

SUSTAIN-A-BULL MATING MANAGEMENT

Ross Riley, Farmer -GOLDEN BAY

INTRODUCTION

Ross and Ginny Riley farm in the Aorere Valley, Golden Bay.

Home farm –Blaris Boggoun is 183 ha effective milking 525 cows@ 380kg/cow. This farm milks twice-a-day for approx. 1100 kg/ha on 100% Pakihi soil.. We receive 120-150 inches of rain per year. (3-3.8 metres per year). Empty rates average 4.2% over 8 years –ranging from 2.9 to 5.6%.

Salisbury Dairy Farm- Once-a-day milking 360 cows after the initial TAD colostrum period. This is our third season ownership: production has increased 80% over that time. This farm is located 23 km south of the home farm near Bainham. Approx.138 ha effective (title 176ha). It enjoys 160-196 inches of rain per year. That's approx 5 metres. The farm is situated on an isolated ridge that climbs 600 ft to its highest point before descending 300ft to the last paddock that drops another 300 feet. These cows climb 1000 feet/day. Production is 90,000 kg/MS this year, which is 652 kg/ha and 250 kg/ms/cow and shows more room for improvement. This herd was established from 212 2yr old heifers and 96 later calving cows, and managed a 4% empty rate in year 1, 6.6% in our 2nd year, and 6% this year.

Both farms have a policy of NO INDUCTIONS, NO CIDRs, NO Dry Cow Therapy.

This policy has been in place for nine years.

This paper outlines our Mating Plan, including observations and lessons learned over this time.

THE SUSTAIN-A-BULL PLAN

The Mating Management System

- 28 days prior to planned start of mating (PSM) all cows are tail painted RED
- Daily, cows are observed on heat (pre-mating heat) and painted GREEN
- Cows which have a 2nd pre-mating heat are repainted GREEN
- The evening prior to Day 1 of Mating
 - all RED cows (non-cyclers) are drafted from GREEN cows.
 - RED herd remain separated and have bulls introduced at ratio of 1 bull: 30 cows
 - All cows (red and green) have KAMAR heat detectors applied

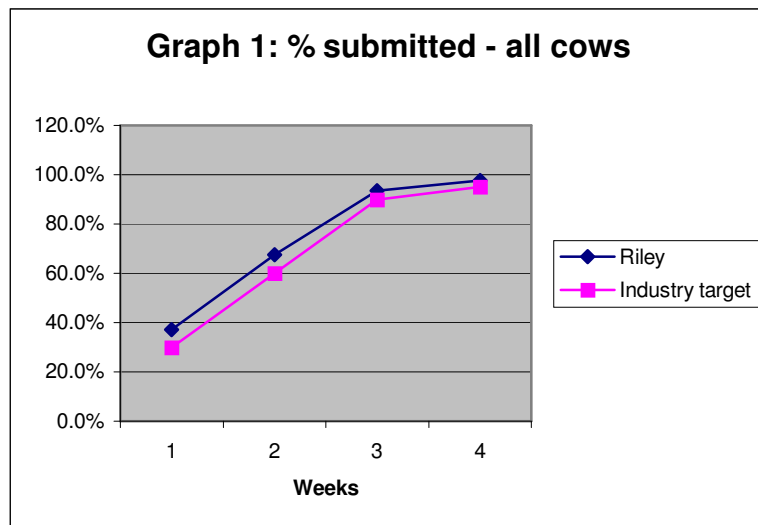
- From Day 1, all RED cows that are mated (whether observed, or KAMAR is set off) are recorded as mated. These mated cows are removed from RED herd, and are painted BLUE (mated) and returned to the GREEN herd.
- Cows in the GREEN herd are mated (AI) when observed on heat, painted BLUE and stay in the GREEN herd
- The first 14 days is very busy – very tiring for bulls so spelling bulls as numbers in the RED herd drop or having spare bulls is important
- Bulls feet and equipment can cause issues. Close observation is necessary
- Consider using odd numbers of bulls (3,5,7 or 9) as bulls do fight and waste energy
- Important to rotate bulls
- As we near the end of first 3 weeks, non-cycling cows are kept closer to the shed for ease of management
- At Day 24 and remaining GREEN cows are drafted out and moved into the RED herd with the bulls
- As these remaining RED and GREEN cows are mated by the bulls, they are moved back into the BLUE herd
- Any known culls can be left in the RED herd to save costs (AI costs)
- At the end of AI programme, remaining RED and GREEN cows rejoin the main herd (BLUE herd)
- It is advisable to have cows checked for infections at appropriate times, but we haven't bothered in the past
- Rotate the bulls to reduce feet problems and to keep them keen
- Our current programme continues for 13 weeks and 4 days (although we get very few in-calf in the last week)
- Pregnancy testing (scanning) is done at 6 weeks after removal of bulls from the herd. Very late cows may be confirmed to late dates by a second test if necessary.

RESULTS from 2004/05 MATING SEASON

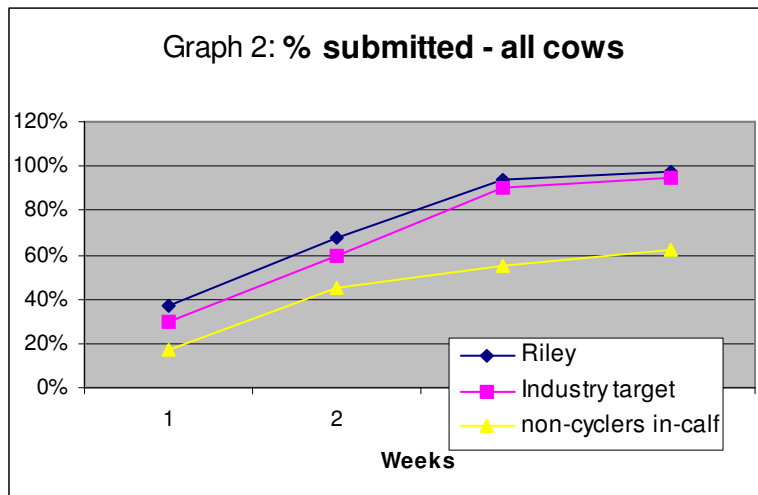
KEY POINTS:

- No Inductions
- No CIDR's
- Bulls introduced to non-cycling cows at DAY 1
- Only cows having 2nd or 3rd heats are being mated to AI

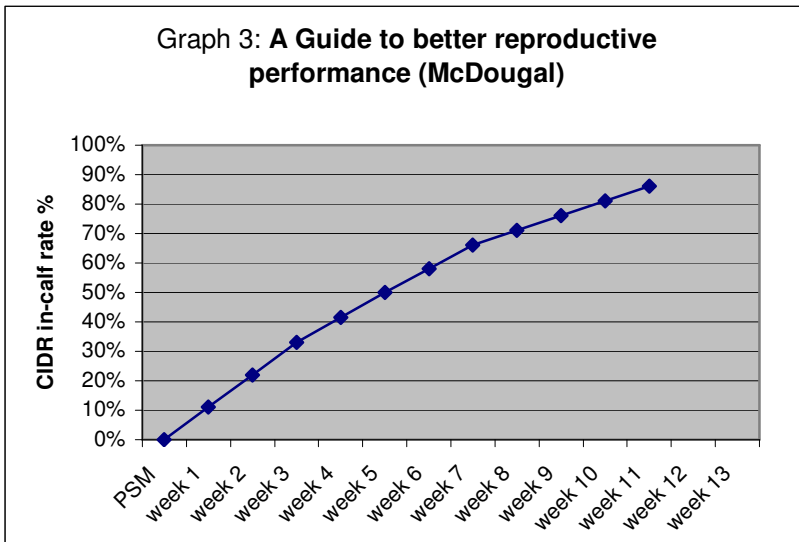
- We do AI for 6 weeks
- 36.9% non-cycling prior to mating (194 cows)



Graph 1: % submitted (all cows) vs Industry targets

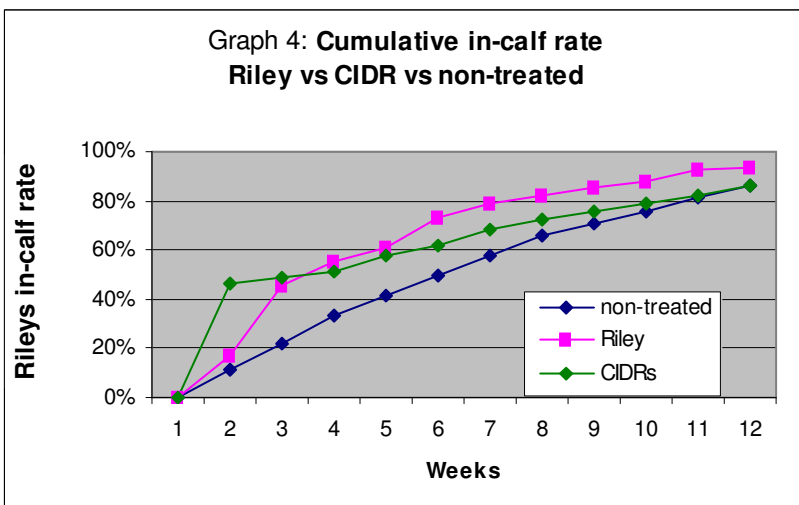
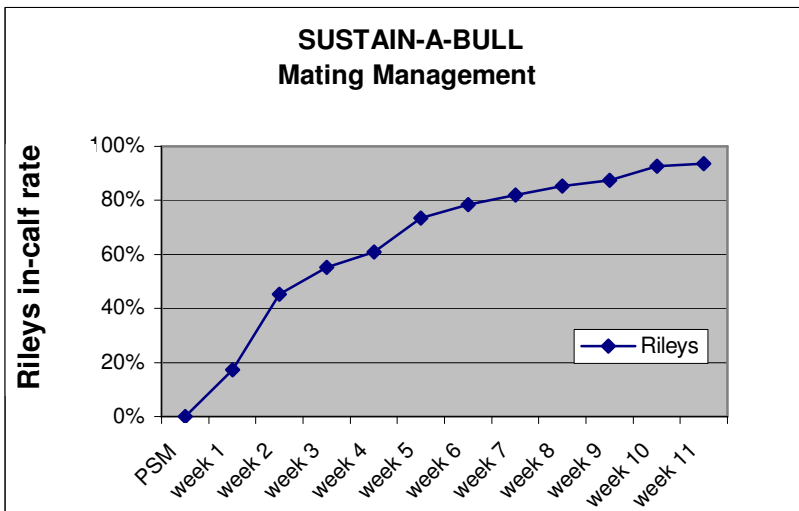


Graph 2: % non-cycling cows cycling by week 1 to 4
 % non-cycling cows in-calf week 1 to 4



Graph 3: In-calf rate CIDR vs non-treatment

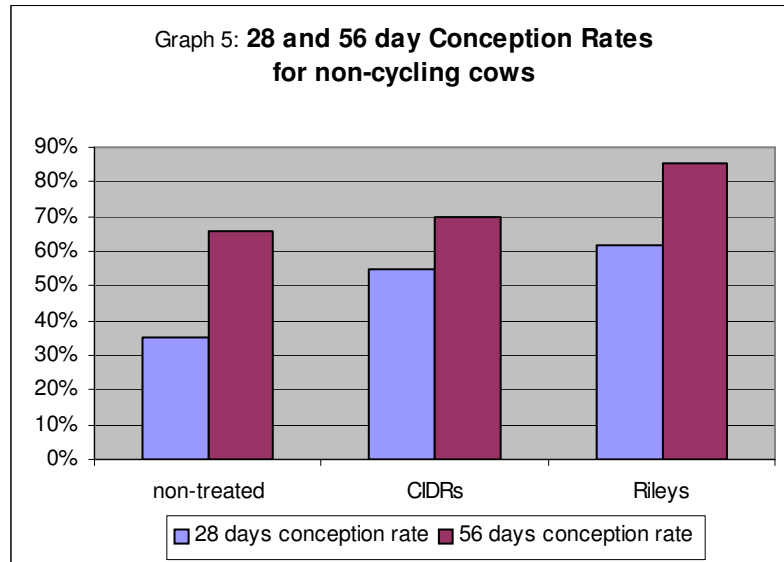
(Ref. A Guide to Better Reproductive Performance, Dr Scott McDougall*)



Graph 4: Cumulative in-calf rate %

Riley vs CIDR vs non-treated

- CIDRs get a large number of cows incalf in week 1 (46%)
- The time taken to achieve 50% incalf
- 4 to 8 week in-calf rate
- Final in-calf rate – end of mating programme

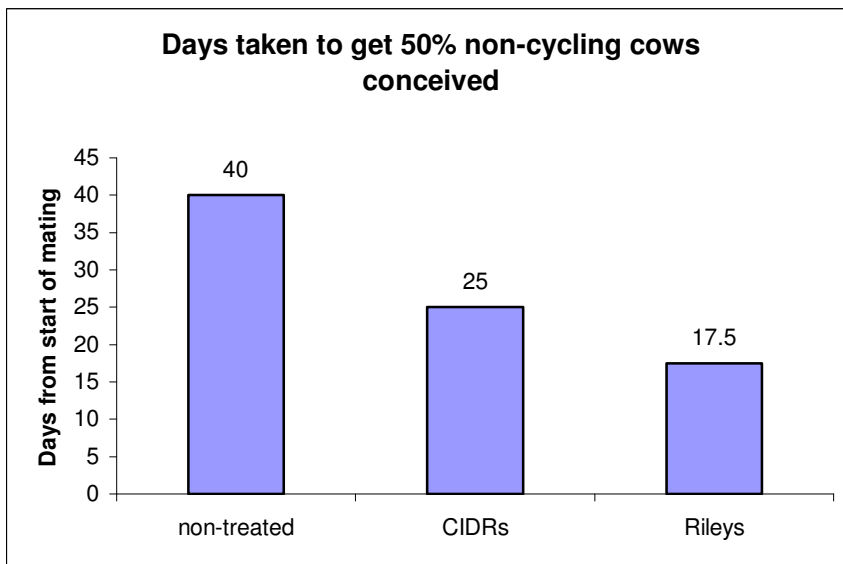
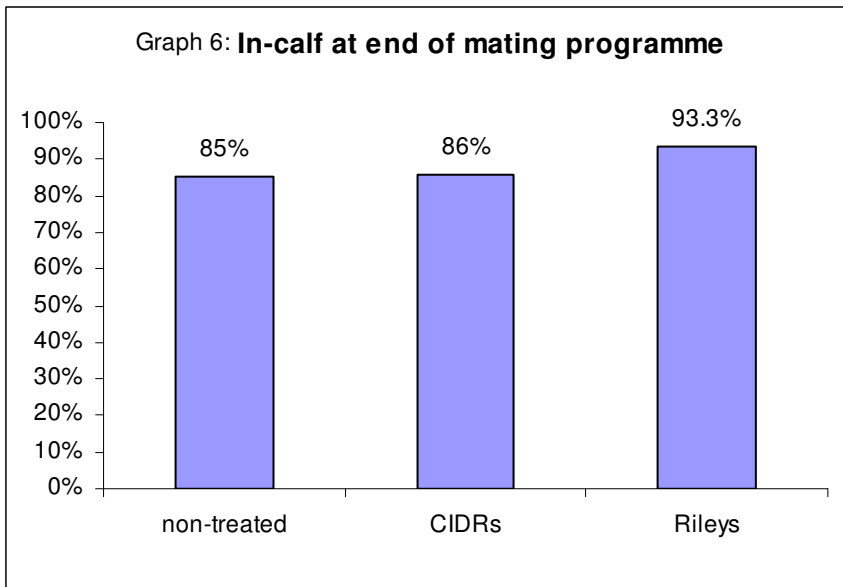


Graph 5a: 28 Day conception rate for non-cycling cows (4 weeks)

- Non-treated 35%
- CIDR 55%
- Rileys 61.9%

Graph 5b: 56 Day conception rate of non-cycling cows (8 weeks)

- Non-treated 66%
- CIDR 70%
- Rileys 85.4%



Graph 6a: End of mating programme for non-cycling cows in-calf rate%

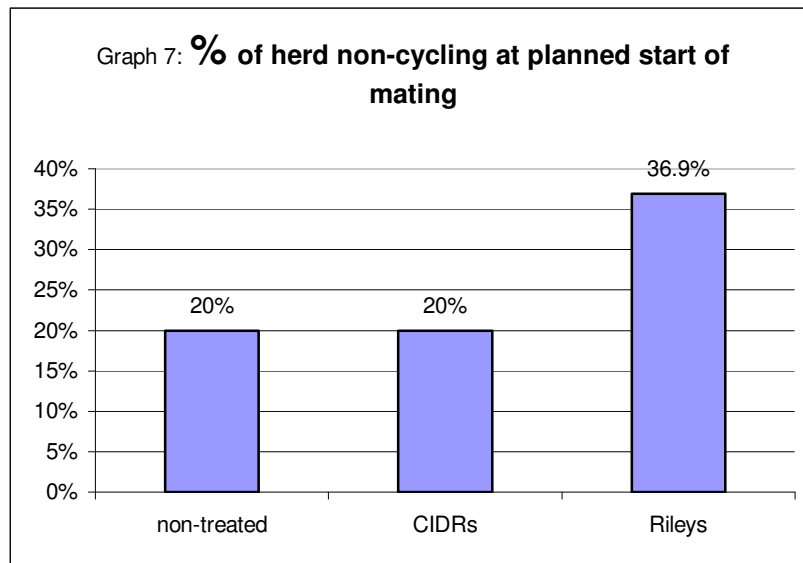
- Non-treated 85%
- CIDR 86%
- Rileys 93.3% (11 weeks)

KEY POINT – the difference between final in-calf rate is 7.3% more than the non-cycling cows in-calf rate at the end of the mating programme

Graph 6b: Days to get 50% non-cycling cows conceived

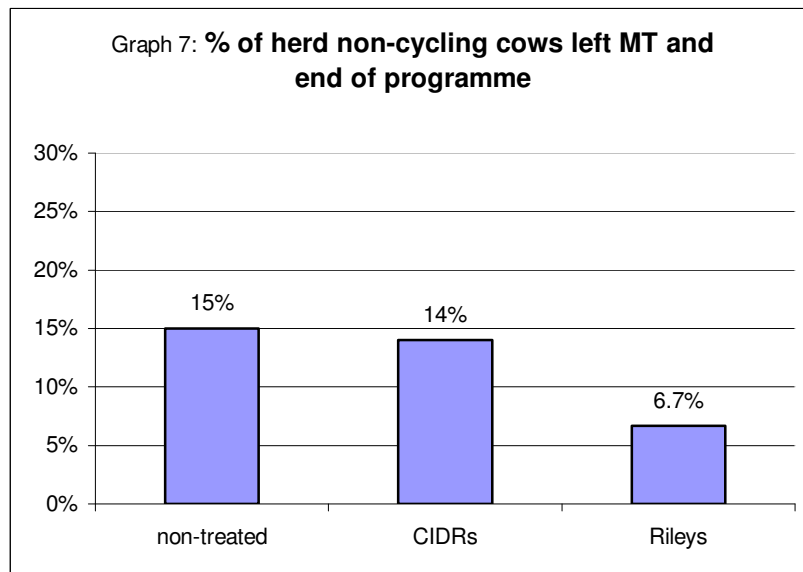
- Non-treated 40 days
- CIDR 25 days
- Rileys 17.5 days

Key Point – this was the key selling point for CIDRs – more cows in-calf and more production when compared to non-treated cows



Graph 7a % of herd non-cycling at planned start of mating

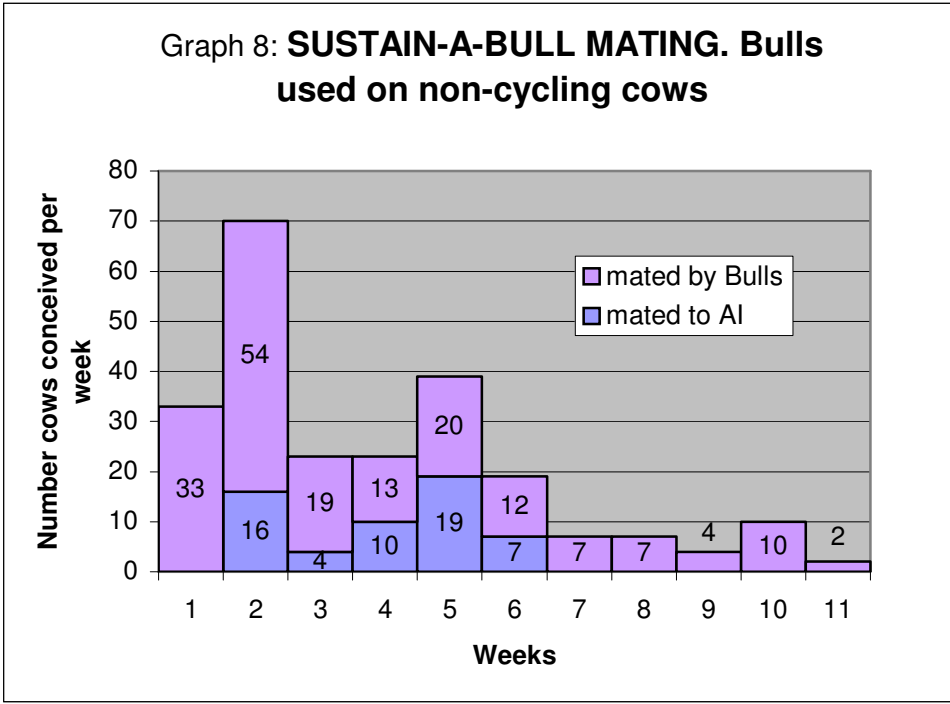
- Non-treated 20%
- CIDRs 20%
- Rileys 36.9%



Graph 7b Final % of non-cycling cows still empty at end of programme

- Non-treated 15%
- CIDRs 14%
- Rileys 6.7%

Difference of 7.3% more non-cyclers now in-calf at end of mating



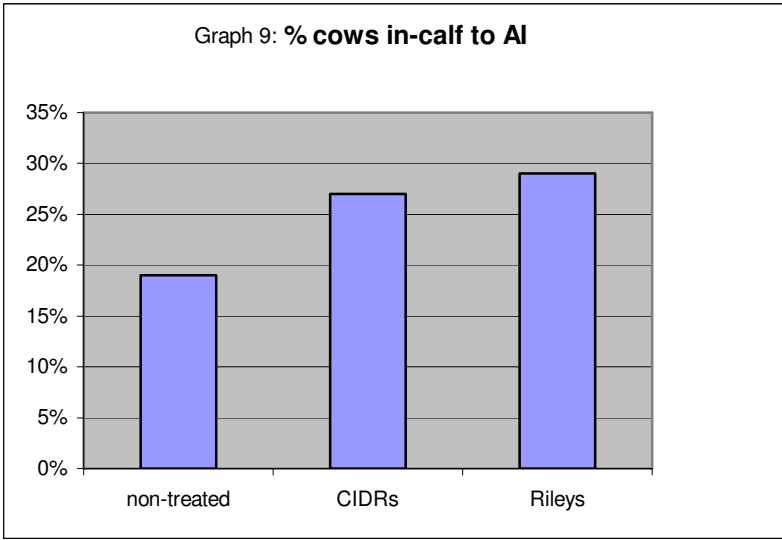
Graph 8 The weekly number of cows conceived to bulls and AI (from original non-cycling cows)

KEY POINTS – 50% in-calf in 17.5 days

No non-cycling cows got in-calf after week 11 of our 13 week 4 day mating programme

18 cows (or 9% of non-cyclers) are in-calf to AI in the first 3 weeks

56 cows in-calf to AI in 6 weeks (or 29%)



Graph 9 % of cows in-calf to AI

- Non-treated 19%
- CIDRs 27%
- Rileys 29%

KEY POINT – no sizable difference in volume of cows in-calf to AI

Graph 10 the effect of Bulls vs CIDRs on Rileys herd using known information from the CIDR study(*)

KEY POINTS – 3.9% of cycling cows empty

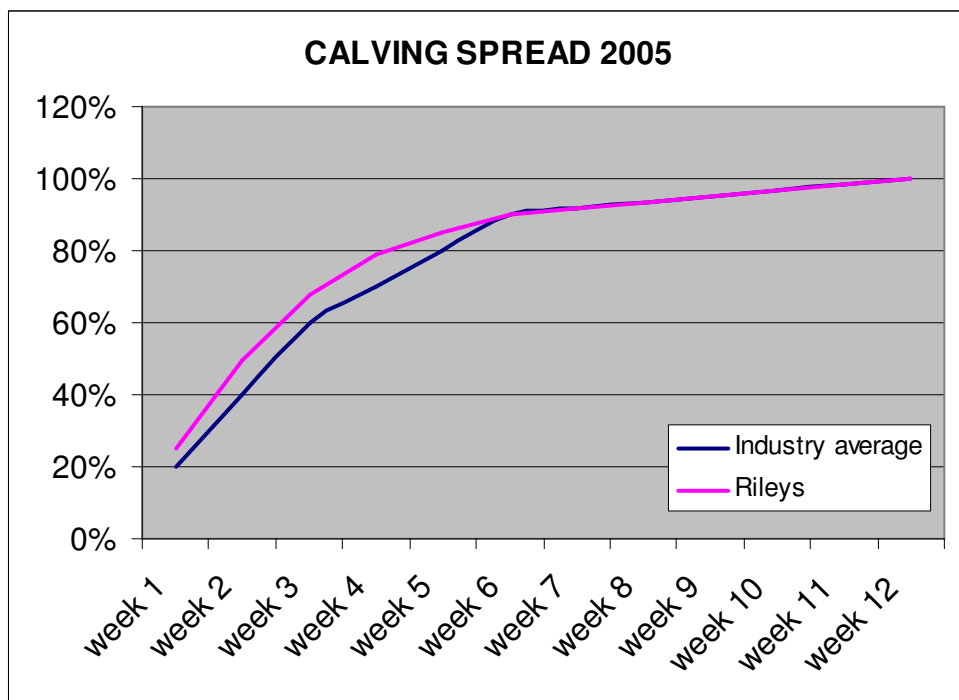
Bulls – 6.7% of non-cycling cows left empty

CIDRs – 14% of non-cycling cows left empty

Total herd empty using Bulls – 4.95%

If using CIDRs empty rate would have been 7.6%

This leaves an extra 14 cows, at \$1000 replacement cost = \$14,000



Graph 11 Calving Spread 2005

- Meets all industry targets
- 50% calved by 14.5 days
- 90% calved in 6 weeks

In conclusion: Opportunities for the future.

1. Lower wastage rate.
2. Culling choice
3. Lower replacement rate.
4. Lower cost of mating programme.
5. Reduced other costs –DCT, risk from treatment.
6. Extra production on average age of cow.

Think about wastage from a NZ industry point of view.

Currently at 25% replacement rate, our 4M national herd requires 1M heifers and 1M calves reared annually.

If we could lower the replacement rate to, say, 20%, this would be 800,000 heifers and 800,000 calves:

A difference of 200,000 heifers and 200,000 calves of lowest B.W.

At 2 heifers and 2 calves /ha. it will require 100,000 ha to rear them.

100,000 ha at 800 kg/MS/ha @ \$4 = \$320,000,000 of lost opportunity.

Another bonus is that reared replacements are of higher average quality.

So can these animals achieve over time 1 extra lactation.

In time average lactations /cow approx 5 compared to currently approx 4.

How much extra production can a 5th lactation cow produce compared to a 4th lactation cow.

e.g. plus 10 kg MS x 4 million cows @ \$4 = \$160,000,000

20 kg MS x 4 million cows @ \$4 = \$320,000,000

30 kg MS x 4 million cows @ \$4 = \$480,000,000

Would DCT be necessary if culling for SCC was practiced? As an industry, we may only require 5-7% culled annually to maintain acceptable bulk SCC.

This can be achieved if low empty rates are maintained.

This season no DCT was used on our farms –our average SCC is 205,000 – we culled 8% on SCC.

There are 20% replacement heifers entering the herd every plus a few carryovers (young, high BW cows)

2yr BW is 164 to enter the herd.

This season our empty rate was 3.3% after 13.5 weeks of mating. As only a small percentage of cows get incalf in the last 1.5 weeks, we could reduce this to 11 or 12 weeks of mating, but we find that it is our early calvers that can be harder to get incalf than the later ones!

We believe the problem with empty rates is not about fertility of your animals, it is mating management systems that are being used.

HAPPY MATINGS!