COW/CALF CORNER

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The Numbers are In: Part 3

Derrell S. Peel, Oklahoma State University Extension Livestock Marketing Specialist

The final part of this series of articles looks at the implications of the latest USDA Cattle report on the potential for herd expansion. The report confirms the continued liquidation of the beef cow herd in 2011 with the January 1, 2012 beef cow inventory down 3.1 percent year over year. Indications for the future are included in the reported inventory of beef replacement heifers, which was up 1.4 percent; a surprise to some. Does this indicate that the beef industry is now in expansion mode and, more importantly, what does it imply for expansion potential in 2012?

The beef replacement heifer inventory is a pool of potential replacements from which a certain percentage will actually be placed into the herd. It is the flow of heifers placed that is important in terms of herd expansion or contraction. This number is not known but can be calculated after the fact by using the cow inventory and the cow slaughter data to calculate how many heifers must have entered the herd. Thus, since the total beef cow herd decreased by 967, 000 head last year from 30.85 to 29.88 million head and beef cow slaughter in 2011 was 3.798 million head, a total of 2.831 million head of heifers must have entered the herd. This suggests that 55.1 percent of the 5.4 million head of reported replacement heifers on January 1, 2011 actually entered the herd.

The heifer placement percentage has averaged 53.1 percent since 1990. This may seem low but it is important to remember that the replacement heifer inventory consists of two groups of heifers; bred heifers that will calve in the coming year and heifer calves what will not calve for another year. For the past dozen years, USDA has included a breakdown of these two groups in the Cattle report with heifers expected to calve in the coming year reported as a subset of the replacement heifer total. Heifers expected to calve has averaged 61.4 percent of total

replacement heifers and the calculated number of heifers entering the herd has averaged 83.4 percent of the heifers expected calve for the 12 years of data that are available.

Not surprisingly, these percentages vary according to whether the herd is expanding or contracting. The percentage of heifers entering the herd has varied from roughly 48 percent during contraction to a high of roughly 57 percent during expansion. In the more recent data, the percentage of heifers expected to calve that entered the herd has varied from 73 percent to a high of roughly 91 percent. Both of these are measures of the intensity of heifer use and both turn out to be leading indicators of herd expansion. These percentages typically increase before the reported inventory of replacement heifers begins to increase. By these measures, herd expansion began in 2009 with both the percent of heifers entering the herd; and heifers placed as a percent of heifers expected to calve rising above average levels in 2009 and continuing above through 2011. In fact, the calculated number of heifers entering the herd increased in 2009 and 2010 despite continued decreases in the reported inventory of replacement heifers. The drought in 2011 caused the number of heifers placed to decrease but even then the percentages suggest underlying expansion tendencies.

So why has the herd continued to decline? The answer lies in the cow culling part of the equation. Net herd culling, measured by cow slaughter as a percent of the herd inventory, has been elevated since 2008. Herd culling which averages 9.5 percent, also varies according to herd expansion or contraction. Herd culling averaged 11.3 percent from 2008-2011. The 2011 drought- enhanced value was 12.3 percent, the highest value in data going back to 1990. During herd expansion this value typically drops to about 8 percent for a couple of years. In the absence of the drought last year, the culling percentage would likely have dropped and the percent of heifers placed would have been higher resulting in little, if any, herd liquidation or perhaps a small increase in the herd size.

So what are the prospects for herd expansion in 2012? Given the reported inventory of replacement heifers and heifers expected to calve this year, expansionary heifer placement, consistent with historical limits, would suggest that roughly 2.975 million head of heifers could enter the herd in 2012. This means that beef cow slaughter would have to drop to the same level in order for the herd size to remain stable in 2012. A beef cow slaughter level of 2.975 million head would represent a nearly 22 percent decrease in beef cow slaughter from 2011 levels. The largest year to year decreases in beef cow slaughter since 1990 have been about 14.5 percent but a decrease of 20+ percent is probably possible from last year's drought-amplified cow slaughter total. Weekly data for the first four weeks of 2012 indicate that beef cow slaughter is up 2.1 percent so far this year but decreases are likely later in the year.

In order for the beef cow herd to grow 0.25 percent in 2012, beef cow slaughter would have to drop to 2.9 million head, a nearly 24 decrease from last year. Perhaps more likely is another year of herd liquidation. A 0.25 percent decrease in the herd in 2012 would imply beef cow slaughter of 3.05 million head, still a nearly 20 percent year over year decrease.

The replacement heifer patterns suggest that the industry is clearly attempting herd expansion and has been for the last three years. However, it is cow slaughter that holds the key to stopping liquidation of the herd. Beef cow slaughter needs to decrease at least 20 percent from last year's

levels to stop herd liquidation. Beef cow slaughter will be impacted first and foremost by drought conditions. If drought conditions persist in the Southern Plains or increase in other regions it will be difficult to decrease beef cow slaughter enough to prevent additional liquidation. The underlying slaughter cow market is strong and the higher cull cow prices that will accompany reduced cow slaughter will temper decreases in slaughter. Cull cow prices in Oklahoma are already in the mid to upper $80s and are likely to push towards $100/cwt in the next few weeks. 2012 could be the beginning of the end of herd liquidation but the process of herd rebuilding will likely begin slowly and take several years.

Keep Replacement Heifers Growing

Glenn Selk, Oklahoma State University Emeritus Extension Animal Scientist

Replacement heifers that have just reached puberty and started cycling may be vulnerable to any drastic change in feed intake. A small trial conducted atOklahoma State University (White, et al., 2001) illustrates the impact that sudden severe reduction in energy intake can have on cycling activity in replacement heifers. Nineteen heifers were divided into two groups. Both groups were fed at 120% of the maintenance requirements needed for yearling heifers. By the use of hormone assay and ultrasonography, it was determined that all heifers were cycling when the treatments began. Nine of the heifers were continued on the 120% of maintenance diet. The other ten heifers were placed on a diet that was 40% of the requirement for maintenance. They remained on this diet for 14 days. At the conclusion of the 14 day treatment period, only 3 of the feed restricted heifers were still cycling, whereas all of the heifers receiving the 120% of maintenance were still cycling.

Table 1. Imact of sudden, severe reduction in feed intake on cycling activity of yearling heifers

	Treatments			
	120% of Maintenance		40% of Maintenance	
Day of treatment	Day 0	Day 14	Day 0	Day 14
# of Heifers	9	9	10	10
Weight	704	711	691	658
# cycling	9	9	10	3

This very small, but impressive, data set illustrates that we must be cautious about any disruption in the feed intake of replacement heifers at the start of their breeding season. The winter of 2011-2012 has seen many Oklahoma heifers raised on wheat pasture because of the lack of other standing or harvested forages. Movement from high quality cool season grass (in the spring) to dormant winter native range may cause such a weight loss in a short period of time. Making changes in supplement programs at the start of the breeding season should be done carefully and gradually to avoid any chance of digestive disorder and the possibility of the heifers going "off-feed".