Current Report

OSU
OKLAHOMA COOPERATIVE
EXTENSION SERVICE

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

Spreadsheet for Evaluating Preconditioning Programs for Weaned Calves (PRECON2)

Keith S. Lusby
Extension Beef Cattle Specialist

Donald R. Gill
Extension Animal Nutritionist

Kent C. Barnes
Area Extension Livestock Specialist

Preconditioning is the practice of preparing calves for the stresses encountered during the transition from nursing to confined feeding. The concept has existed since the large-scale cattle feeding industry first evolved in the late 1950s. The goals are to overcome the stress of weaning, teach calves to eat milled feed, administer appropriate immunizations, reduce sickness and increase the value of the calves to cattle feeders. Preconditioning usually involves a period of time between weaning and the time of sale or transfer to a feeding facility. Calves are accustomed to feed, immunized and given time to overcome the stresses of weaning. Numerous variations in preconditioning programs are practical depending on management options available to the cow-calf producer and the feeder.

Regardless of the preconditioning program used, evaluation of the profitability of the practice will always be based on calculations of the costs involved compared to the returns from the practice. Spreadsheet programs for personal computers provide ideal methods of evaluating programs like preconditioning. Complex calculations involving many variables are performed almost instantaneously. Once the basic variables have been entered, changes in the preconditioning program can be evaluated by changing individual practices and observing the effect on returns.

PRECON2 is a file or template designed to run with Lotus 1-2-3 or a compatible spreadsheet. The template is available at most OSU Cooperative Extension Service offices but users wanting the Lotus or compatible programs will need to purchase the spreadsheet software on which to run the program. Also, **PRECON2** is available in compiled form. This permits use of the spreadsheet by users who do not have LOTUS 1-2-3 or compatible spreadsheet software. Operation is very similar to that of LOTUS 1-2-3. The major difference is that equations used in the spreadsheet cannot be seen or altered.

Entering Data Onto PRECON2

The spreadsheet, as it will appear on the screen and be printed out, is shown in Table 1. Data are entered by moving the cursor to the desired coordinate and entering the appropriate information. Values generated by the program are "protected" so they cannot be accidentally overwritten and the equations erased. Coordinates for data entry are unprotected and will appear highlighted on the screen. The program is set to automatically update all calculations after any new data entry. Users unfamiliar with LOTUS 1-2-3 should review an instruction manual or have someone give them a short lesson in the basic commands, such as retrieving a file, saving a file, etc. The compiled version is very similar to operation of LOTUS 1-2-3. An instruction sheet for using compiled programs is available.

Inputs

Enter the following where indicated under the column titled**INPUTS**. Cost items should be for expenses incurred as a result of preconditioning.

Ranch weaning weight. The full weight of calves at weaning.

Shrink to pay weight. The estimated or pencil shrink (%) between the full and sale weight. The program will then calculate the weaning pay weight. If the only weight known will be the sale weight at an auction barn, enter that weight for the Ranch weaning weight and enter a zero for percent shrink.

Table 1. Oklahoma State University Preconditioning Value Calculator.
(List only those costs that will occur as a result of preconditioning.)

	INPUTS	
RANCH WEANING WEIGHT, LB.	500	
SHRINK TO PAY WT., %	0	
WEANING PAY WEIGHT	500	
EST $/CWT. AT WEANING	$93.67	**NET CALF VALUE $468.35**
DAYS OF PRECONDITIONING	45.00	

	INPUTS	TOTAL COST
CATTLE INTEREST (RATE) %	8.00	$4.68
VACCINES, $/HEAD	10.00	10.00
ANTIBIOTICS, MEDICINES	0.00	0.00
INTERNAL PARASITES, ($)/Hd	0.00	0.00
EXTERNAL PARASITES, ($)/Hd	0.00	0.00
DEATH LOSS, (%)	1.00	4.68
EQUIPMENT, $/HEAD	0.00	0.00
LABOR, ($)/Hd	0.00	0.00
FREIGHT FOR CATTLE, $/CWT.	0.00	0.00
MARKETING COST, ($)/Hd	0.00	0.00
HAY COST ($)/TON	60.00	
LB. HAY/HEAD/DAY	0.00	
NO. DAYS, HAY IS FED	7.00	
TOTAL HAY COST/HEAD		0.00
PRECOND FEED ($)/TON	180.00	
PRECOND FEED LB./HEAD/DAY	4.57	
NO. DAYS PRECOND FED	45.00	
PRECOND FEED COST/HEAD		18.50
OTHER COSTS, $/HEAD	0.00	0.00
OPERATING INTEREST RATE (%)	0.00	0.00
	TOTAL ($)	37.87

Analysis of Preconditioning Program on Estimated Rate of Gain.

			Analysis Based on:	
			Calculated Sale Price	Your Sale Price
Sale Wts.	$/CWT.			
350	$116.46	Rate of Gain (Lb./Day)	1.11	1.20
400	$109.49	Value of Gain ($/CWT.)	$60.70	
450	$104.07	Sale Pay Wt.	550.02	554.00
500	$99.73	Sale Price ($/CWT.)	$96.18	$90.00
550	$96.18	Breakeven ($/CWT.)	$92.04	$91.38
600	$93.23	Total $/Calf	$529.02	$498.60
650	$90.72	Returns	$22.80	($7.62)
700	$88.58			
750	$86.72	Average Wt. For CME Feeder Contract		
800	$85.09			
850	$83.66			
900	$82.38			

Program developed by Keith Lusby, Don Gill, and Kent Barnes
Cooperative Extension Service, Oklahoma State University. Copyright 1994.
Oklahoma Board of Regents for A&M Colleges. All rights reserved.

Estimated $/CWT. at weaning. Enter the estimated value ($/CWT.) of the calves for the weight conditions just entered above. The total net value of the calves will then be computed.

Days of preconditioning. Number of days the calves will be preconditioned.

Cattle interest rate, %. Rate interest is charged against the cattle.

Vaccines. Total cost per animal for vaccines.

Antibiotics, medicines. Total costs per animal for all treatments.

Internal parasites. $ per animal for deworming.

External parasites. $ per animal for fly, tick, lice control, etc.

Death loss. Expected percent death loss.

Equipment. Cost per animal of trucks, tractors, etc. needed for preconditioning.

Labor. Cost per animal for added labor during preconditioning.

Freight for cattle. Cost per animal for added hauling during preconditioning.

Marketing costs. $ per animal commissions, options, or futures trades encountered as a result of preconditioning.

Hay costs. Enter cost of hay ($/ton), amount fed daily per animal, and number of days hay is to be fed. The total cost for hay is then computed by the program.

Preconditioning feed. Enter the cost of purchased feed used for preconditioning, the amount fed daily per animal and the number of days fed. The total purchased feed cost is then computed.

Other costs. Enter any other costs (per animal basis) not previously covered.

Operating interest rate. Percent interest to be charged for all costs other than value of cattle.

Total Costs. After each expense item is entered, the total cost for each item for the entire preconditioning period is computed and listed under the column titled **TOTAL COST**.

Analysis of the Preconditioning Program

Two items are critical here. First the **Rate of Gain (lb./day)** from pay weight at weaning to pay weight at the end of preconditioning must be estimated and entered. Gain can vary greatly depending on the type of feeding program used as well as the quality of the cattle and weighing conditions at the start and finish of preconditioning. Weighing conditions can greatly affect apparent daily gains during short periods like those typically seen in preconditioning programs.

The other critical item is the value of the calf after preconditioning. Cattle prices will change during the preconditioning period; therefore, the value at the end of preconditioning should be estimated unless the cattle have been contracted at a set price for a given weight. The program permits prices to be estimated two ways, either calculated based on estimated prices for different weights of cattle or by entering a sale price directly.

A **sale price ($/CWT.)** can be calculated by entering the Chicago Mercantile Exchange Feeder Cattle Contract price for the month the cattle will be finished with preconditioning. This price is entered for the 750 lb. cattle **sale weight** because the Feeder Cattle Contract is for feeder steers weighing between 700 and 800 lbs. Therefore, if the correct basis for your location and type of calves can be established, a price can be established. Preconditioned calves will probably weigh less than 750 lbs. (average weight for the Feeder Contract) and will be worth more per pound because calves generally increase in value per pound as they get lighter. In the program, a price "slide" is computed for calves weighing from 350 to 900 lbs. by entering the **"Value of gain ($/CWT.)"** anticipated during the preconditioning period. Adjust the value of gain until the desired price for your weight of calves (after preconditioning) is computed.

A simpler way to enter a sale price is to directly enter the **estimated sale price ($/CWT.)** if already known under the column titled "**Your sale price.**"

After all the data have been entered, the program computes a Breakeven ($/CWT.) and the **Total dollars per calf** at sale (end of preconditioning).

The Oklahoma Cooperative Extension Service
Bringing the University to You!

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; home economics; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state and local governments cooperatively share in its financial support and program direction.

- It is administered by the land-grant university as designated by the state legislature through an Extension director.

- Extension programs are nonpolitical, objective and based on factual information.

- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.

- It utilizes research from university, government and other sources to help people make their own decisions.

- More than a million volunteers help multiply the impact of the Extension professional staff.

- It dispenses no funds to the public.

- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.

- Local programs are developed and carried out in full recognition of national problems and goals.

- The Extension staff educates people through personal contacts, meetings, demonstrations and the mass media.

- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.