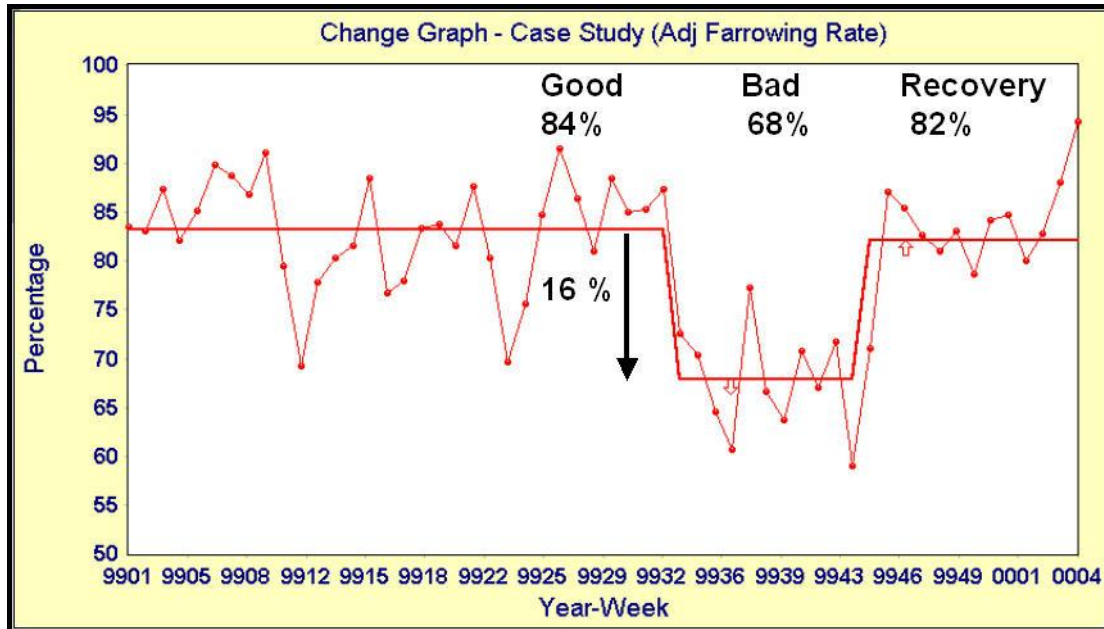


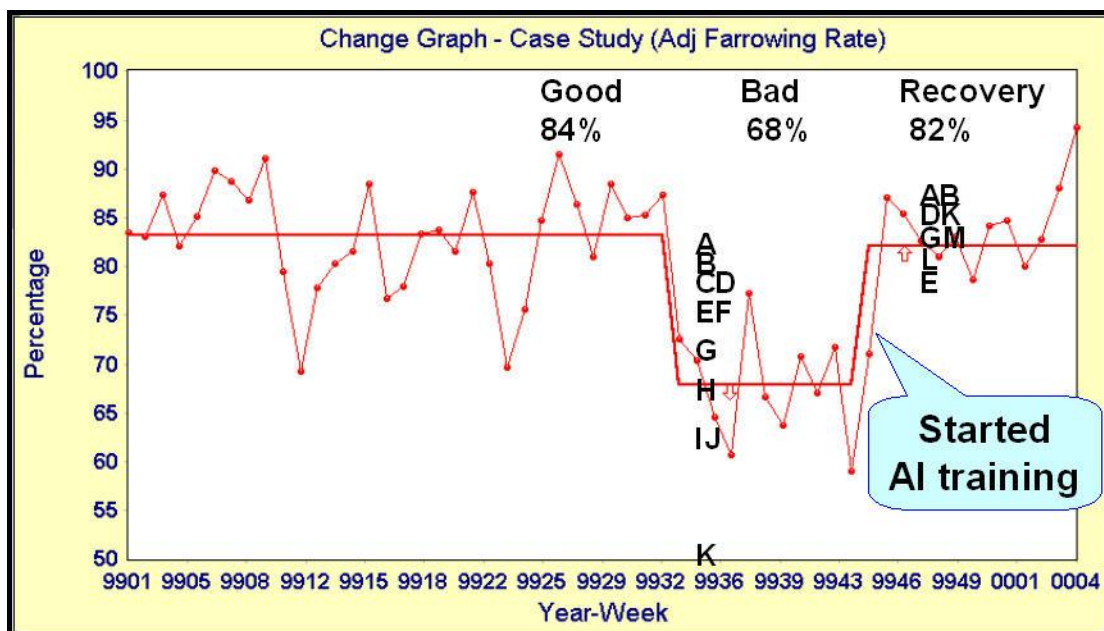
## Variability Injected by Staff Differences

PrimePulse has identified a 16% reduction in farrowing rate that lasted 12 weeks in spring.



When the underlying data for this period was analysed it reveals that much of this problem (12 of the 16%) is explained by an escalation of the artificial insemination program. Previously 19% of sows each week received artificial insemination. During the problem period this incidence was increased to 91%. The actual success of artificial insemination remained constant at 67%.

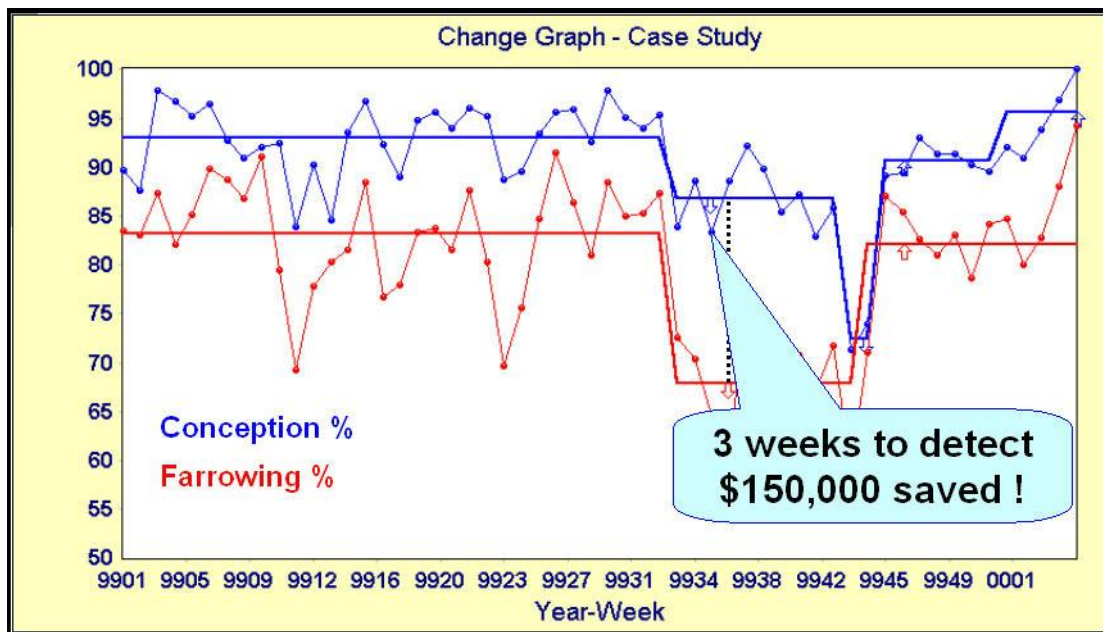
The increased use of AI was recommended to reduce the sexual transmission of a serious uterine discharge problem being experienced.



Having a closer look at the Bad period, not all mating observers perform equally. Each letter represents the average performance of an observer. They range from 85% to 50%. Observer K was not present in the Good period and thus accounts for some (2%) of the “unexplained” portion (4%) of the change detected.

Observer “A” is the manager and shows that good AI performance is achievable. Thus, this is an issue of technique and not materials (ie semen quality).

Mating staff were then consolidated (some departed) and then re-trained in AI techniques. Note that; observers share more uniform performance, “K” has radically improved and new staff “L” & “M” enter at the staff average.



In practice it is too late to wait until farrowing to assess mating performance. Regression analysis shows that conception rate (assessed at day 24 post mating) explains 60% of the variation observed in farrowing rate. Thus in hind sight, this issue could have been identified and addressed in just 3 weeks. 12 weeks of depressed farrowing rate amounts to \$200,000 forgone, thus only \$50,000 was unavoidable, but \$150,000 was preventable by initiating training 8 weeks earlier.

So is this a successful example of data mining? - probably not. You could argue that if preventative staff training protocols were followed the issue would never have occurred in the first place. So is it wise to redirect effort from retrospective diagnostic analysis of "symptoms" to proactive preventative procedures targeted at known critical production risks? If you are chasing reward on effort the answer is a definite yes!