



LUDF Open Farm Walk

in lieu of the LUDF October Focus Day

Tuesday 16th & Tuesday 23rd October 2018
9:00 am - 11.00 am

LUDF season to-date update

What has been going on at LUDF?

- **Spring management after a high growth winter**
- **39% ahead of last season's production to-date**
- **This season's mating plan: no bulls!**
- **Check out the pastures and cows**

Venue: LUDF – Parking ONLY off Ellesmere Junction Rd, Lincoln

Please respond to this e-mail if you intend to join us

Enquiries: Ph: 03 4230598 Email: office@siddc.org.nz

Visit the website: www.siddc.org.nz for weekly updates on Farm Walk Notes

Further information on SIDDC strategic plan for LUDF coming soon to your email!



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LUDF Strategic Objectives

To maximise sustainable profit embracing the whole farm system through:

- *increasing productivity;*
- *without increasing the farm's total environmental footprint;*
- *while operating within definable and acceptable animal welfare targets; and*
- *remaining relevant to Canterbury (and South Island) dairy farmers by demonstrating practices achievable by leading and progressive farmers.*
- *LUDF is to accept a higher level of risk (than may be acceptable to many farmers) in the initial or transition phase of this project.*

To achieve the above objectives, and considering the changing environmental regulations to reduce nutrient losses, LUDF has since the beginning of the 2014/15 season adopted and scaled up research emerging from the P21 Phase 2 programme. This research (jointly funded by the Ministry of Business, Innovation and Employment, DairyNZ, Fonterra, Beef + Lamb New Zealand and the Dairy Companies Association of New Zealand) identified a “low input, highly productive farming system” that reduced nutrient losses while maintaining profitability when estimated against the LUDF data at the time.

This Low Input, High Production, Highly Profitable, Low Nutrient Loss Farm System has been run at LDF for 4 seasons already.

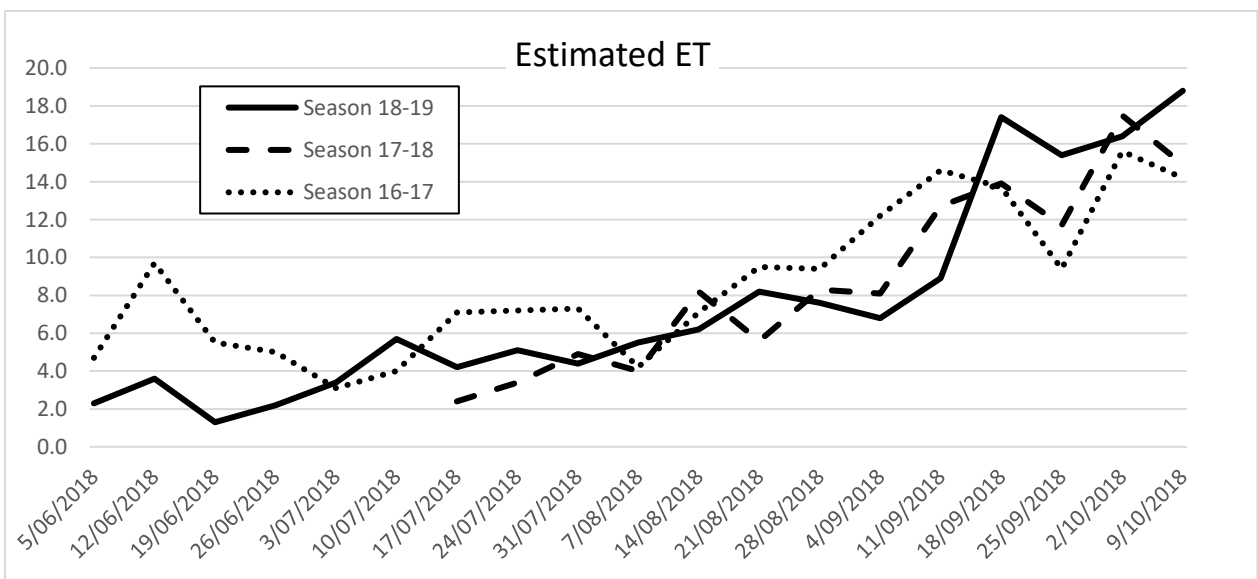
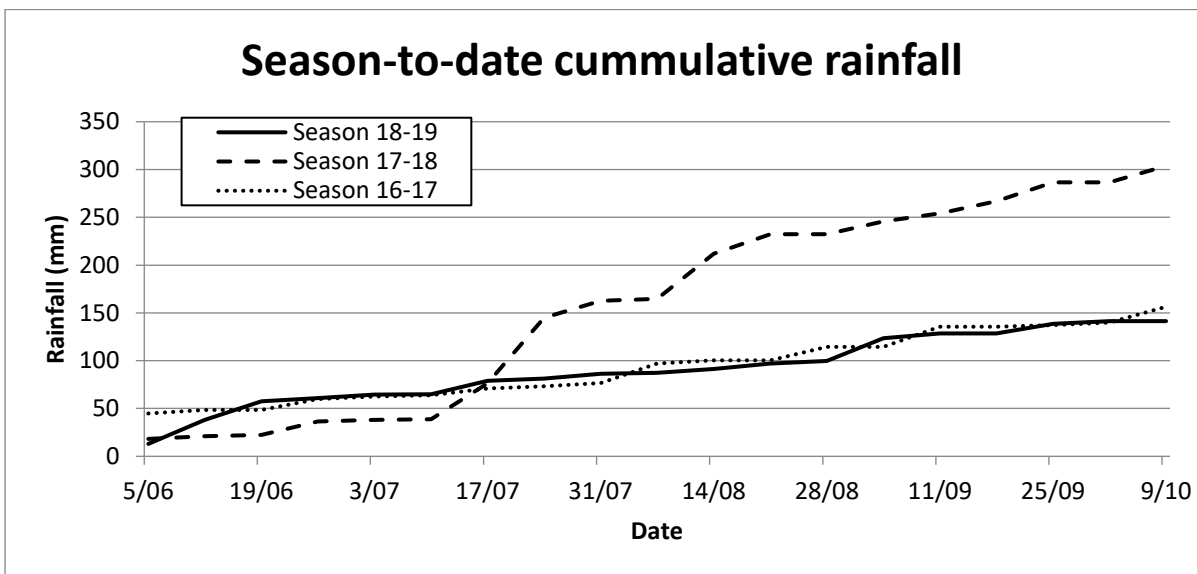
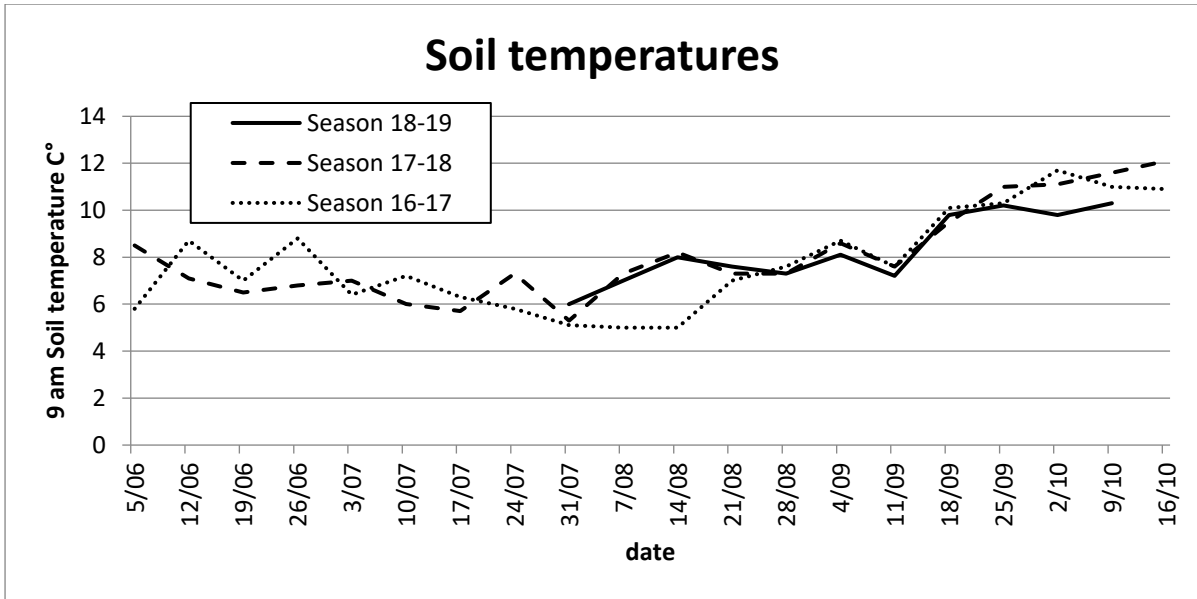
Season-to-date farm performance 2018-19

Weather and Environment

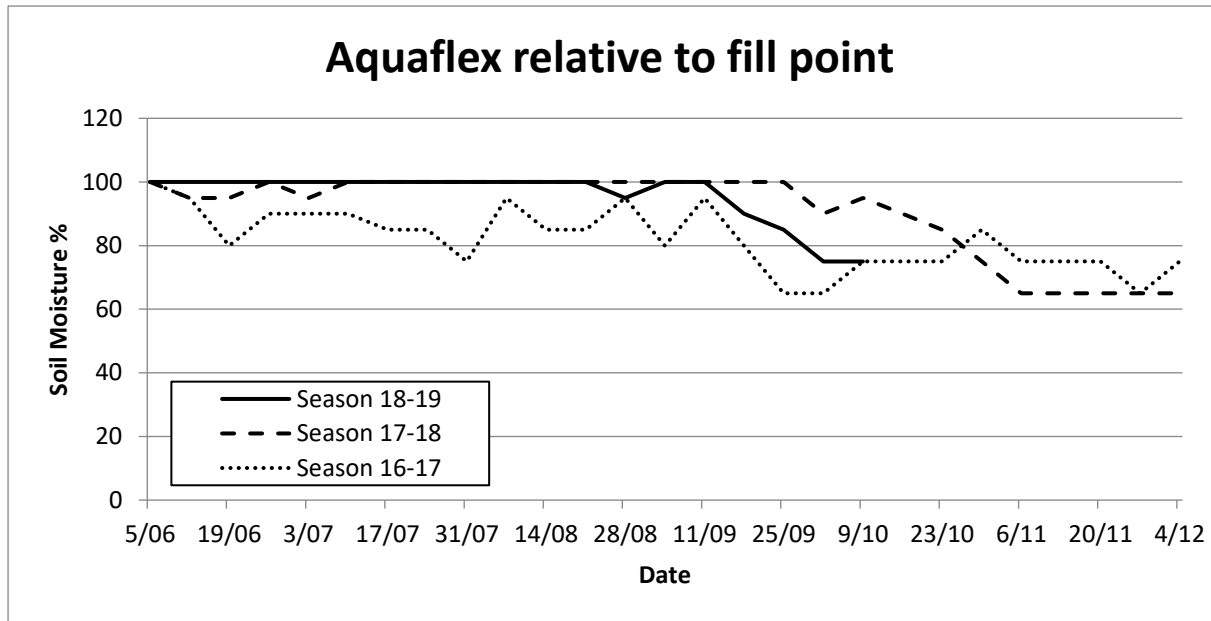
The 2018-19 season, so far, has been described by many as one of the best springs experienced in a while for calving. Exceptional calving conditions for cows with warm dry weather, which has allowed for good winter growth as well as good utilization of pastures during spring and good conditions for regrowth in the second round.

According to NIWA records, air temperature at the Lincoln Broadfield site was just below 8°C during July and by September the average temperature was up around the 10.5°C.





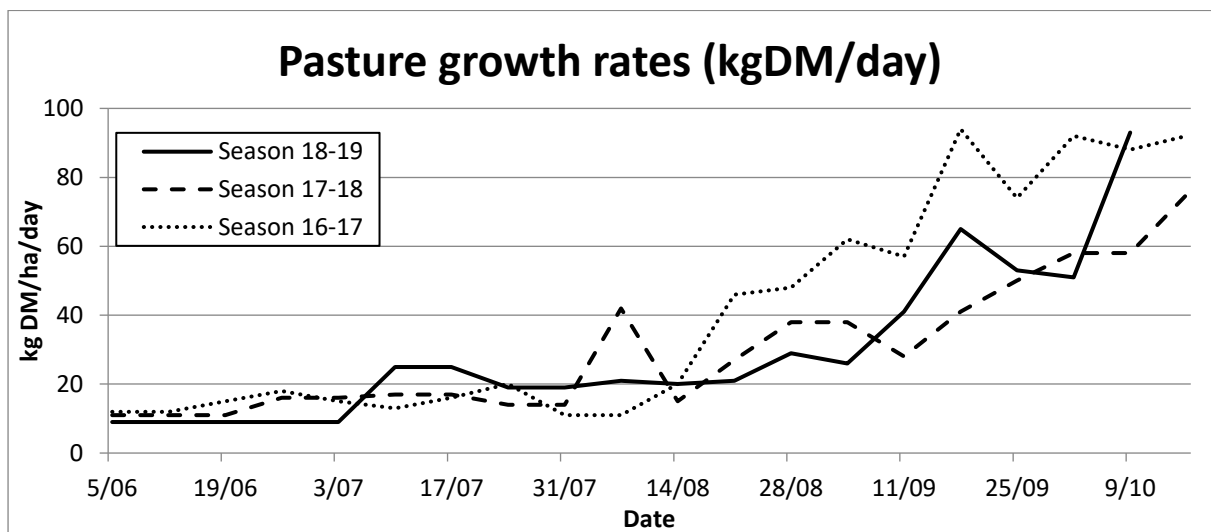
The dry winter with high growths allowed the farm to be very well set up for the start of calving



The LUDF Irrigation infrastructure underwent a big change in the north block through winter. The large centre pivot lost its corner arm and moved toward the south west end of the north block and a smaller 4 span pivot was installed in the southern end of the north block.

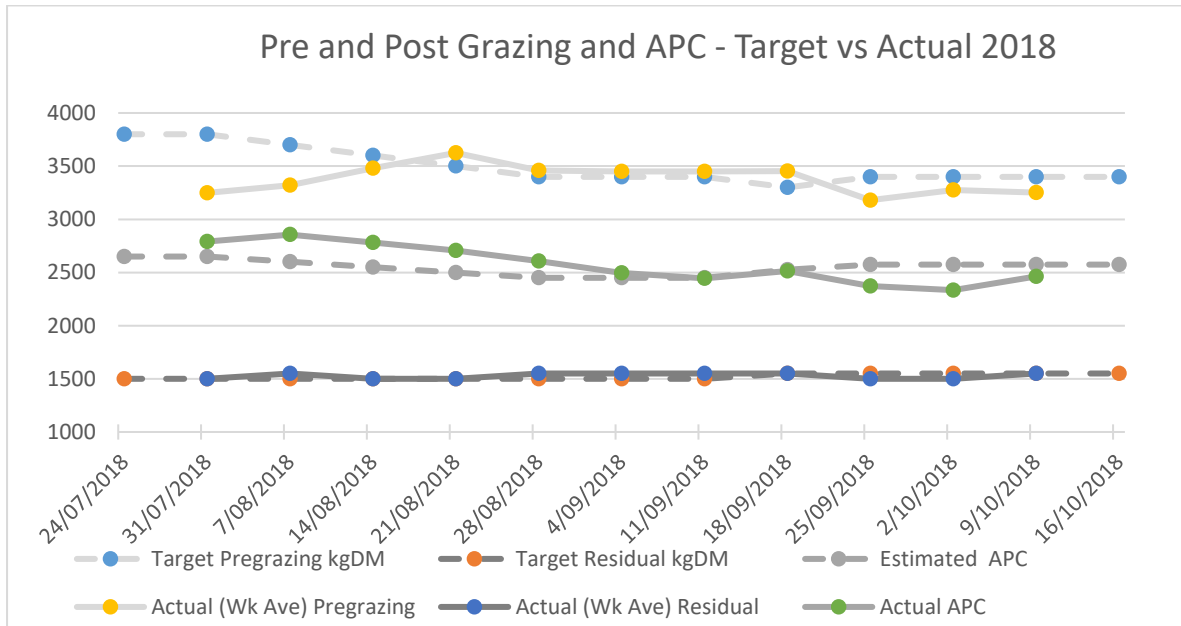
Irrigation commenced in early October this year (only in the north block so far), same as the 16-17 season and due to the high ET's experienced during September, which have been the highest of the last 3 seasons.

LUDF dried off at the end season 17-18 at an average pasture cover of 1900 kgDM/ha, the lowest in the last 4 years. The warm dry winter allowed the farm to start calving with 2600 kgDM/ha average pasture cover.

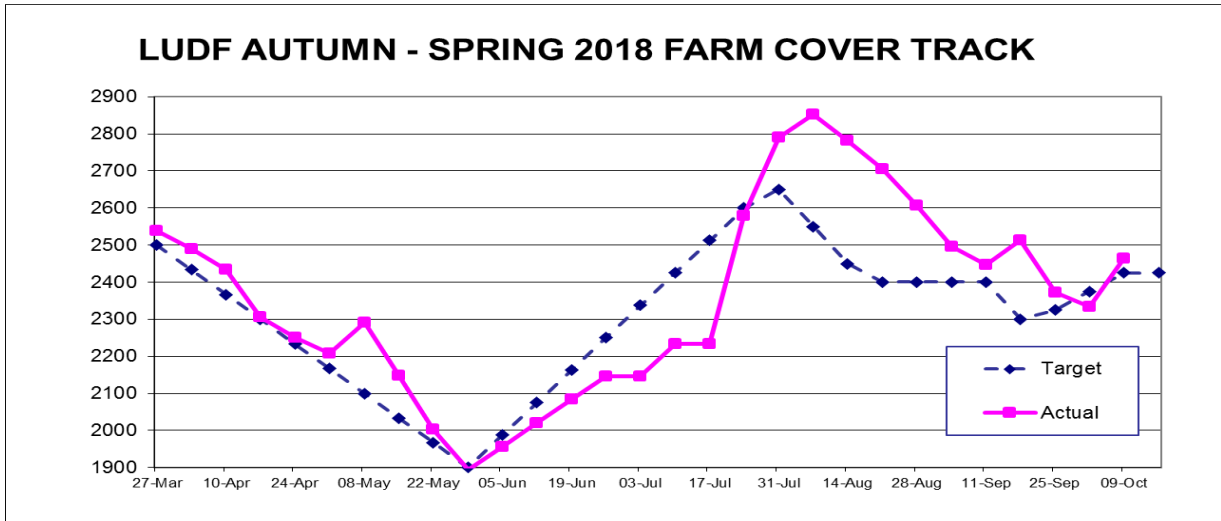


The good growth rates during winter allowed the farm to be able to adhere to the planned spring rotation planner rigorously in terms of the area grazed per day and finish the first round a few days ahead of the plan and without the need for any supplements (bearing in mind that LUDF brings cows onto the platform as calved animals and grazes no springer or dry mobs). The SRP started mid-July due to earlier start of mating last season and was planned to have the first round finished by the 20th September. Below are the tables showing the progress of the SRP and the cover tracker through this period:

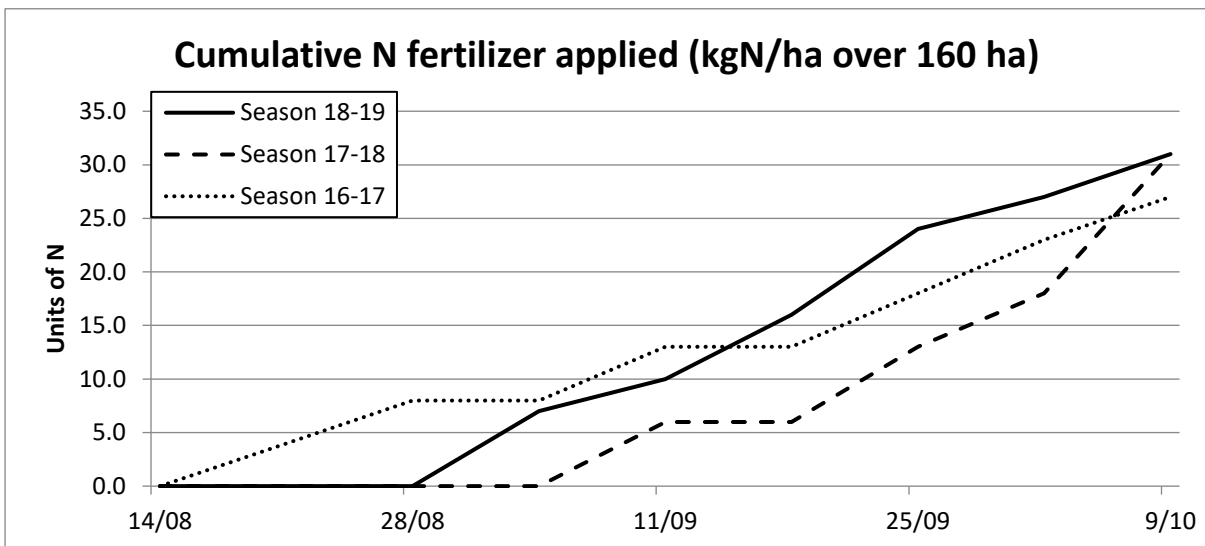
Spring Rotation Plan – Target vs Actual



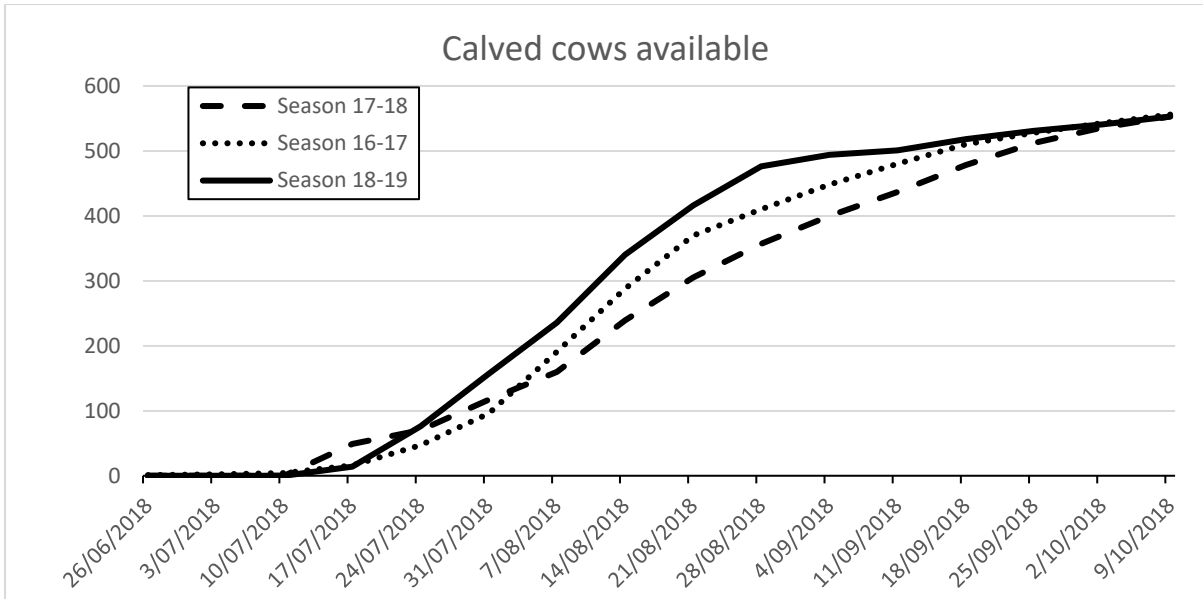
Week Ending	Average Number Milking and colostrum Cows	Planned area grazed per week	Planned Cumulative area grazed	Planned Cumulative Supplements fed (kgDM/wk)	Actual area grazed per week	Actual Cumulative area grazed per week	Actual Supplements fed (kgDM/week)	Actual Cum. Suppl fed (tot kgDM)
17/07/2018	14							
24/07/2018	76	2.3	2.3	578	4	0	0	0
31/07/2018	157	5.8	8.1	2743	4	4	0	0
07/08/2018	236	9.1	17.2	9594	6.93	10.93	0	0
14/08/2018	340	13.3	30.5	21669	14.25	25.18	0	0
21/08/2018	413	19.3	49.8	37769	19.16	44.34	0	0
28/08/2018	476	21.1	70.9	59776	21.93	66.27	0	0
04/09/2018	494	25.0	96.0	77661	27.86	94.13	0	0
11/09/2018	501	28.7	124.7	88883	24.67	118.8	0	0
18/09/2018	518	33.3	158.0	89548	32	150.8	0	0
25/09/2018	531	34.1	192.1	89548	41.65	192.45	0	0
02/10/2018	541	42.6	234.7	89548	39.02	231.47	0	0
09/10/2018	556	43.4	234.7	89548	42.7	274.17	0	0
16/10/2018		43.7	278.1	89548		274.17		0



The good conditions have allowed for AMMO 36 to be applied across the whole farm starting in late August and capital fertilizer was applied by end September. Nitrogen fertilizer continued to be used as of the start of the second round.



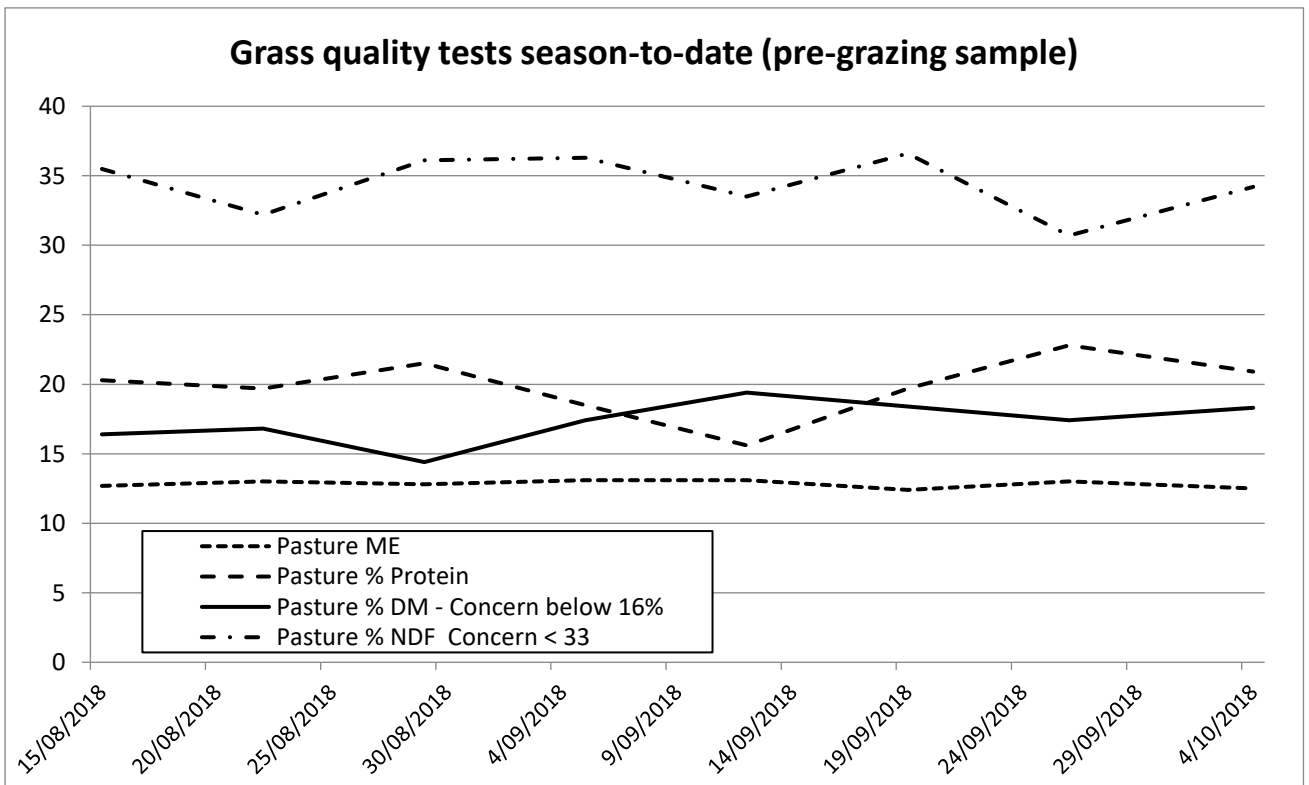
Even with the good conditions and the high average pasture cover at the planned start of calving, surpluses have not yet been experienced at LUDF. This is due to the fact that that herd started calving one week earlier compared to previous seasons (due to mating starting 1 weeks earlier last season), which increased grazing pressure on the platform from late July onwards (rather than early August onwards)



Comparing to previous season, though, pre-graze mowing started on the 2nd October this season (roughly same time as the 16-17 season).

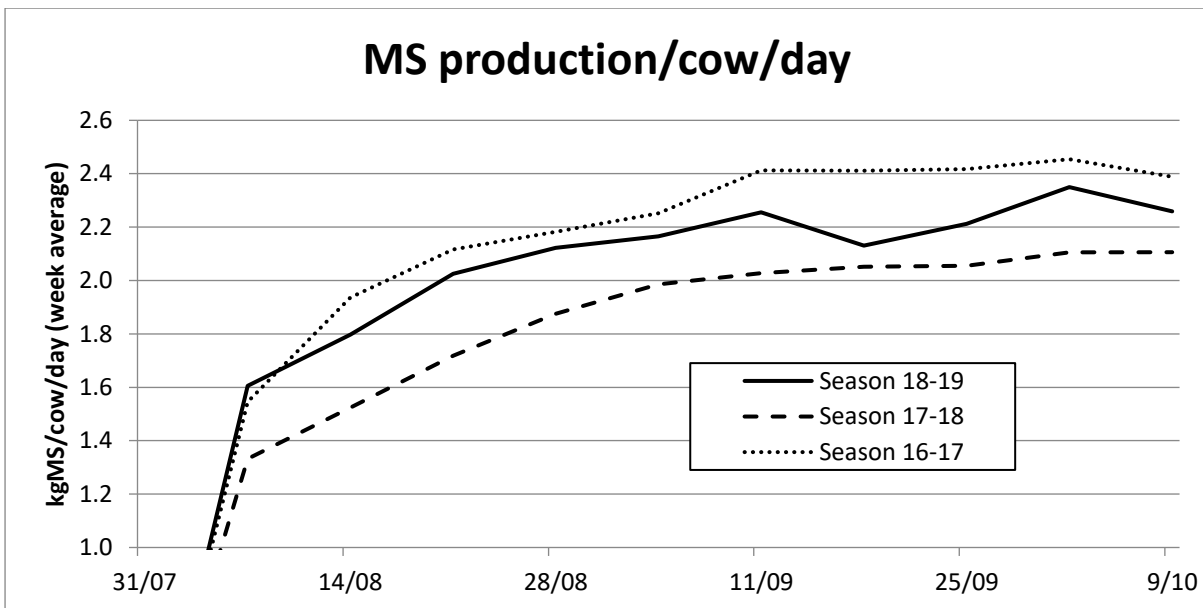
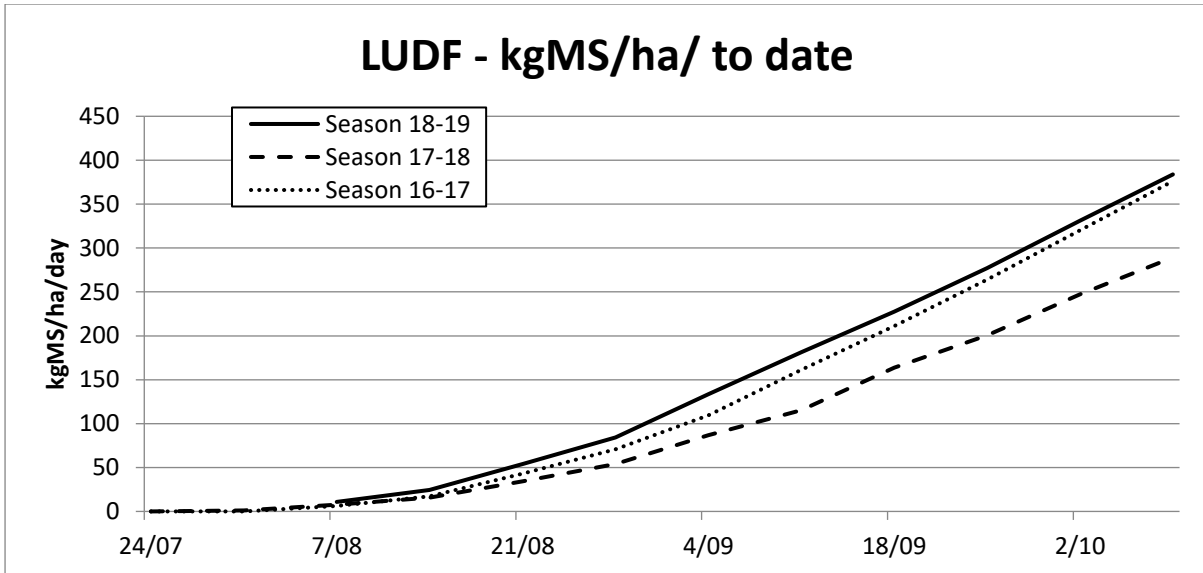
Pre-graze mowing will again be used as a tool to help manage small surpluses and achieve low and consistent grazing residuals in a timely manner as long pasture quality allows. For it.

Pasture quality information



Herd production, calving and health

With the main herd starting to calve slightly earlier than in previous seasons, and with the exceptional winter and spring conditions so far, pasture quality and growth are allowing the herd to perform really well in terms of milk production. Currently the farm is 39% ahead of last season, with about the same number of cows calved to date.



In terms of calving, the graph on page 7 shows the difference in calving numbers between the last 3 seasons. The increased milk production is due to a higher Days in Milk (DIM) derived from moving planned start of mating forward by a week in 2017. Therefore, in 2018 Planned Start of Calving (PSC) also shifted from 3 August to 27 July.

The gain in DIM has been that more cows calved by the 31 August 2018 due to the earlier start. There has been little impact to the % cows calved by PSC. The calving spread of the herd was improved by weeks 3 and 6 of calving, but got worse given that only 90% of cows had calved by the end of 9 weeks compared to previous season's 96%.

This means that the demand of feed during the first and second 3-weeks periods has been higher than in previous season. The good growth achieved during winter and the dry spring have allowed LUDF to be able to manage feed quality well and make the best of this earlier calving (there was an abundance of feed) with well utilized pastures.

Moving calving forward by one week, though, can be risky if winter conditions don't promote good growth rates of pasture or if spring gets very wet (such as spring 2017) not allowing for good utilization of the grown winter feed (which makes managing for good residuals while avoiding pugging becomes a change). Careful feed and wet management strategies need to be planned if considering the option of moving calving forward by any period of time.

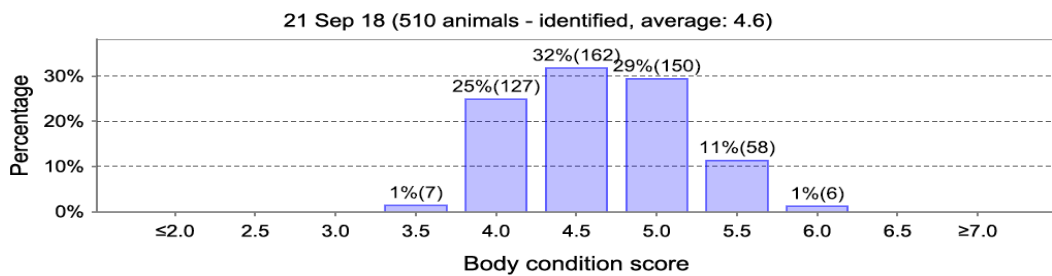
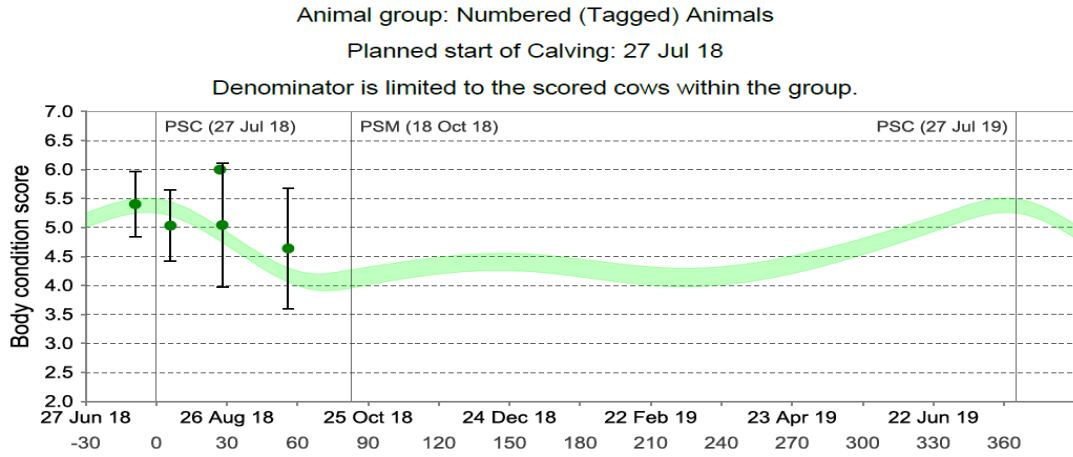
The table below shows the % of the herd calved by 3, 6 and 9 weeks of calving.

	PSC	3	6	9	12
2015	19%	68%	88%	99%	100%
2016	20%	65%	85%	97%	100%
2017	22%	56%	81%	96%	100%
2018	18%	61%	83%	90%	

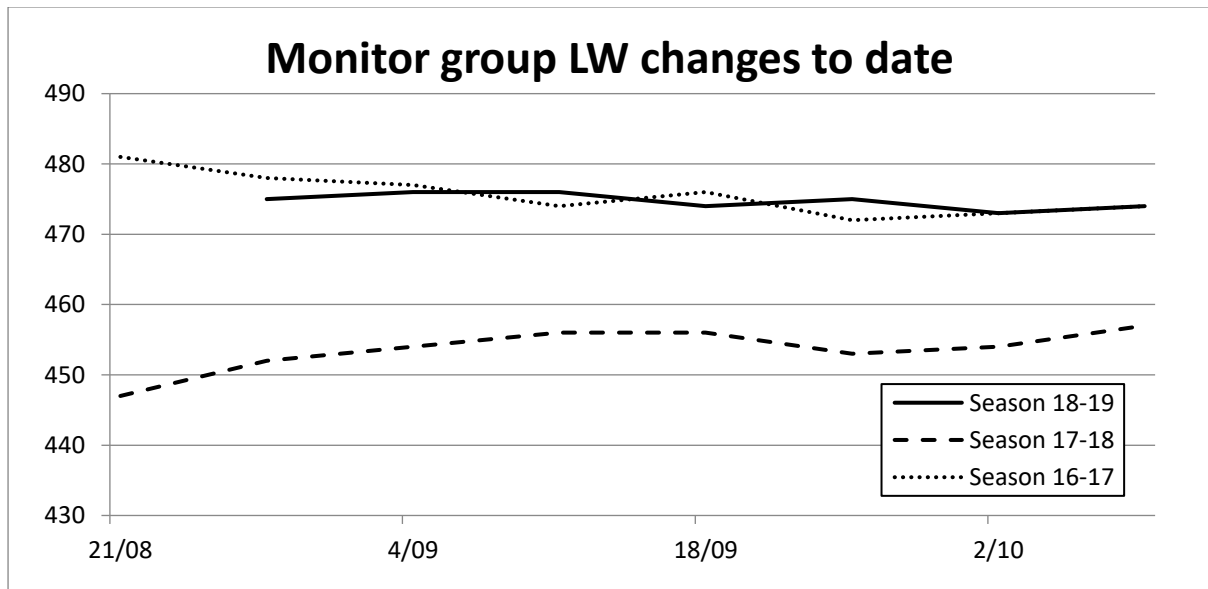
Body Condition Scores and Walk-over-weighing

Cows at LUDF are BCS during winter and calving.

The graph below shows the BCS trends for the past couple months:



The herd was split after the late August BCS and all heifers and low BCS cows were put into the small herd. The small herd is milked first and will get the front of every paddocks, without being pushed to achieve residuals, effectively providing them with the best chances of an increased grazing time and lower grazing pressure.

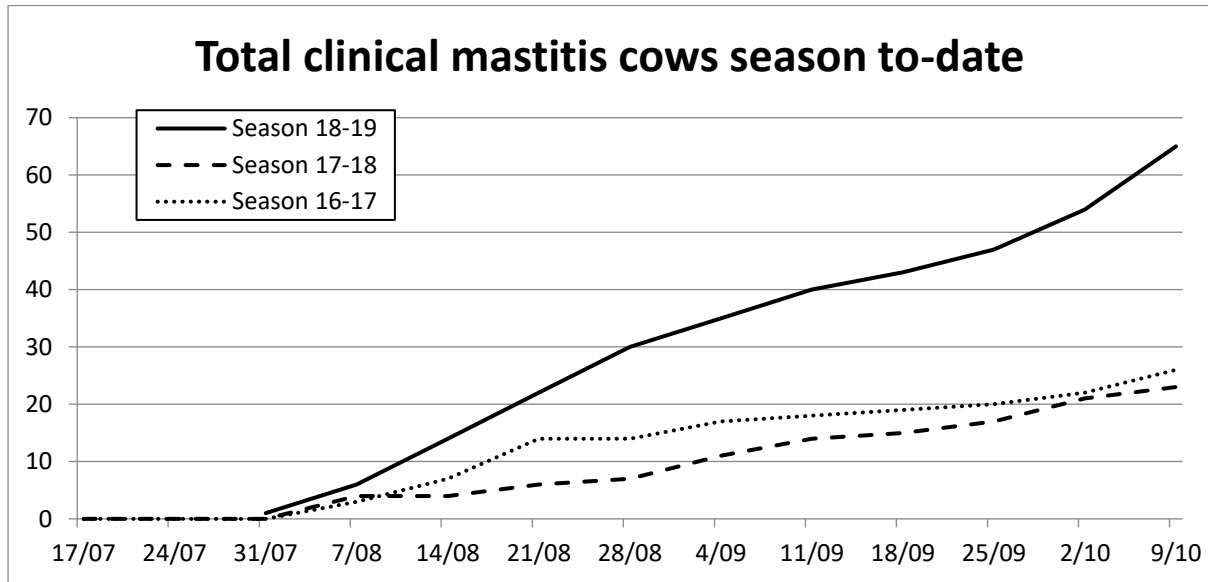
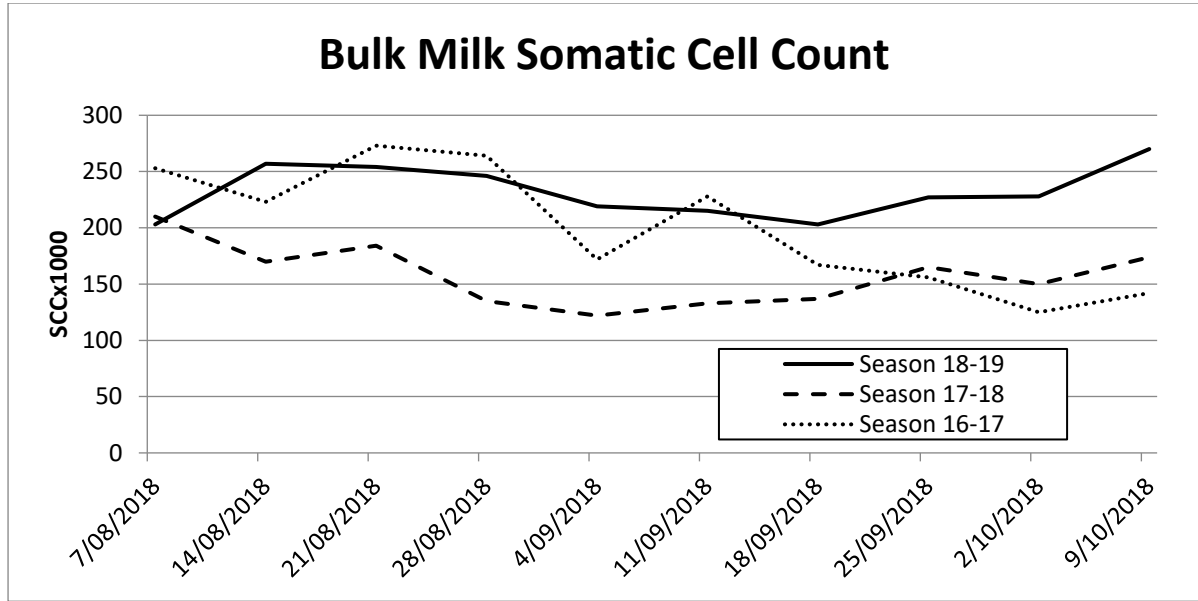


Cow Health

In general spring has been relaxed when it comes to metabolic issues and retained foetal membranes.

Cows that came down with milk fever, did so as the calved r during their first day in the colostrum mob. Treatment was easy, with cows reacting positively to one down cow treatment and not repeating.

BMSCC and mastitis have been the challenge this season



At first it was thought the strategic dry off done last season could have had something to do with this, however, later analysis shows that only 5 % of the affected cows received only teat seal, while 16% of the affected cows comes from the animals treated with dry cow therapy and teat seal.

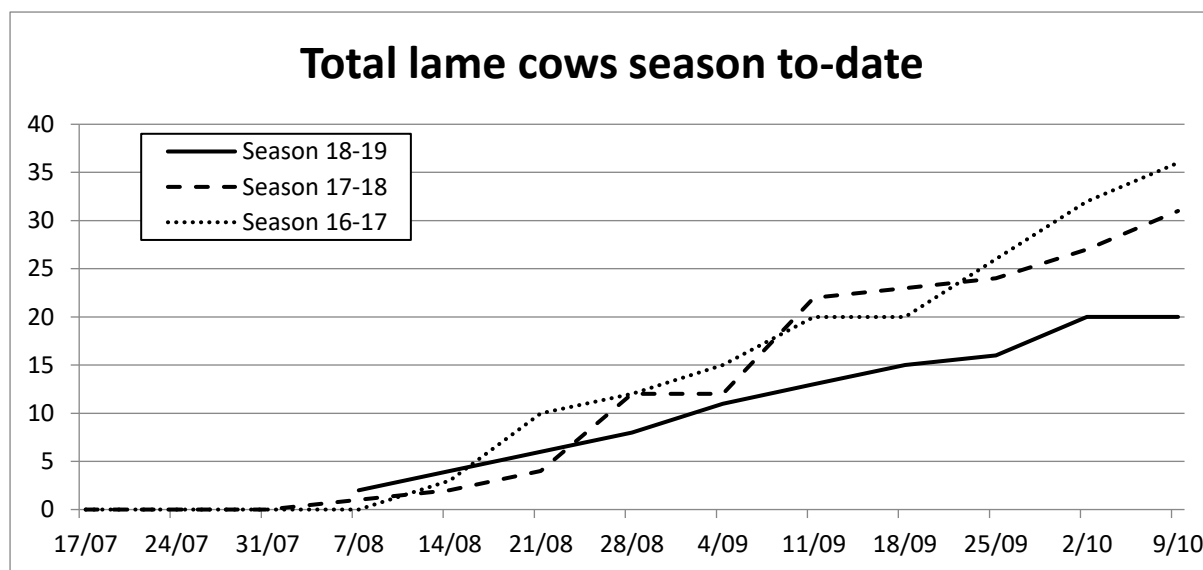
Milk samples were taken from the highest SCC cows after herd testing. Many came back testing positive to *Staphylococcus aureus*. The affected animals are being treated and have been separated to be milked last at milking time.

A second round of testing will be done on milk samples of the second tier of high SCC cows and the same management will be done.

All other aspects of milking and the milking machine have also been checked and fixed if required.

It is not known how this bacterium came into the herd.

Lameness



With the dry winter and summer conditions, lameness has not been an issue

Mating plan for LUDF 2018

Given the surge of *Mycoplasma bovis* across the country, it was deemed that LUDF would undergo mating without the use of bull as a way to control biosecurity for M.Bovis.

Yearling heifers

This category of animals have received B-12 plus selenium and copper bullet plus drench and BVD vaccine and iodine injection in preparedness for mating

Mating plan for yearling heifers:

No bulls will be used

To manage without he bulls, a CIDR programme will be used:

2nd October: CIDRs were inserted on all heifers

9th October: CIDR were pulled out

11th October: blanket insemination.

Repeat this cycle in 10 days' time but inseminations done on observed heat only

35 first calving heifers have been carried over from last season to help replacement numbers next season and allow for appropriate culling of animals, should not-InCalf rate remain high this season. These have undergone the same treatment as the yearling heifers for mating.

Milking herd

Milking herd reproductive health:

Metrichecked1 done on Monday 3rd September: 33 cows were treated (6%) for metritis.

Bloods were taken from a random selection of 10 cows to check for mineral status.

Results showed that all levels are adequate however we are adding extra selenium and iodine through the dosatron to increase levels for mating.

Metricheck was carried out on the 28th September another 9 cows were treated for metritis.

Pre-mating heat detection started on Thursday the 20th September (all milking cows have been tail painted on Thursday 13th September). 98 cows have shown signs of heat during week 1 of pre-mating heats and 123 cows have shown signs of heat during week 2 and 133 during week 3. To date 354 cows have shown signs of a heat 63%.

Planned start of mating: 18th October.

Mating plan:

Week 1: sexed semen

Weeks 2-4: Premier Sires


Week 5- 11: short gestation semen

Welcome to Lincoln University Dairy Farm (LUDF).

The farm is a fully operational, commercial dairy farm with a number of potential hazards for both visitors and staff. Many of the potential hazards cannot be eliminated while also providing access to visitors therefore all staff and visitors **MUST** watch for potential hazards and act with caution.

Hazard Summary: Look, think, act.

The following chart provides a reminder of the types of hazards at LUDF. Watch for these and any other hazards that may be on farm today.

People: <ul style="list-style-type: none"> • Uninformed / ill prepared visitors may be the greatest risk 	Animals: <ul style="list-style-type: none"> • You are in their space 	Milking shed: <ul style="list-style-type: none"> • Moving rotary platform • Confined animals • Chemicals
Eyes / Ears: <ul style="list-style-type: none"> • Water / oil / milk / chemical splashes • Welding flashes • Loud machinery 		Touch: <ul style="list-style-type: none"> • Hot / cold surfaces, hot water, chemical burns • Electric fences – treat them as high voltage power sources
On farm machinery and tools <ul style="list-style-type: none"> • Chainsaws, hand tools etc. generate noise, fragments 	Potential slips / trips: <ul style="list-style-type: none"> • Uneven surfaces occur across the farm • Fences • Drains • Underpass • Effluent pond 	Vehicles: <ul style="list-style-type: none"> • Contractors and farm equipment – act as though they can't see you – keep out of their way • Centre Pivot takes precedence over your plan

ARE YOU TRAINED FOR WHAT YOU ARE ABOUT TO DO? If not, STOP.

If you are uncertain how you should act or proceed, stop and contact the farm manager, other farm staff or your host.

By entering this farm, you are acknowledging your receipt of this hazard summary, and your agreement to take personal responsibility to watch out for potential hazards, and act in such a manner as to protect yourself and any others also on-farm.