

HOME COURSE IN SCIENTIFIC AGRICULTURE

TWELFTH ARTICLE. FEEDING FARM ANI- MALS, NO. 2.

By E. W. ALLEN, Assistant Director of
the Office of Experiment Stations,
United States Department
of Agriculture.

IN judging the value of a feeding standard for animals it should be borne in mind that feeding standards are simply a concise and approximate statement of the amounts of the different nutrients required by animals, as indicated by the results of experiments and observation. They are intended to apply to the average conditions. The local conditions will have much to do in determining how closely the feeder can afford to adhere to the standard.

The standard for a cow of 1,000 pounds weight and giving sixteen and one-half pounds (about eight quarts) of milk per day calls for two pounds of protein, eleven pounds of carbohydrates, and four-tenths pound of fat, which would furnish 25,850 calories of heat, but as the carbohydrates and fat serve practically the same purpose in nutrition an excess of one may make up for a slight deficiency of the other.

In making allowance for the difference in milk yield of different cows a uniform basal ration can be fed to all the cows and the amount of the richer grain mixture varied to suit the demands. For example, a basal ration might be made up of twenty-five pounds of corn silage, eight pounds of rowen hay and three pounds each of cornmeal and wheat bran, which would supply 1.43 pounds of protein and a fuel value of 23,712 calories. To this could be added a richer grain mixture composed of two parts of gluten meal and one part of cottonseed meal, the amount of this being varied according to the milk yield of the cow. Two



Photo by Hampton Institute.

IN THE PASTURE

pounds of this mixture would bring the ration up to 1.97 pounds of protein and 29,369 calories, which would meet the requirements of cows giving twelve to fifteen pounds of milk a day, while four pounds would bring it up to 2.50 pounds of protein and 30,293 calories of heat, suitable for the cows giving twenty to twenty-five pounds of milk, and so on, five or six pounds of the grain mixture being fed to the heavier milkers.

A ration composed of ten pounds of shelled corn, five pounds of wheat bran, two pounds of linseed meal (new process) and ten pounds of corn fodder per steer would furnish protein and energy corresponding approximately to the requirements of yearling steers. The exclusive feeding of shelled corn, as is often practiced in the middle west, gives a poorly balanced ration. Mixtures of other grains or by-products give better balanced rations, and such rations have usually been found more profitable. A common practice in fattening steers in the south is to feed fifteen to twenty-four pounds of cottonseed hulls and six to eight pounds of cottonseed meal. This is not a well balanced ration. It could be improved by substituting two pounds of cornmeal in place of an equal amount of cottonseed meal or by substituting silage for a part of the hulls.

As a result of experiments made for several years at the Massachusetts state station the station recommends the following proportions of skim milk and cornmeal, according to the weight of the pig:

Pigs weighing 20 to 70 pounds, two ounces of cornmeal per quart of skim-milk.

Pigs weighing 70 to 120 pounds, four ounces of cornmeal per quart of skim-milk.

Pigs weighing 120 to 200 pounds, six ounces of cornmeal per quart of skim-milk.

Pound for pound buttermilk has not usually given quite as good results as skim milk.

But another important consideration where fertilizers or manures have to be relied upon is the manurial value of a feeding stuff. Feeding stuffs differ widely in this respect, wheat bran and cottonseed meal having a high manurial value, while that of cornmeal is relatively low. If the manure is carefully preserved a large proportion of the fertilizing constituents of the feed

is recovered in the manure and goes to enrich the land. Hay from the leguminous crops—clover, lupines, alfalfa, cowpea, etc.—contains about twice the quantity of digestible protein that hay from the grasses does. The seeds of these plants (cowpea, soy bean, etc.) are exceedingly rich in protein and can take the place of expensive commercial feeds. By growing and feeding more leguminous crops the amount of grain required is diminished, the value of the manure is increased, and the soil is enriched in fertility.

The byproducts resulting from the manufacture of flour, glucose, starch, cottonseed oil, linseed oil, fermented liquors, etc., are extensively used for feeding purposes and include many of the richest and most prized feeding stuffs. Hominy chop, meal and feed result from the manufacture of hominy and contain the gum and coarser portions of the corn.

The establishment of beet sugar factories in this country has led to the production of immense quantities of sugar beet pulp as a waste material. Professor Thomas Shaw expresses his belief that sugar beet pulp can be fed more advantageously to cattle and sheep than are being fattened than to dairy cows. The New York Cornell experiment station, however, found that this material gave good results with milk cows. In practice about ten pounds of pulp per day are fed to sheep and fifty to seventy-five pounds to cattle. The amount in the latter case, however, is said to depend on the cattle, and more may be given up to 100 pounds if they will eat it. The pulp is believed to effect a considerable saving in the amount of grain required for fattening.

Sugar beet pulp can be successfully preserved in silos and makes a very fair quality of silage. It is richly supplied with the slightly spoiled portions not being distasteful to them. As the sugar beet crop is an exhaustive one and the fertility of the soil can be maintained by feeding the pulp it becomes quite an important matter that farmers growing sugar beets should combine with it the feeding of the pulp where practicable.

Molasses is another product of the beet sugar manufacture which accumulates in large quantities. In Europe it has been found to possess considerable value for feeding. For this purpose it has been mixed with peat, dried blood, beet pulp or with a mixture of feeding stuffs, such as bran and palm nut meal, in order that it might be more conveniently handled.

The effect of drying hay is not to lessen its digestibility, as is often believed. Hay stored for a long time, even when kept dry and not allowed to heat, appears to lose a part of its value as food.

Experiments abroad have indicated that cooking or steaming coarse or unpalatable food was advantageous, not on account of making the food more nutritious, but in inducing the animals to eat larger quantities of it. In ten trials made by experiment stations there has not only been no gain from cooking, but there has been a positive loss.

The Mississippi station concludes from three years' work that "the milk and butter from cows fed on steamed cottonseed cost less than that from cows fed on raw cottonseed and but little more than one-half as much as that from cows fed on cottonseed meal. The butter from steamed cottonseed is superior in quality to that from either raw seed or cottonseed meal." The Texas station finds it advantageous to bolt cottonseed for steers.

Experiments show that it will pay to soak corn for steers if it can be done for 6 cents a bushel. Soaking wheat for pigs is quite generally recommended.

The Maine station compared the value of chopped and unchopped hay for cows and found no evidence that the chopping had any effect. The Indiana station found that steers made better gains on cut than on uncut clover hay. Cutting corn stover was found advantageous to the Wisconsin station.

The use in this country of some kind of succulent feed nearly the whole year round, to keep up the appetite and the general condition of the animals, has become quite general. In Europe roots are largely grown for this purpose. In this country roots are not grown to any great extent in comparison with corn, which furnishes a larger and cheaper supply of food material from a given area than any other crop. Silage proves more acceptable to stock than dry fodder, and they will consume a larger amount of dry matter in that form. It is found adapted to nearly all kinds of farm animals, including horses, sheep and pigs.

Soiling means the feeding of farm animals more or less confined on green forage fresh from the fields. Partial soiling is much more common, being relied upon to carry the animals over a period when pastures are short. The Wisconsin station found that one acre of soiling crops was equal to about two and one-half acres of good blue grass pasture for feeding dairy cows, and the Connecticut State station kept four cows from June 1 to Nov. 1 on soiling crops produced on two and one-half acres of land. Partial soiling properly conducted will be found a profitable practice on many farms.

A considerable number of proprietary articles sold under trade names are found on the markets in this country. Analyses of samples of these feeding stuffs collected from time to time show that none of them can be regarded as concentrated feeds in the common acceptance of the term. The basis of the better ones is linseed or flaxseed meal or some cereal byproduct. They are usually sold at exorbitant prices, ranging from 10 to 20 cents a pound.

THE LEGHORNS BEAT THEM ALL

The Plymouth Rocks are dandy fowl;
The Reds and Dottes ditto;
The Buckeyes and the Dominiques
And Javaas the also.

The Brahmans, Cochins and Langshans
Are not to be sneezed at.
They are the giants of the coop
And bolly roasted fat.

The Dorkings, Red Caps, Orpingtons,
Are English, don't chew know,
And when they're fattened up with milk
They really aren't slow.

Then come the Putehs and Hamburg,
The Houdans and Crevecoeur,
We mention also the La Fleche
And Gamecock with sharp spur.

The Cornish, Malays, Sumatras,
Are in the Standard too,
You'll find also some just for show
If you the book look through.

Minoreas, Andalusiens,
Ainoons and Spanish, too,
Are near the top for laying eggs,
But all their legs are blue.

The Leghorns we have left to last,
Because these other birds,
When you keep tab on laying stunts,
Are seconds and slow thirds.

White Leghorns don't wear feather legs,
They don't put on much meat,
But when it comes to laying eggs
You bet they can't be beat.

C. M. BARNITZ.

KURIOS FROM KORRESPONDENTS

Q. Does changing hens from one pen to another affect their laying? A. If there is a marked difference in pens and nests they often quit laying for a few days. We make our pens and nests all alike and the hens feel at home in all of them.

Q. Is the White Leghorn really a nonsetter? A. It cannot be said of Leghorns that none get broody. Some do, and the hotter the house in summer the more get the hatching fever, but broodiness among Leghorns is as nothing when compared to the Cochins, Brahmans, Rocks, Dottes, Reds and other screeching members of the door-knob cluck society.

Q. Is it true that brassiness on a rooster's back is a sign of strong vitality? A. No.

Q. Do geese do well in close confinement? A. No. Their eggs are often infertile, goslings weak. It is almost impossible to keep the pens clean and the geese lose stamina, as they lack exercise, cleanliness and necessary vegetable food. A good grass pasture and plenty of water for best results and profits with geese.

Q. I notice some exhibitors feed tallow to their show birds. Why do they do this? A. They imagine it puts a gloss on the surface of the plumage. If a fowl is in health and clean or washed right it needs no grease and we doubt if such indigestible stuff affects the plumage at all.

Q. How may oats be made more digestible for fowls? A. By grinding, hulling, clipping, scalding, soaking or sprouting. When clipped the sharp points are cut off by machinery.

FEATHERS AND EGGSHELLS.

The Panama-Pacific International exposition to be held at San Francisco in 1915 is to have the largest poultry show on record. The poultry exhibition will occur the last two weeks of October, 1915, and it is planned to have 15,000 entries representing the distinctive breeds of all the nations of the earth.

When eggs are infertile the male bird nearly always gets the blame and the ax. But the hen is often sterile, so don't butcher that rooster too quick. This defect is brought on by disease, overfat, breakdown of the oviduct through excessive laying or feeding egg stimulant, or the fowl is sterile from birth.

When you find a puny rooster in a flock of big hens or a cock bird the same size as the hens make up your mind there will not much come from those pens. The standard weights of cock birds and cockerels are all higher than those of hens, and a flock does not look the right nor will it breed right where the male is undersized.

It's a wise plan to take the rooster out during the breeding season for a feed by his lonesome. The heavy laying hens often gobble part of his share, and the gallant fellow often goes hungry, and thus infertiles or weak chicks result.

In 1912 Canada imported 7,476,242 dozens of eggs from the United States and shipped to this country but 17,403 dozens. In the same year Canada imported over 3,000,000 pounds of butter, of which 2,139,844 pounds were from New Zealand and 929,318 from the United States.

A little home in the country is a thought that often enters into the minds of city people amid the bustle, bustling, hurly burly, nerve racking life they live. And we hope the day comes when they have that little cotage with the roses and honeysuckles climbing up the porch and the garden, and hens and birds and fruit trees and the cold crystal spring. Where there's a will there's a way. Work and save and you'll get it some day.

Those who breed Silver Polish should avoid immature matings. To get good crests, excellent markings and hard feathers two years and up is the proper age for breeders.

The laugh is always on the fellow who writes to the poultryman, "All the eggs you sold me were infertiles and rotten." He does not know that it requires a dead germ to make an egg under incubation turn to a rot.

One American incubator manufacturer has thus far sold 400,000 incubators and claims these have brought a billion chicks into the world. This is but the report of one firm and slightly indicates the vast advance of artificial incubation.

C. M. Barnitz.

"PRINORE" AND "STANDARD" Prineville Flour

Hotel Oregon PRINEVILLE

NEWLY FURNISHED

Beds 50 and 75 Cents

FREE BATHS

Meals, 25 Cents; Home Cooking

G. W. LIPPINCOTT, Manager

We Lead the Meat Trade

MEATS

in supplying a prime quality of beef, veal, mutton, lamb, pork and fresh poultry. There is a flavor, a juicy tenderness and sweetness about our meats which stamps their quality as perfection. These are the finest meats that ever were sent to a table—delicious, tempting, nourishing meat. Our mild cured hams and bacon have made a great reputation for us, while the moderate prices we ask assure us of the continued patronage of our old customers.

City Meat Market

Sheriff's Sale on Execution in Foreclosure.

By virtue of an execution and order of sale issued out of the circuit court for Crook county, state of Oregon, upon a judgment rendered in said court on the 5th day of May, 1913, in a suit wherein S. C. Caldwell was plaintiff and John W. Usher was defendant, in favor of the above named plaintiff and against the above named defendant, for the sum of \$385.85, with interest thereon from the 20th day of March, 1913, at the rate of 10 per cent per annum, and \$50.00 attorney's fees and the further sum of \$12.00 costs, which judgment was enrolled and docketed in the clerk's office of said court in said county, on the 12th day of May, 1913, and commanding me to sell, in the manner provided by law, the following described real property, to-wit:

Lots 4-5, blk 1; lots 12-20, blk 2; lots 1-20, blk 3; lots 6-12, blk 4; lots 5-22, blk 5; lot 18, blk 6; lots 4-13, blk 7; lots 4-9, blk 8; lots 4 11 blk 9; lots 5-12, blk 10; lots 12, blk 11; lots 1-14, blk 12; lots 8-14 blk 13; lots 13-14 blk 14; lots 7-13, blk 15, of the town of Harper in Crook county, Oregon. Notice is hereby given that I have levied upon and I will on

Saturday, the 26th day of July, 1913, at 2 o'clock in the afternoon at the front door of the courthouse in Prineville, Oregon, sell to the highest bidder for cash, all the right, title and interest the defendant, John W. Usher, had in and to the above described real property on the 5th day of May, 1913, to satisfy said judgment, interest, costs and accruing costs. Said sale subject to redemption as provided by law.

Date of first publication June 26th, 1913.
FRANK ELKINS,
Sheriff of Crook county, Oregon.

I.O.O.F. Lodge meets every Tuesday night.
Strangers welcome.
Geo. Noble, N. G.; Bert Barnes, V. G.; T. L. Coon, Sec.; C. B. Dixwell, Treas.

Crook County Journal, county official paper. \$1.50 a year.

Sheriff's Sale of Real Estate Under Execution in Foreclosure.

In the circuit court of the state of Oregon for the county of Crook.
J. W. Boone, plaintiff,
vs.
Uri S. Minkler, defendant.

By virtue of an execution issued out of the above entitled court on the 6th day of May, 1913, in favor of the above named plaintiff, J. W. Boone, and against the above named defendant, Uri S. Minkler, upon a judgment against the defendant for the sum of \$1709.85 with interest thereon from the 6th day of May, 1913, at the rate of 10 per cent per annum, and \$150 attorney's fees, and the further sum of \$25 costs, which judgment was enrolled and docketed in the clerk's office of said court on the 12th day of May, 1913, and whereas, it was further ordered and decreed by the court that Lots two and three and the east half of the southwest quarter of section eighteen, township fifteen south, range seventeen east of the Willamette Meridian in Crook county, state of Oregon, be sold in the manner prescribed by law, notice is hereby given that I have levied upon and I will, on

Saturday, July 19, 1913, at the north front door of the courthouse in Prineville, Oregon, at the hour of 2 o'clock in the afternoon of said day, sell all the right, title and interest the said defendant, Uri S. Minkler, had in and to the above described real property to the highest bidder, to satisfy said judgment, interest, costs and accruing costs, subject to redemption according to law.

First publication June 19, 1913.
FRANK ELKINS,
Sheriff of Crook county, Oregon.
By W. E. Van Allen, deputy.

W. A. BELL
Lawyer
The Dalles Oregon

When in the market for Lime, Cement and Shingles, see the Redmond Lumber & Produce Co. 3-27-2m

Sheriff's Sale

In the Circuit Court of the State of Oregon for Crook County.
The W. F. King Co., a Corporation,
Plaintiff,
vs.
Irwin D. Bassy, Ethel Bassy, J. K. Macpherson and Abel Cudd,
Defendants.

To the sheriff of Crook county, greeting:
Whereas, on the 24th day of May, 1913, in the above named court, a judgment was rendered in favor of the above named plaintiff and against the above named defendants for the sum of eight hundred dollars, with interest thereon from the 31st day of January, 1911, at the rate of ten per cent per annum, and eighty dollars attorney's fees, and the further sum of twenty-nine dollars and costs, which judgment was enrolled and docketed in the clerk's office of said court in said county, on the 22d day of May, 1913.

And, whereas, it was further ordered and decreed by the court that the 5th of said sec 4, ne¼ of the ne¼ of section 1, twp 13 S. R. 14 E. W. M., in Crook county, Oregon, I have levied upon, and I will on

Saturday, August 16, 1913, at the hour of 10 o'clock a. m. of said day, at the north front door of the court house in Prineville, Oregon, sell to the highest bidder for cash, all the right, title and interest the said defendants had in and to the above described real property, to satisfy said judgment, interest, attorney fees, costs and accruing costs. Said sale subject to redemption as provided by law.

First publication July 17, 1913.
FRANK ELKINS,
Sheriff of Crook County, Oregon.
By W. E. Van Allen, Deputy.

Sheriff's Sale
In the Circuit Court of the State of Oregon for Crook County.
The W. F. King Co., a Corporation,
Plaintiff,
vs.
John Ferguson, Margaret Ferguson and the Lote Pine Trading Co., a Corporation,
Defendants.

To the sheriff of Crook county, greeting:
Whereas, on the 5th day of May, 1913, in the above named court, a judgment was rendered in favor of the above named plaintiff and against the above named defendants, for the sum of eight hundred dollars, with interest thereon from the 31st day of January, 1911, at the rate of ten per cent per annum, and ninety dollars attorney's fees, and the further sum of eighteen dollars as costs, which judgment was enrolled and docketed in the clerk's office of said court in said county, on the 9th day of May, 1913.

And whereas, it was further ordered and decreed by the court that lots 1, 2, 3, ne¼ of ne¼, sec 4, ne¼ of section 29, township 14 S., range 14 E. W. M., in Crook county, Oregon, I have levied upon and I will on

Saturday, August 16, 1913, at the hour of 10 o'clock a. m. of said day, at the north front door of the court house in Prineville, Oregon, sell to the highest bidder for cash, all the right, title and interest the said defendants had in and to the above described real property, to satisfy said judgment, interest, attorney fees, costs and accruing costs. Said sale subject to redemption as provided by law.

First publication July 17, 1913.
FRANK ELKINS,
Sheriff of Crook County, Oregon.
By W. E. Van Allen, Deputy.

Sheriff's Sale
In the Circuit Court of the State of Oregon for Crook County.
William Baldwin,
Plaintiff,
vs.
J. H. Bean,
Defendant.

Notice is hereby given that under and by virtue of an execution and order of sale of mortgaged real estate, issued out of the circuit court of the state of Oregon for Crook county, on the 7th day of July, 1913, in a suit in said court wherein William Baldwin was plaintiff and the said J. H. Bean was defendant, and wherein a judgment was rendered in favor of said plaintiff and against said defendant for the sum of two thousand dollars, with interest thereon at the rate of eight per cent per annum from the 9th day of May, 1910, and for the further sum of two hundred dollars as attorney's fees, and for the further sum of ten dollars as costs, and wherein an order of sale of the hereinafter described mortgaged real estate was made, directing that the hereinafter described real estate be sold to satisfy said judgment, attorney's fees and costs, and to me direct, ed and commanding me so to do, I have levied upon, and will on

Saturday, the 16th day of August, 1913, at the hour of ten o'clock in the forenoon of that day, at the front door of the court house in the city of Prineville, Crook county, state of Oregon, sell at public auction to the highest bidder, for cash, all the right, title and interest the said defendant, J. H. Bean, had on the said 9th day of May, 1910, in and to the following described premises, to-wit:

The northeast quarter of section thirty-five, in township fifteen south, of range fourteen east of the Willamette meridian, in Crook county, state of Oregon, together with the tenements, hereditaments and appurtenances thereto belonging, to satisfy said judgment, attorney's fees and costs and accruing costs. This notice is published for four full weeks in five consecutive issues of the Crook County Journal, commencing with the issue of July 10th, 1913, and ending with the issue of August 14th, 1913.

Dated and published first time July 10th, 1913.
FRANK ELKINS,
Sheriff of Crook County, State of Oregon.

Sheriff's Sale on Attachment Execution.
Whereas, on the 21st day of May, 1913, by consideration of the circuit court of the state of Oregon, for Crook county, the First National Bank of Bend, a corporation, recovered a judgment against D. V. Mackintosh for the sum of \$674.00 and interest thereon from the 21st day of May, 1913, at the rate of 10 per cent per annum and the sum of \$89.00 attorney's fees and \$17.00 costs and disbursements, in which judgment it was further ordered by the court that the property attached in said action be sold for the satisfaction of said judgment, in the manner provided by law, which judgment was enrolled and docketed in the clerk's office of said court on the 22d day of May, 1913, commanding me to sell to the following described real property to-wit:

The ne¼ of sec 4 of section 30, township 17, S. R. 12 E. W. M., and the w¼ of the w¼ of section 29, township 17, S. R. 12 E. W. M., and the se¼ of the se¼ of section 30, township 17, S. R. 12 E. W. M., all in Crook county, Oregon.

Notice is hereby given that I will, on Saturday, the 26th day of July, 1913, at the hour of 2 o'clock in the afternoon, at the front door of the court house, in Prineville, Oregon, sell to the highest bidder for cash, all the right, title and interest the said D. V. Mackintosh had in and to the above described real property, to satisfy the judgment, costs and accruing costs. Said sale subject to redemption as provided by law.

First publication, June 26, 1913.
FRANK ELKINS,
Sheriff of Crook County, Oregon.