“Fertility records making them talk”

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Reproductive efficiency

- Dependent on:
  - Submission rate
    - ✓The percentage of cyclic cows at the planned start of mating (PSM)
    - ✓Heat detection rate
  - Conception rate
    - ✓Female effects
    - ✓Male effects (bull/ AI operative)
    - ✓Management effects

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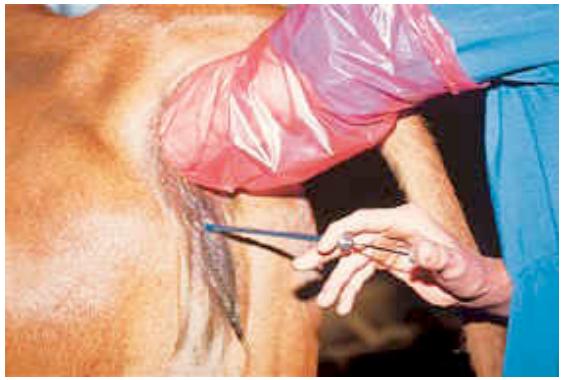
Optimising fertility

Involuntary waiting period

- Return to cyclicity
- Uterine involution
- Re-epithelisation
- Clearance of uterine contamination

Voluntary waiting period ?

Breeding season



0 45 55 to 60 100+

Days postpartum

What to record?

- Calving dates ✓
  - Problem calvings, RFM, etc
- Pre-breeding heat dates
  - Assessment of anoestrus
- Insemination / service dates (AI and NS) ✓
  - Allows calculation of submission rate & conception rate
- Post breeding heat dates / pregnancy diagnoses
  - Early intervention
- BCS

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The targets

	Seasonal grass-based herds	High yielding liquid herds
Calving interval	**365 days**	**400 days**
Breeding season	12 weeks	?
Calving to 1st heat	**>90% by day 42**	**Same**
Calving to 1st service	**≥42 days, <65 days**	**60-100 days**
Calving to conception	≤83 days	100-140 days
Submission rate (3-week)	**90%**	-
Conception rate per service	**60%**	**>40%**

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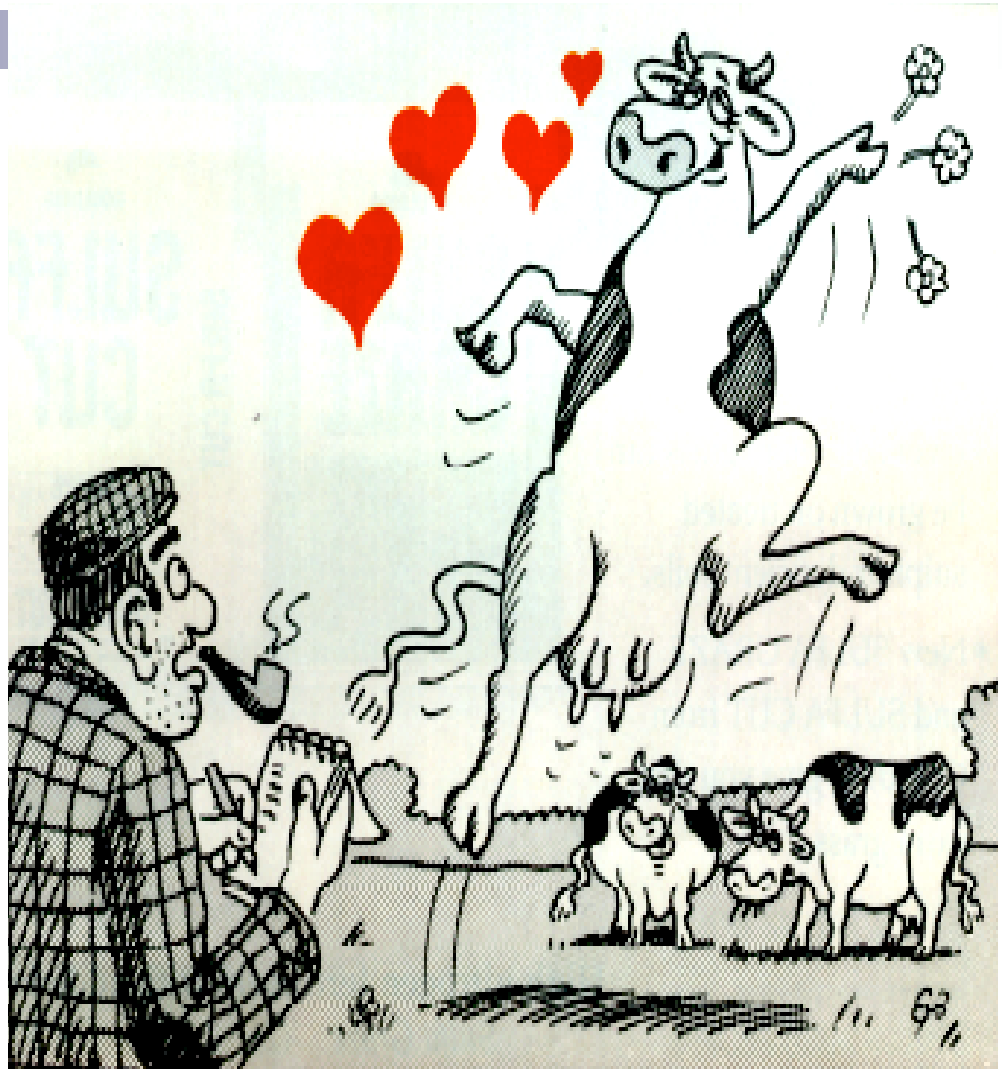
Targets (contd….)

	Seasonal grass-based herds	High yielding liquid herds
Pregnancy rate 6 wks post PSM	**75/80%**	-
Overall pregnancy rate	>95%	>90%
Culling rate for fertility	**<5%**	**5-10%**
No. of services per cow per year	<1.4	2

Heat Detection

Cows in heat are not always so obvious!



Heat detection

- Heat detection rate on Irish farms is variable
- Detection rates dependent on:
  - Stockman
  - Use of aids
  - Environment, nutrition, herd-mates, health
    - (Diskin and Sreenan, 2000)
- Length of oestrus 6 to 11 hrs in US study
- CR ⇓ if only one standing event recorded (36 v's 46 %)
    - (Dransfield, 1998)
- Higher producing cows display lower intensity of heat
    - (Yoshida and Nakao, 2005)
- **Evaluate by looking at 'Repeat interval data'**

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Repeat intervals

	Short	Normal	Abnormal	2x normal	Extended
	0-17d	18-24 d	25-35d	36-48d	> 48 d
Percentage of intervals calculated	5	> 65	5 - 10	10	5 - 10

Inefficient heat detection (missing heats)

- Failure to pick up cows in heat
- 3 week to 6 week ratio
  - if ratio of intervals in the "normal" interval to the "repeat" interval is less than 4 to 1

	Short 0–17d	Normal 18–24d	Abnormal 25–35d	2xnormal 36–48d	Extended >48d
Normal	5	>65	5-10	10	5-10
inefficient	5	**<45**	5-10	**10-30**	>10

Inaccurate heat detection

- if higher proportion of intervals in the "short" or "abnormal" categories

	Short 0–17d	Normal 18–24d	Abnormal 25–35d	2xnormal 36–48d	Extended >48d
Normal	5	>65	5-10	10	5-10
Inaccurate	**>15**	<60	**>15**	10	<5

Early warning signs

- **Pre-breeding heats**
  - High % not seen on heat
- **Poor BCS or rapid loss in BCS**
- **Low submission rate**
- **Repeat heat after service**
  - First service NRR

Essential components to good fertility

- Action for cows with problem calvings
- Determine status of cows before day 42 pp
  - Pre-breeding heat checks
- Pre-breeding vet checks
  - Carried out on cows not seen on heat by d 42-50 pp
  - Focus on problem cows (do not waste time and resources on the normally cyclic cows)
- Improve efficiency of heat detection
  - Consider use of prostaglandin to increase SR
  - Create daily heat detection lists
  - Care with cow ID
- High Submission rate

Essential components to good fertility

- Records to allow full analysis of CR problems
  - To review male, female, management effects
- NRR to 1st service / early pregnancy diagnosis (35 days after AI)
  - facilitate early intervention if not pregnant
- Optimise Heifer management to avoid similar problems in future
- BCS and Nutritional management

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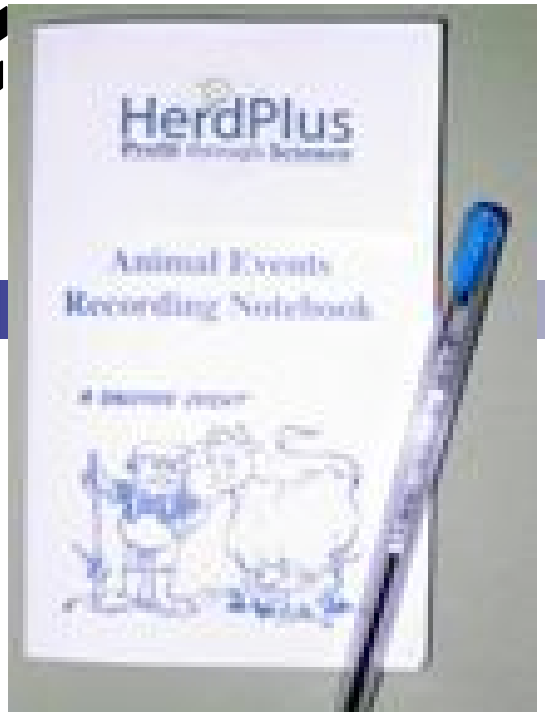

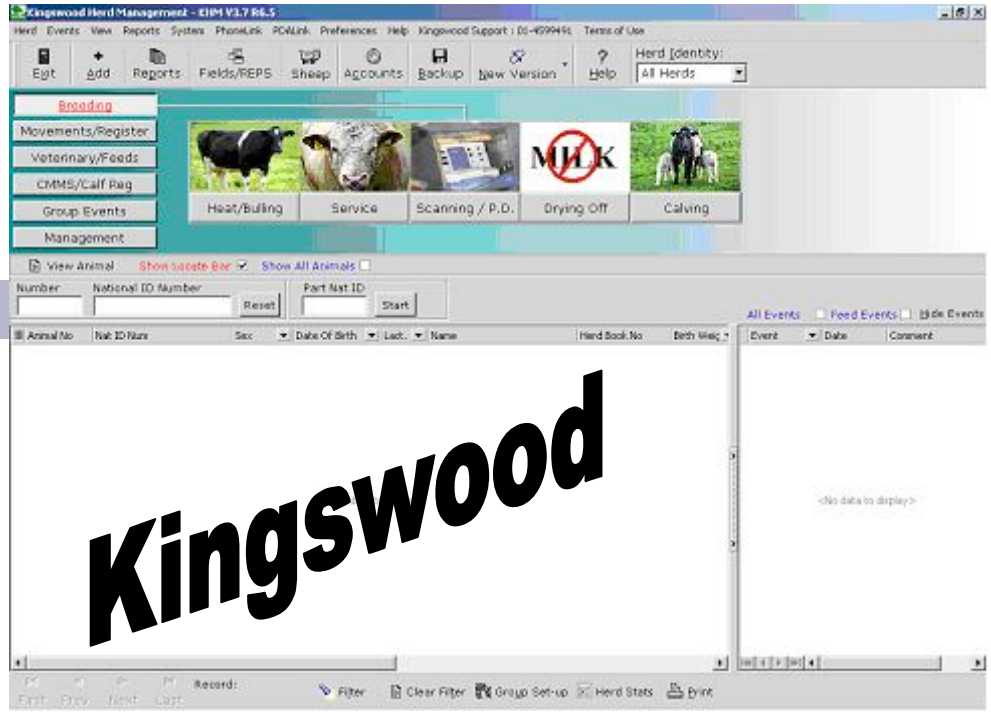

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TOWARDS BETTER HERD FERTILITY

Summary

- Want to address fertility
- Keep records
- Interpret records and use information
- Verify heat detection (repeat intervals)
- Engage with vet on herd health
  - Intervene early on problem cows
- Constantly review submission rates and conception rates

The targets

	High yielding liquid herds
Calving interval	400 days
Breeding season	?
Calving to 1st heat	
Calving to 1st service	60-100 days
Calving to conception	100-140 days
Submission rate (3- week)	-
Conception rate per service	>40%

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Targets (contd….)

	High yielding liquid herds
Pregnancy rate 6 wks post PSM	-
Overall pregnancy rate	>90%
Culling rate for fertility	5-10%
No. of services per cow per year	2