break lifecycle



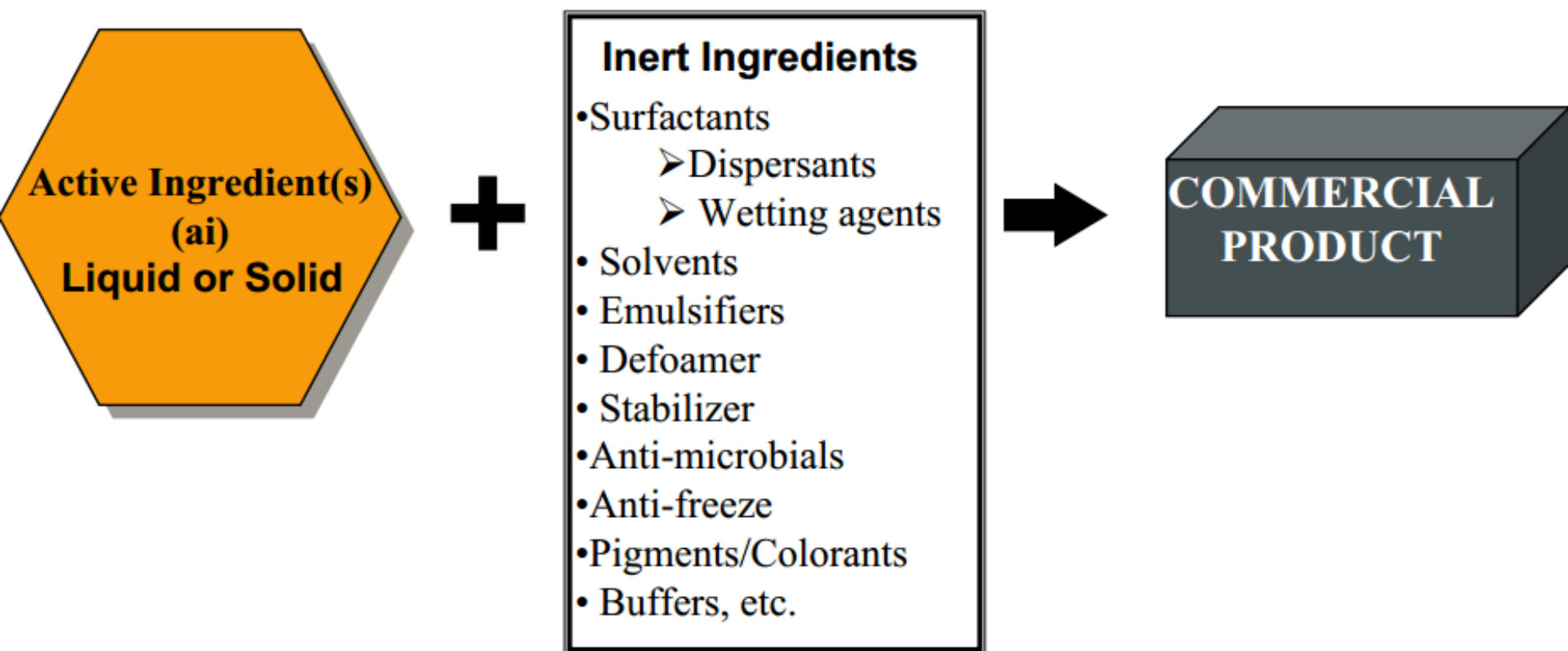
Agrichemicals

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Spray compatibility and formulations

Formulation Development





Spray compatibility and formulations

Common Formulation Types (over 60 types)

Dry - Sprayable.

- WP - Wettable powders
- WG or WDG - Water dispersible granule
- DF - Dry flowable

Liquid Sprayable

- SL - Soluble Concentrate
- SC - Suspension Concentrate
- EC - Emulsifiable Concentrate
- ME - Microemulsion
- OD - Oil Dispersion
- CS - Microencapsulated Particles



Spray compatibility and formulations

- Applying a tank mix of pesticides, or a pesticide and a liquid fertilizer, can save time, labour, energy and equipment costs.
 - There are basically four types of interactions that change the efficacy of pesticide combinations.
1. **Additive effects** neither hurt nor enhance each other. Such mixes save time, labour and equipment use.
 2. **Synergistic responses** occur when two pesticides provide a greater response than the added effects of each material when applied separately.
 3. **Antagonism** speaks for itself really although most of us call it a **F#0&*&G DISASTER**. Try to avoid this one.
 4. **Enhancement** occurs when a pesticide is mixed with an additive to provide a greater response than if you applied the pesticide alone.



Spray compatibility and formulations

There are also two types of incompatibility:

Formulation incompatibility is usually a problem of emulsifiable and flowable mixes. The solvent and/or emulsifier can strip the dispersant from some flowable formulations.

As a result, the active ingredient from the flowable formulation may separate from any stabilizing agent or dispersant rendering it unusable. The most common we see is mixing EC formulations with some dry powder or granular products such as Mancozeb.



Spray compatibility and formulations

Chemical incompatibility. Secondly some products cannot be mixed because the two components react. This is usually a problem where the positive ion of one product reacts with the negative ion from another. The reaction at best reduces efficacy, but at worst will produce a tank full of gel.

A striking example is 2,4-D (Stop-drop) and copper. Tank-mixing these, produces a thick gelatinous precipitate which is extremely insoluble. This is why we use non-ionic spreader stickers such as Contact or Latron when applying with pesticides.



Spray compatibility and formulations

Formulations and Mixing Order

When mixing multiple products there is an order which should be followed to ensure surfactants and active ingredients interact to reach a stable emulsion or suspension.

1. Wettable Powders = **WP**
2. Water Dispersible Granules or Dry Flowables = **WDG, DF**
3. Flowables or Suspension Concentrates = **SC**
4. Soluble Liquid Concentrates = **EC, SLC**
5. Adjuvants = **OD**



Spray compatibility and formulations

- Fill tank over half way and begin agitation before adding any products
- Powders and granules need time to be dispersed as or disintegrate into individual particles
- Never add a dry product to an EC or oil formulation
- Adjuvants go in last (tank almost completely full)



Fruit Size and Finish

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Thinning Strategies-Satsumas

- NAA (ANA) Naphthyl Acetic Acid
- Application rates=300ml NAA per 100l
- Apply at a minimum rate of 2000l/ha
- Fruit needs to average 12-16 mm
- Requires heat following application 2-3 days minimum at 23oC (25oC is better)
- Rain following application can reactivate improving results
- Anytime from now



Rind Strengthening-NAA on Navels

- Application rates same as for thinning
300ml/100l - 2000l/ha minimum
- Used for rind strengthening- reduces incidence of creasing-reduces albedo
- Israeli data suggests creasing reduced by over 60%
- Application last week December or first week January
- Size enhancement NAA is a hormone which can increase internal cell size leading to bigger fruit (NZCGI studies -Auxin trials showed increase in size and brix when treatments of NAA applied)



GA on Satsumas

- Gibberellic Acid is used to both suppress flowering when going into an on year and to improve rind strength and quality and delay colour development and harvest on Lemons, Satsumas and Navel Oranges.
- Timing
 - Floral suppression on Satsumas = Mid-June
 - Rind strengthening = Feb-March
 - Delay harvest of Satsumas = Colour break



GA on Satsumas

Rates

- Floral suppression = 25ppm (625ml/1000l)
- Rind Strengthening = 10ppm (250ml/1000l)
- Water rate 2000-3000l/ha minimum
- Use non-ionic surfactant at label rates if no crop on the tree (ie early Satsumas)
- Buffer pH to 4.0-4.5 for best results



GA on Navals

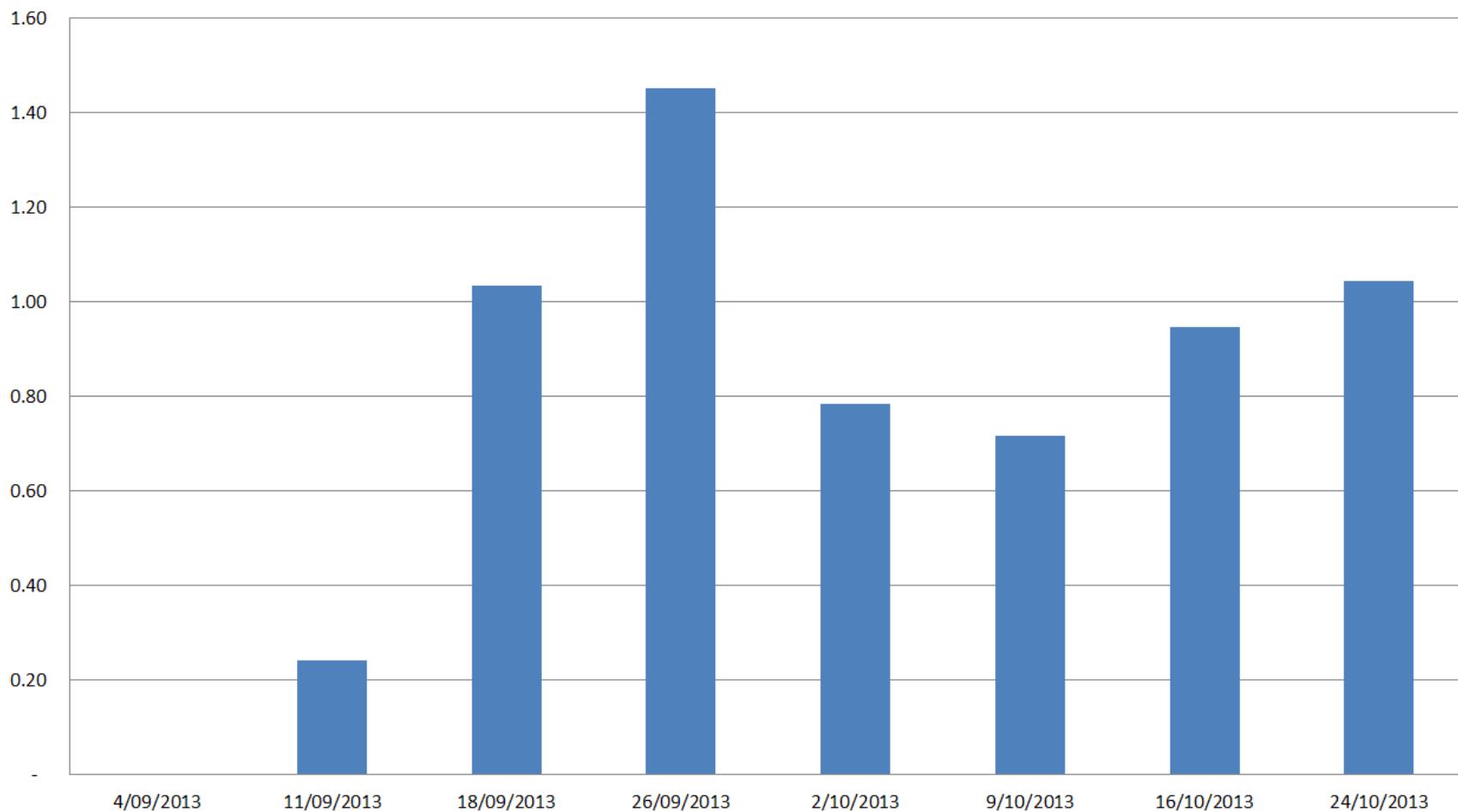
- Gibberellic Acid can also be used to improve rind strength and quality and reduce creasing on Navel oranges
- Application timing is when fruit are at golf ball size (normally early Feb or at 30-50 mm)
- Application rates = 10ppm (250ml/1000l)
- Applications at 2000-3000l/ha minimum
- Apply GA alone
- DO NOT APPLY GA WITHIN 4 WEEKS OF A COPPER OR OIL APPLICATION



Encore Sizing Project

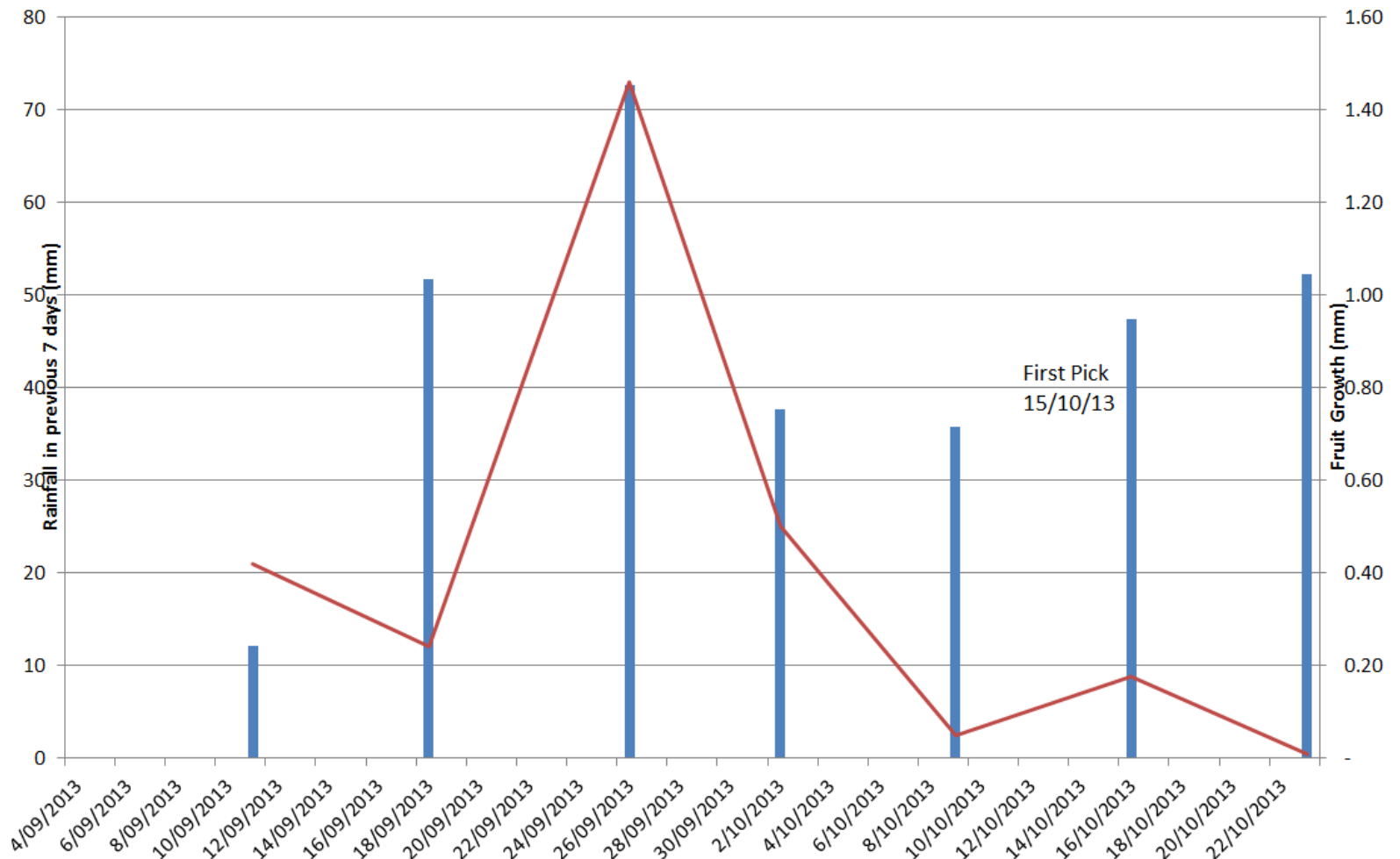
Average of Growth

Average total growth per week (mm)





Encore Sizing Project



	4/09/2013	11/09/2013	18/09/2013	26/09/2013	2/10/2013	9/10/2013	16/10/2013	23/10/2013
Growth (mm)		0.24	1.03	1.45	0.75	0.72	0.95	1.04
Rainfall for 7 days		21	12	73	25	2.5	8.75	0.5



Nutrition

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Molybdenum in Meyer Lemons

- Mo is a micronutrient which is needed for normal plant metabolism in citrus and is also required by the Rhizobium bacteria that fix nitrogen in clover and other legumes in the orchard swards allowing the nitrogen to be used by the citrus.
- Meyers on own roots v grafted to rootstock
- Application rates, micro nutrient, 3 times per year
- If the soil pH needs increasing then an application of lime may be sufficient to correct Mo deficiency. It won't always be the case, so testing is important.



Calcium

- Calcium is the building block of all cell structure and a critical part of the cell wall that produces the structural rigidity and quality of not only the fruit but the stems that hold the fruit.
- During the fruit set till fruit growth phase November - February fruitlets will absorb up to 90% of their required calcium as they rapidly expand
- Stopit = Calcium Chloride and should be added at 20 litres per tank each spray during this period



Calcium

- Calcium (like most nutrients) needs water to move throughout the tree. Our experience in pipfruit showed irrigating 1-2 days prior to application greatly improved the uptake.
- A minimum of 4 applications required during this period.
- In pipfruit we applied it 16 times per year so get over it!



Orchard Management

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Shelter

- Windbreaks - Poplar v Alders
- Gaddum replants
- Kawano replanted next to shelter
- Half poplar succumbed to disease etc
- Replaced with Italian Alders



Shelter





Shelter





Shelter





Shelter





Shelter





Shelter

- Poplars steal N and moisture
 - Shallow rooting-shoots 3 rows into block
 - Highrise apartments for borer
 - Ripping and spraying
-
- Replace windbreaks with Alders
 - Alders known to be N fixing
 - Deeper ball rooting growth habit



Irrigation

The importance of good irrigation for growing citrus

Dave McLellan

Technical Manager, First Fresh Ltd

One thing that growers (those without any irrigation) tell me all the time is that in Gisborne we don't need irrigation, we get enough rain. While it is true that the majority of Gisborne soils are better than say Northland at retaining moisture due to their clay content, all trees require moisture at specific times of their growth cycle in order to set fruit, expand, access nutrients, colour and provide the internal characteristics the consumer wants (a good brix/acid ratio).



Water Stress

Growth stage	Effect of water stress
Flowering & Fruit Set	Reduced fruit set, cause excessive fruitlet drop, reduced yield and suppressed spring flush.
Stage 1 Fruit Growth (cell division) Up to 60% of final fruit size is determined at this stage. Small fruit size at the end of this period tends to be small at harvest.	Water stress during this stage can cause excessive fruitlet drop and reduce fruit size. Fruitlet drop is usually more severe when water stress is coupled with high temperatures. The summer leaf flush may also be suppressed which can affect next seasons flowering sites.
Stage 2 Fruit Growth (cell expansion) The first few months of this stage (mid-December to March) is the critical time when fruit cells are expanding (cells can increase 1,000 times) and final fruit size is determined.	<p>Water stress in the early part of this stage should be keep to a minimum. Minor water stress during the latter part of this stage can be tolerated without a major effect on fruit size.</p> <p>Prolonged water stress will reduce fruit size, and is more pronounced when the crop load is heavy. Prolonged water stress can also influence internal fruit quality characteristics, increasing the acidity and Total Soluble Solids (Brix) of fruit, as well as lowering the pH of the juice. Mid-summer and autumn leaf flush will be suppressed, which can affect next seasons flowering sites.</p>



Water Stress

Fruit splitting

- May start as early as mid-summer, but mostly occurs in autumn.
- Navel oranges are most susceptible, followed by tangelos, some tight-skinned types of mandarins, and other oranges.
- Young trees are more prone to fruit splitting than older trees because they do not have a wide enough root area in which to gather available moisture.
- Splitting appears to be caused by a combination of factors including extreme fluctuations in temperature, humidity, soil moisture and fertiliser levels.
- There is no specific remedy to completely overcome fruit splitting, but heavy losses can be reduced by maintaining optimal growing conditions. Trees should always have access to sufficient water and nutrients.

Albedo breakdown

- Albedo breakdown weakens the rind of citrus fruit making it prone to splitting (Fig 1).
- Albedo breakdown does not become visible until the fruit is almost mature, but the cause of the problem is known to occur early in fruit development.
- Breakdown of the albedo or pith layer beneath the skin has been more severe and widespread this year, due to warm weather last spring.
- Studies by the NSW Department of Primary Industries concluded that the trigger to albedo breakdown lies in a lack of continuous water supply to the citrus trees in spring.
- Maintain water supplies to citrus trees in spring to help protect crops from albedo breakdown



Pulse v Flood irrigation – only top 400mm needs water

Moisture level below 400 has not changed in 2 months

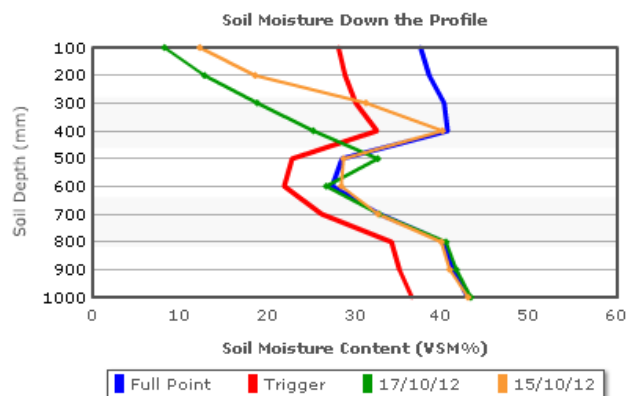
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Location: Fuyu Block B4
Crop: Persimmons

Report Date: 24/10/12 Soil Moisture Report for First Fresh College Vineyards Orchard

[Print](#)



PREVIOUS READING

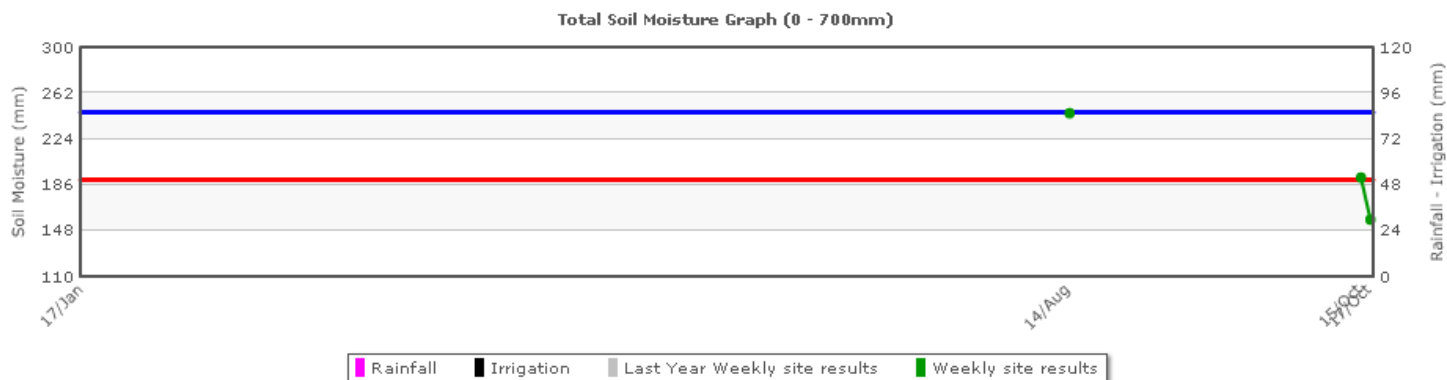
Date of Reading: 15/10/12
Recommendation Valid Until: 22/10/12
Total mm to achieve target: 40 mm

Recommendation Depth: 0 - 700 mm
% of Full Point Targeted: 75%
Irrigation System Capacity: 2.78 mm/h

CURRENT READING

Date of Reading: 17/10/12
Recommendation Valid Until: 24/10/12
Total mm to achieve target: 75 mm
Std Hours of Application: 6 hrs
Number of Applications: 4

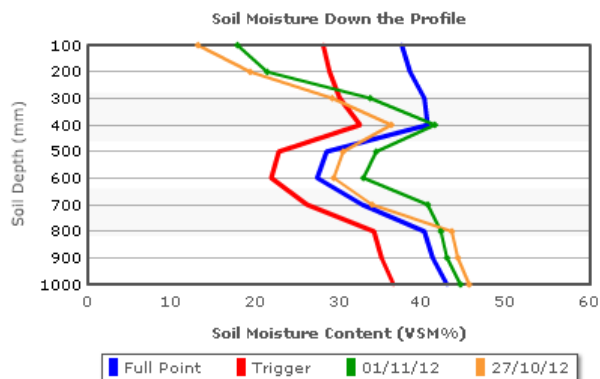
Projected ET: 0 mm
Recorded Rainfall: 0 mm
Irrigation Applied: 0 mm





Location: Fuyu Block B4 Soil Moisture Report for First Fresh College Vineyards Orchard
Crop: Persimmons

Print



PREVIOUS READING

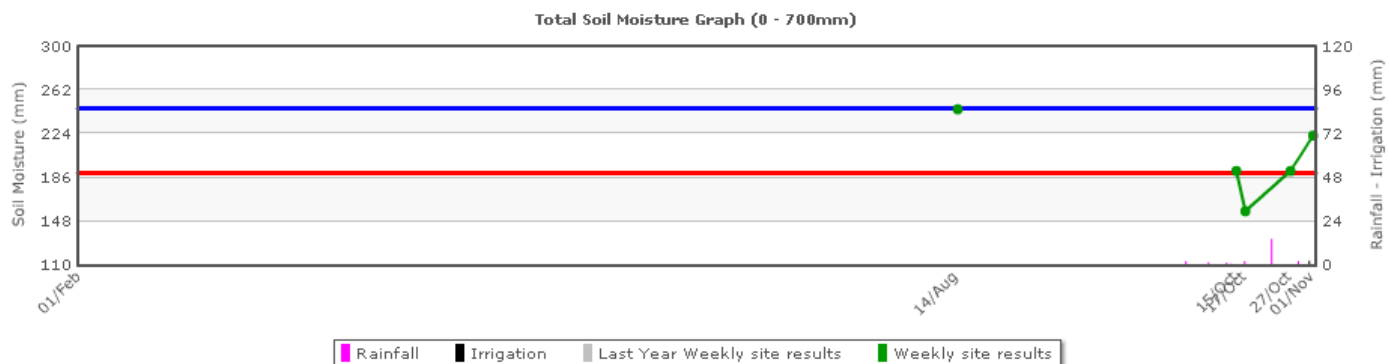
Date of Reading: 01/11/12
Recommendation Valid Until: 08/11/12
Total mm to achieve target: 9 mm
Std Hours of Application: 6 hrs
Number of Applications: 1

Recommendation Depth: 0 - 700 mm
% of Full Point Targeted: 75%
Irrigation System Capacity: 2.78 mm/h

CURRENT READING

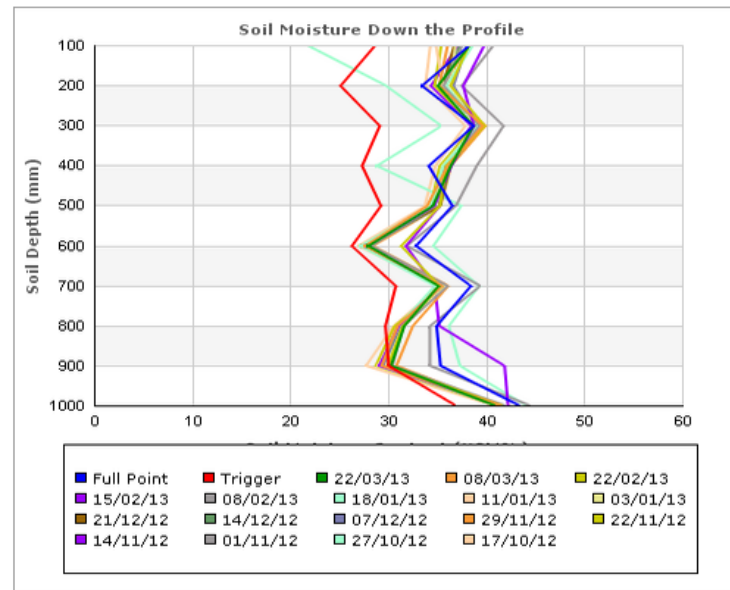
There are no current readings.

Projected ET: 0 mm
Recorded Rainfall: 0 mm
Irrigation Applied: 0 mm





First Fresh College Vineyards Orchard: D2 Gold3 Mounds 3yr



Tube ID: 1828 > Profile Number: 3

Reading Date	Depth(mm)									
	100	200	300	400	500	600	700	800	900	1000
Full Point	38.1	33.3	38.6	34.0	36.4	32.7	38.3	34.8	35.2	43.3
Trigger Point	28.5	25.0	29.0	27.2	29.1	26.2	30.6	29.6	29.9	36.8
17/10/12	34.2	33.7	37.7	34.7	33.6	26.8	35.1	30.4	27.6	40.7
27/10/12	22	29.6	35.3	28.7	37.3	34.5	39.1	36.1	37.2	44.0
01/11/12	41	37.4	41.6	38.9	36.8	31.7	39.3	34.1	34.1	44.4
14/11/12	37	34.2	38.3	35.5	35.1	31.7	34.6	35.1	41.7	42.1
22/11/12	35	34.6	38.6	35.1	34.2	27.6	35.6	30.5	28.6	41.1
29/11/12	38	35.5	39.8	36.2	35.2	28.2	36.0	32.4	30.7	41.2
07/12/12	38	36.5	39.0	35.5	35.2	27.7	34.9	31.1	29.4	41.2
14/12/12	37	35.2	39.2	36.2	35.1	27.6	35.1	31.1	29.0	41.5
21/12/12	37	35.5	39.2	36.0	35.1	27.2	35.0	30.9	29.0	41.1
03/01/13	37	36.2	38.8	35.4	34.6	27.7	35.5	31.5	29.7	41.2
11/01/13	35	35.5	39.2	36.0	34.5	27.7	34.9	31.0	28.8	41.7
18/01/13	38	35.8	39.0	35.5	34.2	27.0	34.6	30.9	28.9	41.1
08/02/13	37	35.5	39.2	36.1	34.6	28.1	35.9	31.4	30.3	41.8
15/02/13	40	37.5	38.6	36.3	34.5	27.6	35.3	30.9	28.9	41.5
22/02/13	38	36.2	39.7	35.8	35.1	31.2	35.1	31.4	29.8	41.5
08/03/13	36	35.1	39.5	35.9	33.8	27.5	35.3	30.8	29.2	41.4
22/03/13	38	34.9	38.5	36.2	34.4	27.8	35.0	31.5	30.1	40.8

Total Readings = 17



Compliance Issues

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Sprayer Calibrations

- **Certified Calibration required**
 - Compliance requirements
 - Saves money ensuring spray is applied correctly
- **Assure Quality (IVA)-NZGAP requirements**
- **Self Calibration**
 - Certified calibration calculations
 - Documented specific self calibration
 - Reference and comparison to certified results
 - Documented conclusion



Compliance Coordinator

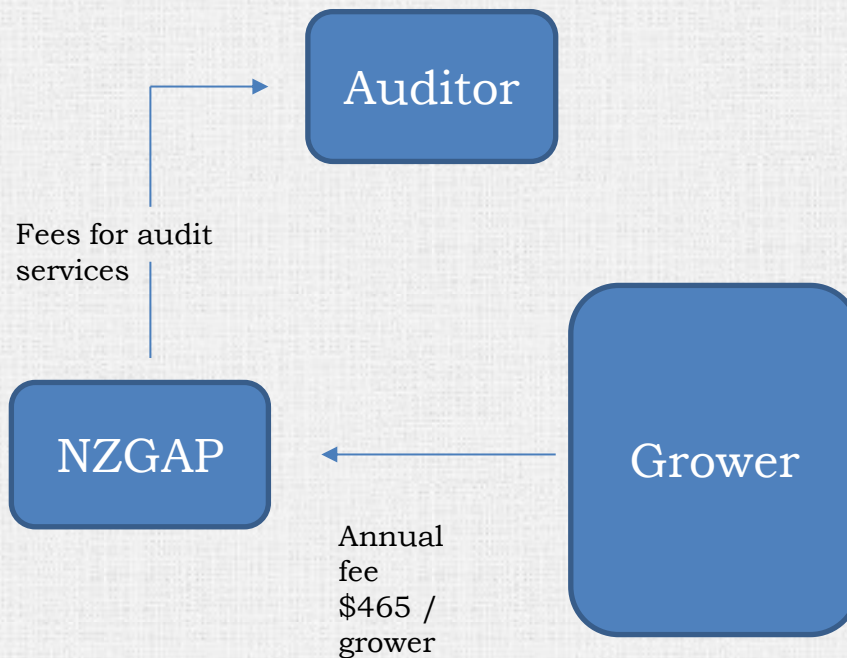
- **Mathew Bannister - First Fresh's new Compliance and Systems Coordinator**
- **First Fresh and Grower compliance programs**
- **NZGAP - new proposed group scheme**
- **Biogro**
- **WQA requirements**



Certification Options-Much of the information used for this presentation was supplied by New Zealand GAP and Hort NZ



Individual Certificate



SUMMARY

- Producer pays annual fee to NZGAP
- NZGAP pays the auditor



Individual Certification

Pros

- Grower holds the certificate
- Can supply many markets
- Audits carried out annually in the first two years (performed by a certification body) then 3 yearly

Cons

- Annual cost is greater
- No central support

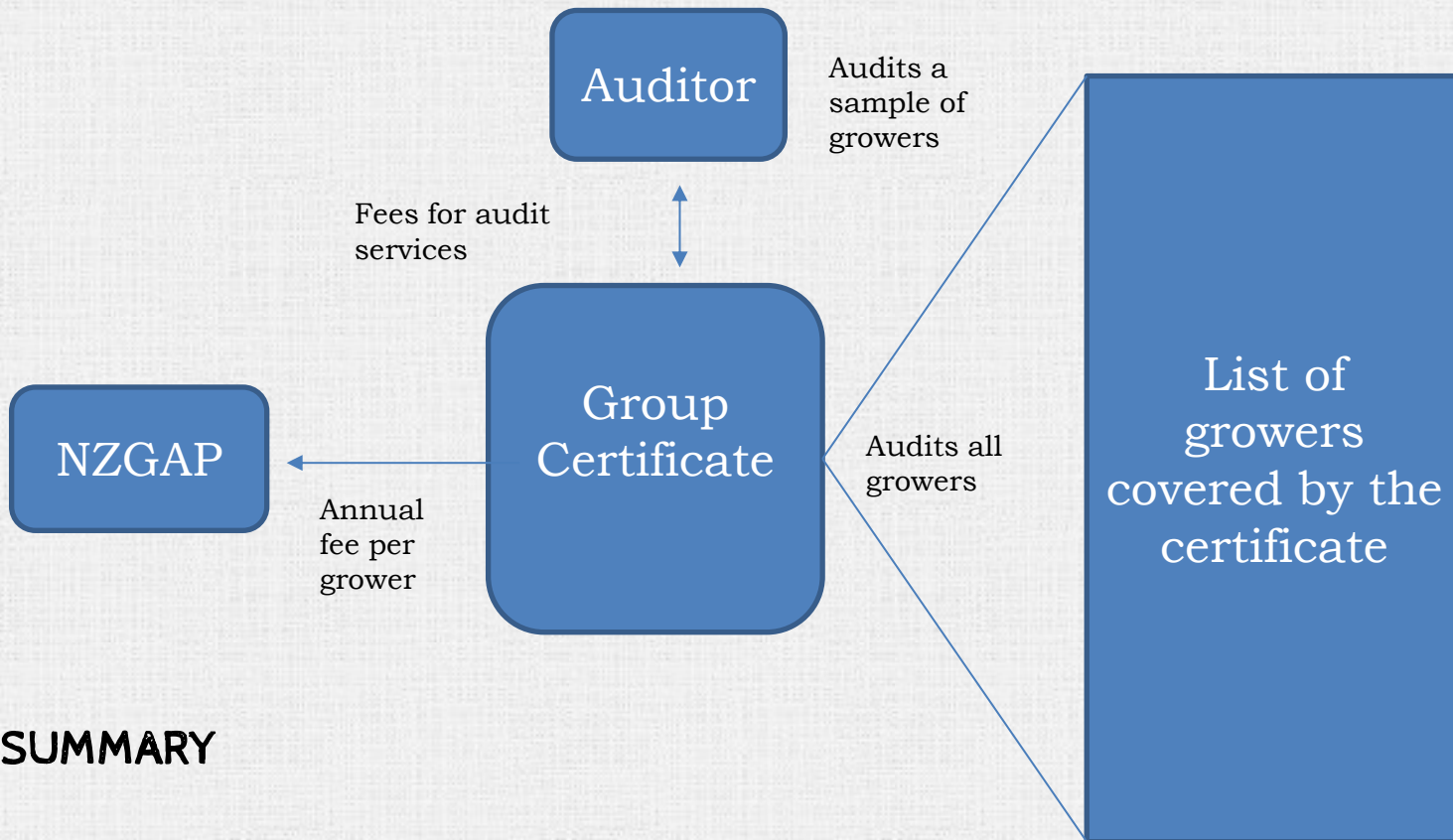


Scheme C: Group Certification - Multiple Businesses covered by one certificate.

- A pack house or marketing company gaining certification on behalf of its supplying growers.
- The organization applying for certification must be a single legal entity and represent a group of growers.
- Each grower is still responsible for their own production locations.



NZGAP Group Schemes



SUMMARY

- Certificate holder manages certification & pays fees on behalf of many growers



Group Schemes

Pros

- Cost to each grower can be significantly less
- Higher level of support
- Allows marketer/pack house to achieve high percentage of compliance for marketing operations geared towards retailers
- Encourages smaller growers to become certified and have access to all retail programs

Cons

- Individual growers are not certified (not listed in NZGAP database)
- Crop sold outside the certificate holder is not certified
- Annual internal audits (performed by certificate holder)
- Certificate holder has additional costs



Costs

	Farms	Audits	Grower Audit (\$520)		QMS Audit (\$2600)	NZGAP Levy \$62 ea	TOTAL	Per grower
Year 1	30	8	x 8	\$4160	\$2600	\$1860	\$8620	\$287
Year 2	30	6	x 6	\$3120	\$2600	\$1860	\$7580	\$252

- Based on 30 growers in a group scheme.



Costs

	Farms	Audits	Grower Audit (\$520)		QMS Audit (\$2600)	NZGAP Levy \$62 ea	TOTAL	Per grower
Year 1	80	13	x 13	\$9360	\$2600	\$4960	\$14320	\$179
Year 2	80	9	x 9	\$7280	\$2600	\$4960	\$12240	\$153

- Based on 80 growers in a group scheme.



New Varieties

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New Varieties-Gold Nugget

GOLD NUGGET

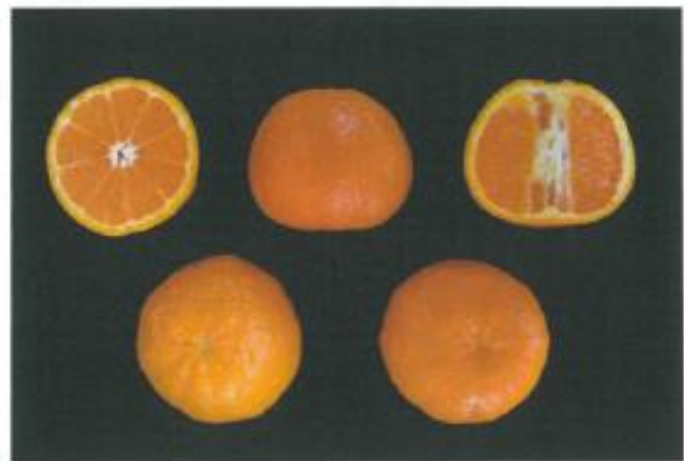
Developed by University of California, the Gold Nugget is an easy peel, seedless mandarin with rich orange flavour. The name 'Gold Nugget' reflects the bright colour and appearance of the mandarin.



- 20000 trees already ordered and planted in Gisborne (22 ha)
- First small crop 2014
- Plantings capped to 50 ha (45000 trees)



Gold Nugget on the tree



Gold Nugget halves



New Varieties-M7



- M7 is a very early maturing Navel
- First noted as a mutation on a Navelina tree in 2004
- Advanced colour 2-4 weeks earlier than Navelina
- Brix considerably higher
- Shape true Navel not tear drop as in some Navelina
- First planted this year. Next available trees 2015



New Varieties-Tango

TANGO

Deep in colour, the Tango seedless mandarin is similar to the common W. Murcott and Affourer varieties in all tree and fruit characteristics, however unlike these varieties this easy to peel, seedless mandarin doesn't need to be grown in isolation.



Currently at Waimea nursery being budded to mother trees

To be capped to 50 ha (45000 trees)

Synergies with both local market and export markets to lucrative UK programs

Australian experience suggests higher brix, better size and earlier harvest by 2 weeks+ compared to standard Affourer (Delight)





New Varieties-Lemox



- Traditionally NZ citrus trees come from South Africa, Australia or California
- Lemox was bred in Calabria Italy (38o 40' N)
- Gisborne is 38o 39'S and shares much of the same climate including rainfall, temps and sunshine hours
- Lemox is a seedless true lemon which is precocious, grows quickly and matures early