

**Simultaneous Equations**

**REMEMBER TO SHOW ALL YOUR CALCULATIONS!**

Using simultaneous equations, balance a daily ration for a 1,300 lb lactating cow (4 months postpartum, 30 lb peak milk production) on the basis of NEm (Mcal/day) and CP. Use corn grain, rolled and a 40/60 mix of barley straw and alfalfa hay (early bloom) as the ingredients. Calculate the amount of calcium and phosphorus supplied by this ration. The feed composition values are all on a dry matter basis. After you have balanced for NEm and CP, calculate on an as-fed basis how much of each of the ingredients you would be feeding per day.

Feed Composition

	NEm, Mcal/lb	CP, %	Ca, %	P, %
Corn grain, rolled				
Barley straw				
Alfalfa hay, sun-cured, early bloom				

Animal Requirements

Daily DM, lb	NEm, Mcal/day	CP, lb/day	Ca, lb/day	P, lb/day