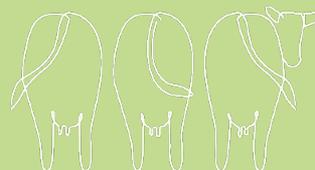


THE FUTURE OF REPRODUCTIVE HORMONE USE

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REPRODUCTIVE HORMONES REGISTERED FOR USE IN AUSTRALIA

- Prostaglandin (“PG”)
- GnRH (e.g. Ovurelin/Gonabreed®)
- Progesterone (e.g. CIDRs/Cue-Mate®)
- Oestradiol (ODB; e.g. Ciderol/Bomerol)
- eCG (e.g. Pregnecol®)

Administration of growth hormones (including rBST) is banned in Australia

OESTRADIOL BENZOATE

- Examples include Ciderol®/Bomerol®
- Commonly used in synchrony/NVO programs ~15 years ago
- EU banned use of ODB in food producing (meat/milk) animals in 2003
- Allowed continued use for treatment of anoestrus animals until 2006



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OESTRADIOL BENZOATE

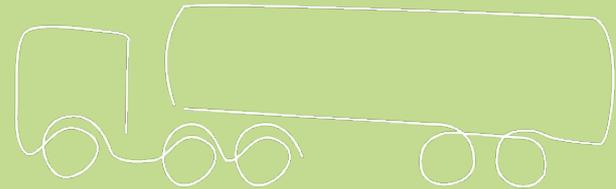
- NZ banned use of ODB in lactating cows in 2006
- Voluntary ban on the use of ODB in lactating cows in Australia 1 January 2008
- Based on “*public perception about safety*” rather than specific evidence based risks



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EUROPEAN UNION – CURRENT STATE

- Still legal
- Coming under increasing veterinary supervision and control
- E.g. CIDRs can only be inserted by a vet
- Very little use of whole herd synchrony
- No mention of hormones in Green Deal
- Likely to require demonstration of “judiciousness” and “hormone free” may be incentivised by processors



RECENT EXAMPLE - KOREA

- Request to DA from processors for market assurance statement Jan 2021
- Request related specifically to growth hormones
- Korean customers had asked for statement from each importing countries (including USA)



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Residue control systems for Australian dairy products

Prohibition on the use of hormones in Australian milk production

In Australia very strict legal controls apply over the use of veterinary products, including hormonal compounds. These controls are administered by a range of Government health and food safety authorities.

The use of natural steroidal hormones such as oestrogen, progesterone and testosterone for growth promotion is not permitted in dairy farming in Australia. Furthermore the Australian dairy industry does not use oestrogenic compounds in lactating animals for reproductive management.

The stilbene hormonal compounds (includes diethylstilboestrol) have never been registered in Australia – the importation sale and use of these compounds is highly illegal, and severe penalties would apply if misuse was ever identified.

Recombinant bovine somatotropin (rBST), a hormone used to increase milk production in some countries, has not been registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA), and as such is prohibited in Australia.

The Australian dairy industry has an excellent track record of producing safe dairy foods. Strict food safety systems and requirements are in place to ensure the safety and integrity of milk and other dairy products that are produced by our industry.

Dairy Australia is the industry-owned service company for the Australian dairy industry; members are dairy farmers and industry bodies. Dairy Australia works closely with the government agencies responsible for controlling and monitoring food safety hazards. While this statement describes Australia's food safety systems, the status of dairy products manufactured by any particular dairy company remains a matter for that individual company and is beyond the scope of this statement.

April 2013

CONSUMER ATTITUDES TO “HORMONES”

- Yang et al 2017
- Impact of hormone use perception on consumer meat preference
- Consumers underestimated actual use of hormones in production
- Willing to pay more for beef products labelled ‘no added hormones’

“NATURALNESS”

Steptoe et al. (1995)

N= 24,766 (38 samples)

Frequency	Stem	Leaf
1	< 4	3
2	5	88
8	6	12334589
14	7	02344556667789
12	8	000112334479
1	9	3

Roininen et al. (1999)

N= 3,330 (8 samples)

Frequency	Stem	Leaf
1	5	7
6	6	001448
1	7	0

Bäckström et al. (2004)

N= 6,757 (7 samples)

Frequency	Stem	Leaf
1	< 4	4
1	6	8
5	7	01124

JUDICIOUS USE – SELECTIVE DRY COW THERAPY

The NZVA recognises that the use of DCT in non-infected cows is no longer appropriate in an era of effective alternatives such as internal teat sealants (ITS) and improved management practices.

By 2020, DCT (Dry Cow Therapy) will only be used in the treatment of existing intramammary infections.

POTENTIAL FUTURE

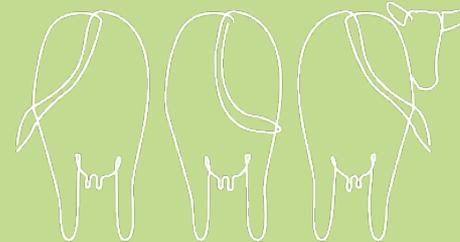
Therapeutic need (short term)

- Non-visible oestrus
- Cystic ovarian disease
- Pyometra
- Therapeutic calving induction



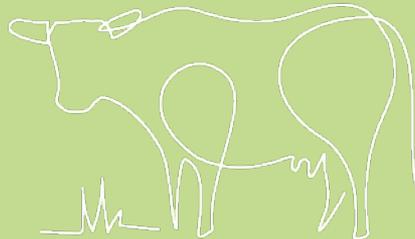
Longer term

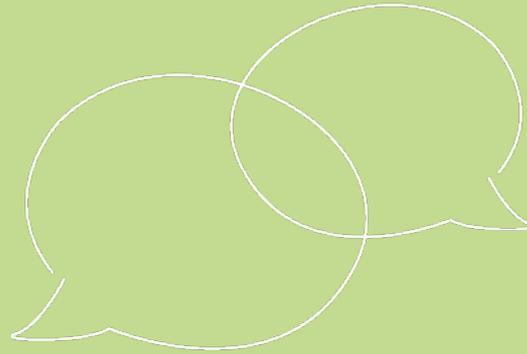
- Better management of replacement heifers (less NVOs)
- Pre- and post-calving transition cow nutrition
- Breeding for improved fertility



SUMMARY

- No clear market signals on reproductive hormone use
- Phase-out of ODB has set a precedent
- Likely to involve increasing ‘judiciousness’ in short-term
- Longer term – need to continue working hard to ↑ fertility of Australian dairy herd





QUESTIONS?

REFERENCES

Roman, S., L.M. Sanchez-Siles and M. Siegrist (2017). The importance of food naturalness for consumers: Results of a systematic review. *Trends in Food Science & Technology*. 67: 44-57.

Yang, R., K.C. Raper, J.L. Lusk (2017). The impact of hormone use perception on consumer meat preference. *Paper prepared for Southern Agricultural Economics Association Annual Meeting 2017*.