

# **NORMAL VS EARLY AND LATE WEANING: MANAGEMENT SYSTEMS TO ENHANCE PROFITABILITY DUE TO TIMING OF MARKETING**

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## **INTRODUCTION**

When do you wean and sell your calves and why? Do you wean calves at a specific time each year, say the first week in August? Do you wean at a specific age, say not more than 8 months as the book recommends (Hentges, 1976)? Or do you study the feeder calf market, evaluate the condition of your cow herd and pastures, then wean and market your calves to maximize production and/or profit?

The purposes of this presentation are to discuss the weaning of calves at different ages and different times of the year, to evaluate the effect of calf weaning age on short and long term production, and to look at the economic ramifications of various weaning alternatives.

## **EARLY WEANING**

There is only one situation where early weaning might be practiced in Florida. That is the weaning of calves off 2-year-old heifers prior to rebreeding. This would help them to rebreed and regain weight and condition before their second calf.

Calves weaned at 7 to 10 weeks of age from 2-year-old heifers will weigh 125 to 160 lbs (Lusby et al., 1981; Neville and McCormick, 1981). They will bring \$150 to \$200 on the current calf market.

The decision to wean calves early from 2-year-old heifers should be based on the condition of the heifer and available nutrition. By weaning calves early the conception rates of thin 2-year-old heifers was increased from 59 to 97% (Lusby et al., 1981) and from 46 to 71% (Laster et al., 1973). However, the weaning of

calves early from 2-year-old heifers that were in good condition and managed well did not improve conception rate, which was 95% for heifers continuing to nurse their calves (Neville and McCormick, 1981).

## **LATE WEANING**

A management procedure which offers Florida cattlemen the greatest option in calf marketing is late weaning. The breeding season most used by Florida producers includes the period between December through April. This period is used to produce calves for marketing in July and August, the months many calves are sold.

A breeding season that begins the first of January produces a calf that is about 8 months old in July, the age at which it is recommended that calves be weaned. However, in Florida adequate quantities of good quality forage are available into Oct. Would it be possible to leave calves on cows until they average 9 or 10 months age to increase production and profit.

A 5-year study was conducted on the organic soils at Belle Glade (Pate and Kunkle, 1986) to compare the production of Brangus cows from which 8½-month-old calves were weaned in July with those from which 10½-month-old calves were weaned in Sept. Over 5 years cows from which 10½-month-old calves were weaned produce just as many calves as cows from which 8½-month-old calves were weaned. The average weaning weight of 10½-month-old calves was 71 lb heavier (561 lb) than that of calves weaned at 8½ months of age (490 lb).

A 2-year study conducted at Gainesville (Van Dijk, 1986) compared the weaning weight of steer calves weaned at 7 months of age with similar calves weaned at 9 months of age. Calves were sired by Zebu bulls and out of Angus and Angus x Brown Swiss cows. Calves were creep fed and implanted with Ralgro. Steers weaned the end of Oct. at 9 months of age were 137 lb heavier (740 lb) than steer calves weaned at the end of Aug. at 7 months of age (603 lb). When calves were weaned at 9 months of age, cows weaning the 9-month calves had a body condition score of 5.9, and cows from which the 7-month calves were weaned had a condition score of 6.5.

A 4-year Oklahoma (Handcock et al., 1985) study compared the production of Angus x Hereford cows from which calves were weaned at 9½ months of age with that of cows from which calves were weaned at 7 months of age. Calf weaning age did not affect the reproduction performance of cows. Calves weaned at 9½ months of age were 197 lb heavier (607 lb) than those weaned at 7 months (410 lb). When calves were weaned at 9 months of age, cows weaning the 9½-month calves had a body condition score of 6.0, and cows which weaned 7-month calves 2 months earlier had a condition score of 6.6.

In a 7-year study conducted in Louisiana (Loyacano et al., 1985) the weight change of calves between 7 and 9 months of age were compared for three different breeding seasons (Table 2). Cows were Hereford crosses with Angus, Brahman and Brown Swiss. Calves born in the fall (Sept. to Nov.) gained 105 lb between May and weaning in July. Calves born in the winter (Dec. to Feb.) gained 65 lbs between July and weaning in Sept. Calves born in the spring (Feb. to April) gained 6 lb between Sept. and weaning in Nov. These data show the importance of good nutrition during the late nursing period.

## **ECONOMIC IMPLICATIONS**

To illustrate the economics of alternative weaning dates, a hypothetical example is presented. In the example a late fall/early winter calving plan is analyzed so that calves weaned on July 15 are assumed to weigh 400 lb. Calves weaned on Aug. 15 will weigh 450 lb, and calves weaned on Sept. 15 will weight 500 lb. Market prices from the Okeechobee market (Florida Department of Agriculture and Consumer Services, 1980 thru 1991) were collected. These prices were adjusted in an attempt to account for the heavier calves marketed in Aug. and Sept. The average 400-500 lb medium frame No. 1 (MF1) price observed in July was used for calves sold in July. The 400-500 lb MF1 price observed in Aug. minus \$5.00 per hundredweight was used for calves sold in Aug. The adjustment accounts for the "slide" imposed on heavier cattle. The 400-500 lb MF1 price observed in Sept. minus \$10.00 per hundredweight was used for calves sold in Sept. The adjusted prices over the 1980-1991 period are shown in Table 3.

Revenues are calculated by multiplying price by the appropriate weight. No adjustment is made for the opportunity cost of waiting one or two months for revenues to be realized. No additional charges are imposed based on the assumption that adequate forage is available and no supplemental feed is required. The estimated revenues over the 1980-91 period are shown in Table 4. Also presented are the revenue differences for Aug. versus July, and Sept. versus July. In all 12 years, Aug. revenues exceeded July revenues. The average gain was \$20.42 per head. In 11 of 12 years analyzed, revenues realized from Sept. weaning of 10-month calves exceeded revenues from weaning 8-month calves in July. The average gain was \$28.92 per head. Note that most of the gain is realized by weaning in Aug., and smaller gains

are realized by delaying weaning another month into Sept.

Several observations can be made regarding this analysis. First, even though feeder calf prices follow a seasonal pattern, the significant price decline does not usually begin until Oct. Thus a producer can delay weaning one or two months and realize the gains from marketing heavier calves as long as that delay does not result in marketing in the late fall. Second the assumptions made in this analysis are conservative. The price adjustments made for heavier calves is fairly severe and the assumed weight gains are average given published research. Third, this analysis assumes no additional production costs are incurred by delaying weaning. Any additional costs should be subtracted from anticipated revenue gains. Fourth, use of forward contracting or hedging through the futures market would alter the results of this analysis. Producers may be able to mitigate the "slide" imposed on heavier cattle through a forward contract.

## SUMMARY

Florida produced calves can be left with the cow beyond the standard 7 to 8 month weaning age and make good weight gains under the following conditions.

1. Calves are born in the fall or early winter and usually weaned in mid to late summer.
2. Adequate quantities of good quality forage must be available during the summer. Some forage must be saved for the fall and winter.
3. The cow herd must be in good condition during the late nursing period. Their average body condition score should be 5 or above.
4. The calf nursing period should be extended when calf prices are predicted

to be steady or increasing. Late weaning is very useful when calf prices are high. Reproduction problems, if any, from late weaning would be two years away because the following years calf crop would have been conceived.

5. It should be recognized that price/lb of heavier calves is less than that of lighter calves; however, the total amount received for the heavier calf would be much greater.
6. Over the past 12 years, 1980 through 1991, feeder calf prices have favored the delayed weaning of 7 and 8 month old calves normally marketed in July to weaning and marketing them in Aug. or Sept., assuming calves will gain 50 lb or more per month during this late summer period.

Extending the nursing period of fall-born calves is not a standard production practice, but is a management tool which offers Florida cow/calf producers flexibility in utilizing resources and marketing their calf crop.

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<b>Table 1. Effect of calf weaning age on cow production and calf weaning weight for Brangus cows grazing organic soil pasture ( Pate and Kunkle, 1986).</b>		
	<b>Weaning age of calf, months</b>	
	<b>8 ½</b>	<b>10 ½</b>
Cow weight at breeding	935	925
Cow condition at breeding	7.2	7.0
Conception rate, %	88	89
Weaning rate, %	81	82
Calf birth weight, lb	63	62
Weaning weight, lb	490	561

<b>Table 2. Weight changes of calves 2 months prior to weaning at 9 months of age for three different calving seasons in Louisiana (Loyacano et al., 1985).</b>		
<b>Calving season</b>	<b>Month weaned</b>	<b>Weight change between 7 months of age and weaning at 9 months, lb</b>
Fall, Sept-Nov	July	105
Winter, Dec-Feb	Sept	65
Spring, Feb-April	Nov	6

**Table 3. Adjusted monthly prices for feeder calves at Okeechobee. Prices shown are for a 400 lb calf in July, a 450 lb calf in August, and a 500 lb calf in September, 1980-1991.**

Year	400 lb calf in July	450 lb calf in August	500 lb calf in Sept.
	\$/100 lb		
1980	75	72	65
1981	62	58	57
1982	65	60	54
1983	66	59	52
1984	63	58	51
1985	59	59	50
1986	64	61	59
1987	87	83	81
1988	88	85	79
1989	97	95	86
1990	94	92	86
1991	102	92	87

**Table 4. Estimated revenues from calves at alternative weaning weights and dates, and revenue differentials, 1980-1991.**

Year	Month of sale			Increase returns over July	
	400 lb calf July	450 lb calf August	500 lb calf September	Sold in August	Sold in September
	-----Revenue \$/calf-----			-----\$/calf-----	
1980	300	324	325	24	25
1981	248	261	285	13	37
1982	260	270	270	10	10
1983	264	266	260	2	-4
1984	252	261	255	9	3
1985	236	266	250	30	14
1986	256	275	295	19	39
1987	348	374	405	26	57
1988	352	383	395	31	43
1989	388	427	430	40	42
1990	376	414	430	38	54
1991	408	414	435	6	27