

2016 Finalist Comments – Financial and Production Factors

MILK PRODUCTION

- ✓ Maximising pasture quality and production
 - Protecting Pastures
 - Pre/Post-topping Aug-Dec
 - Increase energy intake from pasture
 - 3rd leaf stage management
 - Spring rotation planner
- ✓ Summer Crops (Chicory) or irrigation
- ✓ Stocking Rate
- ✓ Days in Milk
 - Calving spread an opportunity for improvement
- ✓ Winter management (protecting pastures)
- ✓ High quality supplementary feeds
 - minimise wastage
- ✓ Animal Breeding (BW/PW/Production)
- ✓ Measuring production per kg liveweight
 - Assess per cow efficiency

PASTURE PRODUCTION

- ✓ Re-grassing ($\pm 10\%$ of farm)
 - risk reduction
 - improve poor producing paddocks
 - soil fertility improvements,
 - pasture species vrs management. Have to have good management to make regressing worthwhile
- ✓ Monitoring & Planning
 - Important to know what you have
 - Used different technics but all monitored
 - Size of operation dictates level of planning
 - Have plan but ability to change if needed
 - Spring rotation planners used
- ✓ Residuals – pre and post.
 - Ranged from informal to strict monitoring
 - Topping to minimise damage of overgrazing
 - Utilisation / Rotations
- ✓ Summer crop or irrigation
 - Reduce high risk months
 - Used with regressing program
 - Stocking rates

COST CONTROL

- ✓ Be proactive not reactive
 - Your expenses are someone else's profit
 - Don't look in the vat, this is a result of last month's decisions
 - Know what things cost. Talk to others
 - Planning – having "fat" in the system without being wasteful.
- ✓ Budget, Planning, Benchmarking
 - Using statistics
- ✓ Chase profit not production
 - Profit drive not production driven
 - Production \neq profit
- ✓ Don't drop important expenses to save
 - Shortcuts will eventually cost more in the end
 - Know how they impact the system and how much you need
 - Don't be afraid to spend money to make money
- ✓ Sweet Spot for every farm
 - Have a budget, stick to it, reference to past, but take advantage of opportunities.

2016 Finalist Comments – People Productivity

Changing the Seasonal Approach to Recruitment	Technology People Change	Health & Safety and Culture Change
✓ Explain it's not a one year contract – its ongoing	✓ Yield monitoring of cows	✓ Lead by example ✓ Peer pressure to do the right thing – other staff
✓ Find out their goals – help them with personal development	✓ Robotic / volunteer milking	✓ Drug testing (pre-employment, incident & random) ✓ Have drug and alcohol policy
✓ Performance reviews	✓ Drones becoming more common on farm	✓ Code of conduct “house Rules”
✓ Sense of ownership – making them responsible for certain pieces of the farm	✓ Geographic /lazer fences - Plan fences on computer, sends info to eartags	✓ Education of staff – understand the “why” ✓ 80% wage on ACC, everyone goes home safe, not becoming short staffed, increases productivity,
✓ Change structure – living off farm like other jobs	✓ Hyer-spectral monitoring /remote sensing – drones fly over an area and monitor pasture cover, nutrient levels and status, 3D mapping	✓ Maintenance up keep (machinery) ✓ Providing PPE take pride in it – keep it clean, usable, logo it
✓ Change the job title – relief milker to shift worker	✓ Change where people are required - high level	✓ “Shell be right” attitude to “will she be right?”
✓ Apprenticeships (on farm)	✓	✓ Signs / Aps – show hazards (inside and out)

2016 Finalist Comments - Nitrogen Leaching

General Poor Practises	Effect on Nitrogen Leaching	Good Practise Alternative
✗ Heavy applications of nitrogen /fertiliser	When there is more N Applied than what the plant can uptake before the fertiliser drops below the root zone results in this N being lost to underground waterways.	<ul style="list-style-type: none"> ✓ Sustainable application methods <ul style="list-style-type: none"> ○ little and often ○ soil temperature (optimum for uptake)
✗ Standing off in paddocks (sacrifice paddock)	This results in pasture damage as well as a high concentration of urine N. Resulting in increased N available for leaching and decreased plant uptake. As well as rainfall increasing the rate which N travels through the soil profile and reduces soil temperatures.	<ul style="list-style-type: none"> ✓ Standing off Methods <ul style="list-style-type: none"> ○ Herd home/ feedpad /standoff pad ○ Reduce cows on farm ○ Moving to dry soils
✗ Heavy stocking rates on cropping areas	Highly stocked hard grazed crops result in a high concentration of Urine N with no plant uptake once the crop has been grazed. With winter cropping there is the compounding effect from heavy rainfall pushing the N through the soil profile	<ul style="list-style-type: none"> ✓ Crop Management <ul style="list-style-type: none"> ○ Reduce stocking rate ○ Decrease use of hard grazed crops ○ Low N crops
✗ Grazing 'up' hills rather than 'down'	Grazing uphill results in no buffer plants to uptake surface N as well as compounding at the bases of the hill resulting in too much N for plant uptake.	<ul style="list-style-type: none"> ✓ When Grazing slopes <ul style="list-style-type: none"> ○ Graze down hill ○ Preference to grazing flats ○ Retire steep/high risk areas - Planting ○ Different stock class on hills
✗ Over Irrigation	Went irrigating past soil saturation this pushes n through the soil profile faster than the plant can uptake the nutrients. Particularly in already highly concentrated urine patches.	<ul style="list-style-type: none"> ✓ Irrigation Management <ul style="list-style-type: none"> ○ Verification & Plan – SMM ○ Proactive management & recording
✗ Overstocking	More stock = more urine patches. Urine patches have levels of N much higher than plant requirements resulting in N being left to flow through the soil	<ul style="list-style-type: none"> ✓ Right stocking rate – more land / less cows <ul style="list-style-type: none"> ○ Feed type – low N feeds (reduce N concentration in urine)
✗ Timing and rate of n applications - Poor use of products available	High application rates can mean applications great than plant uptake and fertiliser dropping below the root zone. The wrong product type can accelerate the effects. Poor timing can reduce plant uptake.	<ul style="list-style-type: none"> ✓ Right time right advice ✓ Choose based on your soil type and your farm ✓ Soil test and herbage test ✓ Know product – e.g. testing of chicken manure

2016 Finalist Comments - Nitrogen Leaching

General Poor Practises	Effect on Phosphorus Loss	Good Practise Alternative
✘ Over applying P in the past (high Olsen P)	Having high Olsen P means there is more P in the soil to be lost therefore the same condition causing P Loss or sediment loss will result in much greater losses of total P. P loss can be high risk even under best management if Olsen P is above optimum.	<ul style="list-style-type: none"> ✓ Mine back P in soil - don't apply maintenance ✓ Soil test – know your P levels ✓ Understand risks associated with high Olsen P including animal health
✘ Making mud in winter – incl winter crops	Pugging in winter results in soil loss which with the soil goes the P, also resulting in plant damage and therefore limited plant uptake.	<ul style="list-style-type: none"> ✓ Stand off - Feed pad – cut and carry ✓ Do not crop near waterways – have buffer zones ✓ No winter cropping
✘ No buffer zones against streams	Soil loss directly into waterways can be one of the biggest sources of P entering waterways.	<ul style="list-style-type: none"> ✓ Riparian planting, fencing waterways ✓ Technology for GPS fertiliser applications
✘ Sump vrs storage. Not having enough effluent storage so have to irrigate at inappropriate times (in heavy rainfall)	Over application of P and/or application during inappropriate condition can increase surface runoff on P flushing into nearby waterways	<ul style="list-style-type: none"> ✓ Having adequate storage – pond calculator ✓ Future proofed system ✓ Having a plan in place
✘ Contour of farm – grazing/cropping hills	Slopes result in increased surface run off and increased chances of slips and soil loss through heavy stock grazing or cropping	<ul style="list-style-type: none"> ✓ Stock exclusion from steep areas – planting ✓ Not cropping hills ✓ Lighter stocking rate on hillsides
✘ Cultivation vrs direct drilling – loosing soil allowing soil loss	Full cultivation increases the chance of soil loss through losing soil exposing it to wind erosion and surface runoff.	<ul style="list-style-type: none"> ✓ Direct drill / minimal tillage ✓ Timing of cultivation – weather conditions ✓ Do not work any hill sides or no cropping hills
Races next to waterways allows for huge losses	As cows defecate on races this runs off the race with no nutrient trapping this can run directly into the waterways.	<ul style="list-style-type: none"> ✓ Move races and create buffer zones ✓ Factor waterways when planning new races ✓ Maintenance and contouring ✓ Fencing

2016 Finalist Comments – Effluent Management

General Poor Practises	Effect on Nutrient Loss	Good Practise Alternative
<ul style="list-style-type: none"> × Timing <ul style="list-style-type: none"> ○ In wet/rain (soil saturation & runoff) ○ In winter when soil temperatures are low 	Over application of P and/or application during inappropriate condition can increase surface runoff on P flushing into nearby waterways	<ul style="list-style-type: none"> ✓ Have adequate storage to defer applications ✓ Check soil temperature prior to application ✓ Monitor and record
<ul style="list-style-type: none"> × Nutrient loading - Rate of application <ul style="list-style-type: none"> ○ Soil type capacity ○ Time of year (seasonal/irrigation) ○ Area proportional to farm <30% ○ Not knowing levels and rates (not testing) 	Applying effluent that is untested can result in over fertilisation if the concentration of the effluent is unknown, this can greatly increase the nutrient losses, both in adequate and inadequate application times and rates	<ul style="list-style-type: none"> ✓ Measure application depth ✓ Test effluent for nutrient content ✓ Soil testing – know requirements ✓ Spreader type? In conjunction with irrigator ✓ Other inputs – fertilisers
<ul style="list-style-type: none"> × Monitoring <ul style="list-style-type: none"> ○ No maintenance, Not checking for leaks 	A break down in the system can have many different effects to different extremities. Some may include effluent pooling, effluent run off and over application.	<ul style="list-style-type: none"> ✓ Monitoring for changes – measure rates ✓ Train staff – maintenance, correct use, knowing how to pick up on potential issues or failures
<ul style="list-style-type: none"> × Contingency plan not available 	Not having a plan can result in over application, poor timing, storage overflows and many more issues.	<ul style="list-style-type: none"> ✓ Nutrient management plan – understand it! ✓ Staff knowing plan