Feeding Rations Worksheet C. Kohn, Waterford WI

Partner Names: Hour Score: \_\_ /28

**Instructions**: with a partner, complete the following questions about a hypothetical beef herd. Be sure to show your work when required. A calculator is needed for this assignment. Use the feed composition table at the right for the values needed for your Pearson Squares.

1. You are a beef producer and you are determining the rations you will need for your ranch. Your first group of cattle are lactating cows. They have requirements of 58% TDN and 10% CP (on a dry matter basis).

You intend to feed these cows fescue hay and roasted soybeans.

Complete a Pearson Square in the space below.

1. On a dry matter basis, what percent of this ration should be fescue hay?
2. On a dry matter basis, what percent of this ration should be roasted soybeans?
3. In the space below, show your work to determine the amount of crude protein provided by this ration.
4. This ration provides % crude protein on a dry matter basis.
5. Is this enough crude protein for these animals? YES NO (*circle one*)
6. Your second group of cattle are 500 lb. steers. These steers require 68% TDN and 11.4% CP (on a dry matter basis).

You intend to feed them a mixture of fescue hay and shelled corn. Complete a Pearson Square in the space below.
7. On a dry matter basis, what percent of this ration should be fescue hay?
8. On a dry matter basis, what percent of this ration should be shelled corn?
9. In the space below, show your work to determine the amount of crude protein provided by this ration.
10. This ration provides % crude protein on a dry matter basis.
11. Is this enough crude protein for these animals? YES NO (*circle one*)
12. How much additional protein does this group need?
13. You intend to further supplement the protein with roasted soybeans. Complete a Pearson Square using the protein percent of the fescue/shelled corn on the top left and the roasted soybeans on the lower left.
14. On a dry matter basis, what percent of this ration should be fescue hay/shelled corn?
15. On a dry matter basis, what percent of this ration should be roasted soybeans?
16. Your third group of cattle are cows in their 2nd-3rd trimester of gestation. They have requirements of 54% TDN and 7.9% CP (on a dry matter basis). Because this group represents your lowest nutritional demands, you intend to let them graze on bluestem grass in your pasture and will supplement their diet with shelled corn.

Complete a Pearson Square in the space below.

1. On a dry matter basis, what percent of this ration should be bluestem?
2. On a dry matter basis, what percent of this ration should be shelled corn?
3. In the space below, show your work to determine the amount of crude protein provided by this ration.
4. This ration provides % crude protein on a dry matter basis.
5. Is this enough crude protein for these animals? YES NO (*circle one*)
6. Realizing that the protein in their diet is too low, you decide to try a different source of protein instead of shelled corn. You could use either dried distillers grains or roasted soybeans. Currently, dried distillers grains are being sold for $0.20 per lb. (dry weight) and roasted soybeans are selling for $0.12 per lb. (dry weight). Which would be the most economical to choose if you had to feed 20 lbs. of dry matter per cow?

Complete a Pearson Square for both scenarios to determine the cheapest option and to determine whether or not this option provides all of the crude protein needed for this group if they are pastured on bluestem.
7. Does bluestem/DDG provide enough crude protein? Yes No (*circle one*)
8. Does bluestem/roasted soybeans provide enough crude protein? Yes No (*circle one*)
9. Which is cheaper? Dried Distillers Grains Roasted Soybeans (*circle one*)
10. The last column of the nutrient composition table shows UIP protein as a percent of crude protein. How do concentrates like shelled corn and dried distillers grains differ from fescue hay in terms of the type of protein they provide? (2 pts)

In your response, be sure to address the difference between UIP and DIP sources of protein.