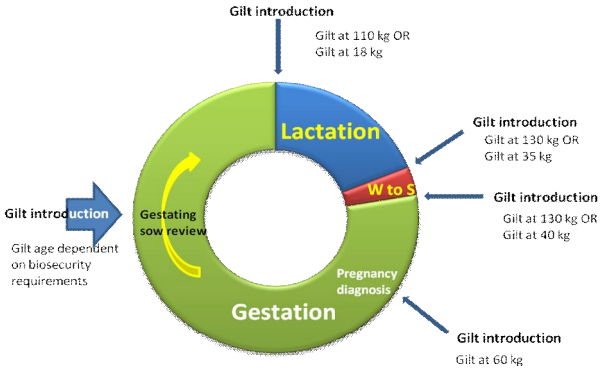
Batch Farrowing Place
Gilt number

One major advantage of using batch farrowing place as a keystone to pig production is its ability to predict how many gilts are required for each batch.
Gilt requirements need to be well planned and not just on the day of weaning - or during the breeding week. You should never be short of gilts. There is no catch up in batch farrowing, you have to get the breeding target right first time.

When can gilts be added to the batch breeding pool?

Sow culling option	New Gilt weight kg		
		Weaning age	
		3w	4w
Farrowing	110 or	25	18
Weaning	130 or	40	35
Breeding	130 or	45	40
Pregnancy check (28 days)	NA	65	60
Sow gestation check between 8 and 15 weeks	Depends on biosecurity requirements		



Sow culling/Gilt introduction graphic assuming 4 week weaning

When should gilt numbers required for a specific batch be finalised?
Gilt numbers should be finally calculated when the batch is at 10/11 weeks of gestation. This allows for final adjustments to be made to the gilt pool which will be made available in 9 weeks time. Note as soon as a possible shortage of gilts can be identified adjustments should be made - for example 2 sows abort at 60 days of pregnancy.

Gilt development lifecycle
Gilt breeding time line
Customise the yellow boxes to your own requirements

Place a 1 in the Weaning day

Sunday	0
Monday	0
Tuesday	0
Wednesday	0
Thursday	1
Friday	0
Saturday	0

Todays date or selected date	25 April 2010	
Next batch start date	Friday	30/04/2010
Weaning age	4 weeks	
Next batch start date	Friday	24/09/2010

Gilt requirement at mating

Age	220	days
Minimum	2	heat/oestrus
Weight	130	kg

Gilt time line

Breeding		24/09/2010	241	days of age at	150 kg	3 oestrus post boar exposure
liveweight kg	90	27/07/2010	26	weeks of age	12	week of gestation of batch
liveweight kg	60	18/05/2010	16	weeks of age	4	week of gestation of batch
liveweight kg	30	06/04/2010	10	weeks of age	25	weeks away from breeding time
Weaning age		23/02/2010	4	weeks of age	31	weeks away from breeding time
Birth day		26/01/2010			35	weeks away from breeding time

Calculation
There are some internal calculations that by default calculate your next batch time day (the day after your next weaning date).
From this batch start date, next start date is calculated from wean to service (4 days) plus gestation length (115 days) plus the lactation length.

The age of the gilt at any particular week is calculated from the formulae:

$$(\text{ROUNDUP}(-0.0744^{((((\text{weight kg})/10)+1),2)}+2.7618*(((\text{weight kg})/10)+1)-0.2818,0))$$

The specific days in the gilt live cycle is important as they are relevant to selecting the gilt and can be coordinated in line with specific breeding events in the batch.

How many gilts do I need for this batch of pigs?

If the number of gilts are to be calculated when the batch is at 10/11 weeks, this calculator can be of help.

The yellow boxes can be customised to suit your farm

How many females are presumed

	Number	
pregnant at 10/11 weeks of gestation?	20	sows
Number of these animals likely to be bred?	18	Note these have to be made available
		i.e. not lame, no mastitis, no age issues in the correct breeding week
		no breeding issues

Number of farrowing places per batch?	20
Farrowing rate %	82 %
Batch time	1 weeks

25	**Number of breeding females required per batch**
5	**Number of breeding gilts at about 95 kg required per batch**
2	Number of gilts at about 95kg requi excess of normal per batch
2	Expected number of sows returning to breeding per batch
36	Estimated size of the gilt pool 95kg plus, if no problems
60	Required size of gilt pool 95kg plus, if this batch example typical
	10 weeks of isolation and an calculation including excess

This programme assumes a 9 week gilt introduction process. However, modification will be needed if you leave less time (which is unwise if you have PPRSv) or more time - by selecting gilts earlier.

Combined with previous weeks/batch results we can build an entire gilt pool

	Target	Actual		Difference	
This week	5			-5	Only differences less than
Week 2	3		1st cycle	-3	zero are significant - therefore
Week 3	3			-3	all others are ignored
Week 4	3			-3	
Week 5	3		2nd cycle	-3	
Week 6	3			-3	
Week 7	3			-3	
Week 8	3		3rd cycle	-3	
Week 9	3			-3	
Total gilt pool	29	0		-29	

0.58	Gilts sold per week for slaughter
80% of gilts selected for breeding should	
be planned to go to slaughter	
This is not factored into the gilt pool requirements	

General Comments:

Note these are absolute minimum
Does not include any selection pressure
The numbers required are rounded to a whole gilt
this might be significant in batch systems

Can I calculate how many gilts I am going to need over the next couple of months?

Yes. Using batch farrowing you can approximate the number of gilts required. This should be carefully discussed with your genetic supplier.

Using a simple approach to above, a gilt requirement calculator can be written. The example shown is a 4 week weaning weekly batch system. Other models can be found in the gilt section.

The default is set up with an example pig pregnant per week of gestation for the selected batch size, but can be easily customised to actual events on the farm.

Calculator to determine gilt requirement **Once a week batch 4 week weaning**

If the farm is batching please convert to a weekly requirement Complete the yellow boxes and your farms current presumed pregnant numbers

There is a default actual placed - replace with your actual numbers

Number of farrowing places per batch 20 FR% 85 * Breeding per batch 24

	Week of gestation - this is the diagonal on a Csum																Farrowing area					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	5	Mating
Actual sows presumed pregnant	24	24	21	21	21	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Model sows presumed pregnant	23	23	21	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Assumed sows which will farrow	22	22	21	21	21	20	20	20	20	20	20											
Sows assigned for culling																						
Normal gilt requirement	3	3	3	3	3	3	3	3	3	3	3											
Gilts already in the system																						
Extra gilts required	0	0	0	0	0	0	0	0	0	0	0											
Total gilts required for the week	3	3	3	3	3	3	3	3	3	3	3											
Kg Weight of gilt required	36	41	47	53	59	65	71	78	85	92	100	Too late								120-140kg		
Age of gilt required (weeks)	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32 weeks
Age of gilt required (days)	77	84	91	98	105	112	119	126	133	140	147	154	161	168	175	182	189	196	203	210	217	224 days

Example of purchases using this model

4 weekly delivery

At 80-100 kg at arrival 9 gilts required

At 35-50 kg at arrival 9 gilts required

6 weekly delivery

At 65-100 kg at arrival 15 gilts required

At 35-65 kg at arrival 15 gilts required

***Calculations**

Reasons for failure to farrow		Farm
For each 100 females bred:	100	100
Regular returns	8	9
Irregular returns	2	3
Abortions	1	1
Deaths	1	1
Culls	1	1
NIP	0.5	0
Farrowing rate %	87	85

Playing with the gilt pool numbers can become quite additive. But:

Gilts are the fuel that run the farm

Batch farrowing is all about an efficient gilt pool whose purpose is to supply sufficient females to ensure that the real time batch breeding target is met and the farm can practice all-in/all-out.