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LIVESTOCK

Artificial insemination increases profits

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Calf prices have steadily increased for several years. Since spring 2014, replacement female prices have remained at record levels as well. It is only reasonable that bull prices would follow the trend. This has led many producers to explore options to owning enough bulls to cover their cows in a defined breeding season. Estrus synchronization and timed artificial insemination (AI) are an economically viable alternative to owning a bull if the producer has multiple bulls. There are many benefits to synchronization and AI, including a tighter calving season, increased weaning weights from older calves and better genetics.

The tighter calving season is a result of estrus synchronization and timed AI, followed by natural breeding for the remainder of a 90-day season. Some scenarios are explored in the tables. Each of these assumes a 50-cow herd with a 94 percent conception rate; calving In March and weaning in October. Compared to natural service for 90 days (Table 1), the synchronization/timed AI program (Table 2) can significantly improve subsequent calving distribution. It is not uncommon to see a 65 percent or higher conception rate in the first 30 days of the calving season when using timed AI followed by natural bull exposure. More calves born early in the calving season will be older and weigh more at weaning. The value of the pounds of beef produced in each breeding system was estimated using the forecasting tool at www.beefbasis.com for mid-October.

Additionally, most producers will be able to buy better growth genetics from an AI bull stud than they could afford to purchase with the live animal for natural service. Therefore, the AI-conceived calves are likely to have better average daily gain (ADG) values than those conceived through natural bull service. During fall 2014, bulls with high growth genetics (weaning and yearling EPDs in the top 20 percent) have been selling in the $7,000 to $9,000 range. In a multiple bull battery, timed AI can reduce herd bull require-

Table 1

Typical Calving Distribution Using Natural Bull Service in a 90-day Season						
	Percent calving	Number of calves	Age at weaning, days	ADG, pounds	Total pounds weaned*	Avg. calf weight, pounds
First 30 days	40%	19	213	2.2	10,423	549
30-60 days	35%	16	183	2.2	7,722	483
60-90 days	25%	12	153	2.2	4,999	417
Total pounds					23,144	483
Total Gross Revenue @ $253.62 per hundredweight					$58,698	
*Assumes an 80-pound birth weight						

Table 2

Typical Calving Distribution Using Timed AI and Natural Bull Service in a 90-day Season						
	Percent calving	Number of calves	Age at weaning, days	ADG, pounds	Total pounds weaned*	Avg. calf weight, pounds
First 30 days	64%	30	213	2.6	19,014	634
30-60 days	26%	12	183	2.2	5,791	483
60-90 days	10%	5	153	2.2	2,083	417
Total pounds					26,888	511
Total Gross Revenue @ $248.84 per hundredweight					$66,909	
*Assumes an 80-pound birth weight						

ments by 50 percent, thus saving the purchase cost of a replacement bull.

The gross revenue increase for timed AI followed by natural breeding is $8,210. The cost of the estrus synchronization and timed AI program was $50 per head, for a total of $2,500. This includes the cost of synchronization, semen and an AI technician. No cost was assigned for labor to process the cows three additional times through the chute since these costs are highly variable. Thus, the net increased value of the calf crop due to the estrus synchronization and timed AI program is $5,710. Now add in the savings of not purchasing an additional bull, amortized over a five-year life span ($7,000 to $2,000 salvage value/five years=$1,000) and the annual maintenance cost of the bull ($400). This equates to an annual total increase in revenue to the ranch of $7,110 for a 50-cow herd.

Before you buy your next bull, consider if an artificial insemination program is right for your operation. It does require three additional trips through a chute, but the potential increase in revenue is significant. ■