TIMED AI WITH OR WITHOUT ESTROUS DETECTION

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The economic net present value of timed AI synchronization to ovulation programs could increase, remain, or decrease when estrous detection is included. The most important factor is the ratio between the conception rates of timed AI and estrous detection programs.

Let's demonstrate these facts with an example of two pure timed AI and a pure estrous detection reproduction programs defined in Figure 1. Double-Ovsynch is used for first service in both timed AI programs at 82 days after calving with a 45% conception rate. One of the timed AI programs continues with Double-Ovsynch resyncrhonizations every 49 days with a 39% conception rate (top curve). The other timed AI program continues with day 32 (D32) Ovsynch resynchronizations every 42 days (middle curve). The estrous detection program has a voluntary waiting period of 50 days after calving, a continuos estrous detection rate of 50%, and a conception rate of 30% (bottom curve).

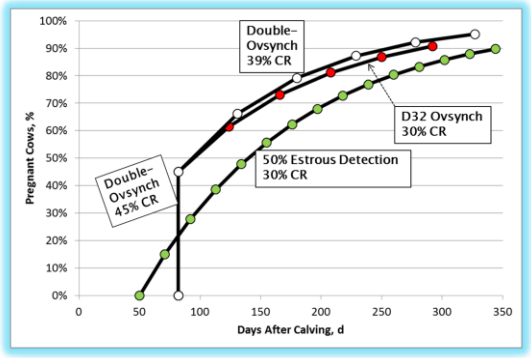

Figure 1. Survival curves of two timed AI programs and one estrous detection program

When the 50% estrous detection is included before and in between the Double-Ovsynch + D32 Ovsynch timed AI program, the net present value increases by $2.64/cow per year for the 30% estrous breeding conception rate and would change between -$15 and $21/cow per year for estrous detection conception rates between 27 and 33%, respectively (Figure 2).

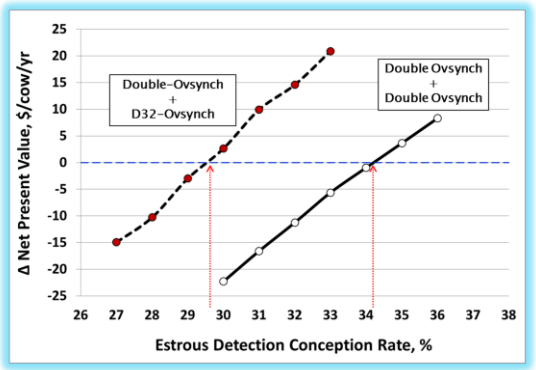

Figure 2. Economic value of including 50% estrous detection before and after timed AI programs

When the 50% estrous detection is included before and in between the Double-Ovsynh + Double Ovsynch timed AI program, the net present value decreases by $22/cow per year for the 30% estrous breeding conception rate and would change between -$22 and $8/cow per year for estrous detection conception rates between 30 and 36%%, respectively (Figure 2). The net present value of including estrous detection before and in between the Double-Ovsynch + Double Ovsynch program would be greater than the pure timed AI program only if the estrous detection conception rate is 35% or greater.

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