matured corn bring that the ough the animals undigested. If goodly amount of carbohydrates ssured, and when it is contained alk it wil ma e a palatable and

vn under these two systems was ng the winter analyses will be samples of each to inform us as lue of the silage and how each he silo. This information will as soon as we have fed both cattle and the results of the r hands from the chemists.

pting American Plans.

Government has created a ulture and Commerce and in- em of extension teaching, begin- ining school for travelling lec- strations of improved farming lasses of experiment stations are devoted respectively to cotton, nd pasturage. H. H. Jobson, n, Texas, has been engaged on act as a cotton-growing expert, h under another American has t Chu Chow devoted to cereals chiefly fruit growing. The ap- sion work are required to be age and must have had prac- in farming in the districts they will (1) give lectures, (2) l seeds for crop improvement, he use of improved implements, e causes of natural calamities plans for the gradual improve- arming methods.

E DAIRY.

nadian Milk Record.

tein breeders will be glad to v Rauwerd No 12462, exhibited Norwood, Ont., at both Tor- Exhibitions has completed her n a wide margin over previous In the semi-official A. R. O. third day after calving she 00.7 lbs. milk and 890.6 lbs. tive days. Calculating butter t, her production is equivalent utter in this time. Besides ex- r yearly records in Canada ion has been exceeded only by n the world. Her performance In that she spent nearly a ing period on the fair grounds ttawa and travelled some 500 ircuit. When over ten months having given 26,000 lbs. she type and bloom to win second and first in Ottawa in what y strong Holstein competition.

Rauwerd, De Kol Mutual ior three-year-old, in R. O. P. ilk and 694 lbs. fat, exceeding argin the best heifers of her of the line, including the pres- on milk cow, Tilly Alcartra. a period of 8 months in the her daughter Countess, for the unique distinction of beat- 000-lb. milk cow in these two

year Rauwerd was fed the n feeds such as silage, tur- lover hay in winter. She was h day in summer up till the en to the fairs. Her meal Bran and oat and barley chop ordinary dairy feeds on the meal, cottonseed meal, glutin distillers' grains varied from t she never got stale on any unt of the roughage, her mix- and general care the cow nd apparently just as normal e ordinary cow would be. ped very strikingly each year. calf and will have a little st before her next calf than last freshening. Even greater of her next year.

go a long way in the ability rn its food to the best ac- n it comes to a matter of test amount of human food of land the effect of certain ening breeds and strains is rom a national point of view. s, not only of cattle but of ell, are capable of producing ght of meat from a given n their ancestors. Probably ly a matter of constitution ion, but whatever it is the ame."—Live Stock Journal.

POULTRY.

A Few Points Regarding Ducks.

As information about poultry raising has been accumulated and as the demand for properly fattened fowl has increased, ducks have risen in popularity among growers of the feathered kind. Formerly ducks ran more or less wild and their flesh did not acquire that nice flavor that is given to it to-day by partial confinement and suitable feeds. The time was when breeders were obliged to plead with dealers to handle their output, but now many 100-acre farms are devoted exclusively to duck raising, and the crop, when 10 weeks of age, goes to the trade without serious trouble or inconvenience. Duck eating has become both fashionable and pleasant.

It appears that thousands of farms are admirably adapted for the handling of a few ducks. Ponds or running streams are unnecessary, that is exploded theory. What is required are comfortable though not elaborate quarters and some knowledge as to how they should be fed. Ducks will not or should not replace chickens on the average farm, but we believe that the web-footed birds could be kept and bred profitably in addition to the hens. The busy season with them is short, and their accommodations can be more rudely constructed.

Housing, breeding and feeding are the three important phases of duck raising. Their feathers will protect them from almost any amount of cold, but they like to have their feet warm and dry when at rest. This peculiarity makes it unnecessary to construct expensive buildings. A small house made of rough lumber with the cracks covered and the roof papered, shingled or covered with metal to prevent leaking will suffice. The floor should be kept as dry as possible. Often a board floor is laid 6 or 7 inches from the ground and then covered with dry earth and leaves or straw. The breeding stock should be at liberty to go out when they please, for ducks like activity, and it is the exercise they will take of their own accord that prevents digestive troubles and keeps them healthy.

They will be out early in the morning even in the snow and cold, for they like the fresh air, but at night they like to get into a dry, sheltered place and squat down on their feet, the vital part of their external anatomy.

In breeding, the parent flock should not be fed too much fattening food. It is necessary to force the ducklings, but the laying stock should have an abundance of green feed and egg forming rations. A good mixture recommended for breeding and laying ducks is as follows: 50 per cent. by measure corn meal, 15 per cent. wheat bran, 15 per cent. green feed such as cooked potatoes, turnips or other vegetables, 12 per cent. beef scraps, and 8 per cent. coarse sand or grit. This should be mixed with water to a dry, crumbly state and fed twice a day night and morning. When the breeding season is over this ration should be changed to equal parts by measure of cornmeal, wheat bran and a cheap grade of flour; 10 per cent. of this bulk beef scraps, 10 per cent. coarse sand or grit and 12½ per cent. green feeds such as green rye, oats, clover or anything of this nature available at the time. If the ducks have considerable freedom and access to grass and grit the two latter parts of the allowance might be omitted.

Secure a good drake and run from 5 to 7 ducks with each drake. Often more females than stated above can run with a single drake and the eggs prove fertile, but that depends largely on the character of the male bird. It is not wise to make the proportion of females to male too large. In many cases, especially on large plants, the eggs are incubated artificially but this increases the initial expense, and where broody hens are available there should be little difficulty in getting a good hatch and rearing the ducklings with a very small percentage of loss.

When feeding remember that a duck has no crop; the food passes at once to the gizzard, thus making it unwise to feed any quantity of hard grains. They will consume some of course and relish it as is proved by their foraging in grain fields after harvest, but ducklings particularly should get the greater part of their feed in the form of mashes.

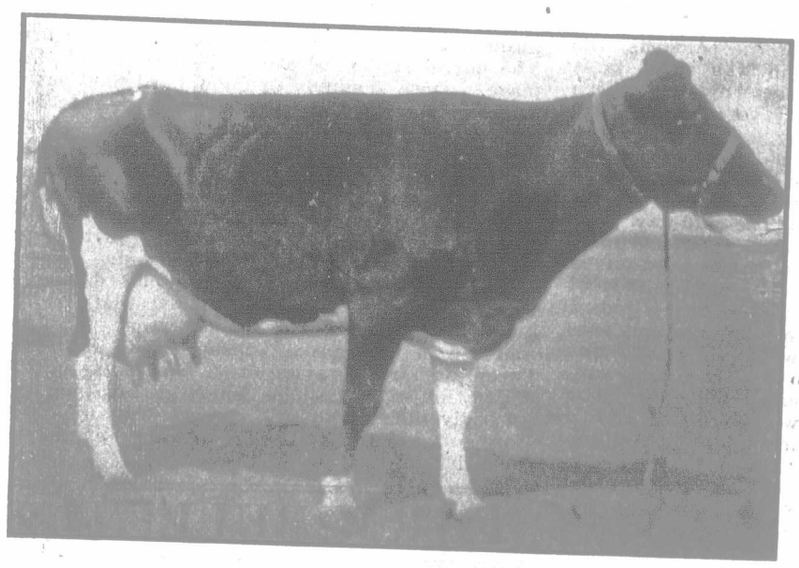
There are three different phases of feeding, first, to prepare ducks for market at ten weeks of age; second, to develop young ducks to be kept as breeders; and third, the feeding of breeding stock. Ducks for the market should be disposed of at ten weeks of age, during which time perhaps four different mixtures or rations could well be used.

From time of hatching to five days old provide the following mixture: Cracker or bread crumbs and corn meal, equal parts by measure; hard-boiled eggs, 15 per cent. of the total bulk of crackers and meal; sand, 5 per cent. of the total of crackers and meal. Mix with water or milk, and feed four times a day.

From five to twenty days old feed the following mixture: Wheat bran, two parts by measure; corn meal, one part; rolled oats, 50 per cent. of this bulk; beef scraps, 5 per cent.; sand, 5 per cent.; green feed, 10 per cent. Mix with water to a dry crumbly state and feed four times a day.

From twenty to forty-two days old give the following mixture: Wheat bran, two parts by measure; corn meal, one part; beef scraps, 5 per cent. of this bulk; sand, 5 per cent.; green feed, 10 per cent. Mix with water to a dry, crumbly state and feed four times a day.

From forty-two to seventy days old, the following mixture will tend to fatten the birds: Corn meal, two parts by measure; wheat bran, one part; beef scraps, 10 per cent. of this bulk;



Rauwerd.

Canadian champion milk and butter producer as she appeared at Toronto Exhibition, where she stood second.

coarse sand or grit, 5 per cent.; green feed, 10 per cent. Mix with water to a dry, crumbly state and feed four times a day.

These recommendations should be used as a guide only. They are used largely where the greater part of the feed must be purchased, but on the farm there should be chop and meal available that would combine into a good ration.

Housing the Poultry.

One of the things upon which profitable egg production depends is a good, comfortable house. The more eggs laid during the winter months the larger are the profits from the farm flock, but the difficult question is to make the hens lay during the cold months of the year. On some farms the hens are allowed to roost in a drafty shed, and on other farms the hens are kept in the horse or cow stable. There are on many farms, however, poultry-houses that are often too small, poorly ventilated and with damp floors. Poor housing conditions are often responsible for a low winter production from a good flock.

It cannot be said that any particular type of poultry-house is the best; local conditions de-

Ready for Christmas.

termine to a large extent the exact type which will give good results. At the same time, there are general principles which apply in all cases.

A poultry-house should be comfortable, light dry, and with a good supply of fresh air, but free from drafts. It may be necessary to provide curtains in front of the house, and perhaps occasionally in front of the roosts on very cold nights. One should not be too dependent upon the use of curtains, and they should be made more or less stationary features. Use a cheap grade of cotton for curtains, for it is as satisfactory as the more expensive grades.

Houses with open fronts or cotton fronts have proved satisfactory, even in the most severe weather, for egg production is good and the fowls keep in a thriving and vigorous condition. Chicks hatched from stock kept in cold or cool houses are usually much stronger and thriftier than chicks hatched from stock kept in warmer houses. A house which is open on the south side must be well built on the other three sides in order to make it draft-proof.

The location of the house should be dry. If the ground is wet or damp it should be well drained. This may be done by putting in a tile drain or an open ditch. The yards should be drained so that they will be dry most of the time. Damp ground is cold and it soon becomes sour and unhealthy. Chickens grow best on a sandy or gravelly loam. Both of these types of soil are usually easily drained and may be kept in a nice sweet condition.

Houses that face the south secure the largest amount of exposure to the sun's rays, which the fowls enjoy. A slightly eastern exposure is to be preferred to a western exposure unless the prevailing winds are from the east.

A safe working rule is to allow about four to six square feet floor space per bird. The lighter breeds, Leghorns and Anconas, are more active than the general utility breeds, Plymouth Rocks and Wyandottes, and they will stand slightly more crowding. It is a good plan, however, to give the birds as much room as possible, keeping in mind the cost of construction per bird.

Small flocks usually pay better than large ones. A flock of twenty-five birds will usually lay more eggs per bird than a flock of one hundred. It will cost more, however, to construct four houses for four flocks of twenty-five birds each than one house for one hundred birds, and it will take more labor to care for the four flocks. The larger egg production secured from the smaller flocks would doubtless more than offset the extra cost of labor. Then, again, a flock of one hundred birds can be divided into four flocks in one large house.

Damp air in the poultry-house is fatal to egg production. It is much better to have a cold, dry house than a warm, damp one. Hoar-frost on the walls of a house is the result of warm, moist air coming in contact with the cold walls. If the foul air is gradually mixed with fresh air, no rime will occur.

An earth floor is frequently satisfactory where the soil is light in texture and well drained. Otherwise a board or cement floor is better, and preferably the latter, as it is more durable and sanitary.

The nearer square a house is to other things being equal—the less lumber it will require. A long narrow house is colder than a short, deep one, because it has a larger area of exposed surface and it is more inclined to be drafty.

The shape of the roof influences the cost of construction. The steeper the pitch the greater the cost of building, particularly with a shed-roof house as compared with a gable or combination-roof house. On the other hand, the steeper the pitch the longer it will last. Most roofs are one-fourth pitch, while shingle roofs should be one-third pitch.

A poultry-house should be of simple construction, and the fewer permanent fixtures there are the better. The feeding hoppers, dusting boxes and nests should be movable in order to make the house easy to clean.

The roosts should be made low down, particularly for the heavier breeds. Leghorns require about eight inches of perch room, Plymouth Rocks nine, and Brahmas ten. The roosts may be made of two by four inch scantling or of two by two inch pieces, with the corners slightly rounded.

When a dropping-board is used it should be made low down to admit of easy cleaning. For one roost, the dropping-board should be twenty inches wide, and for two roosts the boards should be three feet wide. It should be made of matched lumber and should be well constructed, especially where nests are located under the dropping-board. We do not use dropping-boards at all and we find that we save much labor.

Nests are made about twelve by fifteen inches, and they should be dark, as this tends to prevent egg eating.

Hemlock or yellow pine is frequently used in the construction of poultry houses.—From a bulletin on "Farm Poultry" by M. A. Jull.