The Cooperatives Working Together (CWT) herd retirement program is one element of a voluntary industry-led initiative available to dairy producers, intended to provide support for milk prices by removing milk cows from production (http://www.cwt.coop/). Depressed milk prices prompted five “rounds” of CWT herd retirements during 2008-09. Two rounds occurred in the second half of 2008 and, with the October 1, 2009 announcement of another herd retirement, three rounds will have occurred in 2009. According to the CWT, the first two CWT rounds in 2009 led to the removal of 175,153 dairy cows representing about 3.5 billion pounds of milk production. The announcement of accepted bids in the third 2009 round on October 15 indicated that just over 26,000 more cows will be retired in 2009. Totals from the 2008-2009 series of retirements reported by the CWT are over 250,000 dairy cows and 5 billion pounds of milk removed from production, equivalent to about 2.7 percent of annual output. The purpose of this article is to explain why the CWT may have less effect than expected on both milk production and dairy cow slaughter prices. Because CWT is a whole herd buyout, new technology like sexed semen did not have a major impact in short run expansion because new facilities will be required as CWT has removed farms from the dairy industry.

The CWT buyouts have contributed some price support for dairy producers during 2009. An independent economic analysis indicated that milk prices have increased by $1.54 per cwt as a result of CWT activities that included both herd buyouts and dairy product export assistance (http://www.cwt.coop/impact/impact_index.html). The dairy herd is expected to continue to decrease and is forecast to fall below 9 million head during 2010, making it one of the smallest herds in recent years. However, milk production is forecast to only decline by less than half a percent in 2009 from 2008. And, although the all milk price is forecast to increase to $14.95-15.15 per cwt for the fourth quarter of 2009 and to $16.35-17.15 per cwt for 2010, prices are still below estimated costs of milk production for many producers, not as high as many in the industry had hoped. While the buyout-induced decline in milk production has not been as significant as many in the industry would have preferred, the effect on prices of culled animals has also not been as depressing as some in the beef cow sector have feared.
In the absence of a removal program dairy producers typically cull about one-fourth of their cow herds, as indicated by a 2007 AHPIS survey, (http://nahms.aphis.usda.gov/dairy/dairy07/Dairy2007_PartIII_rev.pdf) and mostly replace them with heifers that have calved. Dairy cows are culled for reasons associated with their inability to profitably produce high-quality milk and calves. Milk fat production begins to decline when cows reach their prime, at about 6 years of age (Tyler and Ensminger, Dairy Cattle Science, p. 217); thus, cows tend to be culled when their productivity begins to decline after 3 or 4 lactations, or when they are 5 to 6 years old. Reproductive and udder/mastitis problems are also significant reasons dairy cattle are culled.

However, the impact of low milk prices would likely have driven some producers to increase culling or exit the industry by liquidating entire herds in the absence of CWT. The average rate of change in January 1 dairy cow inventories since 1965 has been a decline of 1.3 percent over a range of changes from a maximum decline of almost 6 percent (1966) to a gain of just over 3 percent (1986). According to NASS January 1 dairy cow inventory data, dairy cow inventories have increased every year the CWT program has been a factor since its inception in 2003 except 2004, when the net decline was 154,500 cows. The dairy herd is forecast to decline in 2009, a situation that was expected prior to any 2009 CWT announcements (see Livestock Dairy and Poultry Outlook M-177, March 18, 2009). The effect of the CWT herd buyout on dairy cow inventories is likely less than the number of cows actually “bought out,” as a proportion of these animals would have been culled due to economic conditions.
A second reason that milk production and dairy cow slaughter may have been less than expected as a result of the CWT culling is that to the extent that each successive CWT herd buyout was expected to provide stronger milk prices, incentive existed for nonparticipating producers to increase or maintain production at the higher expected prices. Production practices might have been altered to be more in line with higher anticipated, but ultimately never realized, prices than those that would typically be seen in a period of oversupply.

Finally, a third reason that milk supply may not have declined as much as expected is because typically the less productive cows are culled. Year-over-year increases in milk per cow have been maintained in 2009 at a rate near to increases of the past 20 years. For all of 2009, production per cow is forecast to be 20,553 lbs, up from 20,396 lbs in 2008. When calculated on a daily basis, accounting for the extra milking day (leap year) in 2008, output per cow is forecast to increase from 55.7 lbs per day in 2008 to 56.4 lbs per day in 2009. This 1.3 percent year-over-year increase is below the 1.8 percent average since 1989, and may be more than many expected, given that milk prices failed to cover feed costs for producers in much of the country from fall 2008 until fall 2009.

There have been concerns that increased use of sexed semen technologies may partially offset the intended milk production-reducing effects of the recent CWT herd buyouts (or any other culling actions) due to fears of additional heifers being introduced into the dairy herd. However, sexed semen is a longer term issue and did not have an impact on offsetting CWT removals on short-run expansion. While the use of sexed semen can increase the number of heifers from which replacements could be selected, it is not likely to have a great near-term impact on milk production or milk prices. ¹ There are two reasons for this: The CWT was a whole herd buyout and facility expansion would be necessary for major expansion. In addition, it takes about 3 years between the time that a cow is impregnated until the calf is producing milk. Nevertheless, in the longer term, with circumstances of high milk prices and high replacement cow prices and/or decreasing costs associated with the technology, widespread use of sexed semen could become a greater factor in milk supply, particularly if heifers with greater genetic merit are a consequence of improvements in the technology.

¹ Sexed semen technologies have been commercially available in the dairy industry for the last few years. The sorting method allows female sperm to be separated from male sperm. Milk producers using the technology increase the chances of obtaining heifer calves to 90 percent of the calf crop, from a naturally expected 50 percent. Conception rates are about 25 percent lower with sexed semen and breeding costs are roughly four times that of conventional semen (De Vries, 2009: The Economics of Sexed Semen in Dairy Heifers and Cows; Fetrow, Overton, and Eicker, 2007: Sexed Semen: Economics of a New Technology). These negatives are likely to undermine a more widespread commercial use until the financial returns to dairy increase sufficiently to more than cover the increased net costs.