Cattle Reproduction

Evidence based vet medicines

AgriHealth

Why Partner with AgriHealth?

Improving vet and clinic staff expertise

- Confidence and knowledge in key areas
- Workshops - advanced practitioner skills
- Motivation and skill in influencing farmer clients' beliefs and behaviour

Increase farmer awareness and education

- Campaigns to increase understanding, and uptake of products and services
- Proactive vet input, motivated & enthusiastic, stronger client relationships

Profitability & sustainability

- Improve market penetration = clinic profitability
- Being the farmers' valued partner = loyalty
- Higher farm productivity via relevant, useful guidance and support

Key Messages

Treating non-cycling cows 9 – 10 days prior to PSM with best program provides greatest farm return

- Optimise days in milk by mating treated cows on first day of AI for the herd
- Maximise in-calf rates by ensuring best non-cycler treatment program, administered at the right times (P4 + GPG + eCG)

Treat non-cyclers early to optimise milk production

- Also tightens calving spread to reduce late calving cows in future years
- More culling options as cows pregnant earlier, and extra AB heifer calves

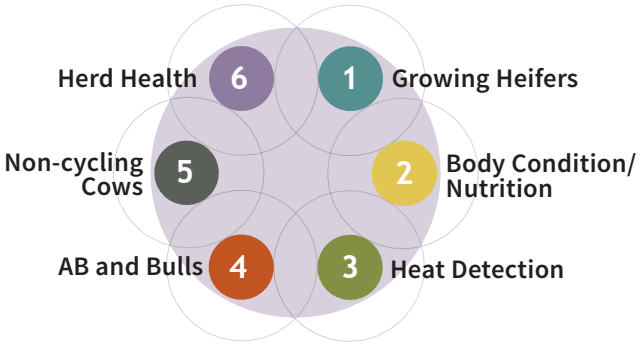
Farm management factors a major contributor towards suboptimal reproductive performance

- Nutrition and body condition scoring
- Heat detection
- Bull management
- Heifer growth rates, including weight at first mating and calving

Taking action on just a few key areas will improve early in-calf rates this season, and beyond

Ready to Mate

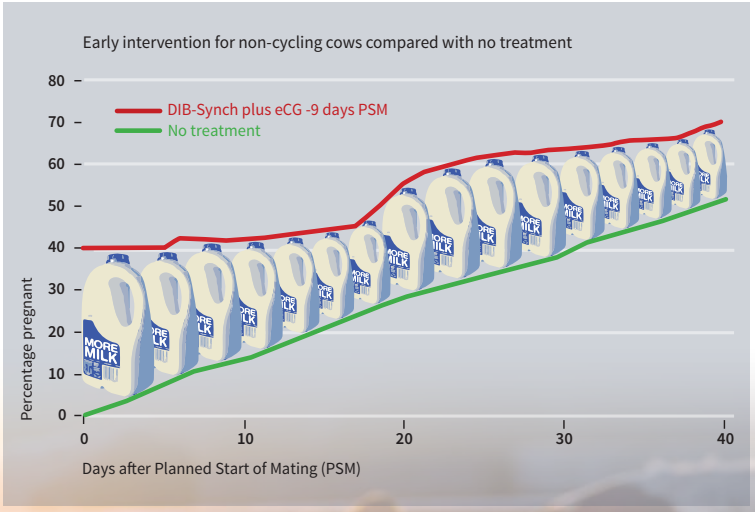
Optimise reproductive performance by taking a holistic view and improving management of:

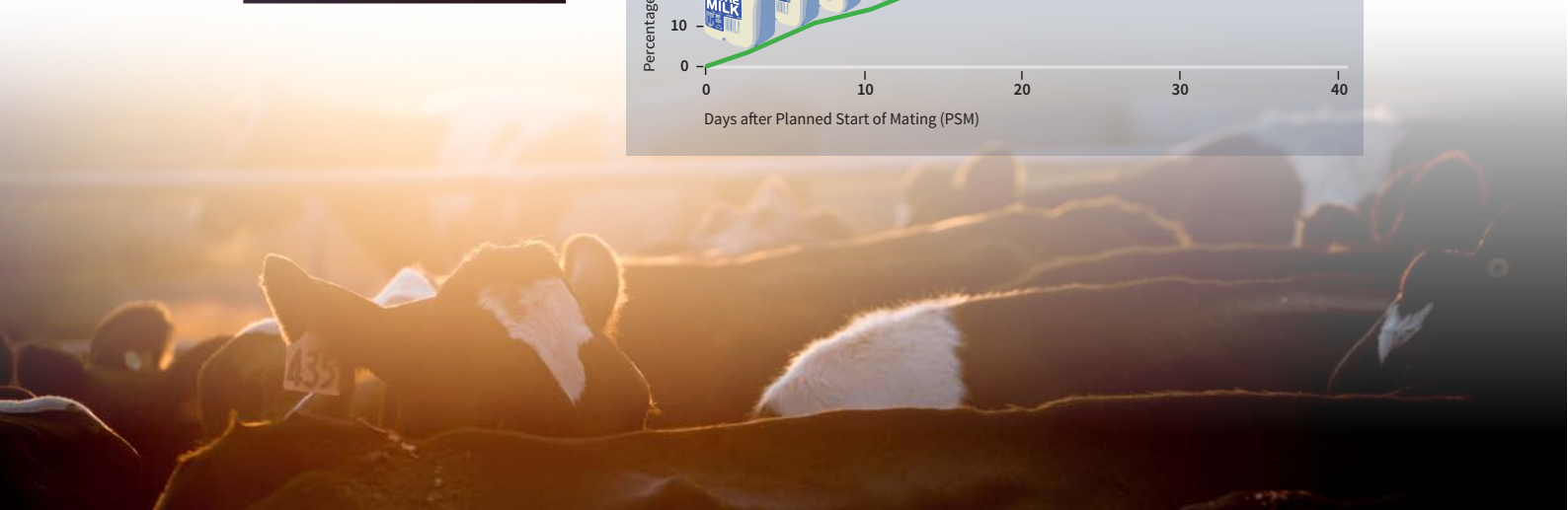


Benefits from improving farm reproductive performance

- More days in milk leading to improved farm profitability
- Calving pattern is more compact (fewer late calvers)
- Fewer cows are culled as empty
- More cows pregnant to Artificial Insemination (AI) so more AB calves
- More heifer replacements born early
- Fewer days feeding dry cows

Treat non-cycling cows with the DIB-Synch Plus program prior to planned start of mating for 19 extra days in milk





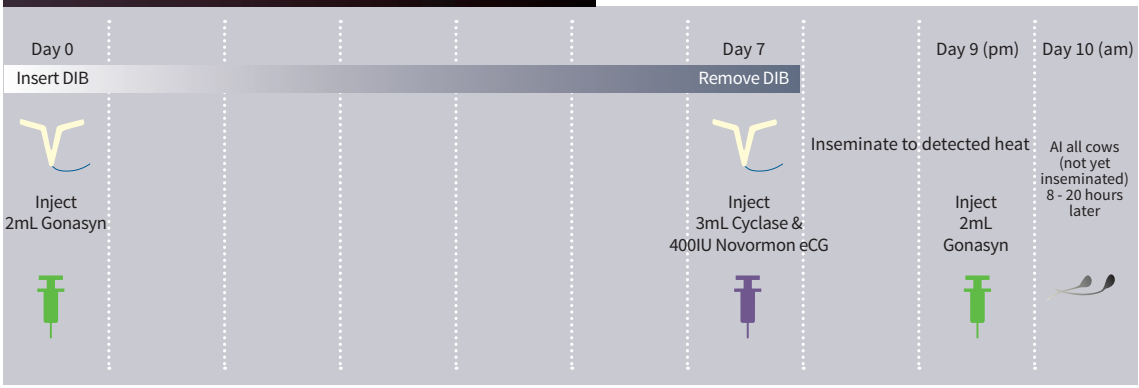
Oestrus Synchrony

Early treatment of non-cyclers is crucial

Treating non-cycling cows prior to planned start of mating provides an extra 27kg of milk solids = $180 per cow treated

Note: Delaying treatment of non-cycling cows until after the 'first round' of AB is very costly... treating cows early produces 8 times more milk!

Non-cycling cow treatment DIB-Synch Plus



Advantages of synchrony programs

- More days in milk providing more farm income
- Compact calving over a short period
- More time to begin cycling prior to next mating
- Faster genetic gain if heifers synchronised
- Additional AB heifer calves

Oestrus synchrony programs allow the use of set time AI.

Dairy heifers achieve high in-calf rates with DIB-CoSynch

Heifer /Beef Synchrony DIB-CoSynch

Treat Endometritis Early

Treat dirty cows for higher in-calf rates

Check for dirty cows

Endometritis can be detected via inspection of vaginal mucous and secretions. The presence of any discolouration or flecks of pus in this fluid is likely a sign of infection.

Endometritis is inflammation of the endometrium (uterine lining) usually caused by bacterial infection at calving.

Endometritis in dairy cows leads to:

- more non-cycling cows
- lower in-calf rates
- reduced conception rates
- higher empty rates

Metricheck cows in batches, by marking cows as calving progresses. Metricheck the first batch 3 weeks after calving starts, and 2 or 3 weekly thereafter.

Treatment of endometritis with cephapirin has shown:

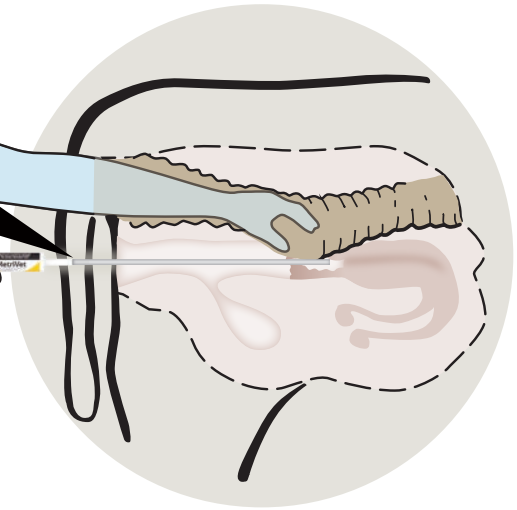
- Improved conception rates
- Higher in-calf rates
- Lower empty rates

MetriVet treatment

Large scale New Zealand research has shown Metrichecking cows 8 to 28 days after calving, and treating Metricheck positive cows with cephaprin, improves in-calf rates by 10%

MetriVet pipette and syringe securely connect for a superior delivery system

MetriVet is easier to infuse into the uterus of cows



MetriVet has been proven to cure endometritis in NZ dairy cows

Enhance veterinary expertise

AgriHealth will provide veterinary continuing professional development (CPD) to support expertise in cattle reproduction and endometritis treatment

Advanced Bovine Endometritis Workshops

Facilitated workshop

- to provide familiarity with latest findings on optimal timing of endometritis detection and treatment in cows
- demonstrate farmer benefits from treating cows with endometritis (in timely manner)
- practical tips to improve skills; including passing pipettes on farm and effective treatment

Includes clinical discussion, practical upskilling and optional on-farm workshop

Vet training modules are customised to suit your vets

Gonasyn and Cyclase

Gonasyn contains gonadorelin acetate (50 µg/mL)

Gonadorelin is a synthetic analogue of GnRH (gonadotropin releasing hormone)

GnRH stimulates the release of FSH (follicle stimulating hormone) and LH (luteinising hormone) from the pituitary gland

Gonasyn complements use of the DIB-V and DIB-h progesterone inserts, Cyclase and Novormon eCG in DIB-Synch Plus programs

Gonasyn has been proven in the DIB-Synch and DIB-Synch Plus programs under New Zealand commercial farming conditions

Cyclase contains cloprostenol (as sodium) 250 µg/mL

Cyclase is a synthetic analogue of prostaglandin F2∂

Cyclase is indicated for the luteolysis of functional corpora lutea (CL) in cows, pigs and horses

Cyclase complements use of the DIB-V and DIB-h progesterone inserts, Gonasyn and Novormon eCG in DIB-Synch Plus programs

Cyclase has been proven in the DIB-Synch and DIB-Synch Plus programs under New Zealand commercial farming conditions

DIB progesterone inserts

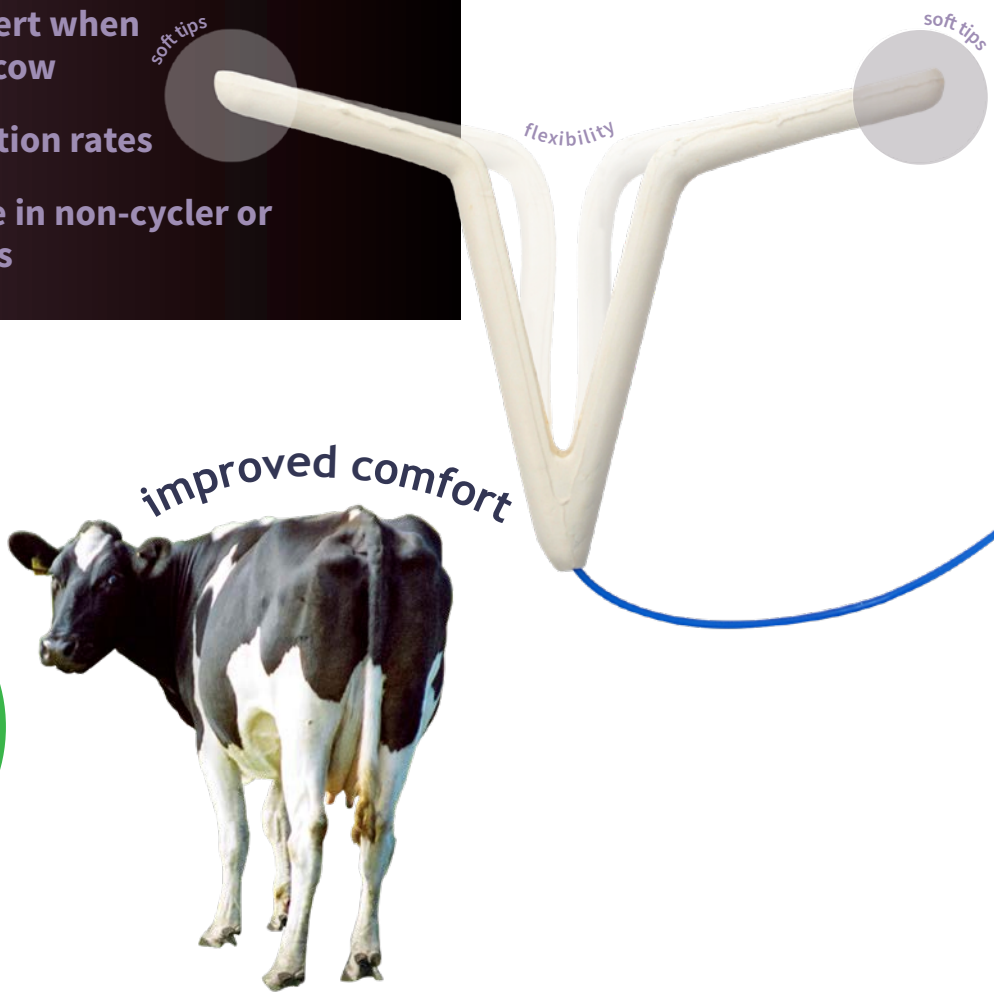
DIB-V and DIB-h have both been proven under NZ commercial farming conditions.
They contain optimised dosage of progesterone for modern seven day treatment programs.

DIB-V is a 1 gram progesterone intravaginal insert and DIB-h is a 0.5g progesterone intravaginal insert. Both products are registered for controlled breeding in cows and heifers.

The progesterone in the inserts is not fully liberated following standard 7 day use, leaving significant levels of progesterone in used inserts, especially those with a higher initial progesterone content. Using DIBs means less progesterone being discarded into landfills!

Advantages of the DIB progesterone insert

- Improved cow comfort (based on 3,180 assessments of cow behaviours during milking times)
- More flexible shape, with softer tips
- Less pus on insert when removed from cow
- Excellent retention rates
- Suitable for use in non-cycler or heifer programs



NEW ZEALAND PROVEN

Novormon eCG is superior

Novormon eCG is equine Chorionic Gonadotrophin (eCG or PMSG). The product is freeze dried with diluent for reconstitution. The dose of Novormon eCG for oestrus synchronisation in cattle is 2mL (400 IU eCG).

Novormon eCG is highly purified and has an optimal FSH / LH ratio. Dual action of FSH and LH stimulates follicular growth and ovulation. Novormon eCG increases ovulation rates and stimulates oestrus in anoestrous animals.

Novormon eCG has been proven in the DIB-Synch Plus program under New Zealand commercial farming conditions to increase pregnancy rates by 7%.

- **Consistency**
- **Potency**
- **Easy to reconstitute**
- **No particulate matter after mixing**
- **Stable after reconstitution 14 days at 25°C or 21 days at 4°C**

Modern non-cycling cow programs should include eCG for:

7% higher* in-calf rates at 28 days

3 more days in milk

** Compared with traditional 7 day progesterone programs. Shephard, R. NZVJ 2013*

Add Novormon eCG for higher in-calf rates

Mixing Instructions for Cyclase and Novormon eCG

A recent NZ study involving 2,300 cows across 21 dairy herds showed that including 3mL Cyclase (750µg cloprostenol) in DIB-Synch Plus cow programs resulted in better pregnancy outcomes.

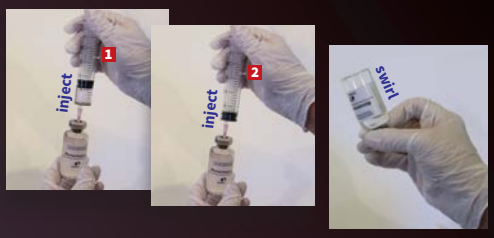
These instructions outline how to mix Cyclase and Novormon eCG to provide 750µg cloprostenol and 400IU eCG in a single 3mL injection for each cow on day 7 of the treatment program.

1. Take two vials of 20,000IU Novormon eCG and three 100mL bottles of Cyclase and remove plastic vial caps

2. Wearing gloves, withdraw 5mL from each of the Cyclase bottles into a single syringe

Note: take care not to aerosolise, spill or self-inject cloprostenol as this could have adverse consequences

3. Inject 7.5mL of this Cyclase into each of the two Novormon eCG vials



Invert and swirl the Cyclase + Novormon eCG solution to ensure all the eCG dissolves

4. Withdraw all of the reconstituted eCG from both the vials, into the syringe

5. Return 5mL of this solution into each of the three Cyclase bottles

6. Label these three Cyclase bottles as containing Novormon eCG

Write the date of reconstitution

The three Cyclase bottles are now ready to be used at 3mL dose, to provide the cow with 750µg cloprostenol and 400IU eCG in a single injection.

Three bottles (ie. 300mL) will treat 100 cows.

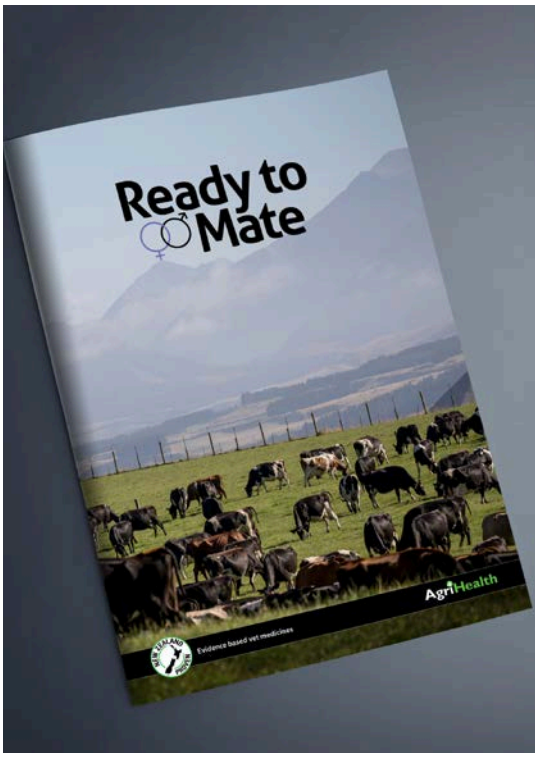
Reconstituted Cyclase + Novormon eCG solution is stable for 21 days if refrigerated, or 14 days at room temperature.

Marketing Plan – farmer communications

	August	September	October
Ready to Mate video clips on web			
Ready to Mate toolkit – treat non-cyclers early to optimise profitability			
Clinic newsletters – treating non-cycling cows			
Farmer brochure / farmer workshop tools			
Advertising to farmers – DIB benefits – ask your vet			
Advertising to farmers – using modern programs for non-cycling cows and heifer synchrony – ask your vet			

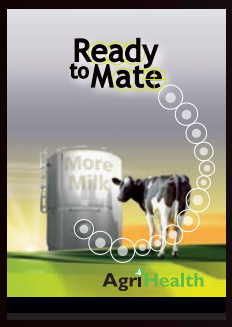
CPD & Tech Support

- **Ready to Mate CPD Modules – identify key areas for lifting in-calf rates and develop on-farm action plans via practical short courses**
- **RTM clinic programs for practical skills and improving reproduction discussions with farmers**
- **Endometritis CPD workshop – the why and the how**
- **Sponsorship to Cognosco's Advanced Cattle Reproduction Course led by Dr Scott McDougall**
- **Knowledgeable and approachable advice just a phone call away**



Marketing Materials

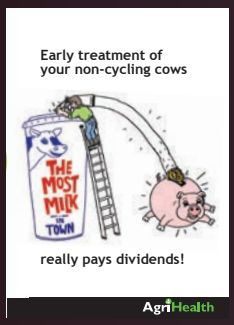
Resources for Vets and Farmers



Ready to Mate brochure

DIB brochure

Treating non-cyclers brochure



Treating non-cyclers brochure

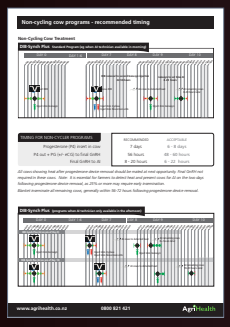
NZ Farmer Tips App

AgriHealth Ready to Mate video clips

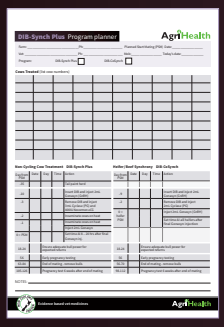
AgriHealth Partnership

Timing wheel

Industry agreed timing guidlines

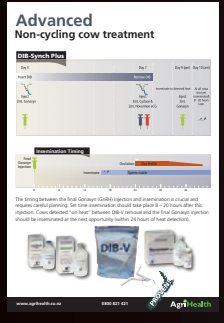


Timing chart

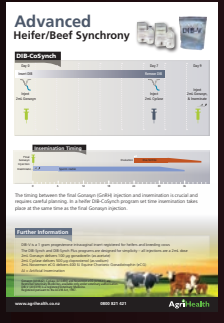


Program sheets

ROI calculator



Non-cycler program



Synchrony program

MetriVet brochure

Endrometritis workshop

Repro' Research

Leading veterinary understanding of NZ cattle health and productivity

Bates, A. Resynchrony study with early diagnosis of pregnancy, AgriHealth Technical Seminar 2015.

Bryan, M. The concurrent administration of eCG with prostaglandin in a dairy cow synchrony program and its effect on reproductive outcomes, WBC 2014.

Clews, M. A comparison of reproductive outcomes of anoestrous cows treated with a P4 device in either a traditional New Zealand 10 day or an alternative 9 day program. AgriHealth Technical Seminar 2015.

Hawkins D. Efficacy of inclusion of an additional 400IU eCG 14 days after artificial insemination into a progesterone + GPG + eCG treatment protocol for anoestrus dairy cows. Proceedings DCV Annual Conference 2013, 145-151.

Hawkins, D., Young, L., Lawrence, L. Assessment of field efficacy of intra-uterine cephapirin for the treatment of metricheck positive cows in spring calving dairy herds. Data on file 2015.

Lawrence, L. An improved program for the treatment of anoestrous dairy cows in New Zealand, WBC 2014.

McDougall, S. Prevalence of vaginitis and degree of purulent material on two intravaginal progesterone releasing devices, 2010.

McDougall, S. Effect of addition of eCG on ovarian follicle size and timing of ovulation in a treatment program for anoestrous dairy cows comprising intravaginal progesterone, GnRH and prostaglandin F2 alpha, WBC 2014.

McDougall, S., Kenyon, A. Do NSAID's improve reproductive performance of cows with endometritis? AgriHealth Technical Seminar 2016.

Shephard, R. Efficacy of inclusion of equine chorionic gonadotrophin into a treatment protocol for anoestrous dairy cows. NZVJ, 2013, 61:6, 330 – 336.

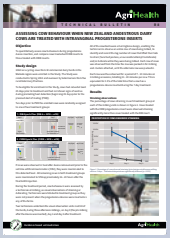
Young, L. Understanding progesterone requirements when treating New Zealand anoestrous dairy cows with programs with a seven day length of progesterone device insertion, WBC 2014.

Young, L. Using quantitative observational research to assess cow behaviour during treatment with intravaginal progesterone inserts on New Zealand dairy farms, WBC 2014.

Young, L., Lawrence, L. Cyclase as diluent for Novormon eCG, AgriHealth Technical Seminar 2015.

Young, L. Can we improve eCG effect with a higher dose? AgriHealth Technical Seminar 2015.

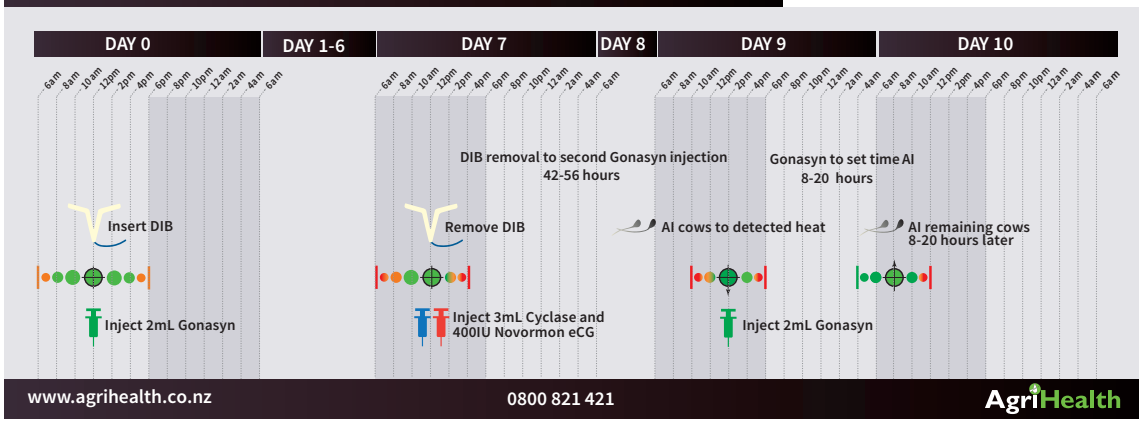
Young, L. Evaluation of prostagladin dose for non-cycling dairy cows in New Zealand, NZVA DCV Conference, 2018.



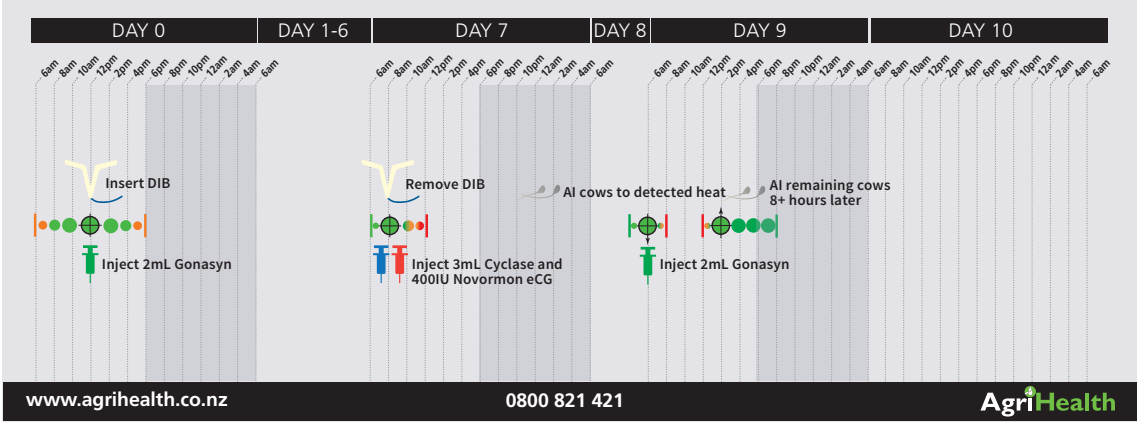
Timing of non-cycling cow programs

Ensure program timing is correct to maximise conception rates

DIB-Synch Plus Standard ten day program (eg: when AI technician available in the morning)



DIB-Synch Plus Nine day program (eg: when AI technician available in the afternoon)



Green signals optimal timing, with red not recommended

With a standard 10 day program AI must occur in the morning and heat detection (with mating to detected heats) is required

If the AI technician is only available in the afternoon, a 9 day program is recommended with final Gonasyn early morning on day 9

Gonasyn (A10642), Cyclase (A10490), Novormon eCG (A10641) and MetriVet (A10955) are Restricted Veterinary Medicines, available only under veterinary authorisation. DIB-V (A10319), DIB-h (A10832) are registered Veterinary Medicines. Registered pursuant to the ACVM Act, 1997.