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## Presenting the Problems of Feeding

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## PRESENTING THE PROBLEMS OF FEEDING

### Agriculture

It has been the experience of the author that the teaching of feeding taxes the ingenuity of the agricultural instructor more than most other agricultural topics. The mere statement of principles without application or proof offers little of permanent value to the pupil. On the other hand, an attempt to pursue all, or even a small part, of the mass of data necessary to prove even a single principle, leaves the student groggy and confused. Neither is there time allowed in most courses for such procedure.

Since college classes are no exception to the rule, and the immediate practical application is often lacking, we have experimented with the use of problems as a means of securing the application of feeding principles, and of encouraging a research attitude. With the hope that some of these problems might be of use to the agricultural teachers of the state, a selected group are herewith presented.

As a boy on the farm I recall that it was customary to feed ten ears of corn or six quarts of oats to our farm horses as the regular grain ration. From the time that heavy work began in the spring until the plowing was finished in the fall, there was little if any variation from this ration. And yet the principles of feeding tell us that horses should be fed grain and hay in proportion to the work they are doing, and that on holidays the feed should be materially lightened. Feeding has been much improved since those days but much of it is still haphazard. Why not have a group of your pupils weigh some average ears that they

are feeding, and determine their shelling percentages? By this means the weight of a given number of ears of corn can be determined. Now, if the class will work out rations for idle horses at moderate and at heavy work, a schedule of the proper number of average ears of corn to feed during different kinds of work can easily be ascertained. Similarly the number of quarts of oats to feed can be determined. While you are on the subject it might be well to have a few students who live on farms weigh the regular feed of hay also. Following this problem a comparison of the relative value and economy of corn and of oats and of the different kinds of hay can be made. You have now provided a motive and established a basis for the discussion of horse feeding principles.

A drive through any dairy community in the state, at any time of year, will usually convince one that, regardless of how much we have improved our methods of feeding producing cows, we fall short in the development of our dairy calves and heifers. As an introduction to the subject of calf feeding and development, ask the class to work out a ration for a calf two months of age, feeding skimmed milk, legume hay, and any grain mixture that is common in the community. The first question to arise will be the size of the calf, thus requiring the pupils to study the birth weight of dairy calves and the possibility of gains. Upon attempting to work out the ration, they will have difficulty in keeping the protein down to the prescribed amount because of a tendency to feed too much skimmed milk, and because of the too general opinion that a high protein concentrate is necessary in a grain mixture for calves. A little study will soon show that when

skimmed milk and legume hay are fed, the most important point in the grain mixture is to find some carbohydrates to replace the fat which has been removed from the milk. They will thus have learned a fundamental feeding principle from their own investigation, and will not soon forget it.

A still more interesting problem for the class is to compute a ration for a young calf, feeding it on skimmed milk and grass. It is surprising how many spring calves in the state are fed on just such a ration. Of course it is impossible to balance a ration on these feeds, because Kentucky blue grass before heading has a nutritive ration of one to three and three-tenths, and skimmed milk of one to one and one-half, while the standard for calves of one hundred to two hundred pounds weight is one to four and eight-tenths. A little study will also show that the paunch of calves of this age is not sufficiently developed to permit the consumption of much roughage. The problem should be completed by having the class add enough of the right kind of grain mixture properly to balance the ration. Since the two rations just discussed are those likely to be fed to fall and spring calves, respectively, these problems can be used as a basis for the discussion of the relative advantages and disadvantages of fall and spring calves.

Another problem that I have found interesting is to compute a ration for a mature pregnant brood sow, feeding corn, legume hay and about two-tenths of a pound of tankage. The problem is not difficult, but it involves a study into the requirements of the winter ration of the pregnant sow, and a search into experimental data for the best feeds to use.

If you have a creamery in your locality, ask the class to compute what they might bid for the buttermilk output, based on the butterfat receipts and the price of corn. Assuming that buttermilk can be purchased for about ten cents a hundred less than its value, ask the class to ascertain how much they might increase the proportion of buttermilk to corn profitably.

Always tie your problems, if at all possible, to a condition that exists in the community. H. EARL RATH

## A PLEA FOR THE BOYS

### Hygiene

Have you ever raised the question why high school boys are not allowed, as a rule, to take courses of the type of Personal Hygiene, Home and Community Hygiene, First Aid, Home Care of the Sick, Clothing, Foods, and the like—courses now open almost exclusively to girls?

Almost any girl in the high school may elect them but the boys rarely have such an opportunity. Why the discrimination? Are not the schools striving to educate the boys as well as the girls and to prepare them for the various problems of life? There is really no legitimate reason why boys can not be in such classes with the girls, so that they, too, may learn how to be healthy, helpful, and happy, and to understand more fully the problems of the home.

Not many boys would refuse to take for credit, courses which included such topics as the following if such were handled by competent teachers:

Selection of a home (location and environment).

What to consider in building or buying a home.

Furnishing a home.

How much I cost my family.

Keeping of personal accounts.

How to spend and to save wisely.

Budgets (meaning, value and use).

Personal and family budgets, based on given incomes.

How I can aid in the family income.

Savings, taxes and insurance.

What can be done to help parents in the home (keeping things in their places, caring for own room, making a bed, helping in the kitchen, working in the garden, caring for the yard, assisting in the care of younger members of the family).

What to wear on various occasions.

Purpose and hygiene of clothing.

Selection of clothing as to color and design.

Materials used in making suits, hose, underwear and shirts, and how to test them.

Laundering and cleaning qualities of different fabrics.

How to look neat and well dressed at moderate cost, and without the necessity of large laundry and tailor bills.