Batch Farrowing Place
Not all sows and gilts are equal
The Real-Time Batch Breeding Target

Ensuring that the correct breeding target is set is more complicated than just looking at the "historical" farrowing rate %. A batch breeding target should be calculated in real time. This can be achieved by understanding the chance of farrowing success for all of the different parties.

Who are the parties that make up this batch breeding pool
Gilts, weaned sows and return sows.

## What factors influence the farrowing rate % of these females?
Factors that can affect the farrowing rate % was investigated in America and Australian pigs. **Paper**.

Season
The seasons play an enormous role in the likely farrowing rate % and this is discussed in a separate paper. The affect appears to be on all of the females - sows and gilts.
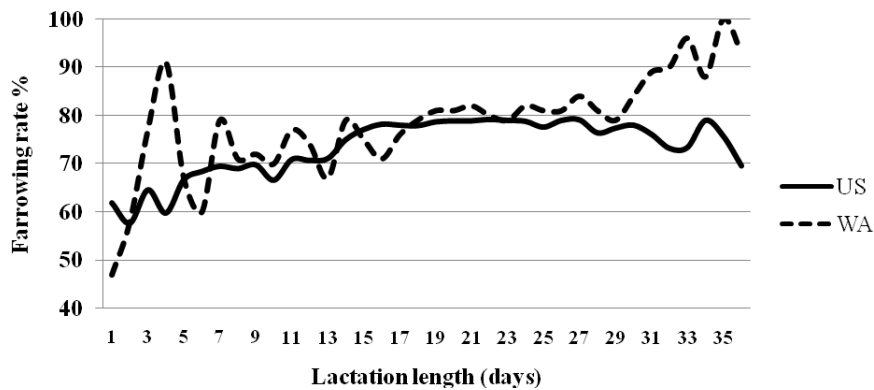
Gilts
The influence of parity on the farrowing rate
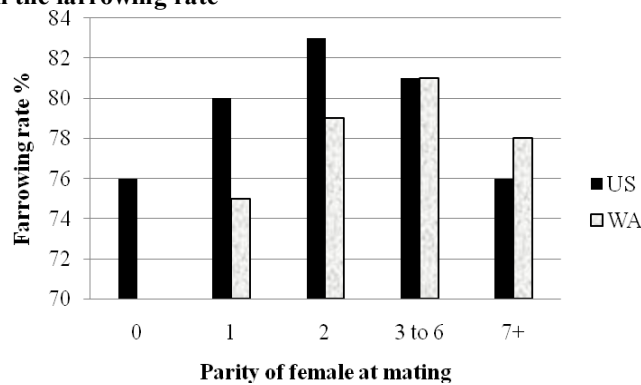
The gilt has a reduced farrowing rate. Also the older sow but there should be less of these animals in the herd.

Sows
The weaned sow
### What is the influence of lactation length on the farrowing rate?

With weaned sows the there is minimal influence on the future farrowing rate % if the lactation length is longer than 15 days. Before day 15 there is a progressive loss of farrowing rate.

What is the influence of the wean to service interval?
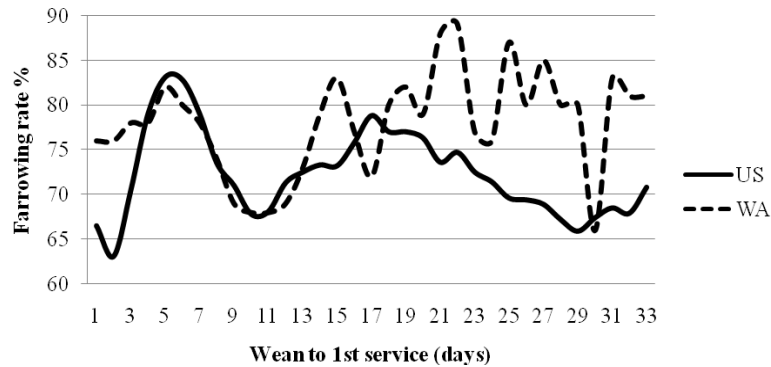
There is a significant relationship between the wean to service interval and the future farrowing rate.
If the wean to service interval is shorter than 3 days or longer than 7 days the farrowing rate is reduced.

Return sows
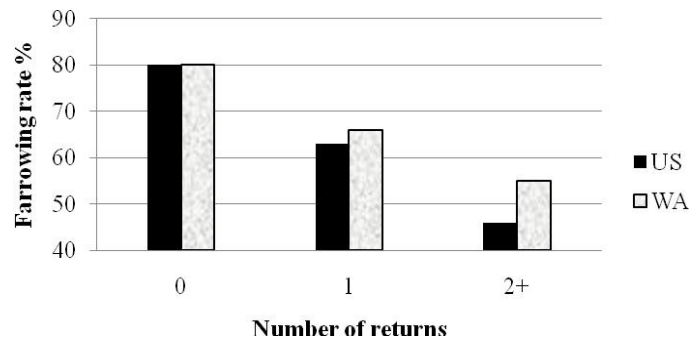
There is a significant reduction in farrowing rate each time the sow or gilt returns to service.

Real-time batch breeding target
Gather information about your own sows - look at your own data.
This can enable the farm to predict a real-time breeding target. This initial calculation should be performed on the day of weaning - when the farm knows the number of weaned sows (going to be retained - ideally all of them) and the number of gilts likely to cycle over the next 7 days (Those that were seen and marked cycling 3 weeks ago) The returns should be the only "surprises".
Then a simple spreadsheet can be used to predict and then monitor events over the batch breeding period.

The yellow boxes can be customised to your farm circumstances

Input the expected farrowing rate for each season

Season | Summer | 70 | Other | 80 | %

For each female category place the expected farrowing rate % from examination of farm records

Parity effect	Gilt	75	%
Lactation length	Early weaned sows	75	%	Sows weaned before day 15 of lactation
Wean to service interval	Less than 3 days	65	%
	4 to 7 days	82	%
	More than 7 days	70	%
Return sows	1st return	65	%	(mate with naturally with a boar and AI)
	2 or more returns	40	%	(avoid mating - even 2nd return gilts)

Number of farrowing places per batch? | 20

Is it the summer time? | No | Yes or No

Number of females available for this batch		**Actual number bred over the breeding period**	
Complete on weaning day		Progressively complete over the breeding period	
Returns assumed to be 8 % of farrowing places			
Weaned sows Lactation length less than 15 days	0	Lactation length less than 15 days	0
Wean to service interval less than 3 days	0	Wean to service interval less than 3 days	0
Wean to service interval 3-6 days	19	Wean to service interval 3-6 days	19
Wean to service interval 7 days or more	0	Wean to service interval 7 days or more	0
Returns (sows and gilts) 1st Return	1	1st Return	1
2nd or more returns	0	2nd or more returns	0
Gilts Number of gilts bred this batch	5	Number of gilts bred this batch	5
Number of females liklely to be bred this batch:	25 females	**Number of females bred this batch:**	25 females
Farrowing places likely to be filled from this batch:	19	**Farrowing places likely to be filled this batch:**	19
Expected farrowing rate to be registered:	76 %	**Expected farrowing rate to be registered:**	76 %
Would sufficient females be bred this batch?	No	**Has sufficient females been bred this week?**	No

The calculation:

Rounded down to whole female ((Expected number to farrow for each category)*influence of season)

In the default, we clearly see that if the farm had adopted a normal approach, assumed that the farm had a farrowing rate of 82% then as long as 25 females are mated this should be sufficient:

Farrowing places	20
Farrowing rate	82 %
Breeding target	25 females

Wrong.

Because only 19 out of the 20 sows in lactation were going to be presented to the breeding pool, the influence of the five gilts with only a 75% farrowing rate and the single return with only a 60% farrowing rate, this reduced the effective farrowing rate % to 76% - thus requiring at least one other female to be mated to have a reasonable chance all the farrowing places are filled.

Farrowing places | 20

Minium number of females to mate					Rate of change	1	Female
Minimum to bred	22	23	24	25	26	27	28
Required farrowing rate per batch	91	87	84	80	77	75	72	%

The net effect of failing to meet the real-time batch breeding target - an empty farrowing place - increased cost of production.

The major mistake the farmer made was to fail to have sufficient gilts available to cover the lack of weaned sows. This is a common mistake. But this could have been easily avoided by planning. It is likely that the missing sow was recognised weeks ago.

This area will be covered in gilt management.