

WORKSHOP 5:

SUCCESSFUL USE OF SEXED SEMEN IN IRISH DAIRY HERDS



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Changing herd breeding strategy



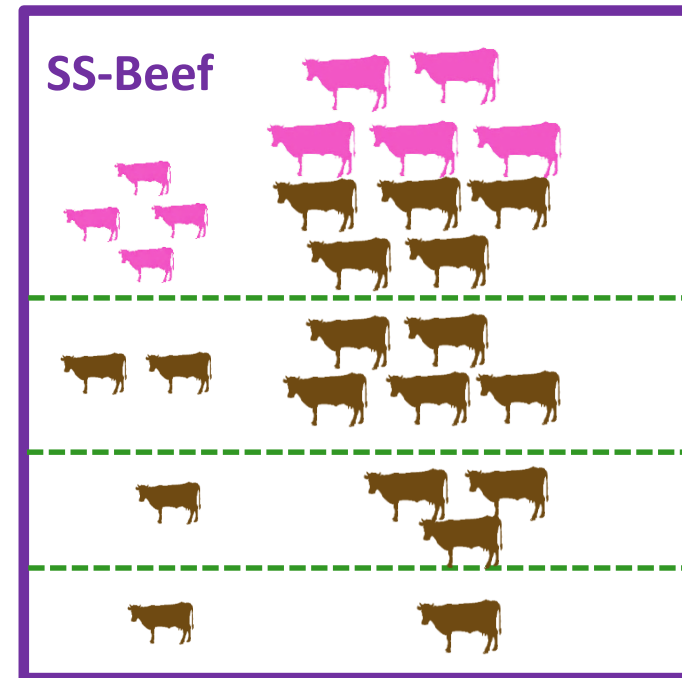
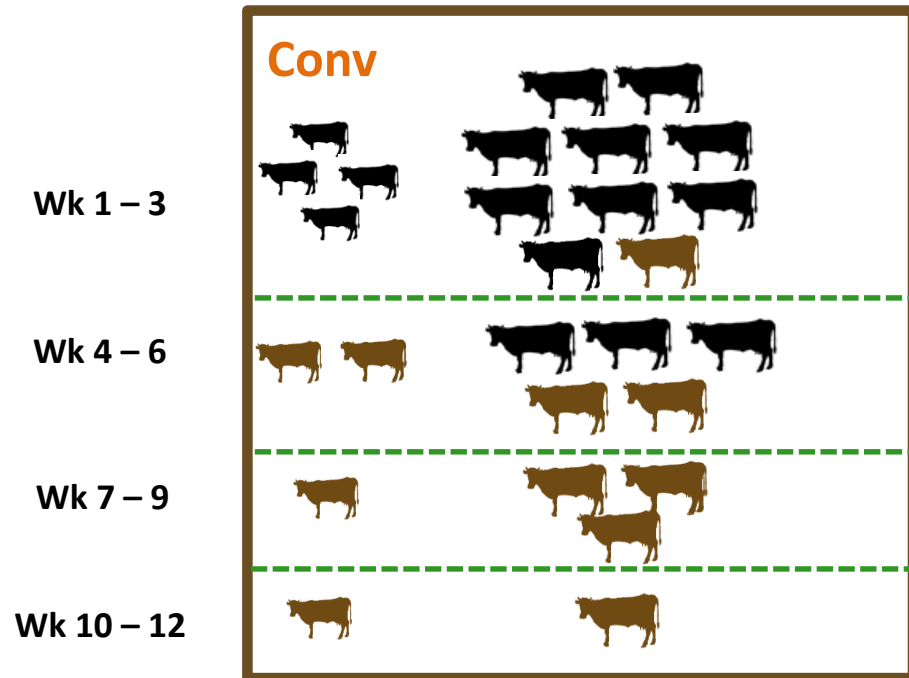
Conv. dairy semen



Conv. beef semen

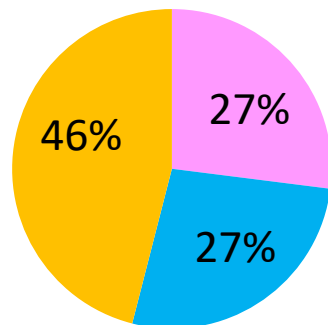


Sexed semen



Q. All heifers for SS?

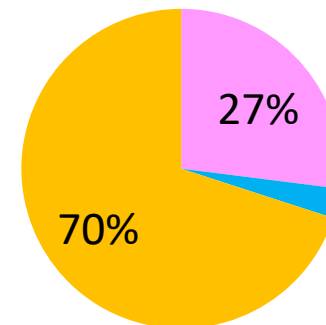
Q. Any repeats for SS?



Female dairy

Male dairy

Beef

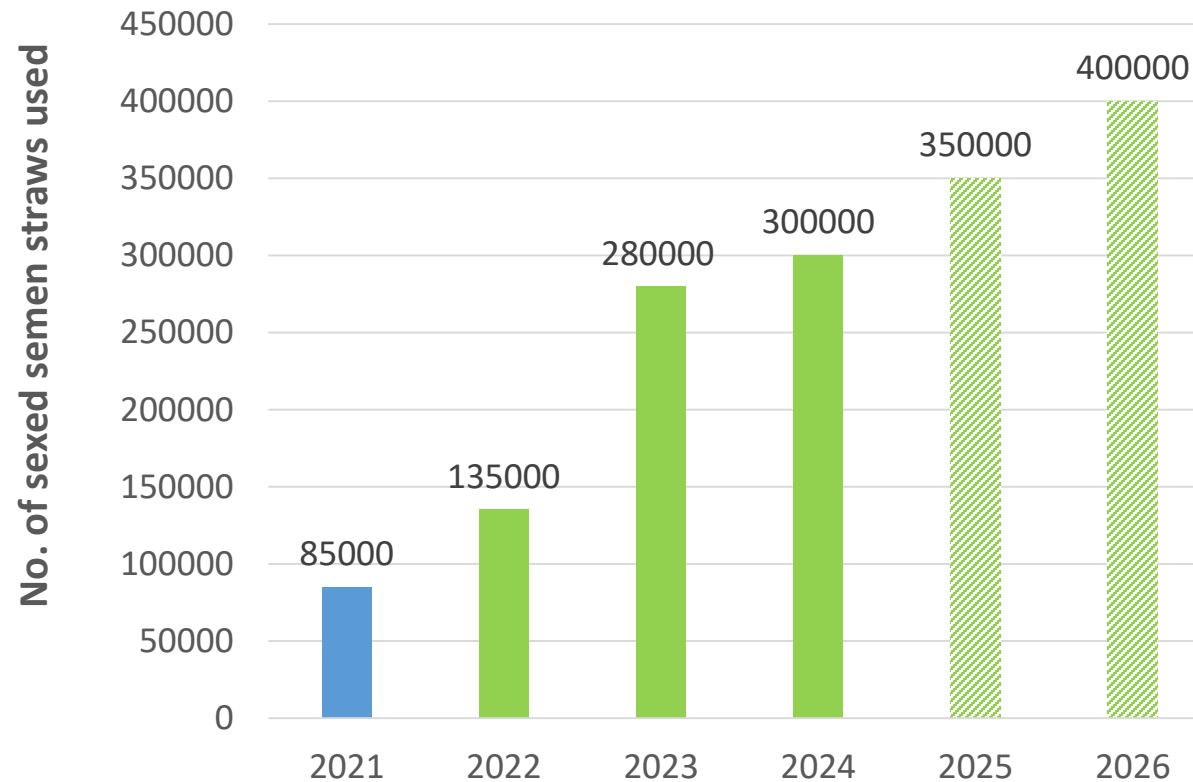


Female dairy

Male dairy

Beef

Recent trends in estimated sexed semen usage IE



Sexing Technologies Labs

Moorepark

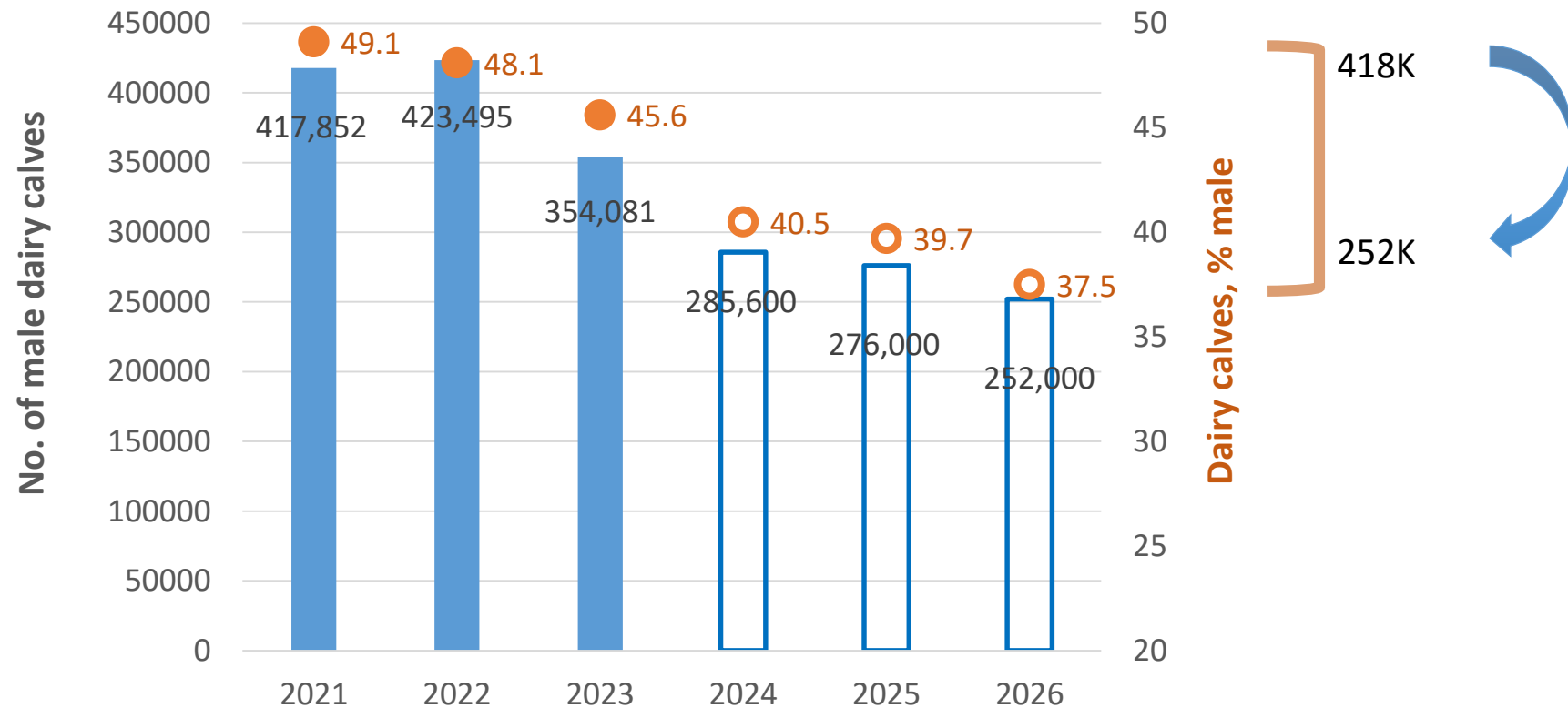
NCBC



Dovea

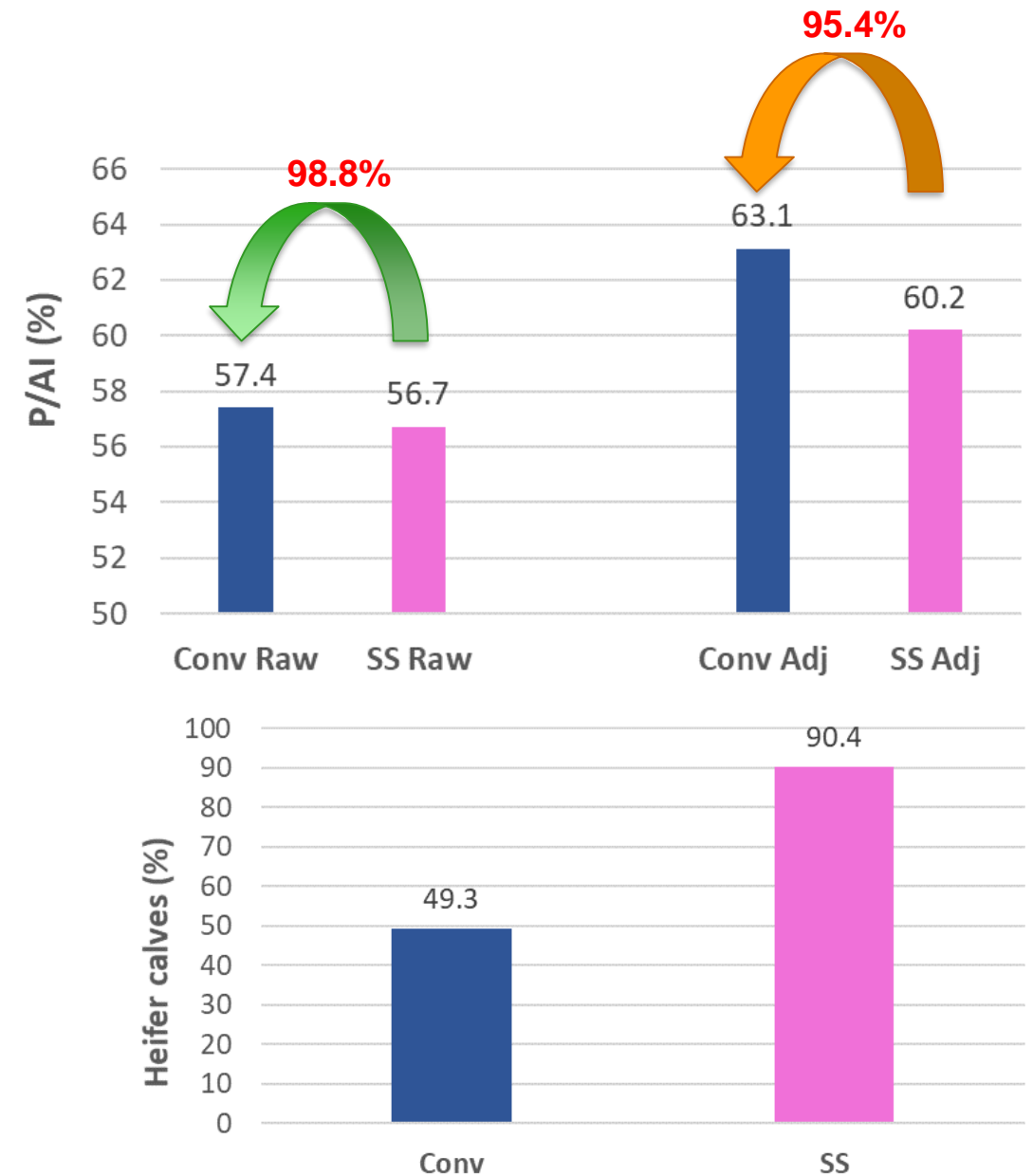


Impact on dairy calf crop: n and % male 2021 to 2026



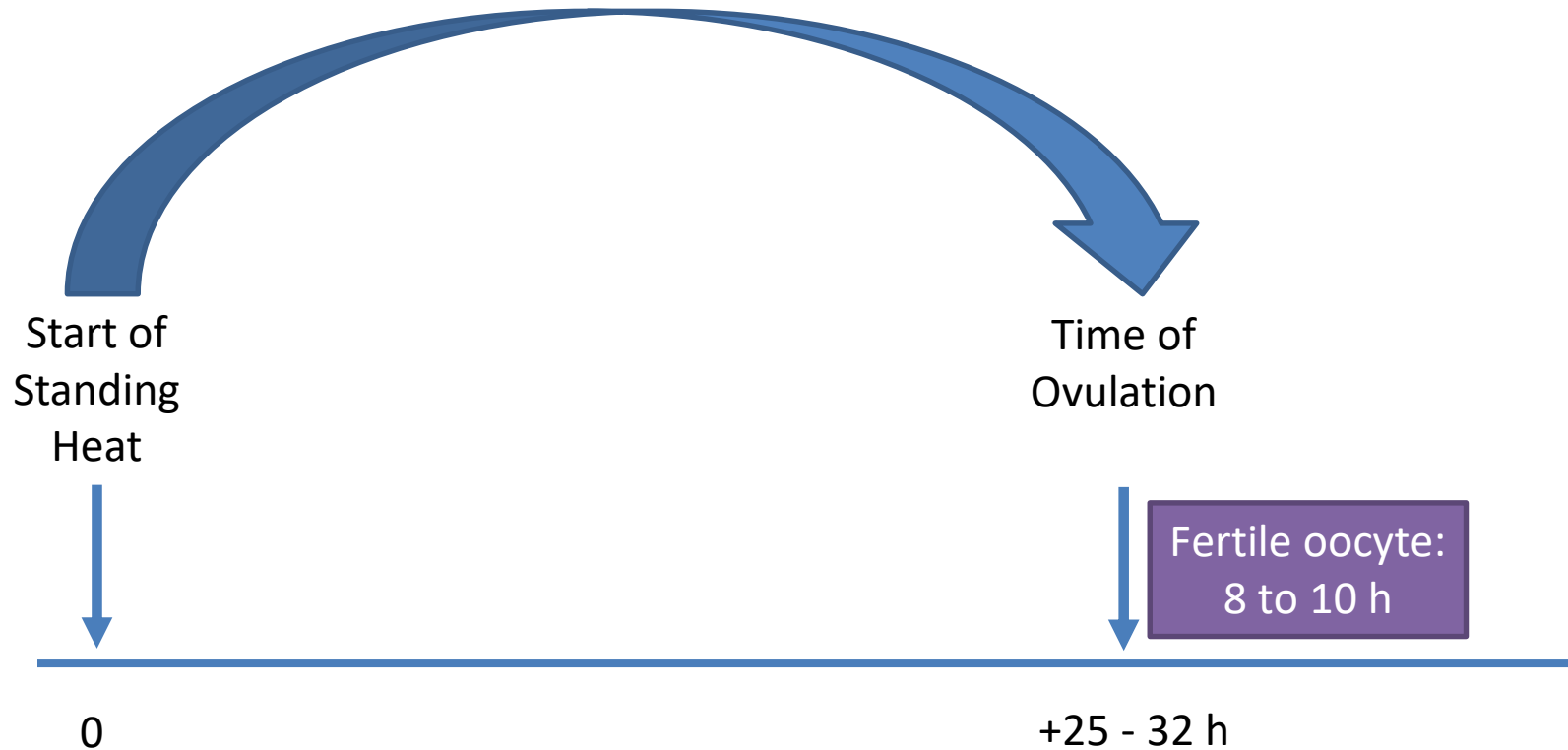
2022 SS performance (AI Tech herds only)

	Herds n	Mean insems/herd	Total insems
Conv	6,763	45.0	304,335
SS	2,017	17.7	35,701



Source: M. Kelleher, ICBF

Heat behaviour and time of AI



Conv Semen:

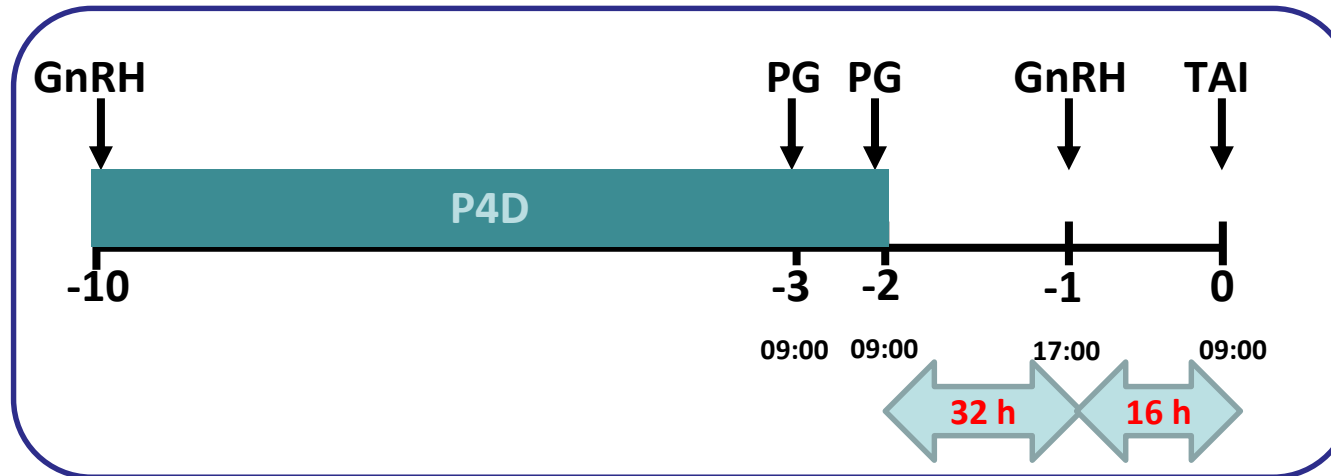


Sexed Semen:



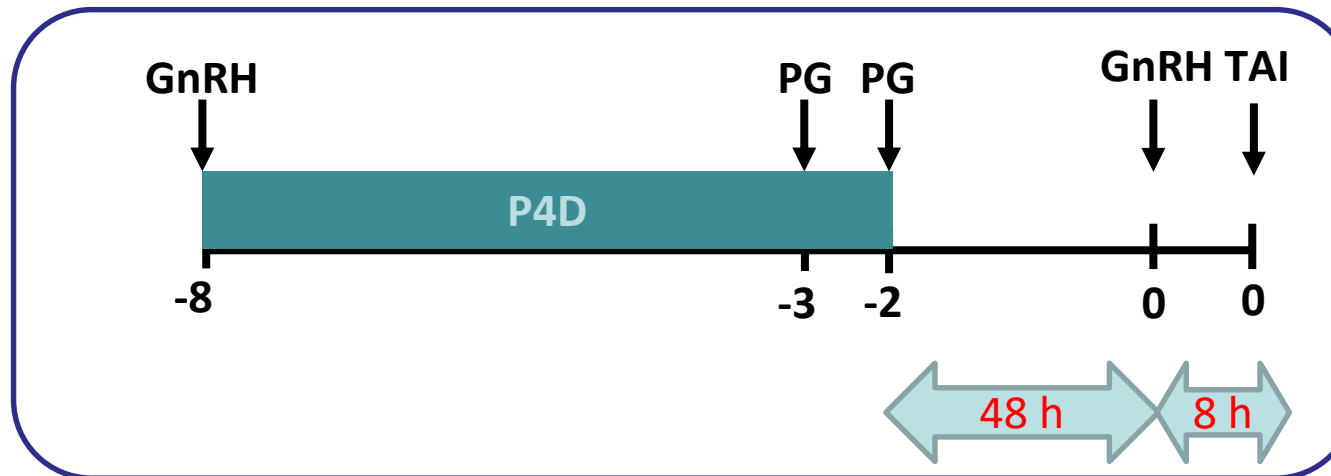
Timed AI protocols

COWS



5 interventions
4 injections, 1 P4D

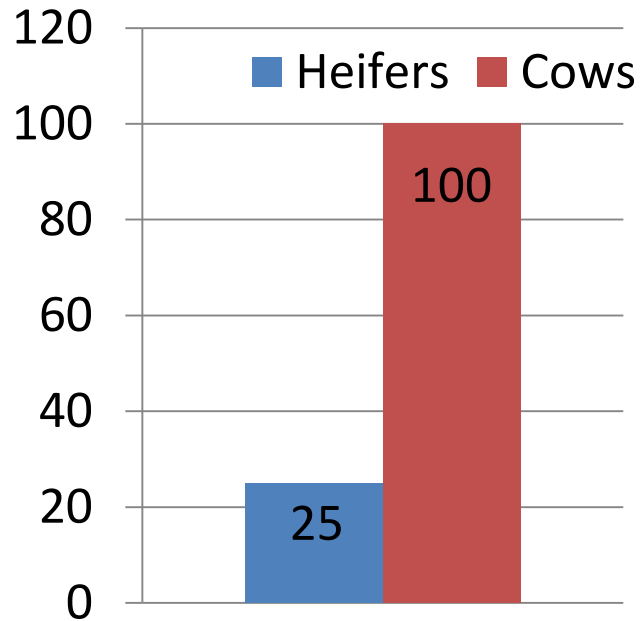
HEIFERS



5 interventions
4 injections, 1 P4D

GnRH: Gonadotropin releasing hormone (e.g., Ovarelin, Receptal)
 PG: Prostaglandin F2 α (e.g., Estrumate, Syncroprost, Enzaprost, Lutalyse)
 P4D: Progesterone device (e.g., CIDR, PRID)
 TAI: Timed artificial insemination

Breeding Females



	Heifer CR	Cow CR
Conventional	70	60
Sexed (observed/TAI)	60	50

Desired calf crop

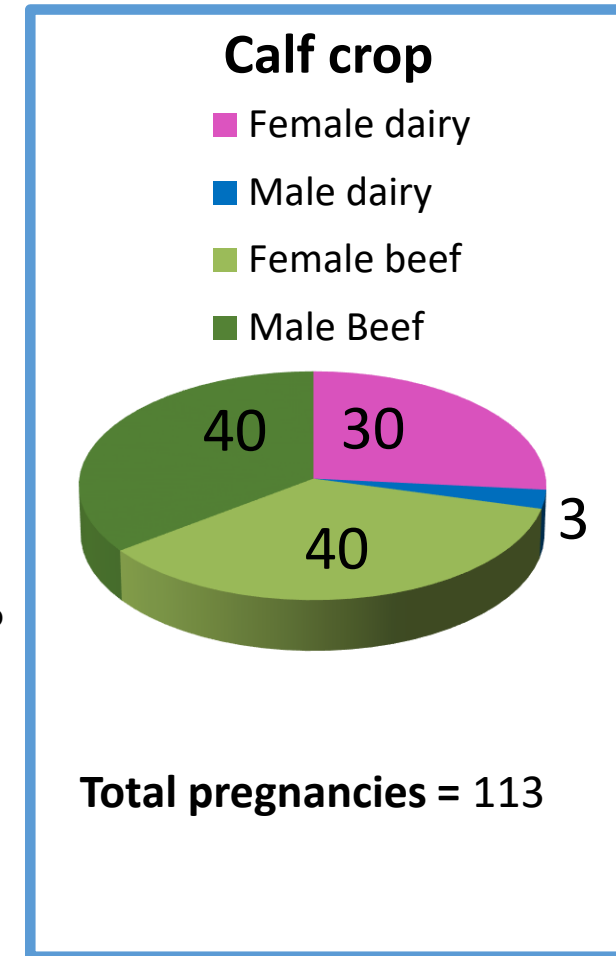
- 30 dairy female (replacement)
- Remainder beef (male/female)

Heifers

- AI with dairy sexed semen
 - $25 \times 0.6 \times 0.9$
 - 13.5 female calves
 - $25 \times 0.6 \times 0.1$
 - 1.5 male calves
- Repeats – beef AI/beef stock bull
 - 8.75 beef cross calves (95% FICR)

Cows

- How many to AI with dairy sexed semen?
 - $30 - 13.5 = 16.5$ female needed
 - $16.5 / (0.5 \times 0.9) = 37$ straws needed
 - $37 \times 0.5 \times 0.9$
 - 16.7 female calves
 - $37 \times 0.5 \times 0.1$
 - 1.9 male calves
- Repeats – beef AI/beef stock bull
 - 71.4 beef cross calves (90% FICR)



62 straws → 30 heifer calves
Rule of thumb: 2 sexed straws per heifer calf needed

Advisory messages for dairy farmers

Sire and dam choice

- **Bulls**

- Pick highest EBI bulls available
- Use a large team of bulls

- **Dams**

- **Top 50% of herd based on EBI**

- Heifers
 - Target live-weight and BCS ≥ 3.25
 - Cycling regularly
- Cows
 - Parity 1 to 4
 - >50 days in milk on day of AI
 - BCS ≥ 3.00
 - Cycling regularly
 - No postpartum disorders or uterine disease

When to use?

- First 3 weeks of the breeding season
- Within first 10 days if possible.

Timing of AI

- 14 to 20 h after heat onset

Fixed time AI

- Costly, but mitigates risk
- Facilitates targeted usage of sexed semen on MSD

Straw handling on day of AI

- Organise sexed straws into one goblet
- Thaw 2 sexed semen straws at a time MAX
- Thaw straws at 35 to 37 °C for 45 seconds
- Load straws into pre-warmed AI guns, keep warm.
- Deposit semen in uterine body
- Complete inseminations within 5 mins

Maximise success with heifers

- Weight at housing, turnout and MSD
- Winter nutrition and growth performance
- Spring grass availability and nutritive value
- Trace mineral status
- Cyclicity status 1 mo before MSD
- AI bulls
- Repeat heats

Target Bodyweight

	Mature BW	6 months	15 months	calving
% Mature BW		30	60	90

Weight for age targets

	<u>%mature BW</u>	<u>HF*</u>	<u>JE</u>
6 months	30	173	140
9 months (housing)	40	230	183
13 months (turnout)	50	288	233
15 months (breeding)	60	345	279
24 months (pre-calving)	90	518	419

Conclusion

- Sexing Technologies Laboratories in Ireland
 - ✓ Moorepark, now closed
 - ✓ NCBC, Naas
 - ✓ Dovea, Thurles
 - ✓ Rapid growth in availability and usage of sexed semen
- Sexed semen is key technology for the Irish dairy industry
 - ✓ Fragile product, requires careful use
 - ✓ Fewer male dairy calves
 - ✓ Better EBI replacement heifers
 - ✓ Better DBI non-replacement calves
 - ✓ Improved sustainability metrics
 - ✓ Order straws early!

Dairy Beef 500 on-line webinars



DAIRYBEEF 500
Sustainable Dairy Beef Production

LIVE WEBINAR

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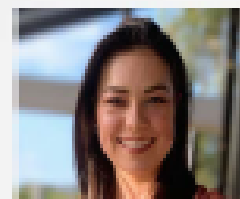
PREPARING YOUR CALVES FOR SALE IN 2025

DAIRYBEEF 500 WINTER WEBINAR SERIES NIGHT 1

Join us for information on, managing cows now to optimise calf health, strategies to ensure a successful calving season, calf movement rules update and breeding quality dairy beef calves

THURSDAY
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8PM

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Preparing the cow in advance of the calving season to maximise calf health
Emma Sargent,
Ruminant Veterinary Area Manager, MSD Animal Health



How does a dairy farmer prepare their farm for a compact calving and successful sale of healthy calves
Stuart Childs,
Teagasc Dairy Specialist



Putting a breeding plan in action to produce high quality replacement heifers and dairy beef calves
Alan Twomey,
Dairy and Beef Geneticist, Munster Bovine



Followed by a panel discussion chaired by
Alan Dillon,
DairyBeef 500 Programme Manager



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