In this column I’ll introduce you to the OSU Cowculator. It is a very simple tool that can really help you get a handle on winter-feeding costs for cows. It was developed by Dr. David Lalman from Oklahoma State University and revised by Dr. Dave Bohnert, Oregon State University, Burns, OR. It has four parts. Each part has a name and tab at the bottom of the page. I was able to use this program, so I know you can! The first part is called:

**CONDITIONS**

1. How many cows do you want information for? Use your cowherd size or do it for one cow.
2. What date do you turn the bulls in? The program will calculate calving date for you.
3. How many days old are your calves at weaning?
4. What stage of production are the cows in when you start feeding? There is a table shown that lets you choose from one to four: #1 is mid pregnancy dry, #2 is late pregnancy dry, #3 is early milking, #4 is late milking. For instance, if your cows are in the middle of calving on Mar. 15, and you plan to check what you should feed Dec. 1, the table tells us that the cows will be in Stage #2 until Feb. 22. The cows are due to begin calving on Feb. 22. At that time you should change their ration to account for the extra nutrition needed to nurse a calf and maintain body condition until turn out in the spring.
5. Cow weight when in normal body condition.
6. Breed of cows. You can use percentages such as 50 percent Angus, 50 percent Hereford or any mix that adds up to 100 percent. The list has a large number of breeds.
7. Your estimate of calf birth weight.
8. Your estimate of cow milking ability: 1, low (400-pound weaners), 2, medium (500-pound weaners) and 3, high (600-pound weaners).

**FEED LIST**

1. The feed list already has many different straws, hays, corn stalks, and fall range as well as winter range. It has a section for different supplements, and a section for grain and grain byproducts. It is best to use analysis of your feed. (See Mehren on bandbox saying “Test your feed’). You enter figures into the table directly from your feed analysis, or use those already in place. You also enter the amount you will have to pay, or the amount for which you could sell your hay. If you feed your own hay it has the same value as that you sell. You will enter the feeds into the program in the next section.

**BALANCE**

1. Enter the feed number(s) you plan to feed and enter the amount you plan to feed. (#6 bluegrass straw 23 pound, #12 good alfalfa hay 5 pound). Do not enter your protein supplement yet. The program allows you to compare many different protein supplements, their cost, and the amount needed to meet the needs of the cow. When you enter your feed, the program tells you if your feed meets the needs for protein, TDN, calcium, and phosphorus. It also tells you if your cows will gain or lose weight on that amount of feed.

**PROTEIN COST CALCULATOR**

1. In this section you can add the protein sources you have selected, or use those from the list. It tells you what the cost per cow per day will be, how much you need to feed to provide enough protein.

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2. If it shows you need to feed the selected protein at 3 pounds per cow per day and you know, from experience, the cows only eat 1 pound daily; this tells you that this particular protein supplement does not fit with your roughage.

3. Go back to the **Balance** section and put in the number of the protein supplement that you plan to use. Enter the number of pounds that need to be fed. This will tell you daily cost and check to see that your program will meet the needs of your cows and whether they will gain or lose weight.

**TDN Cost Calculator**

1. This section can be used if the cows will be short of TDN and you need to provide them with extra energy. For instance, you’re forced to feed nothing but straw. A protein supplement can be fed to meet the cow’s protein needs, but they may be quite short of energy, so they will lose quite a bit of weight. You might have to limit feed corn, a range cube, dried distillers grain or some other source of energy. This tells how much to feed and what the cost will be.

2. You should then go back to **Balance** and enter the number of this feed and the pounds you will feed to check the total cost and whether the cows will hold their own, gain, or lose weight.

**Total Cost Summary**

1. This section shows the total cost per head per day.

2. The number of pounds fed per day for the number of cows chosen.

3. The number of tons fed during that feeding period.

4. The total cost during that feeding period.

5. Whether the cow will maintain, gain, or lose body condition.

An example. Let’s check the feed needs and costs for 100 cows. We turn the bulls in May 1. Average calving date is Feb. 22. We wean Oct. 22 (230 days) and begin feeding Dec. 1. These cows are in Stage 2 of production (late gestation). The cows weigh 1,200 pounds. They are 50 percent Angus, 50 percent Hereford. When feeding begins they are still in moderate flesh (score 5). The cows are average milkers; they wean 500-pound calves. They will be fed meadow hay at that time and we believe they will eat 2 percent of their bodyweight. (1,200 x 0.02 ÷ 0.88 ((0.88 is the dry matter)) = 27 pounds as fed).

When 27 pounds of meadow hay is entered in the **Balance** section, it becomes instantly apparent that the cows will lose a lot of weight and body condition. We need some kind of supplement. Right now, the least expensive source of protein is a 32 percent protein liquid supplement. The table shows the amount to feed is 0.87 pound. That can be rounded to 1 pound/cow/day. The table shows that we are very slightly low in protein and TDN. The cows will lose less than ¼ pound daily. This should be okay if we are able to feed a better ration once the cows begin calving and if they are in moderate flesh. The cost summary shows that between Dec 1 and Feb 22 the 100 cows will eat about 4 tons of liquid supplement and 113 tons of meadow hay.

When the cows start calving you would need to go through this exercise again. There is a huge difference in the feed needs of the cows after they calve. If you fail to meet their needs, they won’t come into heat and breed back to calve at the same time next year.

It takes much less time to use this tool than it does to read about it. You can get a free copy from Dr. Bohnert at dave.bohnert@oregonstate.edu. He can also help you work through it the first time. Your county livestock agent should also be able to help...and if you get desperate, I can help too. You need to have the program Microsoft Excel to use this tool. Since it’s a tool, it isn’t perfect. You still have to look at your cows to see how they are doing. The program doesn’t account for wasted feed or cold weather.

This program does exactly the same thing that a good nutritionist would do when trying to assist you with your winter-feeding. It allows you to compare costs of different roughages, concentrates, and supplements. I was fortunate enough to participate in winter-feeding seminars by Barbi Riggs and Dustin Johnson of OSU extension service. At one of the sessions, a rancher from Lakeview described his change from winter hay feeding to winter grazing on high desert range. His cost went from $75,000 to $18,000 after he made this change. That difference certainly made me sit up and take notice. You might not be able to do that, but you’ll never know what you can do until you sit down and compare costs for every option that you can think of.

Mehren’s politically incorrect dictionary defines an ECOCENTRIC as one who is an expert in ecology without ever being on the site under question.