

ANALYSIS OF RETURNS TO BREEDING IN THE PIG

Veterinarians are frequently asked to analyse reproductive problems. However, the information provided by farmers and computer systems are generally not in a format which allows for easy interpretation.

Failure to farrow interpretation

Not all failure to farrow problems are associated with reproductive problems. The initial examination must determine the reasons for failure to farrow.

Table 1

Reasons for failure to farrow

Reason	Target %
Returns to oestrus	10
Abortions	0.5 - 1
Not in pig pigs (moved to farrowing house found not in pig)	0 ó 0.5
Culled in pig	1
Died in pig	1
Resulting farrowing rate	87

Non reproductive reasons are commonly found to be the actual cause of the reproductive problem, for instance cystitis and pyelonephritis can dramatically increase death while pregnant (up to 10%) and can thus appear as a reproductive problem, while in fact most sows die with a uterus full of piglets.



Chronic active pyelonephritis

Returns to oestrus can also be given targets

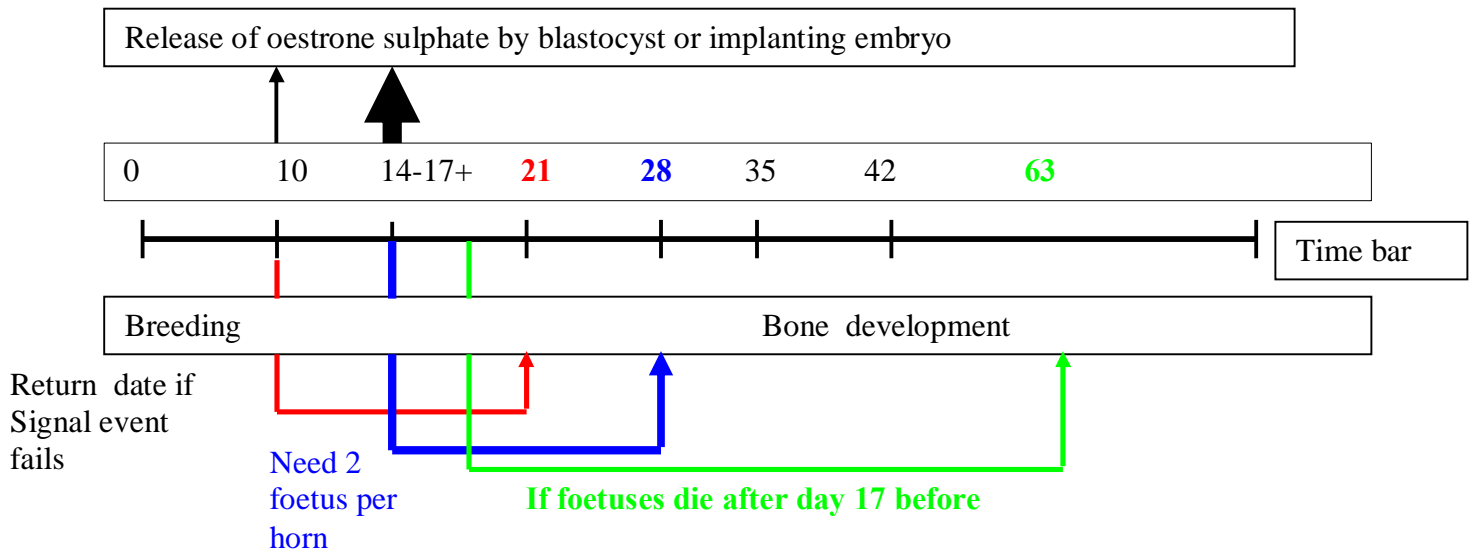
Target for return to oestrus

Type of return	Target %
Regular returns 18-24 and 36-48 days post service	80
Irregular returns (any other time)	20

Analysis of return to re-service interval

An understanding of basic embryonic signalling provides a simple interpretation of returns to service, which can be used to help explain sows which fail to breed and assists in the differential diagnosis.

This is illustrated in below.



Basic early embryonic signals and their influence on failure to maintain pregnancy (from Geisert *et al* 1990).

Day post conception	Event	If event fails
10	Oestrogen sulphate is released by the free-living blastocyst	Female returns at 18 ó 24 days post service ó peak at 21 days
14-17 and 2 embryos implant per uterine horn	Oestrogen sulphate is released by the implanting embryo	Female returns at 25 ó 35 days post-service ó peak at 28 days
Implanted embryo dies shortly after day 17 but before day 35		Female returns after day 50 ó peak at 63 days post-service, a pseudopregnancy

Utilising this information, a basic guide to why sows return to service can be compiled.

Major reasons why sows return to service

Day of repeat	Reason for return
0-17	Nymphomaniac (follicular cyst - rare). Not in season initially
18-24	Oestrus (failure of blastocysts to reach day 10)
25-35	Embryonic death (failure of 4 piglets to implant). Not in season initially
36-48	Missed oestrus. Missed embryonic death + oestrus. Not in season initially + oestrus missed.
49-80	Pseudopregnancy. Abortion. Combinations of above.
80 +	Combinations of above.

This implies that a lot of returns to service are poor oestrus detection rather than disease agents, which may be difficult for some stockpeople to accept.

Influence of stockpeople on reproductive success

Unfortunately dishonesty is a frequent cause of reproductive problems, particularly when results are disappointing and bonuses are affected. Always be very wary of the leaving employee who has direct influence on reproduction, i.e. the breeding stockman or manager. In addition observation of stockpeople's attitudes during breeding can be very revealing.

Good stockmanship interaction during breeding



The sow is talking to the boar and is not distracted by other sows. The stockman has full body contact with the sow. The stockman talks and encourages the sow providing stimulation to the flanks of the sow with the knee and touch on the flanks and udder. Using body pressure and the hands press on the back and loin area mimicking the boars mounting position. Riding the sow can also be useful, but note obvious health and safety issues.

Poor stockman interactions with the breeding sow



The sow is distracted by other sows. No boar presence. The stockman has no physical contact with the sow, aside from some minor back pressure using the hand in the left photograph. The stockman does not talk or provide any encouragement to the sow. The use of artificial boars as saddles etc. during breeding helps but does not equal the results of a dedicated stockperson