

Sexed Semen

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COOPERATIVE
EXTENSION
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Sperm cells which result in a heifer calf can be separated from sperm cells which result in a bull calf with over 90% accuracy using an instrument called a flow cytometer. The process is relatively slow and causes some damage to sperm cells, but not as much damage as other techniques which have been used to sort x bearing sperm from y bearing sperm.

Currently the two main roadblocks to mass application of this technology are lower number of sperm cells available for insemination and lower pregnancy rates. These problems will be overcome and sexed semen will be available sometime at a reasonable cost. When this happens one must ask what will be the most logical applications for Kentucky dairy farmers?

The first application will be to increase the percentage of heifer calves born which could be used to expand the herd or to sell as replacements. Home grown heifers would be the most bio-secure way to expand the herd in addition to the other benefits of home grown heifers. For those who want to maintain herd size the extra heifers could be sold and provide substantial additional income.

The second application is an expansion of the first and that is to increase the percentage of heifer calves out of first calf heifers. Heifers are more fertile than cows so semen placed into heifers always yields a better return on investment. Younger animals in a herd should be genetically superior to the older animals so getting more heifer calves out of heifers will speed up genetic progress. In addition, calving difficulty is lower when heifers give birth to heifer calves. So increasing the percentage of heifer calves out of heifers will result in more live calves and more first calf heifers getting off to a good start on their first lactation.