

### THE POULTRY GROWER

#### Talks on Feeding.

Proper feeding of fowls is a simple or complex proposition, depending on the size of the flock.

The man who keeps a dozen hens and feeds them largely on scraps from the table, which are usually rich in protein, and supplements this with a feed of grain in the evening, may know nothing about the comparative values of the various feeds, yet will get good results. But as the flock increases in size the problem of prop-

er feeding becomes one which calls for considerable study.

Smith who runs a boarding house, keeps about eighteen hens and their feed consists of a generous supply of scraps from the table, and a little corn just before going to roost. His hens have been laying all winter.

Jones, who lives just across the street, keeps about ninety hens and feeds them three times a day on wheat and rolled barley thrown on the ground, and about the only exercise they get is picking up their grain. He gets two and sometimes as many as four eggs a day. Occasionally they kill a fowl for the table and he knows

that those hens are rolling in fat, yet when he learns that Smith is feeding his hens corn and getting eggs, he rushes to the feed store and gets a sack of corn to feed his already over-fat hens in the vain hope that it will make them lay.

That shows how much thought some people give to the feeding question.

Of course, any one can follow formulas for feeding and get good results, but as I have said before, it is best to know WHY we do things instead of merely knowing how to do them.

In order to understand the problem of feeding for best results we must first understand what the various feeds are

composed of, and the amount of each element found in each.

Nearly all foods contain five elements in varying degrees, viz: protein, carbohydrates, ash or mineral matter, water and fat. Of all these protein is the most valuable—in fact, the protein of a feed may be said to establish the value of the feed. For instance corn and wheat contain nearly the same amount of protein, and are priced about the same.

Leguminous seed, such as Canada peas, cow peas, beans, etc., contain about twice the amount of protein as wheat and corn, and are usually about double the price. Beef scrap, meat

meal and blood meal contain about the same amount of protein as the legumes, and are usually priced about the same.

Animal protein as found in beef scrap, etc., and in the natural state in bugs and insects, is considered worth a little more than the vegetable protein, and cannot be entirely replaced by it. The animal protein is seemingly more easily digested and assimilated by fowls than the vegetable.

Fowls on free range will, in spring and summer, find a considerable amount of food rich in protein, and can be given a wider ration than at other seasons of the year, or than can

be given to fowls in confinement at any season.

The second in importance, carbohydrates, are used almost entirely in the production of heat and energy. They are found in largest quantity in starchy and sugary foods, and for a long time it was thought that carbohydrates were fattening, but demonstrations prove that fowl fed on a ration rich in carbohydrates and deficient in fats will not take on fat. However, if they be given a ration rich in both carbohydrates and fats, the carbohydrates will be used up in the production of body heat and energy, and the fats will be stored for future conversion into heat and energy. This proves pretty conclusively that carbohydrates cannot be stored in the form of adipose tissue as fats can. It is well known that fowls fed for long on rations rich in carbohydrates will soon become afflicted with liver disorder.

The ash or mineral matter is valuable in forming bone tissue, and in the formation of egg shells. Hence any food stuff rich in ash is particularly desirable for growing stock and laying hens.

In calculating the nutritive value of a ration, the fat is figured as having two and one-half times the value of the carbohydrates and the sum of the percentage of carbohydrates added to 2½ times the percentage of fats is divided by the figure representing the value or percentage of the protein, and expressed as a ratio of one part protein to the resulting proportion of fats and carbohydrates.

Hence wheat containing 11.9 per cent protein and 71.9 per cent carbohydrates and 21 per cent fat, the ration would be found by multiplying the 2.1 per cent fat by 2½, which gives 5.25. Add to this the 71.9 per cent carbohydrates and we have the full value of the heat and energy producing elements. The protein content is 11.9 per cent and by dividing the 71.9 plus 5.25 by 11.9 we get a dividend of 6½ plus, and this means that the ration contains 6½ times as much fat and carbohydrates as protein. It is written 1:6.5 or 1:6½, and is too wide a ration for fowls in confinement especially here on the coast, where the weather is mild all the year and comparatively little heat-forming food needed.

A properly balanced ration for fowls in confinement is about one part protein to four parts carbohydrates and fats, and is written 1:4.

### KEEPING THE WATER SUPPLY SANITARY

A writer on hygiene tells us (what we already know) that "There is scarcely a settlement or village but has its water-course fouled by the lazy and ignorant inhabitants who use them as a receptacle for every and all kinds of filth and abomination, and the waters of which are still used for domestic purposes, if not for slaking thirst." It is not an easy matter to detect impurities, even for the skilled chemist and microscopist; the most dangerous impurities are so hidden that all the light of science has scarcely been able to show them as they are. They are the pestilences that walk in darkness. But there are many pollutions which show up so glaringly that they should be suppressed, and the sources removed. Solid impurities may be removed by filtration, and we have filters of every size and price and degree of efficiency; but too much faith must not be put in filtration to the neglect of precautionary measures. Disease germs do not seem to be stopped by any amount of filtration although this method of purification is of undoubted utility. An old, unclean filter may of itself become a serious menace. The boiling of water is recommended and often resorted to, and does destroy organic matter and perhaps certain kinds of germs. But many germs resist the boiling temperature of water, and water that has been boiled is not palatable, and not regarded as entirely wholesome, as all gases are removed. Some authorities contend that only distilled water should be used for domestic purposes and cookery, and there are many distilling devices on the market. But whatever one does, it seems to be established as a fact that water, once fouled, can not be cleansed again with any degree of certainty. Much of the offending element can not well be kept from the supply of water, as seepings, drainage through decomposing vegetable matter, as well as through decomposing insect and animal matter, but everything that can be done should be done, and the people taught to look upon the matter as one of life and death or at least, disease.—LaFollette's.

Vinegar and brown paper will heal bruise or black eye.

Vinegar and sugar mix with your stove polish.

Vinegar and salt will strengthen a lame back.

# DON'T FAIL TO ATTEND OUR MONSTROUS FIFTH ANNIVERSARY SALE

Wait for This Big Sale and you will be Convinced That What we say is Absolute Facts.

Everything as represented or your money cheerfully refunded. Below are only a few of the Goods on Sale. We also will have Demonstrations of Monopole Canned Goods; Olympic, Goldenrod and Albers Bros. Cereals, and the celebrated Royal Club Coffee and others.

## Samples of The Above Goods Given Away for Free Trial

GROCERIES		1 Box Fancy Toilet Soap Cheap at 25c This Day Only 10c	
20 pounds Sugar	\$1.00	25c Neckties	15c
Potatoes, sack	.45	\$1.25 Fancy Shirts	95c
Golden Lily Flour guaranteed	\$1.15	25c Socks	15c
3 cans Corn	.25	25 Garters	13c
3 cans Tomatoes	.25		
7 cans Carnation Milk	.50		
3 cans Salmon	.25		
2 cans Apricots	.25		
2 cans Peaches	.25		
Snyders Catsup	.20		
Corn Meal	.20		

### DRY GOODS

Ginghams, good grade	7c	Ginghams, best grade	11c
Ginghams, better grade	9c	6 spools Clarks Ont Thread	25c
Other Dry Goods Reduced in Proportion			
We Also Carry the Well Known Celebrated Nemo and R. & G. Corsets			

For this Day Only we will give a discount of 10 per cent on our complete line of Shoes.

A discount of 15 per cent will be allowed on any piece of Furniture in the house.

We have a Complete Line of Rugs and matting which we will also give a special discount of 15 per cent for this day.

**NOTICE TO CARPENTERS**—Special inducements will be offered on our New and Complete Line of Tools of all kinds, and building material.

Sulky Carts and Go-Carts of a new design at special low prices

Other Goods too numerous to mention will be offered at Sale prices on this day.

**A Souvenir Will be Given To The Head of Each Family**

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