



THE UNIVERSITY OF
SYDNEY



Sheep Artificial Breeding Company Workshop

28th October, 2016

Industry survey report

Workshop Statistics

- 37 breeding and pharmaceutical companies were invited to attend- **26 were in attendance**
- 29 companies were invited to participate in the survey – **19 surveys were returned**
- Equates to **65% industry response**

Question 2: Approximately when does your main “season” start and finish?

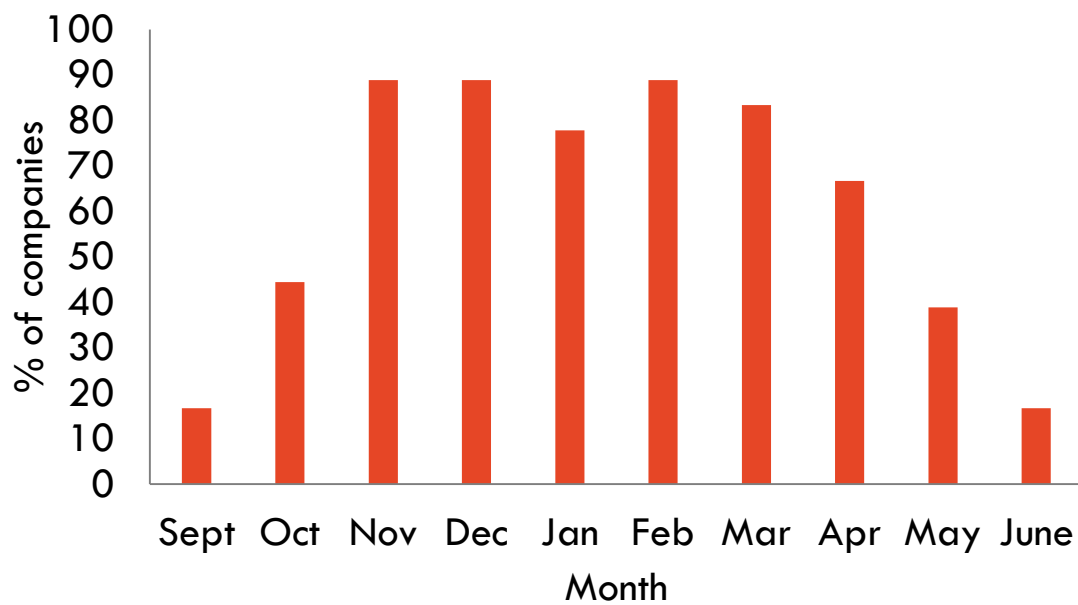


Figure 1: The percentage of companies which work in each month across the breeding season

Question 4: Please list the sheep breeds you predominately work with and percentage each contribute to your overall service

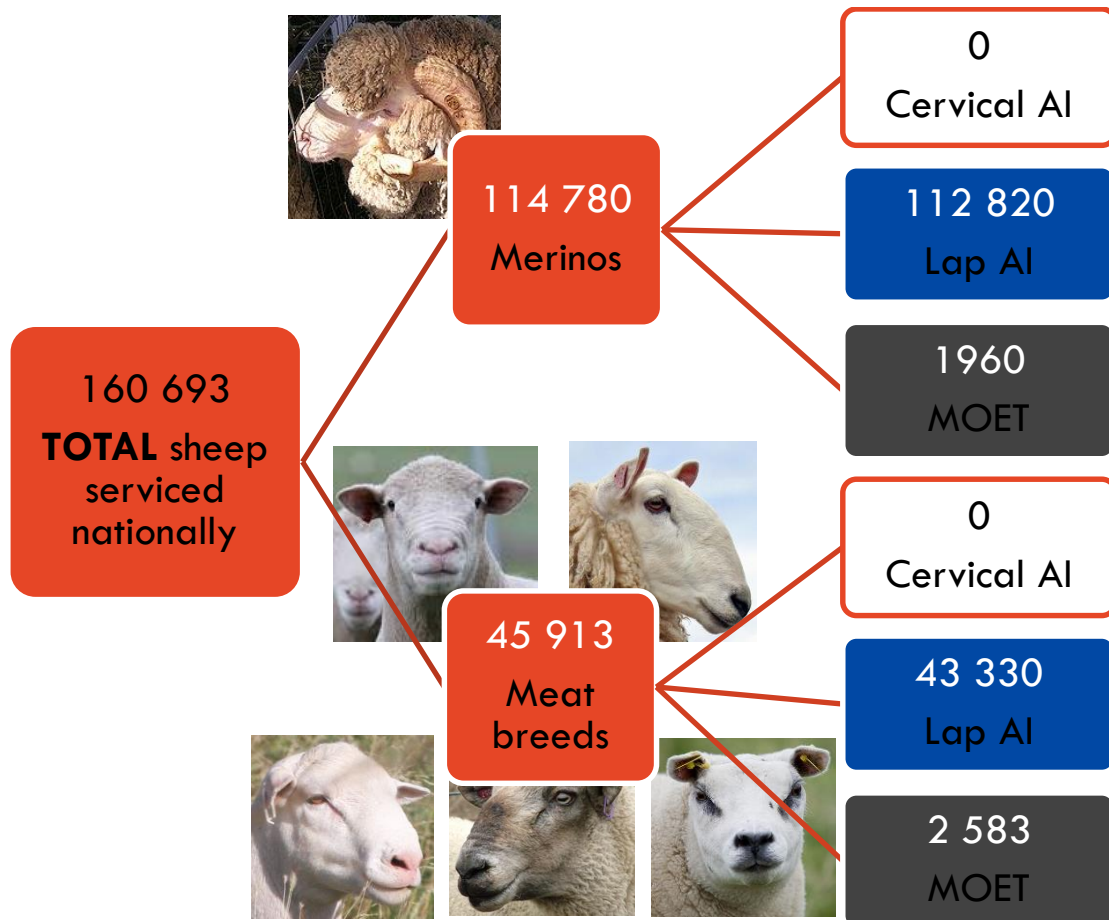


Figure 2a: Total number of sheep serviced nationally per year

- Note: only represents 65% of the industry
- If remaining 35% is estimated – **247 220 sheep are serviced nationally each year**

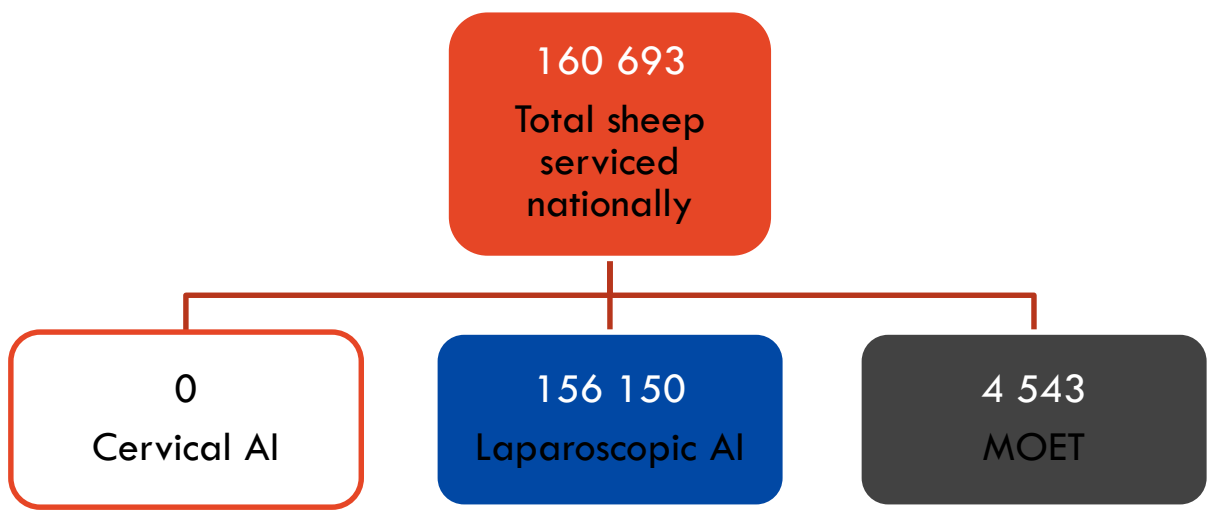


Figure 2b: Total number of sheep undergoing cervical AI, laparoscopic AI and MOET nationally per year

Question 5: Please provide details on the scale and average success rates of your AI and MOET programs as per the tables below.

Table 1: Numbers of animals serviced/year, average pregnancy rate and range for cervical and laparoscopic AI

Method	Number of sheep serviced/year	Pregnancy rate	Range
Cervical AI	0	-	-
Laparoscopic AI	156 150	68.7%	55-75%



Table 2: National MOET values

Total # of donor ewes flushed/year	Average # of structures flushed/donor	Average fertilisation rate	Average # of transferrable embryos/donor	Total # of embryos transferred
4 543	9.3± 0.4	82%	7.1± 0.30	30 395

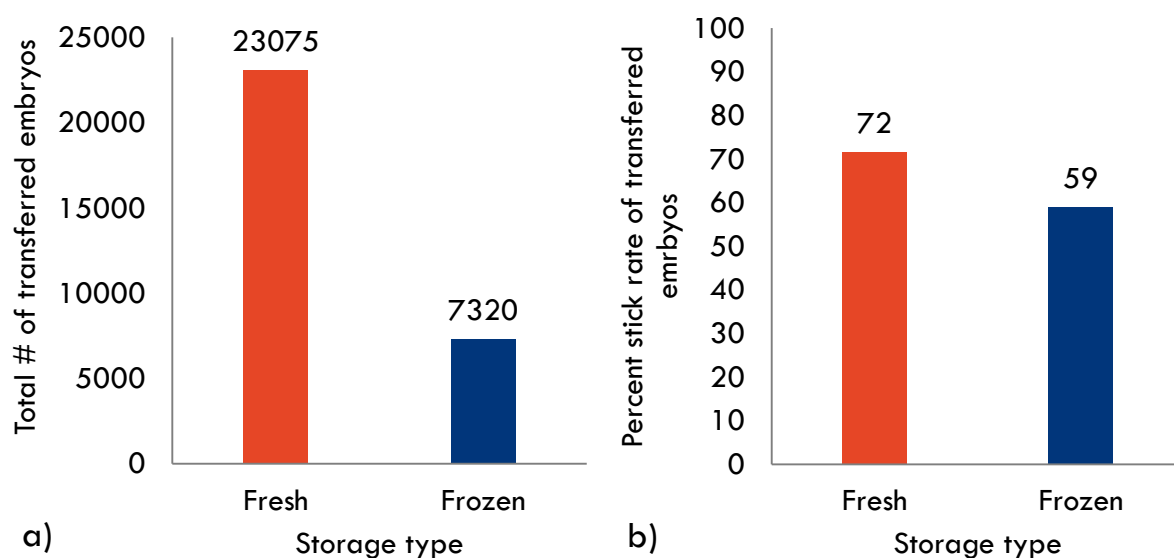


Figure 3: Total number (a) and average stick rates (b) of fresh and frozen transferred embryos

- Note: only represents 65% of the industry
- Very limited use of OPU, IVF and JIVET in industry

Question 6: What percentage of your AI programs use sponges and what percentage uses CIDRs?

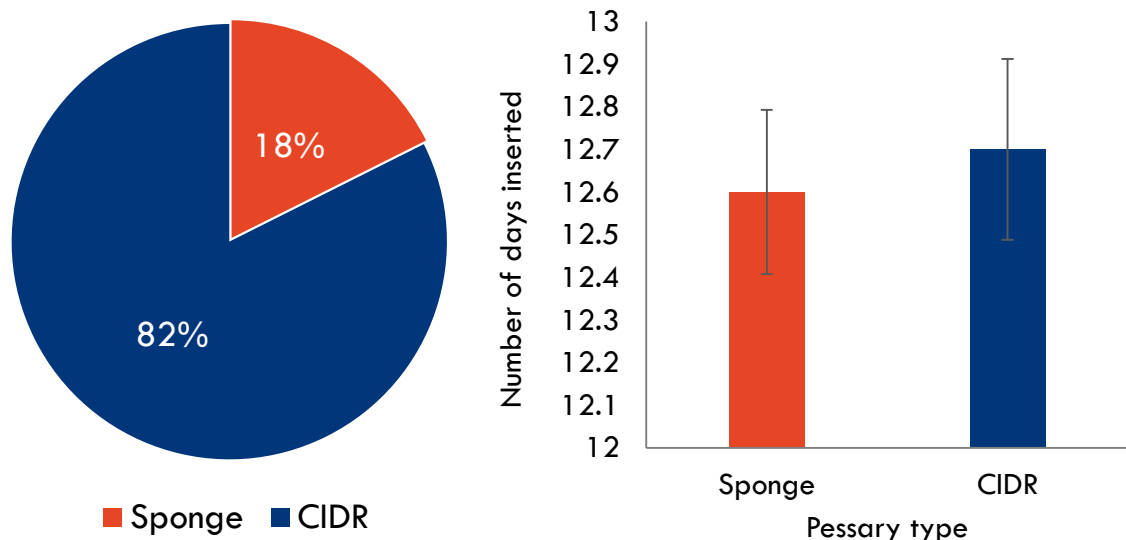


Figure 4: Percent of program used (a) and average time of insertion (b) when using sponges or CIDRs

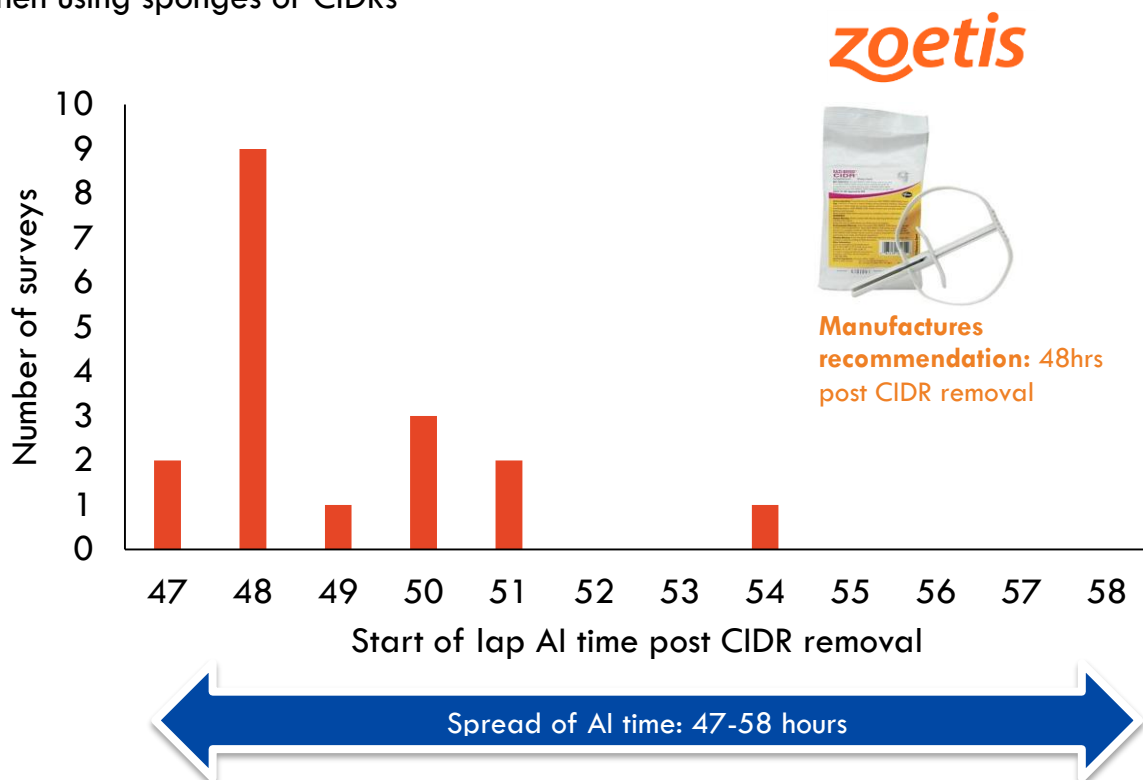


Figure 5a: Time of AI when using CIDRs

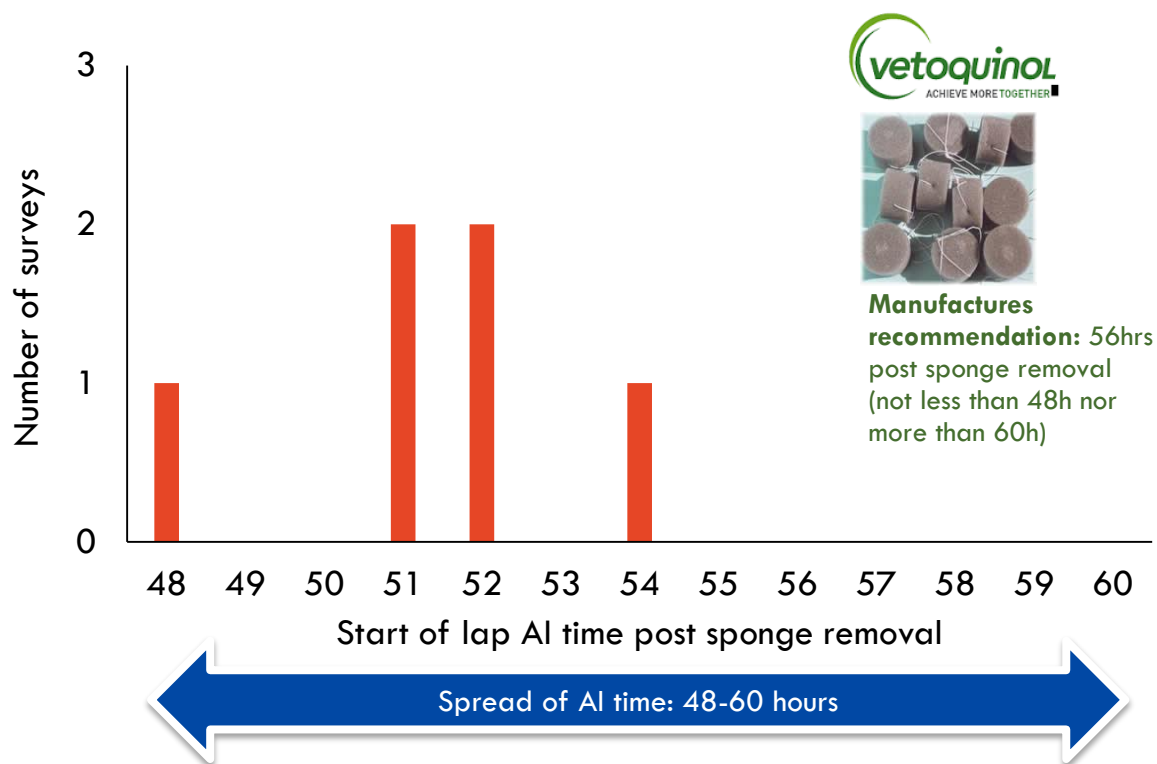


Figure 5b: Time of AI when using sponges

Question 7: What dose of PMSG do you recommend for synchronisation programs?

- Dose ranged between 200-600IU per ewe
- Varied depending on;
 - Age- Maiden received less than mature ewes
 - Breed- Meat breeds received more than Merino ewe
 - Program- ET ewes received more than AI ewes
 - Season- ewes serviced earlier in the season received more than ewes serviced in mid to late season



Manufactures recommendation: 400IU at pessary removal

Question 8: Do you normally use teasers in your sync program? If yes, at what point are they introduced to ewes?

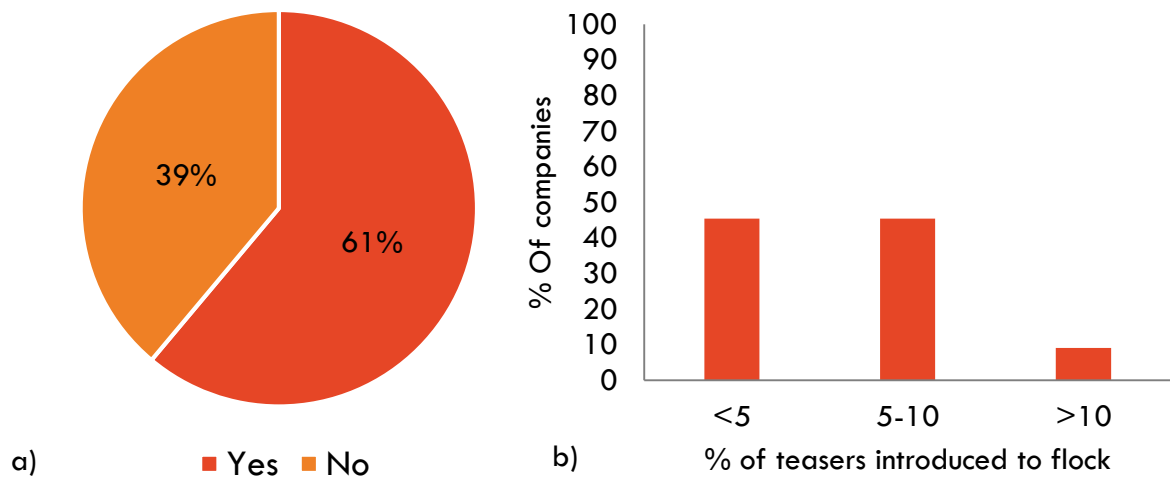


Figure 6: Industry use of teasers (a) and their percent of introduction (b)

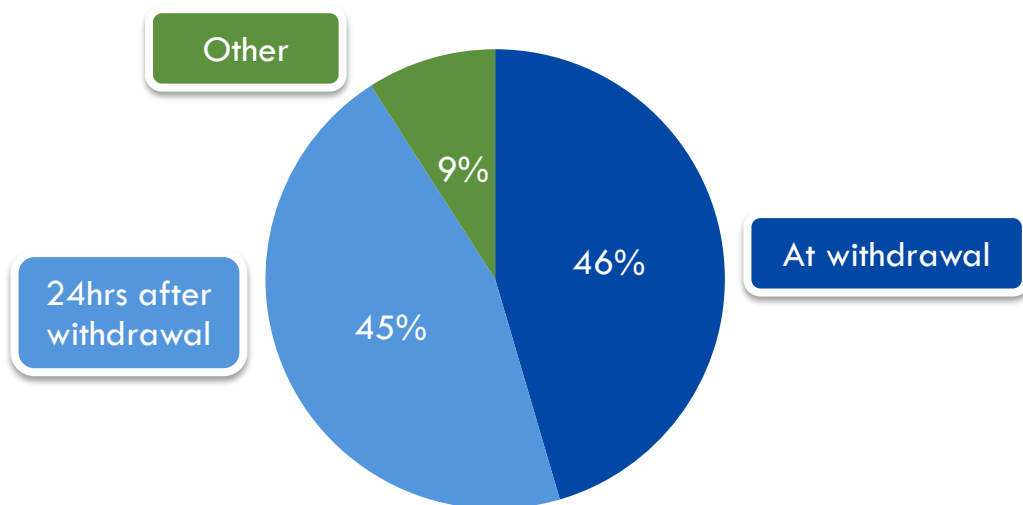


Figure 6c: Time teasers are introduced to flock

Question 9: What sedative/analgesia regime do you normally utilize for AI?

- All surveys reported using Xylazine
- Dose ranged from 2-10mg/ewe, depending on the size of the ewe
- Protocol varied between;
 - 10 mins prior procedure
 - 20 mins prior to procedure
 - Used in conjunction with Acepromazine (ACP)
 - Diluted in saline bag

Question 10: On average what percent of fertility would you consider exceptional but achievable, good and expected, below expectations but acceptable, or very poor?

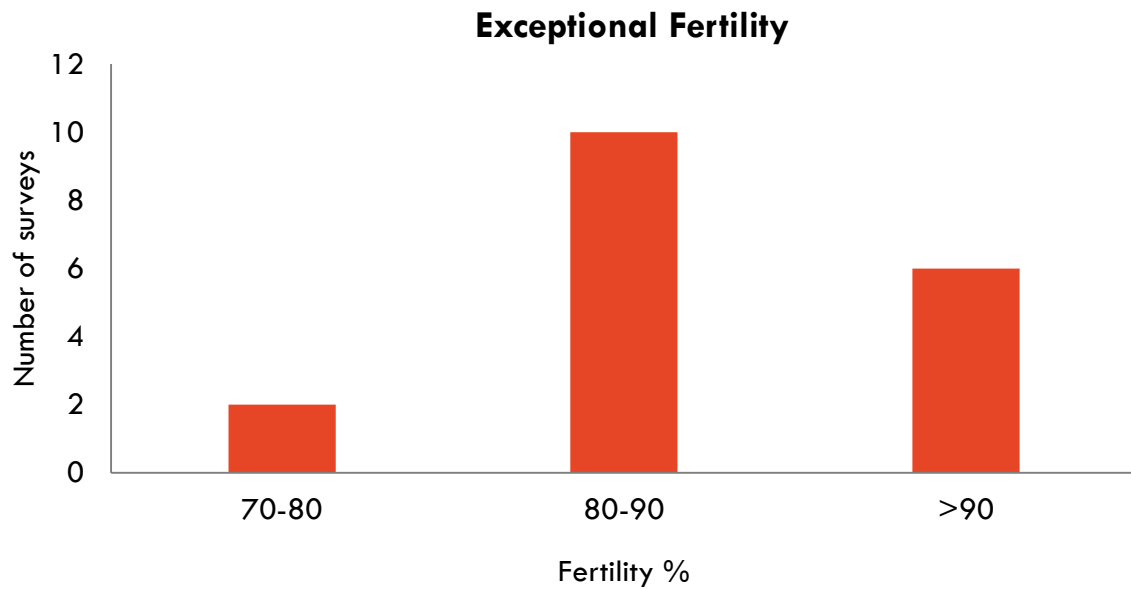


Figure 7a: Industry classifications of exceptional fertility

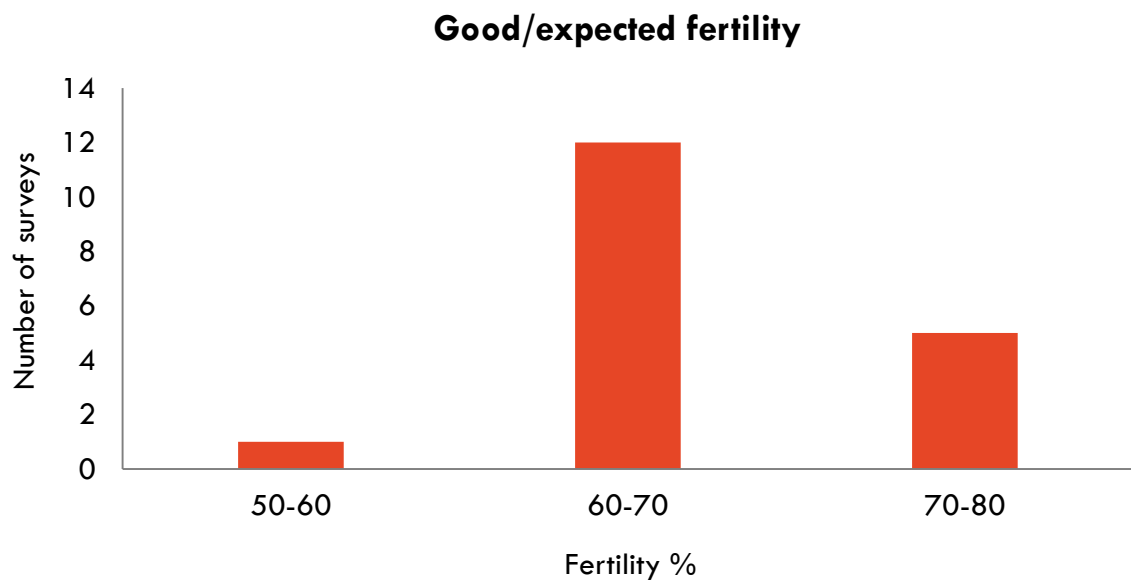


Figure 7b: Industry classifications of good/expected fertility

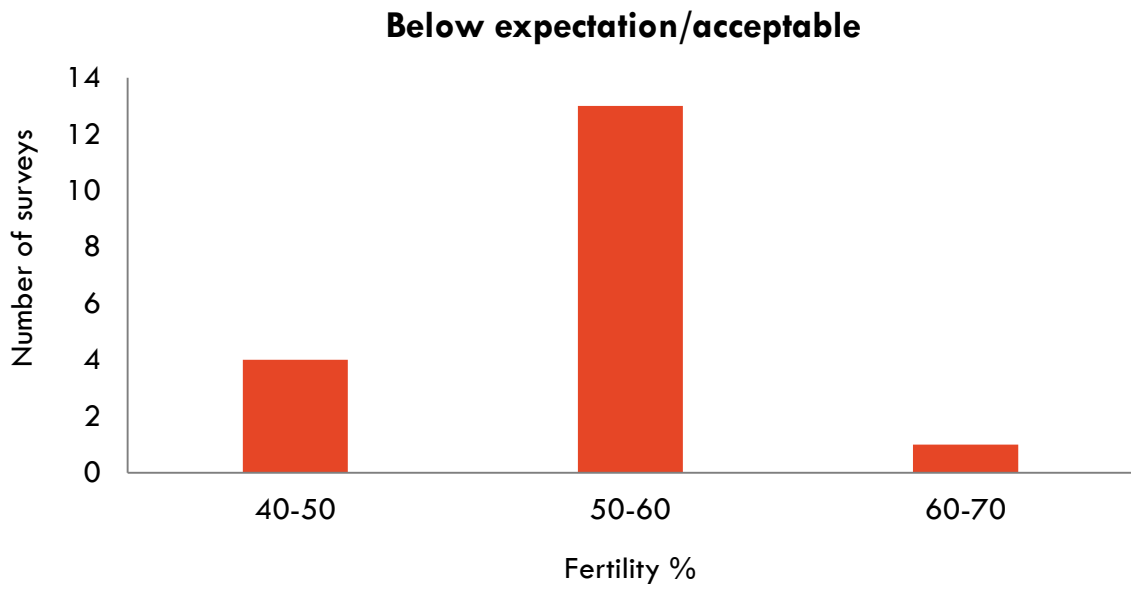


Figure 7c: Industry classifications of below expectation/acceptable fertility

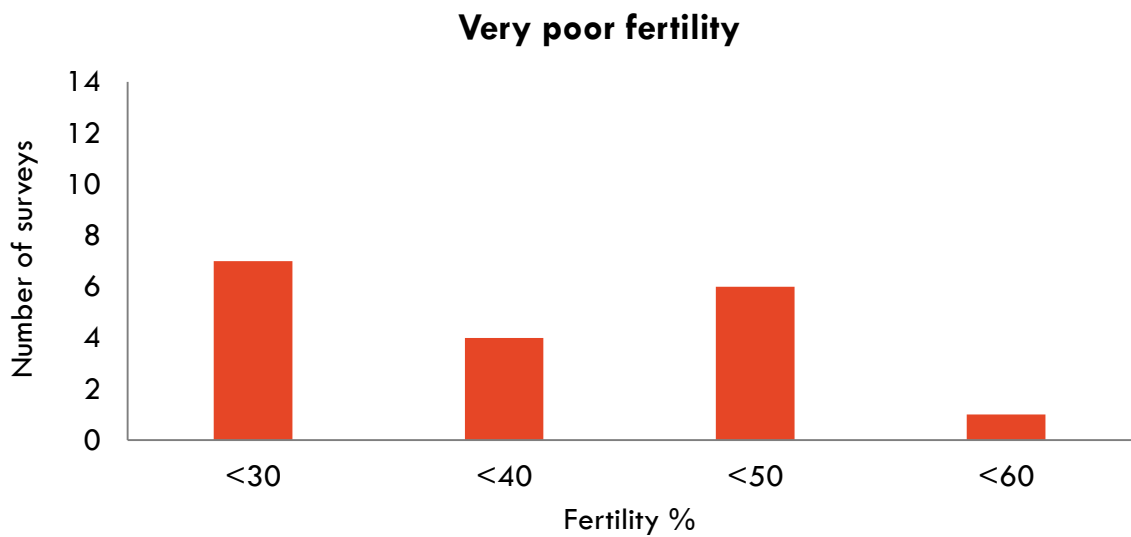


Figure 7d: Industry classifications of very poor fertility

Question 11: In your opinion, what are the most likely causes of a “failed” program or poor fertility following one of your AI programs? In your opinion, what is the likely cause of the anecdotal increase in failed programs around the country?

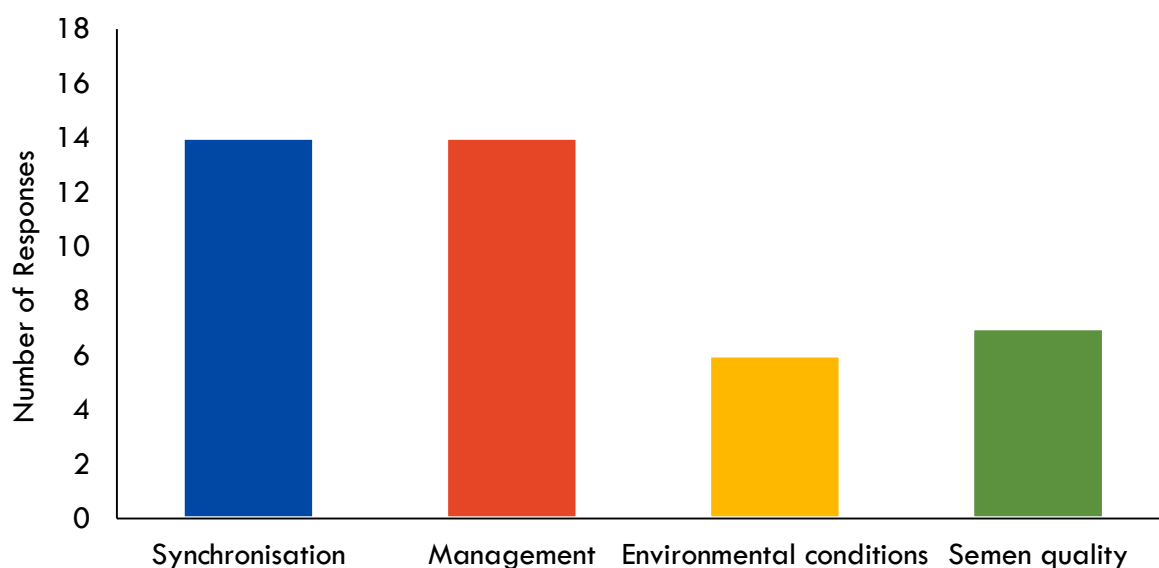


Figure 8: Possible causes of “failed programs

Management

- Ewe factors
 - BCS and size of ewe – both leading up to program as well as during program
 - Age- use of maiden ewes
 - Genetics
 - Natural fertility
 - Health
 - Stress
- Nutrition
 - No rising plane of nutrition
 - Pasture effects – high clover populations shown to decrease fertility
- Programs out of season
- Accelerating joining

Environmental conditions

- Climate on the day of AI- heat stress

Semen quality

- Poor motility at insemination?
- Linked with AI time?

Synchronisation

- Pessary related
 - Concentration and stability of hormone/drug- concentration not suitable for modern day Merino, ability to hold ovulation
 - Loss of pessary over time
 - Poor insertion/removal
 - Hormone diffusion to ewe
 - PMSG related- concentration
- Out of season programs
- Time of insemination
- Lack of appropriate use of teasers

