Department of Dairy Science
www.dasc.vt.edu
Virginia Tech, Blacksburg
Vol. 24, No. 9 September 2003
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DAIRY PIPELINE

Virginia dairy industry facts. The dairy industry continues to be an important part of the local community. The following facts are just a few of the tidbits gleaned from material from the Virginia Farm Bureau and the Applied and Agricultural Economics Department at Virginia Tech. These facts help to highlight the importance of dairy producers to our State's economy.

Fact: Every $1 a farm grosses is worth $5-$7 to the local community. Profit or payment, every dollar you get paid in your milk check spins through the local economy between 5 and 7 times.

Fact: The average dairy cow in Virginia adds $9,000-$15,000 dollars of economic stimulus to her local economy each year. In other words, a small 50 cow dairy is worth nearly a half million dollars to local businesses.

Fact: It takes $31,000 per month to run the average Virginia dairy farm. This amounts to about $225 per cow per month. This figure does not include debt payments. Feed and labor account for 2/3 of this figure.

Fact: Given the fact that it takes $31,000 per month to operate the average dairy and that money circulates 5-7 times through a community, every time Virginia loses a dairy farm, it costs the local community $2,011,088.

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CIDR inserts approved for lactating cows. In May of 2002 the FDA approved the use of the CIDR inserts for synchronization of estrus in dairy heifers and beef cattle and recently (July of 2003) for lactating dairy cows. These devices are used to induce estrous activity in anestrous cows and prepubertal heifers, to synchronize the return to estrus of previously inseminated cattle, and as one component of treatment regimens administered to synchronize estrus in cattle. The intravaginal progesterone CIDR insert containing 1.38 grams of progesterone (CIDR inserts; EAZI-BREED™ CIDR® Cattle Insert) and is marketed by Pfizer Animal Health, NY, NY. CIDR inserts are "T" shaped and the wings of the device fold in to form a rod that can be placed in an applicator. At the end of the device is a tail, which facilitates the removal of the insert. The backbone of the CIDR insert is a nylon spine, which is covered by a progesterone impregnated silicone skin. The standard protocol is administration of a CIDR insert on day 0, which prevents ovulation and estrus activity. Twenty-four hour prior to CIDR insert removal (day-6), a 25-mg dose of prostaglandin (Lutalyse®, Pfizer Animal Health, NY, NY) is administered to regress a corpus luteum, if present. Heifers that return to estrus are synchronized with the majority exhibiting estrus 48 to 72 h after removal of CIDR insert. Reported retention rates for the CIDR insert are approximately 95%. The approval of CIDR inserts for lactating dairy cows was not granted until the concerns pertaining to the concentration of progesterone in milk following the administration of CIDR inserts was examined. Milk from pregnant cows contains three times the concentration of progesterone compared to milk progesterone levels measured from cows with a CIDR insert. Therefore, milk from pregnant cows is safe for human consumption; thus the milk from CIDR insert treated cows should also be considered safe, based on progesterone concentration. The CIDR insert label recommendations are for synchronization of return estrus in lactating dairy cows inseminated at the immediately proceeding estrus. The CIDR insert should be administered 14±1 days after insemination and removed 7 days

later. Cows should be observed for sign of heat for 96 hours after removal of the CIDR insert and inseminated approximately 12 hours after onset of estrus. A report published in the *Journal of Dairy Science* this spring evaluating CIDR inserts for synchronization of returns to estrus (SR), conception rate (CR), and pregnancy rate (PR) in dairy cows that were previously inseminated. Holstein cows (n=1893) on eight farms located in MI, NY, FL, IL, or CA that were 40 to 150 days open were used in the study. Cows that were detected in heat and inseminated 2, 3, or 4 days after a single injection of Lutalyse® were assigned to one of two treatments: 1) Controls, no further treatment, or 2) administration of a CIDR insert 14 days after insemination and removed 7 days later. Cows were observed for signs of heat 3 days prior to CIDR insert removal and for 4 days after CIDR insert removal. The CIDR insert increased SR (34.1 versus 19.3% in 3 days) and overall heat detection (43% in 4 days versus 36% in 9 days) compared with controls. The PR to initial AI was lower for cows subsequently receiving CIDR inserts than for controls (32.7 versus. 36.7%). For the 9-day resynchronization period, CR and PR for the CIDR treatment (26.7, 12.2%) and control (30.9, 11.1%) cows did not differ significantly. The researchers concluded that CIDR inserts improved synchronization of returns to estrus, slightly reduced PR to initial AI, but did not affect CR or PR to AI during the resynchronization period.

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**** Upcoming Activities****

Farm and Family Showcase *Kentland Farm*, Virginia Tech	Sept. 4-6
National 4H Dairy Conference *Madison, WI*	Sept. 28 – Oct. 2
Dairy Science Recruiting Day *Virginia Tech*	Oct. 12

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