

AN ANALYSIS OF COW LEASES

Russ Giesy, University of Florida Extension

INTRODUCTION

A dairy manager recently asked me to compare the costs of three different leases which he'd been offered. He is considering the addition of 100 cows, needed to improve milk revenues and cash flow.

Leases, in general, are a method of conserving capital or existing sources of credit while gaining access to assets which are expected to reduce production costs. The addition of cows to a dairy should reduce the fixed or ownership costs on a per cow or per cwt. basis. Too often, herd expansion has reduced production efficiency by spreading management, labor or facilities beyond their limits. The following analysis assumes that cash flow projections have helped determine that a herd size expansion is feasible and likely profitable.

The comparison which follows does not include tax advantages, nor the time value of money. Depending upon the tax situation, purchasing may or may not have significant tax advantages over leasing.

Lease terms

Lease #1. Company ABC offers 100 cows with a \$19,000 up-front transaction fee and a \$50 per cow per month lease payment for five years. All cow swaps are incurred by ABC, in other words, ABC takes cull cows and brings replacements in at no additional charge. At the end of five years, 100 cows belong to the dairy.

Lease #2. Company XYZ will deliver 100 cows with no up-front charge. Monthly lease payments are to be \$35 per cow for five years. The herd size must remain constant, in other words, the dairy must cull and replace (pay swap costs). At the conclusion of the five year term, 100 cows are owned by the dairy.

Lease #3. Company EZ will deliver 100 cows, also without a startup fee. The monthly lease payment is \$40 per cow, there is no end to the contract. Cow swaps are EZ's responsibility and 50% of calves belong to EZ at birth.

Purchase terms

Terms of a purchase of 100 cows at \$1200 each are 12% interest rate for five years. Monthly loan payments would be \$2,669. Total interest payment would be \$40,160, so total payments would sum to \$160,160.

RESULTS

Payment totals

Table 1 shows the total of payments made in each case and also the equity in the 100 cows which the dairy would own at the end of a five year term. Cows are valued at \$1200.

TABLE 1. TOTAL PAYMENTS AND EQUITY AT TERM FOR THREE LEASES AND A PURCHASE OF 100 COWS.

	Total of payments	Equity at term
Lease #1	\$319,000	\$120,000
Lease #2	\$210,000	\$120,000
Lease #3	\$240,000	\$0
Purchase	\$160,160	\$120,000

Replacement costs

A major cost of dairying is herd maintenance. How do replacement costs affect the total cost of the herd expansion? Table 2 shows the affect of cull rate and swap cost on total replacement costs over five years. Leases #1 and #3 are unaffected, since the replacement costs are borne by the leasing company.

TABLE 2. INFLUENCE OF SWAP COST AND CULL RATE ON COST OF REPLACING COWS.

	Total replacement cost with 20% annual cull rate and swap cost of:		Total replacement cost with 30% annual cull rate and swap cost of:	
	\$500	\$700	\$500	\$700
Lease #2	\$40,000	\$56,000	\$60,000	\$84,000
Purchase	\$40,000	\$56,000	\$60,000	\$84,000

These results show that when the cull rate increases by 10% replacing cows increases by 50%. Also, the cost of replacing cows increases by 40% when the swap cost increases by \$200.

Total cost

Table 3 shows the total cost of payments made in each case and also the equity in the 100 cows which the dairy would own at the end of a five year term. Cows are valued at \$1200.

TABLE 3. TOTAL COSTS FOR THREE LEASES AND A PURCHASE OF 100 COWS.

	Payments	Replacement cost*	Total cost
Lease #1	\$319,000	\$0	\$319,000
Lease #2	\$210,000	\$56,000	\$266,000
Lease #3	\$240,000	\$0	\$227,500**
Purchase	\$160,160	\$56,000	\$216,000

*Cull rate = 20%, swap cost = \$700

**Value of calves included

In terms of payments made to creditors, Lease #2 is the cheapest of the leases, but is about 31% higher than purchasing. In total cost, Lease #3 is cheapest, 5% more expensive than purchasing.

Developing equity in cows

When the ending equity (table 1) is subtracted from total costs (table 3), the net cost of developing equity in the 100 cows is:

Lease #1 = \$199,000

Lease #2 = \$146,000

Purchase = \$ 96,000.

Lease #3 was not included because no equity in cows is developed in that lease scenario. These results indicate that purchasing is about 52% cheaper than Lease #2 and 108% cheaper than Lease #1 in developing equity in cows.

Milk productivity

How will the milk production level affect the profitability of the lease? When cows enter the herd, the cost of entry becomes fixed. Higher milk production increases the contribution each cow makes to the dairy's other fixed expenses.

Table 4 shows analysis of three levels of productivity per cow per year (14,000, 16,000

and 18,000 lb.). The analysis assumes \$15.00 milk price, \$145 feed price, and terms of Lease #2. These results show that cows producing at 14,000 lb. do not contribute to the dairy's fixed ownership expenses. Cows producing at 16,000 break even while those producing at 18,000 contribute \$240 to the dairy.

TABLE 4. MILK SALES AND MAJOR EXPENSE ITEMS (PER COW PER YEAR) AND CONTRIBUTION TO THE DAIRY'S OWNERSHIP COSTS AS AFFECTED BY MILK PRODUCTION LEVEL.

Milk per cow	Milk sales	Feed cost	Cash costs	Lease	Contribution
14,000 lb.	\$2,098	\$1,207	\$711	\$540	(\$240)
16,000 lb.	\$2,402	\$1,267	\$711	\$540	\$2
18,000 lb.	\$2,707	\$1,327	\$711	\$540	\$246

Legalities

In general, lease agreements are written by lawyers. As a result, sometimes a dairy owner may not completely understand all of the terms or conditions. Here is a short list of questions that need to be answered to your satisfaction prior to agreeing to a lease;

1. Who selects the cattle to be brought onto your dairy?
2. What happens if the selected animals arrive in less than optimal condition or state of health? Can you have cows preg. checked and vaccinated for respiratory illness, such as IBR and PI3 (which can be related to stress of moving)?
3. Can you elect to end the lease ahead of schedule? If so, what are the buyout terms and conditions?
4. What conditions are put into affect if you should miss a payment?
5. Under leases where you are responsible for swaps, what may happen if cow numbers are not maintained?

Avoid buyouts or balloons that may occur at the end of the lease term. If the cows have not paid for themselves in five years, they probably won't later. Paying for dead cows is counterproductive.

SUMMARY

Dairy cow leases can be a method of obtaining revenue producing assets when capital and credit is constrained. Results of these calculations showed that purchasing is generally likely to be cheaper than leasing.

In providing an answer to the dairyman on which lease was best, I expressed that his objectives need to be determined. In terms of payments made to a leasing company, Lease #2 is the cheapest of the leases, but is about 31% higher than purchasing. In total cost, Lease #3 is cheapest, 5% more expensive than purchasing. In developing equity in cows, purchasing is about 52% cheaper than Lease #2 and 108% cheaper than Lease #1. Overall, if a lease is to be chosen, I'd recommend Lease #2.

The environment provided to cows will determine the profitability of herd expansions, either by purchasing or leasing. When paying for cows, the culling rate should be controlled unless swap costs are very low. When the cull rate increases by 10%, the cost of replacing cows increases by 50%. Also, the cost of replacing cows increases by 40% when the swap cost increases by \$200. Likewise, during the payment period, it is crucial to obtain good milk productivity. Cows producing at lower levels may not contribute to the dairy's fixed ownership expenses (the objective of herd expansion).