



Evaluating the impact of sample-based pregnancy test procedures in milk production and daily cow time budgets of dairy cows

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Study Details

A study comparing pregnancy diagnosis methods using **Transrectal Ultrasound (TRUS)** and the **Alertys Milk Pregnancy Test** was conducted by Dr. S. Paudyal from Texas A&M University, at a large commercial dairy farm in North Texas, which milks approximately 3,500 cows. Study groups were separated into groups of 300, mimicking a smaller herd.

The study found that cows tested using the Alertys Milk Pregnancy Test were restrained **1.1 hours less per day**, compared to those checked by transrectal ultrasound (TRUS). In parallel of this reduction in restrain time, cows who were tested with Alertys Milk Pregnancy Test showed an average **increase in milk production of 0.54 kg per cow per day**, resulting in an **additional 3.81 kg of milk over the week** when pregnancies were checked by Alertys milk test, compared to cows tested with ultrasound.

	Sample-Based Pregnancy Test (SBPT)	Control	P-value
Milk yield on day 0 (kg)	23.02 ± 0.331	22.55 ± 0.336	0.037
Milk yield on day 1 (kg)	24.70 ± 0.354	23.56 ± 0.358	< 0.01
Weekly average milk (kg)	22.59 ± 0.231	22.07 ± 0.236	< 0.01

Note: The numbers have been adapted from Dr. Sushil Paudyal's study, converting from pounds (lbs) to kilograms (kgs).

Methodology

The study involved three open dry-lot pens at a commercial dairy farm, utilizing a repeated cross-over design. In total we had 18 pen periods with 9 treatment groups and 9 control groups. The treatment group were tested for pregnancy using IDEXX milk sample-based pregnancy test (SBPT) with samples collected at the milk parlor. The control group was using TRUS by registered vet at the headlocks.

Study result: milk production and daily cow time budget of dairy cows

Milk production

- + **Day of testing:** Cows tested with Alertys Milk Pregnancy Test **produced 0.46 kg more milk per cow per day** compared to cows tested with ultrasound.
- + **Day after testing:** Milk production was **1.134 kg higher for cows tested with Alertys Milk Pregnancy Test** compared to the cows tested with ultrasound.
- + **Weekly average:** Cows tested with the Alertys Milk Test produced an average of **0.54 kg more milk per cow per day** compared to those tested with ultrasound, resulting in a total difference of **3.81 kg per cow over the entire week**.

Cow daily time budgets

- + **Restraint time:** Cows tested using the Alertys Milk Pregnancy Test were restrained **1.1 hours less per day**, compared to those checked by transrectal ultrasound.
- + **Parlor Turnaround Time:** Cows tested with Alertys milk test had an **average turnaround time of 14 minutes** compared to 12 minutes for those tested with ultrasound.
- + **Activity level:**
 - **Time budget:** Cows tested with the Alertys Milk Test show **improved time budgets**, with more steps (+15%), and lying bouts (40%), allowing **additional time for eating and drinking**.
 - **Lying Bout Duration:** Longer lying bout duration for cows tested with ultrasound, indicating a preference to lie down for extended periods rather than **engaging in activities like eating or drinking**.
 - **Total Lying Time:** No significant difference detected between the two groups, suggesting **compensatory effects in lying bout frequency and duration**.

	Sample-Based Pregnancy Test (SBPT)	Control	P-value
Daily lying time (mins)	311 ± 16	305 ± 1	0.037
Daily steps (n)	1538 ± 15	1340 ± 16	< 0.01
Daily lying bouts (n)	7.69 ± 0.44	5.47 ± 0.44	< 0.01
Avg lying bout duration (min)	55.41 ± 3.32	63.02 ± 3.35	0.025

Conclusion:

The Alertys Milk Pregnancy Test provides a clear advantage for **cow welfare and productivity**. By reducing the restraint time, it **lowers cows' stress levels**, resulting in **higher milk production and improved overall cow comfort**.

For more information,
please visit
milkpregnancytest.uk

