Public Abstract

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Title:STRATEGIC PROGESTERONE TESTING AS A METHOD TO PREDICT CONCEPTION AND MANAGE REPRODUCTION IN DAIRY COWS

Timed AI (TAI) programs have increased reproductive efficiency in dairy herds, but conception rates to TAI remain below 50% for most herds. The low TAI pregnancies per AI (P/AI) is partially explained by cows that do not have a CL when PGF2? is administered, fail to undergo luteolysis after PGF2? or fail to ovulate after GnRH and TAI. Cows falling into one of these three categories are known to have low fertility after TAI. We hypothesized that testing milk progesterone concentrations on-farm would provide information on predicting pregnancy.

The objective of the first experiment was to validate the milk progesterone auto analyzer (FT Multilyser; Förster Technik). The milk auto analyzer was subjected to trials for validation including milk added mass, serial dilution, comparing 2 auto analyzers, comparing with a radioimmunoassay, validation with biology, validation with PAGs and progesterone, and testing how quickly PGF2? takes effect. We found that the milk auto analyzer is a valuable tool in assessing milk progesterone.

Next a modified, extended 7 day CIDR program was tested compared with Presynch Ovsynch56. Cows in the treatment group with low progesterone before the final PGF2? injection had a CIDR inserted and were inseminated 1 week later. There was a numerical increase in P/AI for CIDR treated cows, but additional tests are needed.

ROC (Receiver Operator Characteristic) curves for predicting conception or pregnancy were then tested. We found milk progesterone ROCs (-3 and +7 d) and blood plasma (-3 and +25 d) had some capacity to predict pregnancy to timed AI.

We concluded most cows not responding to a TAI protocol could be identified and may benefit from an alternative program. The milk auto analyzer may be a useful on-farm tool and ROC curves have some capacity to predict pregnancy based on progesterone concentrations around TAI.