

# Successful Dairy Reproduction Continues To Evade Researchers

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If asked what the hardest job on the dairy farm is, most dairy managers would answer reproduction, which is not what the uninitiated might expect.

After all, reproduction is synonymous with sex, and it should be fun, even for animals, and therefore not much problem.

In the olden days you took the cow or heifer to a bull or you had them running together already.

Most of the time, that settled the matter. The bull knew what and when and how; not much else was needed, except to watch for the occurrence of disease or to take precautionary measures making certain the bull was contained by stronger fences.

Today, few farms keep bulls around and for good reasons: the best genetic improvement is available only on an A.I. (artificial insemination) basis and reproductive diseases are stopped from spreading.

Now, thawed semen from frozen storage can be placed into a cow's uterus by a trained person any time and with relatively little cost. It sounds like a perfect solution to a complicated process. And so it seemed 50 years ago when the success story of A.I. in dairy cattle breeding began.

Genetically speaking, it is still a tremendous success story half a century later. But reproductively speaking, it is far from a perfect solution to a complicated process and far from a success.

While we have made tremendous strides forward to find better genetic bulls, proof them and use them worldwide to increase our cows' milk-producing abilities to unheard-of heights, we have made little progress in getting our cows settled.

The rate of conception then was about 70%; it is still only about 70%.

Even though we have succeeded in eliminating the interference of many reproductive diseases through A.I., we have not increased our conception rate significantly at all.

Why? I think it is our inability to smell and read body language of cows as well as bulls do.

We have tried to interpret signs of estrus and told our employees to observe, observe, and observe, so we do not miss cows in estrus.

The fact is that not only our employees but we, too, miss at least one out of four cows.

In part it may be that they are "bashful," to which we give the euphemistic excuse of "silent heat."

Or it may be we have imposed on our cows the need to feed so much more because of high production that during the day when we are around cows concentrate more on feeding (i.e., no time for sex!)

Or on those hot summer days cows wait for the cooler nighttime to show signs of estrus when we are not around to observe.

Whatever the reasons, and there are many, the bottom line is that a bull knew better than we do when

and which cows are in estrus.

By replacing A.I. for a bull in our breeding programs we have slowly realized that there is more involved in obtaining good conception rates than just to place semen into a cow's uterus. And it really ends up to be the hardest job to do well on the dairy farm.

The monthly Journal of Dairy Science is one of the best sources of the latest research information on many dairy topics, especially reproduction. In the July 1990 issue are several very promising new results: "Double insemination and hormone treatment for repeat breeders" from Kansas State University and the University of California; "Androgenized heifers to detect estrus" from Colorado State University; "Conception rates after uterus or horn inseminations" from University Wisconsin and Pennsylvania, etc.

And what are the promises of science to solve the hardest job challenge on the dairy farm?

It is not as easy as we thought to just replace the bull.

Using androgenized heifers,

i.e., heifers treated with male sex hormones to make them act, smell and read body language like bulls, is a solution to miss fewer cows in estrus.

In the Colorado work, significantly more cows were detected in estrus this way.

It has been estimated that the loss from faulty estrus detection ranges from \$123 to \$205 per dairy cow/year, and this times the 10 million dairy cows in the United States underlines the importance of more research in this area.

However, proposing androgenized heifers as part of improving our reproductive efficiency on the dairy farm is really admitting defeat that we are unable to replace what an actual bull can smell and see in estrus detection.

The work from Wisconsin and Pennsylvania tries to get deposited semen closer to meeting delivered ova, i.e., the bull deposits semen outside the cervix, traditional A.I. practice has been inside the cervix. However, 6,000 cows using 12 highly trained technicians were

studied for alternative sites of semen deposits and x-ray techniques confirmed the actual location.

The very interesting results produced new enigmas and challenges: No significant differences existed in conception rates between uterus (69.5%) and horn (70.8%) inseminations; while highly significant differences were found between technicians despite their intensive training and screening to create equal inseminating ability between technicians; and finally significant differences in percent conception were also noted between the three months of study, June, July and August, regardless of site of insemination, being 74.3, 67.4, 66.8%

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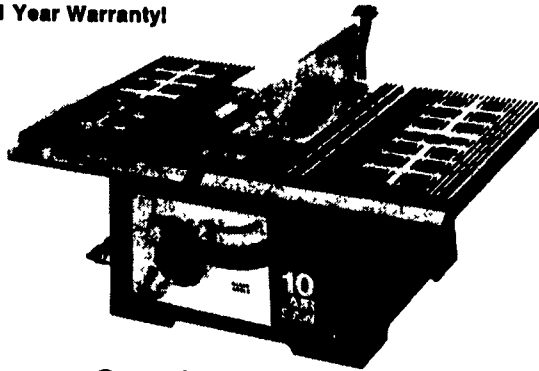


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