

DAIRY PIPELINE

Semen handling prior to thawing. The primary objective in handling semen properly is to conserve the fertile life of sperm until deposition in the female. This is accomplished by minimizing exposure of semen to temperature fluctuations and contamination with other compounds especially water and soap. The semen storage tank is a large, metal, vacuum-sealed liquid nitrogen refrigerator encased within an extremely efficient insulation system. With proper attention and handling, most liquid nitrogen semen storage tanks give years of trouble-free service, but all storage tanks will eventually fail. To ensure maximum holding time, the tank should be kept in a cool and dry location away from direct sunlight, in a clean and well-ventilated area away from drafts, elevated above concrete to prevent corrosion, and where it can be seen daily. Particular attention must be given to the neck and vacuum fitting. Accumulation of frost on these areas indicates that the vacuum insulation has been lost and liquid nitrogen has been evaporating rapidly. In addition to the obvious error of permitting a liquid nitrogen storage tank to go dry, stored semen may be exposed to adverse high temperatures when straws are being removed for thawing. An accurate inventory and location of the semen stored in the liquid nitrogen tank is important to prevent exposure of semen during searching for the straw prior to removal for thawing. Thermal injury to sperm is permanent and cannot be corrected by returning semen to the liquid nitrogen. For optimal maintenance of sperm viability, canisters and canes containing semen should be raised into the neck of the tank only for the time required to retrieve a single straw. The canister should not be raised above the frost line that appears in the neck of the tank and exposure to elevated temperatures should not exceed 5 to 8 seconds.

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Income over feed cost is a very important measure because typically feed makes up over half the cost producing milk. It represents what is left to pay labor interest, and other expenses plus profit. The October Virginia DHI average milking cow income over feed cost was \$5.33 down from \$6.15 in June 2002 and \$7.50 in June 2001. Total feed cost in October was \$3.08 per milking cow per day for 63 lbs. of milk produced. Declining milk prices have certainly resulted in reduced income. Also feed prices have increased. Another factor impacting income over feed cost is level of milk production. Below I have calculated rations at 50, 60, 70 and 80 lbs. of milk per cow per day. I priced alfalfa at \$120/ton, corn silage at \$30, whole cottonseed at \$12/cwt, corn at \$1.10, protein supplement at \$2.20, and a 4% mineral at \$3.00. More production will result in more feed consumed but the increased income more than offsets the extra feed and also the increased nutrient density needed for higher productions. In calculating income over feed cost I used a milk blend price of \$13.14 (Oct. DHI average). Notice for each 10 lbs./cow /day increase in milk production income over feed cost increases a dollar or more.

Milk, lbs./cow/day	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>
Feed, lbs./cow/day				
Alfalfa hay	4	4	4	4
Corn silage	60	65	65	60
Whole cottonseeds	5	5	5	5
Corn	5.5	5.5	7	11
Protein supplement	4.5	5.5	7	8.5
Mineral	.7	.8	.9	1.0
Value of milk, \$/day	6.57	7.88	9.20	10.51
Feed cost, \$/day	2.39	2.57	2.82	3.13
Income over feed cost, \$/day	4.18	5.31	6.38	7.38

Another expression of income over feed cost on the DHI report is for all cows including those that are dry and not producing milk but are consuming feed. The DHI Virginia average was \$4.10 for October 2002 compared to \$4.88 in

June. These numbers are significantly less than those for milking cows only and points out the need to know how the income over feed cost is calculated before comparing. Most reports on ration printouts will be for milking cows only. If dry cows and perhaps replacements are included the numbers need to be adjusted for comparison. The bottom line is income over feed cost should be above \$5 per cow day for milking cows and \$4 when dry cows are included. If it is not ask why. Is it because of low production or high feed inputs or both?

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**** Upcoming Activities****

Virginia State Dairyman's Association Jan. 22
Convention, Holiday Inn, Staunton

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