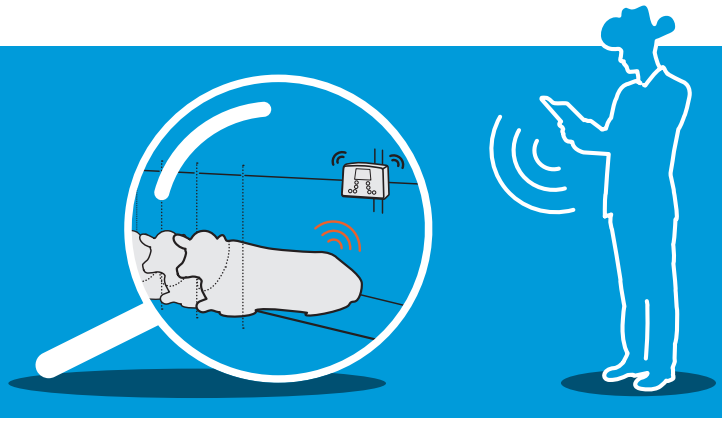
Heat Detection with *AfiAct II Stanchion*

The way to improve fertility in tie stalls (stanchion cowsheds)



The challenge

Cowsheds that permit the animals to interact provide the necessary opportunities for detecting heat (manifested as restlessness and mounting behavior), but cows housed in tie-stall or stanchion barns are very limited in expressing such behavior.

Detecting estrus and determining the proper timing of insemination of cows in these environments presents a number of difficulties. Since the animals do not interact, the herd manager must use less reliable secondary signs to determine which cows are in heat (mucus discharge, swelling and reddening of the vulva or general restless behavior). Although milkers are around their tied cows to see signs of heat twice daily (during milking), depending on the expertise of personnel, the overall detection rate and breeding risk in stanchion environments is quite poor.

Market solutions

Many owners and managers of stanchion barns maintain a standard breeding program based on visual observation of heat signs or use hormone synchronization, which provides very limited improvement in lactation intervals. Generally, the outcome of these programs results in poor overall fertility traits and longer lactation intervals, leading to farm profitability not at herd potential.

Afimilk's first-in-market heat detection solution for tied cows

AfiAct II Stanchion introduces an automated heat detection system designed specifically for detecting heats of tied cows. AfiAct *II* Stanchion is the result of a long-term research effort performed in commercial farms in Canada, Germany, Italy and Poland. This research led to the development of a proprietary algorithm and unique Heat Indicator parameter based on a combination of various behavior aspects.

AfiAct II Stanchion incorporates a long-range data collection component, behavior monitoring tags and software.

How does *AfiAct II* work?

The *AfiTag II,* a leg-mounted electronic pedometer, measures and wirelessly transmits animal behavior records to a central, long-range reader. The behavior data is analyzed using *AfiAct II* software and converted into heat indicator values. *AfiAct II's* built-in reports list cows to be bred (per deviation from the normal heat indicator values).

Improved fertility performance

AfiAct II dramatically improved insemination risk in the test farms. New adopters of the system reported that the **number of confirmed heat events identified by the system more than doubled** compared to the period prior to using the automatic detection system. The number of cows missed by *AfiAct II,* but detected by the operator (visual inspection), was almost none, while a significant number of animals were bred based solely on the results of *AfiAct II.*

Summary

With *AfiAct II Stanchion's* heat indicator analysis, high-performance, accurate heat detection in tie stalls is now available. Owners of tie-stall facilities have an opportunity to improve their herd's fertility performance substantially: Pregnancy rates can increase between 6% and 9% compared to visual observation and a reduction of 20 to 40 open days when combined with synchronization protocols is expected.

As a result, a tie-stall farm with 100 cows may expect to save between $10,000 and 17,000 per year. In this respect, *AfiAct II Stanchion* presents a first-of-its-kind market solution!