NUTBAL 201 works with 2 different profiles within a herd for one date, incorporating some of the utilities such as Cowscore and Pkmilk to set up a new breed.

We will also run a case that uses a default feed and calculates cost of feeding.
The Pro 201 Ranch has 25 four-year old Brahman x Angus F1 cows, BCS 5.0, 1025 lbs. and 25 six-year old Angus cows, BCS 5.5, 1175 lbs. As of today’s date, these cows are 240 days pregnant. The last calf crop averaged 500 lbs at 210 d for both breed types. They are in a pasture with adequate forage, moderate slope and good water distribution. They are being fed 1 lb/d cottonseed cake ($190/T, 3% waste, $5/T delivery) at this time. The local feed store has a 20% breeder cube ($155/T, 5% waste, $5/T delivery) that the rancher wants to consider feeding. Diet quality is 6.25% crude protein and 56.25% digestible organic matter. Fecal N is 1.2% and fecal P is .25%. Thirty days ago, the average high temperature was 55° F, the average low was 35° F and the humidity was 30%. Current conditions are high = 40°, low = 25°, and humidity = 40%. Wind is 15 mph.

What is the projected average daily gain or loss?____
What is the projected BCS in 30 days?____
How much forage dry matter intake is predicted?____
Is this feeding program adequate?____ Any suggestions?____

• Let’s use this information to fill out a sample sheet.
• Set up the client/ranch.

• Recall one advantage of NUTBAL is that you can build breeds, feeds, etc., that are very specific to what you are working with; a general default may not accurately describe the situation.

• You need to add new breeds or feeds to the program before you start the case.

• The Animals, Feeds tab will take you to screens where you create new breedtypes, etc.
Let’s gather more information in the cows before we build the breedtype.
Enter information for 4 year old cows

1. Choose

2. Enter

3. Choose

4. Enter BCS and weight only

5. Click here and record frame score

6. Repeat for 6 year old (72 mo) cows, should get frame score 4.4

7. Close

- Refer back to page 2 to fill in these fields for the Brahman X Angus cows.
- If you have any combination of 2 of the following: frame score, body condition score, or weight, Cowscore can calculate the missing factor (frame score, in this case) so we can better describe the cow.
- Your program also has a Print button so you can print this out.
- Keep this new information handy. You will need it later.
- Pkmilk = peak milk, a very important factor in determining a lactating cow’s total nutritional requirement.
1. Enter information for 4 year old cows

2. Click here, record answer

3. Repeat for 6 year old (frame score 4.4) cows, should get 14.62 lbs/d

4. Close

- Pkmilk can utilize information from any point in time to estimate peak milk production.
- Use the frame scores we calculated in Cowscore.
Now that we have found a few missing pieces of the puzzle, we can build breedtypes that fit the Pro 201 cows.
- We will start with taking a default breed and editing various factors until we have described the F1 (~first cross) cows.
- Some of these fields will rarely change.
- You should focus on frame score, net basal metabolism adjustment (if applicable), percent __ breedtype, hide factor, and peak milk yield.
Use this information to set net basal metabolism adjustment in animal attributes.

NUTBAL-Pro allows adjustments in net basal metabolism of a breed type based on the relative amount of Bos indicus and Bos taurus bloodlines, amount of dairy breed influence, and level of dual purpose bloodlines. These differences are due to varying proportions of soft tissue relative to body weight in the various breeds. Higher proportions of soft tissue increase the net metabolism of the animal, especially the liver and digestive tract. There are several breed examples in the NUTBAL-Pro animal attribute database but the range in values used are depicted below. For requirement calculations, NUTBAL-Pro assumes that the animal in question is a beef breed and requires that a breed’s net basal metabolism be adjusted relative to that standard.

<table>
<thead>
<tr>
<th>Breed Class</th>
<th>Energy Adjustment Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef Breeds</td>
<td>+ 0.00</td>
</tr>
<tr>
<td>Dual Purpose Breeds</td>
<td>+ 0.15</td>
</tr>
<tr>
<td>Dairy Breeds</td>
<td>+ 0.20</td>
</tr>
<tr>
<td>Bos indicus Breeds</td>
<td>- 0.20</td>
</tr>
</tbody>
</table>

To compute an energy adjustment factor for a crossbred animal, one needs to know the proportions of the four breed classes above. The example below provides a mechanism for assigning an energy adjustment factor to a breed type.

<table>
<thead>
<tr>
<th>Breedtype</th>
<th>Proportion</th>
<th>Factor</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hereford</td>
<td>0.50</td>
<td>+ 0.00</td>
<td>+ 0.0000</td>
</tr>
<tr>
<td>Brahman</td>
<td>0.25</td>
<td>- 0.20</td>
<td>- 0.0500</td>
</tr>
<tr>
<td>Brown Swiss</td>
<td>0.25</td>
<td>+ 0.15</td>
<td>+ 0.0375</td>
</tr>
</tbody>
</table>

Total: - 0.0125

Calculations:

Angus: \(.5 \times 0 = 0\)

Brahman: \(.5 \times -0.2 = -0.1\)

Total: -0.1
After adding the new breedtype for the young F1 cows, go back to the default Angus and work up the breedtype for the 6-year-old cows.

We would edit the name to “Angus FS 4.4 Milk 14.62”.

We only need to change the frame score and peak milk yield this time.

The “U” buttons are links to utilities that concern the field beside the button.

Pro 201 uses a default feed, so we are ready to close this window.
• Double check that the correct client ranch name is still on the screen.

• Now, we will create the herd for Pro 201 ranch.
2. Choose from list

3. Enter

4. Click here, then click OK

5. Click here
1. Enter date
2. Name profile
3. Choose from lists
4. Enter correct information
5. Choose BCS System
6. Enter current weight (1025 lbs) and tab twice. (Note rounding error)
7. Click here, then click OK
8. Repeat for 6 year old cows, begin by choosing Angus FS 4.4 Milk 14.62 breed-type
9. Click here

- This slide shows the profile for the 4 year-old cows.
- The rounding error mentioned in #6 occurs because NUTBAL’s database is stored in metric units and converts back and forth to display English units.
- For Step 8: To add the second profile for the 6-year-olds, we will type over the current information leaving the date as is, naming the profile “Angus cows”, repeat the remaining steps using info from page 2.
- DO NOT click on Update Profile. You would alter the F1 cow profile.
- Once we add the Angus cow profile to the herd, we are ready to start the case.
1. Choose from list
2. Click on date
3. Name case
4. Describe case
5. Click here

Let’s enter the case.
Enter the results from the lab
1. Enter information

2. Enter wind speed

3. Click here, then click OK

4. Click here
- Nutbal Pro 201 deals with a feeding situation.
- We would like to compare the feed we are using to another (see page 2).
- Since we are not feeding 20% cubes, select it but leave the amount fed field blank.
• The various cost factors of this utility allows you to compare issues such as labor and storage cost allocation when it comes to what you feed.

• This screen shows the information for the current feed-cottonseed cake.

• Refer to page 2 for info on the optional feed-20% cube.

• You should get $168/ton.
1. Enter correct information

2. Click here, then click yes

3. Click here, wait for small screen to flash across

4. Click here

- Referring to step 2, at some point we have already added the case. Though we have just added new information, we would click Update Case to save this info.

- If you do not click Run Case Analysis, the case you just worked on will not be available for generating a report.
1. Choose from lists as they become active

2. Click here

Available Case Reports
- Standard NUTBAL Report Based on CP and Energy
- Standard NUTBAL Report Based on MP and Energy
- Feed Report
- DELETE Case Reports for the Select Case

Available Profile Reports
- Mediation Report Based on CP and Energy
- Diagnostic Balance Report
• The Standard report will run all the profiles for the herd selected, but only displays one page at a time.

• The Print report button sends the reports to the default printer. If you do not have a printer hooked up to your computer, it may freeze up.
The Standard report shows the impact of the cottonseed cake we are currently feeding. But how does the 20% cube compare? Let’s look at the Mediation Report to find out.
This report is for the F1 cows only. Go back to the report tab, select the Angus cow profile, click Mediation for the second profile’s report.
• You have successfully completed Nutbal Pro 201.