

Lincoln University Dairy Farm - Farm Walk notes

Tuesday 5-September 2017

LUDF – focus for 2017/18 Season: Nil-Infrastructure, low input, low N-loss, maximise profit.
Farm system comprises 3.5 cows/ha (peak milked), Target up to 170kgN/ha, 300kgDM/cow imported supplement, plus winter most cows off farm. FWE of less than \$1.1 million and Target production of over 500kgMS/cow (>100% liveweight in milk production).

Critical issues for the short term

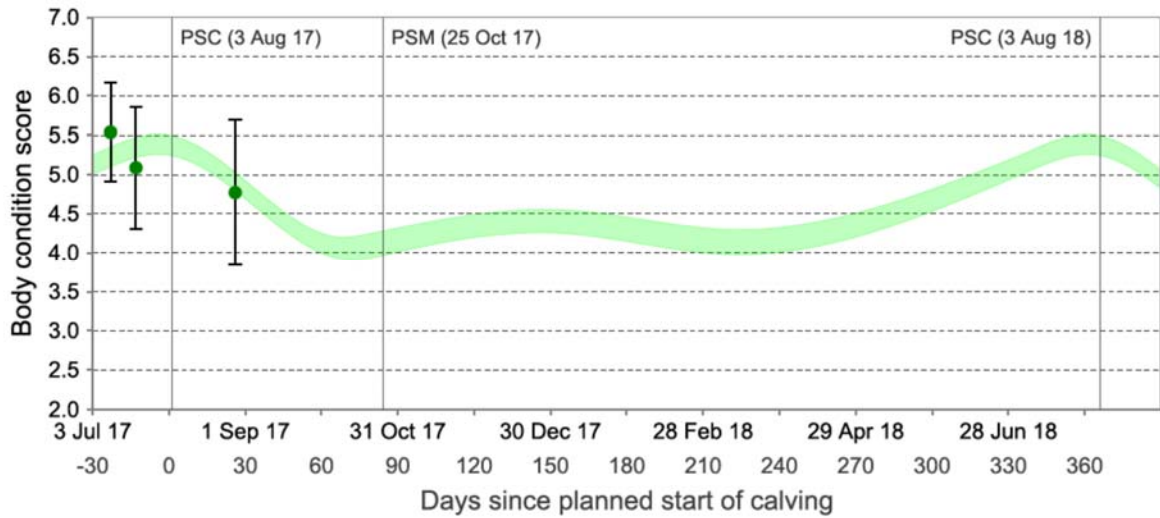
1. **Monitor average pasture cover and shape of the wedge on the milking platform to meet planned cover through first grazing round (using the spring rotation plan).**
2. **Cow health and pasture management through calving**
3. **Maintain a high quality of hygiene in calf sheds**
4. **All new-born calves receive excellent care with regards to colostrum management, feeding, housing and health care**

Key Numbers - week ending Tuesday 5 September 2017

| | | | |
|-----------------|--------------------------------------|---------------------------------------|---------------------------------|
| Ave Past Cover | 2521 kgDM/ha (Rising Plate Meter) | Past Growth Rate | 38 kgDM (Rising Plate Meter) |
| Round length | 38.6 days (for 160 ha) | Ave Supplement used (Milking cows) | 0 |
| No Cows on farm | 528 | Ave Soil Temp (week) | 8.6 °C |
| SCC | 122,000 | Ave kgMS/cow/day (cows in vat) | 1.99 kgMS |

Herd Management

5. A total of 400 cows have calved and are grazing on farm. 364 milkers, 29 colostrums and 4 sick cow.
6. 29 freshly calved colostrum cows are receiving pasture dusted with 100g of magnesium oxide and 200g of limeflour, and are receiving pasture only with no supplementary feeds
7. Springers are being fed pasture with 100g of magnesium oxide and 100g of DCP dusted on their daily silage. This follows blood tests showing low calcium and phosphorous in freshly calved cows earlier in August.
8. All calving cows and heifers have received a B12 and Selenium shot precalving on 20th July 2016.
9. Trace minerals and magnesium chloride are running through the stock water to all cows on the milking platform and at East block. Extra Iodine will be added to the mix.
10. All dry cows are now back from grazing and as ground conditions allow are grazing behind the milkers to achieve target residuals. If required they can be moved to a nearby lease grazing block.
11. There have been no deaths this week. There were no lame cows and 4 mastitis cow this week.
12. 155 heifer replacements have been tagged so far, and 120 of them are outside. All have been dis-budded and have had a DNA sample taken.
13. Body condition score was done on Monday 28th August. The whole herd average CS was 4.9. Dry cows averaged 5.2 with 13% below 5 and 24% were 6 or greater. Milking cows averaged 4.8 with 11% below 4.5 and 14% 5.5 or more.
14. Average BCS and range of 95% of the milking cows as at 28th August are shown in the following graph.



15. The herd was split on Monday 28th August. The small herd has around 126 first calving heifers and few low BCS cows. The remaining animals are all in the large herd.
16. Yearling heifers were bled on the 31st August for pre-mating check on mineral status. This will give us enough time to address any mineral needs within this group.
17. Milkers will be Metrichecked tomorrow (August calvers) and bloods will be taken.

Growing Conditions

18. The average 9 am soil temperature has increased to 8.6°C (7.3°C last week).
19. The farm received 13.2 ml of rain this past week, which has made North block a bit soft underfoot and has kept the South block quite wet still.

Figure 1: Soil temperature history for the last 2 weeks

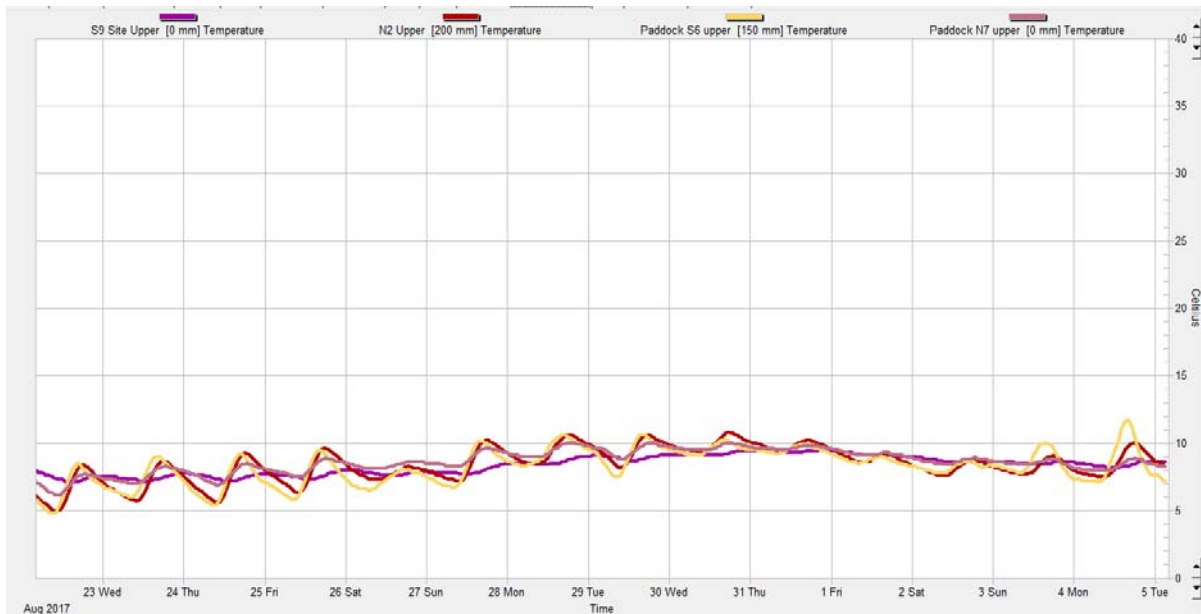
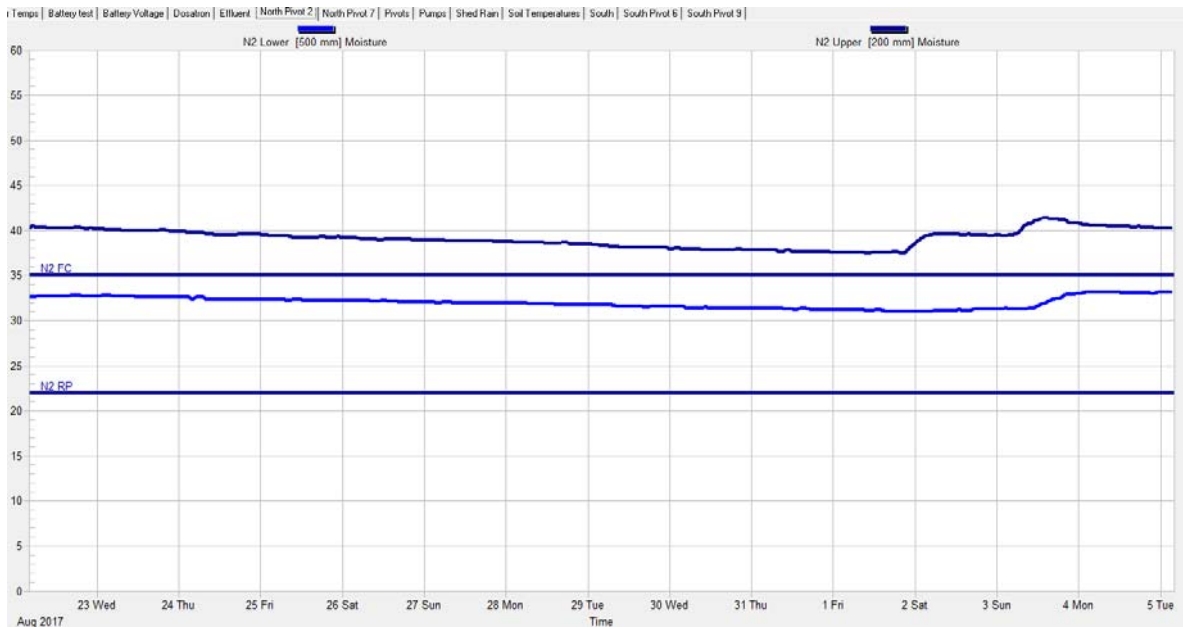


Figure 2: Soil moisture history for the last 2 weeks (Paddock N2).



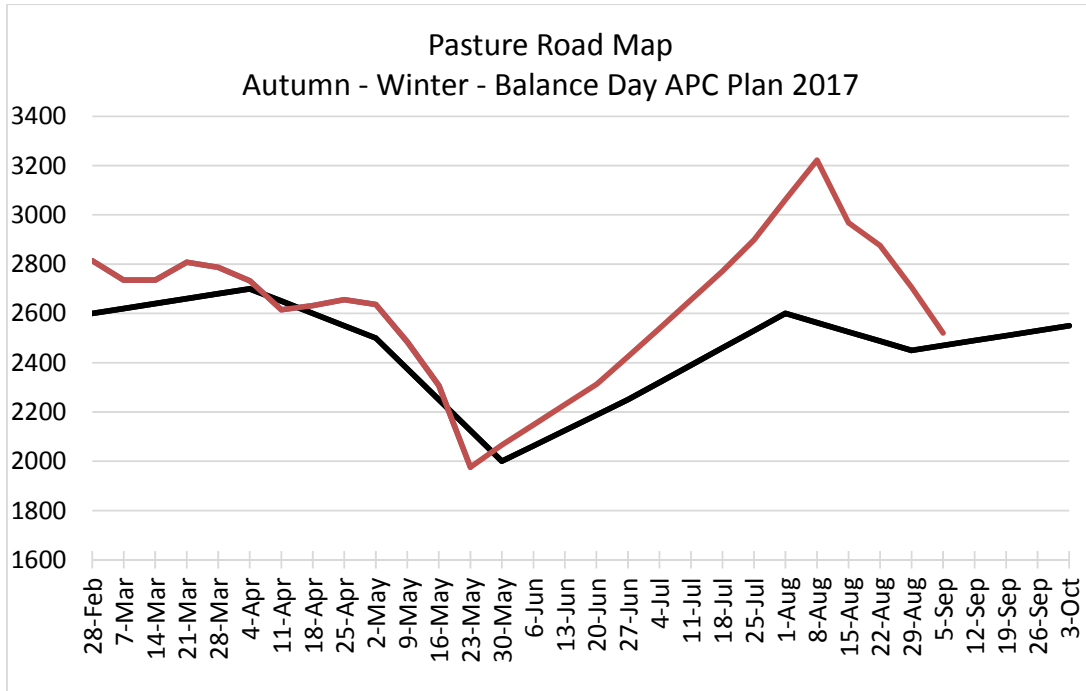
Pasture and Feed Management

- 20. No more paddocks have been able to be heavy rolled.
- 21. Pasture quality in our higher cover paddocks is now primarily under control. The highest cover at this stage is 3700 kgDM/ha.
- 22. Paddocks grazed last in May are growing well with little evidence of nutrient shortages holding back growth.
- 23. Avoiding pugging damage remains a focus, and the herd will be stood on the yards if required.
- 24. Calved cows are not being pushed to achieve targeted residuals, as later calving cows are being grazed behind the calved cows and are achieving desired residuals.

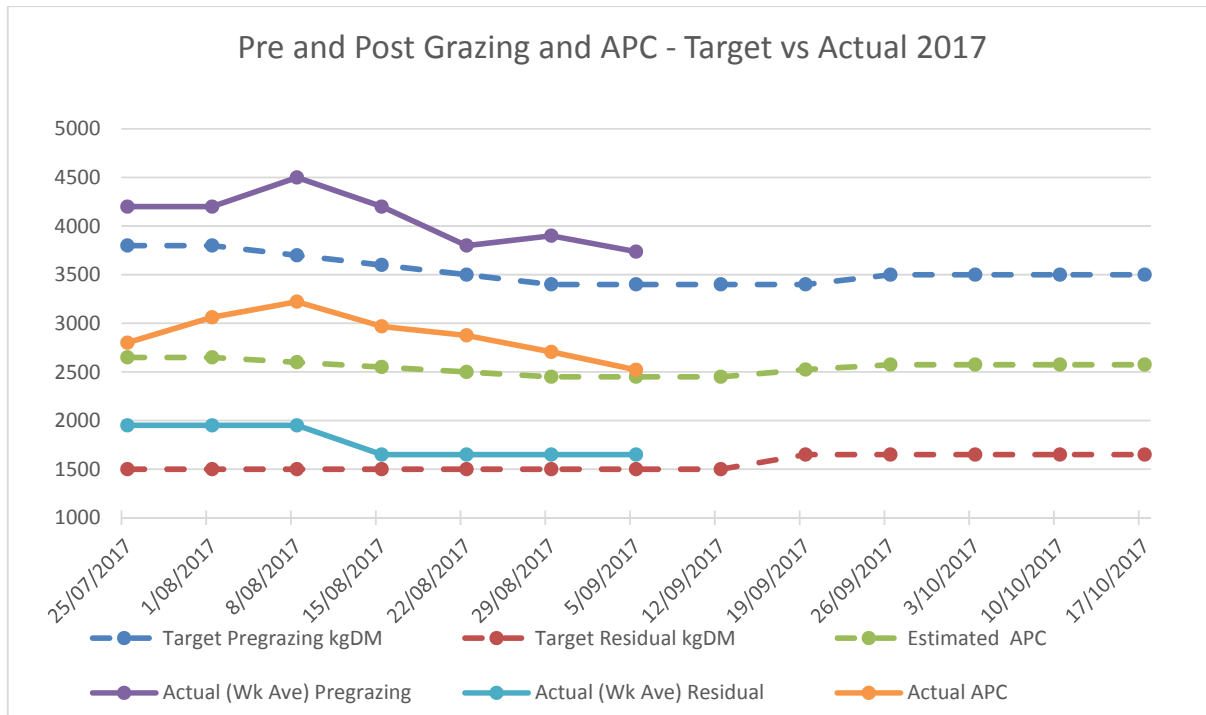
Figure 3: This week's feed wedge



25. The pregrazing required for the demand line is calculated using the target APC and residual: (target cover for this date – 1650 (residual)) + target pasture cover for this date: (2470-1650)+2470= 3290kgDM/ha.
26. Last week surplus grass has now almost disappeared, with an excess feed available on Pasture Coach of only 8 tDM total.
27. Below is our Pasture Road map to track covers through this period. The farm is now almost there in terms of actual APC vs planned APC.



28. Below is our plan vs actual SRP



29. Our Spring Rotation Planner started on the 25th July and is planned to end on / about 25 September.
30. Below is the target vs actual total area grazed and supplement used:

| 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) |
|-------------|---|------------------------------|--------------------------------|--|-----------------------------|--|------------------------------------|----------------------------------|
| 18/07/2017 | 34 | | | | | | | |
| 25/07/2017 | 50 | 4.0 | 4.0 | 1006 | 3.89 | 3.89 | 0 | 0 |
| 1/08/2017 | 98 | 4.9 | 8.9 | 2844 | 4.5 | 8.39 | 0 | 0 |
| 8/08/2017 | 137 | 7.1 | 16.0 | 8173 | 7.11 | 15.5 | 0 | 0 |
| 15/08/2017 | 193 | 11.4 | 27.4 | 18498 | 11.91 | 27.41 | 0 | 0 |
| 22/08/2017 | 277 | 14.2 | 41.5 | 30293 | 25.06 | 52.47 | 0 | 0 |
| 29/08/2017 | 335 | 15.9 | 57.5 | 46874 | 20.47 | 72.94 | 0 | 0 |
| 5/09/2017 | 379 | 21.0 | 78.5 | 61889 | 29 | 101.94 | 0 | 0 |
| 12/09/2017 | | 26.2 | 104.6 | 72104 | | 101.94 | | 0 |
| 19/09/2017 | | 31.9 | 136.5 | 89548 | | 101.94 | | 0 |
| 26/09/2017 | | 33.5 | 170.0 | 89548 | | 101.94 | | 0 |
| 3/10/2017 | | 41.5 | 211.5 | 89548 | | 101.94 | | 0 |
| 10/10/2017 | | 44.0 | 211.5 | 89548 | | 101.94 | | 0 |
| 17/10/2017 | | 44.4 | 255.5 | 89548 | | 101.94 | | 0 |

31. APC is catching up to the target APC, however the farm has grazed 23 ha more than the target total area grazed to date. Given the weather conditions we have had to graze the farm at a faster round than planned, which has placed us about 5 days ahead with respect to the end of first round. However, the higher-than-planned average pasture cover has allowed us to do this without the need for any supplement to date. Additionally, the Spring rotation plan does not include grazing dry cows behind the milkers as has happened over the past few weeks.

32. Potentially finishing the first round early is likely to require more silage at the beginning of the second round if pregrazing covers aren't adequate.

33. The farm still has an option to slow the area grazed per day for the remainder of the first round (by using some silage) and enable a delay in the start of the second round. This would let the pregrazing covers get closer to target and potentially enable the farm to grow its way out of any feed deficit in the second round.

34. The actual calving rate over the next two weeks will also influence this through the feed demand as the farm is again 50 cows behind on calved cows compared to estimated calving dates.

Feeding Management for the coming month:

35. Milkers will be fully fed on grass, with the area allocated per day managed according to both planned area on the spring rotation plan, pregrazing cover, and ground conditions. Potentially more area could be allocated if necessary to avoid pugging.

36. Supplements remain available to be fed if growth slows down through the week and APC drops too far next week, or to slow the round down. At present the weather forecast for this week seems to have no rain in it, so the decision will be made as required.

37. Later calving cows will still be used behind the milkers if required.

| LUDF Weekly report | 8-Aug-17 | 15-Aug-17 | 22-Aug-17 | 29-Aug-17 | 5-Sep-17 |
|--|-------------|-------------|-------------|------------|------------|
| Farm grazing ha (available to milkers) | 160 | 160 | 160 | 160 | 160 |
| Dry Cows on farm / East blk /Jackies/other | 0/148/0/234 | 0/164/178/0 | 157/104/0/0 | 143/79/0/0 | 128/36/0/0 |
| Culls (Includes culls put down & empties) | 0 | 0 | 0 | 1 | 0 |
| Culls total to date | 4 | 4 | 4 | 5 | 5 |
| Deaths (Includes cows put down) | 3 | 1 | 0 | 0 | 0 |
| Deaths total to date | 9 | 10 | 10 | 10 | 10 |
| Calved Cows available (Peak Number 560...) | 160 | 239 | 305 | 357 | 400 |

| | | | | | |
|---|---------|---------|---------|---------|---------|
| Treatment / Sick mob total | 8 | 0 | 2 | 1 | 4 |
| Mastitis clinical treatment | 4 | 0 | 2 | 1 | 4 |
| Mastitis clinical YTD (tgt below 64 yr end) | 4 | 4 | 6 | 7 | 11 |
| Bulk milk SCC (tgt Avg below 150) | 210 | 170 | 184 | 135 | 122 |
| Lame new cases | 0 | 1 | 2 | 8 | 0 |
| Lame ytd | 1 | 2 | 4 | 12 | 12 |
| Lame days YTD (Tgt below 1000 yr end) | 3 | 10 | 10 | 10 | 10 |
| Other/Colostrum | 37 | 53 | 34 | 41 | 29 |
| Milking twice a day into vat | 110 | 182 | 267 | 321 | 364 |
| Milking once a day into vat | 5 | 0 | 0 | 0 | 0 |
| Small herd | 0 | 0 | 0 | 124 | 126 |
| Main Herd | 110 | 182 | 267 | 197 | 238 |
| MS/cow/day (Actual kg / Cows into vat only) | 1.78 | 1.52 | 1.72 | 1.88 | 1.99 |
| Milk Protein/Fat ratio | .74 | .83 | | | |
| Milk Fat % | 5.62 | 5.01 | | | |
| Milk Protein % | 4.16 | 4.16 | | | |
| MS/cow to date (total kgs / Peak Cows 560 | 2 | 2 | 10 | 15 | 25 |
| MS/ha/day (total kgs / ha used | 0.81 | 1.35 | 2.31 | 2.46 | 4.69 |
| Herd Average Cond'n Score | | | | 4.80 | 0.00 |
| Monitor group LW kg WOW 281 early calvers | | | | 452 | |
| Soil Temp Avg Aquaflex | 7.3 | 8.2 | 7.3 | 7.3 | 8.6 |
| Growth Rate (kgDM/ha/day) | 42 | 15 | 27 | 38 | 38 |
| Plate meter height - ave half-cms | 19.4 | 17.6 | 17.0 | 15.8 | 14.4 |
| Ave Pasture Cover (x140 + 500) | 3222 | 2968 | 2875 | 2706 | 2521 |
| Surplus/[deficit] on feed wedge- tonnes | 0 | 0 | 0 | 0 | 0 |
| Pre Grazing cover (ave for week) | 4200 | 4200 | 3880 | 3835 | 3737 |
| Post Grazing cover (ave for week) | 1950 | 1650 | 1650 | 1650 | 1650 |
| Highest pregrazing cover | 4200 | 4200 | 3880 | 4050 | 4050 |
| Area grazed / day (ave for week) | 1.01 | 1.70 | 3.58 | 2.92 | 4.14 |
| Grazing Interval | 158 | 94 | 45 | 55 | 39 |
| Milkers Offered/grazed kg DM pasture | | | | | |
| Estimated intake pasture MJME | | | | | |
| Milkers offered kg DM Grass silage | | | | | |
| Silage MJME/cow offered | | | | | |
| Estimated intake Silage MJME | | | | | |
| Estimated total intake MJME | | | | | |
| Target tot MJME Offer/eaten (incl 6% waste) | | | | | |
| Pasture ME (pre grazing sample) | 12.2 | | | 12.1 | |
| Pasture % Protein | 18.9 | | | 18.9 | |
| Pasture % DM - Concern below 16% | 16.6 | | | 19.2 | |
| Pasture % NDF Concern < 33 | 39.1 | | | 38 | |
| Mowed pre or post grazing YTD | | | | | |
| Total area mowed YTD | | | | | |
| Supplements fed to date kg per cow (555peak) | | | | | |
| Supplements Made Kg DM / ha cumulative | | | | | |
| Units N applied/ha and % of farm | | | | | |
| Kgs N to Date (whole farm) | | | | | |
| Rainfall (mm) | 2 | 47.2 | 20.4 | | 13.2 |
| Aquaflex topsoil relative to fill point target 60 - 80% | 100-100 | 100-100 | 100-100 | 100-100 | 100-100 |

Next farm walk: **Tuesday 5th September**. Farmers or their managers and staff are always welcome to walk with us. Please call to notify us of your intention and bring your plate meter and gumboots. Phone SIDDC – 03 423 0022.

Peter Hancox, Farm Manager, Natalia Benquet, Chris Norton.