

Ration Balancing Problems

Example: You are feeding your barrel horse. You know she needs 14% CP and 75% TDN. You will give him 15 lbs of feed each day. You want to feed more unsaturated fat to keep him from getting hyper, so you will feed orchardgrass hay, soybean oil, and a grain mix. The hay has 8% CP and 65% TDN, the oil has 20% CP and 80% TDN, and the grain mix has 12% CP and 85% TDN. How many lbs of each feedstuff will you give him?

- 1) You are feeding a growing heifer that needs 14% CP and 75 % TDN. She will eat 20 lbs of feed a day. You want to feed her ground corn, grass hay, and SBM. How many lbs of each feedstuff will you give her? Corn = 9% CP and 80% TDN, Grass Hay = 5 % CP and 50 % TDN, SBM = 48% CP and 85 % TDN.
- 2) You are feeding your dairy cattle to produce 65 lbs of milk per day. They need 12% CP and 78% TDN to achieve this goal. You will feed them alfalfa silage, brewer's grain, and fish meal. The silage has 12% CP and 80% TDN, the grain has 6% CP and 80% TDN, and the fish meal has 30% CP and 60% TDN. How many lbs of each feedstuff will you feed your cows if they eat 25 lbs of feed per day?
- 3) Your dog needs 1.5 lbs of a feed containing 18% CP and 62% TDN to maintain his body condition. You can't find a dog food that has those particular numbers. You have Old Roy which has 16% CP and 55% TDN, Purina which has 24% CP and 80% TDN, and Iams which has 21% CP and 75% TDN. How much of each feed would you mix together to create your custom blend?

Bonus: You should eat 20 grams of fat and 2000 calories each day to maintain a healthy diet. If each gram of fat has 9 calories and both carbohydrates and proteins have 4 calories per gram, how many grams of carbs and protein should you consume each day?