Dairy Australia
InCalf
Your Levy at Work

Herd Assessment Pack

Voluntary Waiting Period tool

Year-round calving herds

What is this tool?

This is a **gap calculator** tool. It assesses the impact on herd reproductive performance of changing the Voluntary Waiting Period (VWP) applied to cows that calve.

Why use this tool?

In a year-round calving herd, a Voluntary Waiting Period (VWP) is usually applied to cows after they calve, during which even if seen on heat, they are not mated.

The length of the VWP has a major impact on herd reproductive performance.

This tool measures your herd's actual VWP as used in the past or as currently being applied. It then uses the gap between the actual VWP and a shorter VWP to enable you to assess the $ benefits of improved herd reproductive performance from using a shorter VWP.

For more information, see *The InCalf Book,* Chapter 15: Stopping and starting mating – year-round calving herds, and the *InCalf Fertility Focus Report*.

How to use this tool

Work through this tool's four basic steps:

To assess past and present/future performance

Step 1	→	Step 2	→	Step 3	→	Step 4
Measure		Identify the gap		Assess the benefits		Develop & implement a strategy
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When you see this symbol ✍, this means you need to fill in some information or do some calculations before continuing.

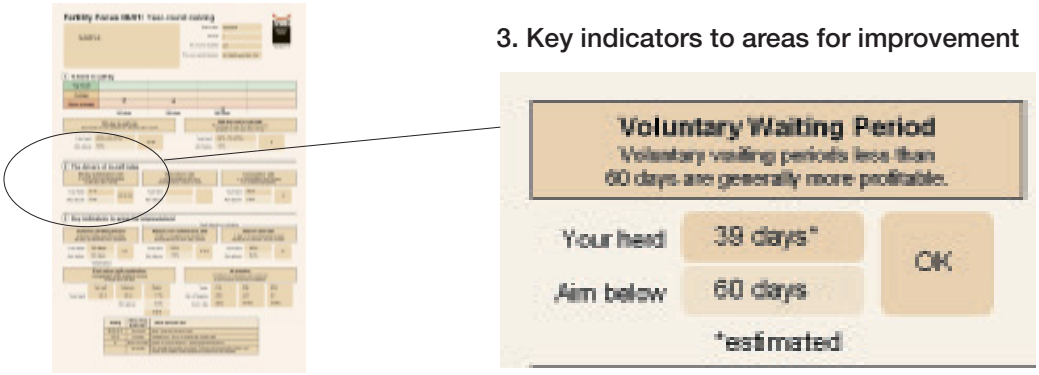
>

Step 1: Measure

Option 1: (preferred) If you have an *InCalf Fertility Focus Report*

If you do have an InCalf Fertility Focus Report this will automatically estimate your Voluntary Waiting Period.

Here's the place to look on your *InCalf Fertility Focus Report:*



Option 2: If you do not have an *InCalf Fertility Focus Report*

If you do **not** have an *InCalf Fertility Focus Report*, you can still estimate your herd's actual Voluntary Waiting Period (VWP) for the past year by carefully considering the questions below.

1. *When are your cows first mated after calving?*
   (Suggestion: *The InCalf Book*, page 199, describes how to estimate your 80-day submission rate, by selecting a group of 50 cows that calved at least 80 days ago. Use this list to identify the five cows which were inseminated earliest after their calving date).
2. *Do you ever mate cows sooner than this?*
   (e.g. If your answer to Question 1 was 50 days, what do you do with cows on heat that have calved 49 or 48 days. Are these cows ever mated?)
3. *Do you ever not mate cows on heat after the VWP given in Question 1 has ended?*
   (e.g. Do you ever wait longer in high producing cows, for younger cows or cows in lighter body condition or during some months of the year?)

After considering these questions, state the VWP for your herd. If the answer to Questions 2 or 3 is 'sometimes', then give the best estimate of the average VWP for your herd.

The actual VWP for your herd was/is ____ **days (A).**

Step 2: Identify the gap

The InCalf research study has shown that herds with highest 100-day in-calf rates all had VWPs of 55 days or less; 50 days was typical.

Unless it is already less than 40 days, shortening the VWP for your herd will increase 100-day in–calf rates and decrease 200-day not-in-calf rates.

Your herd's actual VWP **(A)**		*A shorter VWP for your herd* **(B)**		*Gap* **(i.e. A minus B = C)**	
	days –		**days** =		**days (C)**

Step 3: Assess the benefits

Part 1: Estimate the likely effect of closing the gap on herd reproductive performance

Sliding up the rows in Table 1, below, from your actual VWP (A) to the shorter VWP (B), calculate the expected increase in 100-day in-calf rate and the decrease in 200-day not-in-calf rate if you shortened the VWP for your herd from where you have determined it to be to a lower number of days.

Example: If your VWP is 65 days and you shortened it to 50 days, the effects would be:
- 100-day in-calf rate difference of +9% (from -14% to -5%, i.e. an increase)
- 200-day not-in-calf rate difference of -1% (from 2% to 1%, i.e. a decrease)

Expected increase in 100-day in-calf rate for your herd: **(D)** ☐

Expected decrease in 200-day not-in-calf rate for your herd: **(E)** ☐

Part 2: Determine the likely economic benefits of improved herd reproductive performance from closing the gap*

Now use the same rows for your actual to the shorter VWP in Table 1 and the same method as for Part 1 to calculate the possible economic benefit ($) from improved reproductive performance of shortening the VWP for your herd.

Possible economic benefit from improved reproductive performance: $ ☐ **/100 cows/year (F)**

Table 1: Possible economic effect due to change in VWP

VWP (days)	Estimated difference in 100-day in-calf rate	Estimated difference in 200-day not-in-calf rate	Possible economic effect
			($/100 cows/year)
40	0%	0%	$0
45	-2%	0%	-$400
50	-5%	1%	-$900
55	-7%	1%	-$1,400
60	-10%	1%	-$2,100
65	-14%	2%	-$2,900
70	-19%	3%	-$3,700
75	-23%	3%	-$4,600
80	-28%	4%	-$5,800
85	-34%	5%	-$7,000
90	-42%	6%	-$8,400
95	-50%	7%	-$9,900
100	-57%	8%	-$11,700

* Based on use of standard herd figures in the InCalf economic benefits models (2004).

Example: If your VWP was 65 days and you shortened it to 50 days, the likely economic effect from improved reproductive performance would be an increase of $2,000 (from -$2,900 to -$900/100 cows/year).

Now, adjust the likely economic benefit per 100 cows for increased insemination costs associated with shortened VWP.

Shorter VWPs can result in slightly reduced conception rates for cows mated soon after calving.

The following table shows the likely change in number of inseminations required per 100 cows per year if you used a different VWP than 40 days.

Table 2: Likely change in no. of inseminations required for a change in VWP.

VWP (days)	Likely change in no. of inseminations required/100 cows
40	0
45	-5
50	-10
55	-14
60	-18
65	-22
70	-26
75	-29
80	-32
85	-35
90	-38
95	-41
100	-43

Example: Table 2 shows that you are likely to need about 18 fewer inseminations per 100 cows if you start mating at 60 days after calving instead of 40 days. Therefore, if you changed your VWP from 60 days to 40 days you are likely to need about 18 more inseminations per 100 cows/year.

Extra inseminations required for your herd per 100 cows | **Cost per insemination (semen plus insemination cost)** | **Extra insemination costs/100 cows/year**

[ ] X $ [ ] = $ [ ] (G)

Possible economic benefit per 100 cows/year (F) | **Extra insemination costs/100 cows/year (G)** | **Total likely economic benefit for your herd (i.e. F minus G = H)**

$ [ ] – $ [ ] = $ [ ] (H)

Before moving to Step 4, it is important to consider the following question: Does shortening the VWP, and therefore the length of lactation, reduce annual milk production and income?

The example situation in the following table shows that there are no costs associated with shorter lactations when cows conceive early after calving, except the extra doses of semen used.

Although production per lactation of these cows is lower, average production per year is similar if not higher than for cows that conceive later. Consequently, milk income less feed costs is also higher.
(The table uses a milk price of 30¢/litre.)

Table 3: An example situation where there is no cost associated with conceptions soon after calving.

Day of lactation when conceived	Production/cow for lactation (litres)	Yearly production/cow (litres)	Milk income less feed costs per year
20	5,421	6,552	$834
30	5,591	6,541	$831
40	5,758	6,527	$827
50	5,920	6,509	$822
60	6,079	6,488	$817
70	6,233	6,463	$811
80	6,383	6,436	$805
90	6,529	6,407	$798
100	6,672	6,375	$791

Step 4: Develop & implement a strategy

Develop your own personal farm strategy to achieve these benefits.

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