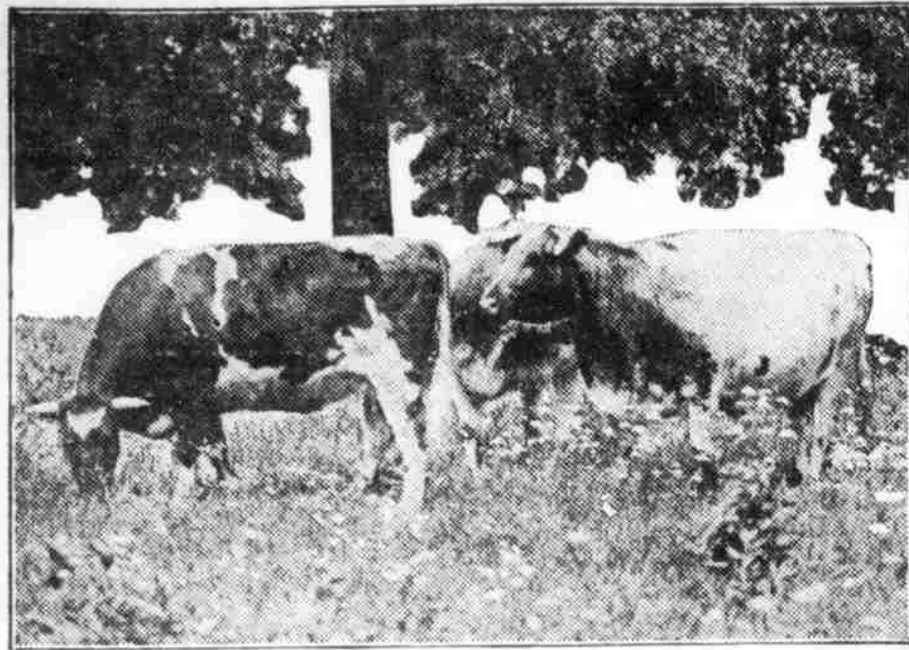


COST OF GROWING A CALF TO ONE YEAR



SHORTHORN COWS ON OKLAHOMA FARM.

(BY PROF. JAMES WILSON, South Dakota Agricultural College.)

Breeders of Shorthorn cattle should be interested in the cost of producing a Shorthorn bull to the age of twelve months. Of course this varies in different localities and with different breeders, but having produced hundreds of purebred calves, I appreciate the fact that some do not care to have their twelve months' old calves as large or as heavy as this one was, but for early maturity the calves must be fed. I know of no better place to crib grain than in purebred Shorthorn calves—even if it does cost two and three cents a pound.

Interested in Cost.

A few years ago I was interested in knowing how much it actually cost the state to produce a bull at twelve months of age at the pace we were going, so I selected a calf that was ten days old and weighed him for the trial. A daily record was kept of his feed, also that of his mother, and he weighed every 30 days. He received just ordinary attention, no more than hundreds of bulls that I have fed in this breed under similar conditions. This calf was born December 7, 1912. He received his mother's milk (no nurse cows; I would not give much for the cow that cannot nurse her own calf), and because of his age was not allowed to run with her and the remainder of the herd when she was turned on grass, May 16, the following year. The mother is a pure Scotch cow of less than medium scale and only an average milk producer. Bull calves of this age do not do well when turned with the herd in the spring to fight flies and worry all summer. Grazing in the evening would have been all right for this calf, but not having a suitable pasture he was kept in the yard day and night, and the expense of growing is probably a few dollars more than it would have been had we had a good pasture and several other bulls to have turned out with him in the evening after he was fed his grain ration.

Attracted Attention.

There was a "something" about this bull that attracted the attention of everyone who saw him. His type as Shorthorn, his size for his age, his character as a bull, his solid dark red color, all had a bearing. When calves of this age have great big thick horns and the horns have been trimmed or a wee bit sawed off the ends it is evidence that the calf has been neglected. Probably he has lost his milkfat and an effort is being made to put it back with grain.

The Shorthorn is the most popular breed of cattle in the United States today. The popularity must be credited to the fact that as a breed it comes nearer filling the dual-purpose capacity than any other. The cows are fairly good milkers, and when put on the market make good beef. Now I do not claim this breed in its entirety is as good for milk production as a breed developed along strictly dairy lines or as food for beef production as a breed developed solely along beef lines, but some excel in beef and some excel in milk.

Milk for Calf.

When this calf was ten days old he weighed 122 pounds, not an extra large weight for a calf of the breed. At this time the mother weighed 1,100 pounds. It was our intention to feed her a ration out of which she could make milk for the calf and maintain her own weight, as she was not an extra fat cow. We made a mixture of 200 pounds of oats, 50 pounds of corn, 25 pounds of bran and one-tenth as much of the total by weight of oilmeal. The idea of adding the bran was to compel more thorough mastication of the grain before swallowing and to furnish protein and mineral matter. In addition to this ration she was fed ordinary wild hay. At this time the cow was on full feed, or 12 pounds of the mixture per day and all the hay she wanted. At the end of 30 days her grain ration was increased to 14 pounds of the mixture, and at the end of 60 days the two were eating 16 pounds, as the calf at this time had learned to eat grain with its mother. When the calf was eighty days old he was fed in a separate box, beginning with four pounds of the same mixture and gradually increasing, giving him all he would eat after he had sucked his mother.

Grain for Calf.

On May 16 the cow was turned to grass and was brought in morning and evening to nurse the calf. Her grain rations were gradually reduced and that of the calf increased. At this time the mother weighed 1,134 and the calf 554. The calf was now five months

old. The next month he was fed alfalfa hay in place of the wild hay, and on the eighteenth of July his grain ration was changed to one-third oats, two-thirds corn and one-tenth oil meal by weight. On August 1 Bromus inermis hay was substituted for alfalfa hay (because of scarcity of alfalfa) and the calf at this time was eating 12 pounds of grain daily and what hay he wanted. He was continued on this ration until twelve months and ten days old, when he was eating 16 pounds of the mixture daily. At this time he weighed 1,068 pounds. I have fed calves that were heavier than this one for their ages, but they were from better milkers than this cow.

The following is a statement of the quantity of food actually consumed by the cow and calf until he was one year old. This is figured at ordinary prices for feed in the Northwest, and not wartime prices:

Oats, 79.9 bu., at 23c.....\$18.37
Corn, 31.8 bu., at 35c..... 11.13
Oilmeal, 500 lbs., at 1 3/4c..... 9.16
Bran, 238 1/2 lbs., at 1c..... 2.38
Wild hay, 2.11 tons, at \$6..... 12.66
Alfalfa hay, 23 tons, at \$15..... 3.90
Bromus inermis hay, 3 tons, at \$8..... 24.00
Pasture for cow 7 months, at \$1..... 7.00

Total.....\$68.20
Gain of Calf by Months.....Pounds.

First month..... 80
Second month..... 76
Third month..... 78
Fourth month..... 106
Fifth month..... 98
Sixth month..... 116
Seventh month..... 50
Eighth month..... 102
Ninth month..... 64
Tenth month..... 82
Eleventh month..... 48
Twelfth month..... 32

Total gain.....976 Pounds.
Weight at beginning..... 122
Total weight at close.....1,068
Average gain per month..... 81
Average gain daily..... 2.67

Had I been fitting this calf for show purposes I would have added a good nurse cow and probably two, which would have increased the cost materially, but new milk is the best feed and I would have had a much heavier and fatter calf. Many will wonder whether it pays to even feed calves this way. At the close of the record keeping we were offered \$300 by several different parties for him and today he would have brought \$700 to \$1,000 and probably more at auction.

INCREASED VALUE OF MANURE

Field Tests Conducted at University of Missouri in Different Soils and Seasons.

Just what the farmer can pay for a ton of manure or for hauling and taking care of it varies with different conditions. For ten years the University of Missouri College of Agriculture has been investigating this question. Field tests have been made in 13 different parts of the state. Different soils, seasons, and kinds of manure have been included under ordinary methods of farming.

In practically all cases eight tons of manure to the acre was applied once in four years and plowed under before the corn crop. No manure was applied on the following crops of oats, wheat and clover, but the yields were all recorded. The increase in crop yields caused by the use of eight tons of manure per acre were as follows: 10 1/2 bushels of corn, 5 1/2 bushels of wheat, 4 bushels of oats, and about 7,000 pounds of hay. This is an average from 60 tests on corn and a somewhat less number on the other crops. Figuring these increases at normal prices they are worth about \$16, or about \$2 a ton for the eight tons of manure applied. With present prices, which are almost double those of normal times, manure is worth correspondingly more, or about \$4 a ton.

BEST FOR IMPROVING SOILS

Nature's Plan Is to Use Cover Crop of Weeds or Trees and Subsoil by Deep Roots.

Nature's plan of improving soils is to use a cover crop of weeds, grass, shrubs or trees and to subsoil by sending the roots down 1, 2, 3 or 4 feet, as the case may be, thus airing and enriching the subsoil without bringing it to the surface.

DAIRY

HOW TO AVOID BITTER MILK

Use of Laxative Feeds Is Recommended as Preventive—Churning Difficulties Relieved.

Both the quality and quantity of a herd's milk production depend on the physical fitness of the cows as well as on the nutrients in the feed. Bitter milk and milk with a strong odor both indicate that something in the cow's digestive system is out of order. A few doses of Epsom salts are frequently of benefit, but a better method is to choose the feed that disorders will not occur.

Among dairy feeds that are inclined to be constipating and a cause of bitter milk are corn fodder, corn stover, timothy hay (and most hays except those from leguminous crops like clover and alfalfa), all straws, cottonseed meal.

Among the feeds that are laxative in their effect on the system are linseed meal, wheat bran, silage, hay from the legumes, roots, tubers and fruits, all fresh green feeds.

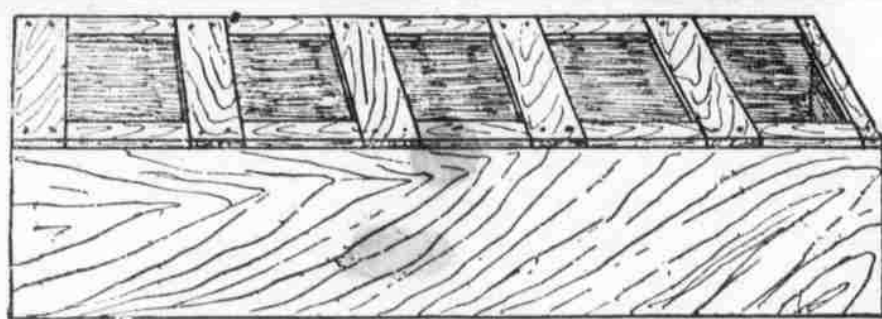
The use of feeds in the second list will place a more desirable poultry diet on the market. Another practice that should be adopted more widely is that of fattening all chickens that are to be marketed before they leave the farm. This can be done easily by confining the birds for a week or ten days and feeding them a good fattening ration. They will come to market then in better condition and the farmer will receive a profit for their added weight.

Increasing Poultry Supply.

The greater production of turkeys, ducks, geese and guinea, all of which can be profitably raised and a ready market found in most sections, would increase the supply of poultry meat considerably. The production of ducks especially should be emphasized at this time, because of the rapidity with which they grow. Ducks of most of the meat breeds, properly fed and managed, frequently weigh from five to six pounds at ten weeks of age. It is estimated by poultrymen making a specialty of growing ducks that the feed cost per pound of producing duck meat ranges from eight cents to twelve cents, depending upon the current prices of grain and other feeds.

The number of marketable eggs can be increased by following a few practical suggestions. Among the most important of these are the production of the infertile egg after the breeding season is over, and the proper handling of eggs by the farmer before sending them to market. The infertile egg is obtained when all male birds are removed from the flock. This does not decrease the number of eggs produced, but it does increase greatly their keeping qualities. The production of the infertile egg and the proper handling and marketing of eggs by the producer would increase tremendously the number of marketable eggs each year by diminishing the quantity that are rendered unfit for food.

WORK TO INCREASE POULTRY PRODUCTS



FEED HOPPER DESIGNED TO PREVENT WASTE.

Very few farmers practice a systematic plan of disposing of their fowls after they have ceased to be productive, although it is well known that fowls of the heavier breeds, such as the Plymouth Rocks, cease to produce a profitable number of eggs at the end of their second laying year, and that this holds true of the lighter breeds, such as the Leghorns, at the end of their third laying year. Consequently, if efforts were made to dispose of all females when their best laying days were over, a large quantity of poultry meat would be placed on the market. All poorly developed chickens should likewise be culled out and used as meat. This way of disposing of unprofitable fowls would allow the farmer to feed his grain to younger and more productive fowls.

Caponizing the cockerels that are not intended for breeding purposes will not only increase their size but will place a more desirable poultry meat on the market. Another practice that should be adopted more widely is that of fattening all chickens that are to be marketed before they leave the farm. This can be done easily by confining the birds for a week or ten days and feeding them a good fattening ration. They will come to market then in better condition and the farmer will receive a profit for their added weight.

Increasing Poultry Supply.

The greater production of turkeys, ducks, geese and guinea, all of which can be profitably raised and a ready market found in most sections, would increase the supply of poultry meat considerably. The production of ducks especially should be emphasized at this time, because of the rapidity with which they grow. Ducks of most of the meat breeds, properly fed and managed, frequently weigh from five to six pounds at ten weeks of age. It is estimated by poultrymen making a specialty of growing ducks that the feed cost per pound of producing duck meat ranges from eight cents to twelve cents, depending upon the current prices of grain and other feeds.

The number of marketable eggs can be increased by following a few practical suggestions. Among the most important of these are the production of the infertile egg after the breeding season is over, and the proper handling of eggs by the farmer before sending them to market. The infertile egg is obtained when all male birds are removed from the flock. This does not decrease the number of eggs produced, but it does increase greatly their keeping qualities. The production of the infertile egg and the proper handling and marketing of eggs by the producer would increase tremendously the number of marketable eggs each year by diminishing the quantity that are rendered unfit for food.

Cleanliness Is Essential.

The poultry house should be clean and sanitary and the fowls free from insect pests, thereby preventing disease and mortality. It is estimated



White Leghorn Cockerel.

that nearly \$9,000,000 worth of poultry is lost each year through disease alone. Special attention should be given to the feeding and housing of laying fowls at seasons of the year when their natural source of food supply is cut off.

Broody hens greatly reduce the egg yield and in this time of egg shortage it is important that each hen be kept busy. It is a mistake to let them sit simply because they want to. If they are allowed to follow their inclinations they will sit indefinitely. If they are broken up they will begin laying again in about ten days, provided that they are in good condition.

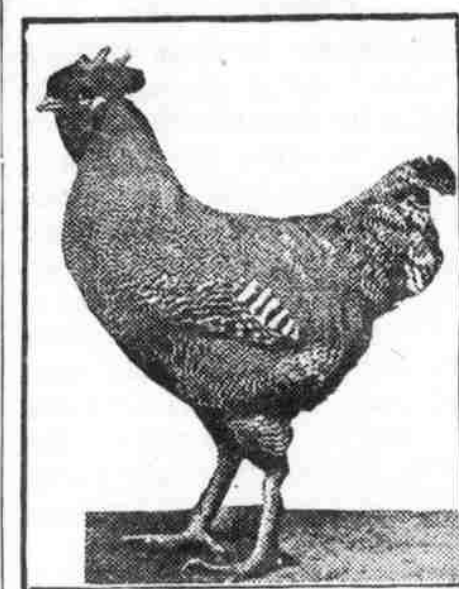
Such methods as dipping the broody hen in water are useless in breaking her up and they may impair future egg production. As soon as the hen shows signs of broodiness she should be removed to a slat or wire bottom coop. She will be easier broken up at first than later. Broodiness is quite largely a state of mind. If the broody hen is put where the hen can see the rest of the flock, she will grow restless. After four days let her return to the flock. By this time she will have changed her mind and will go back to laying. Be sure to feed her liberally while in the coop,

for laying hens must have a surplus of fat. A hen in poor flesh rarely lays. A little attention to the broody hen will make a great difference in the looks of the balance sheet. In these days of high-priced eggs it is important that the hen take as little vacation as possible.

Keeping Small Flock.

The actual economy secured by the keeping of a small flock of chickens depends primarily upon their egg production, and this in turn is largely a matter of care. Under favorable conditions, however, it is estimated that 150 eggs the first year and 120 the second is a fair return from the ordinary hen. On the other hand, at least from 25 to 50 cents a year must be expended for grain and other feeds, the exact amount depending upon the quantity of table scraps and green and insect food available. Where all the feed must be purchased, from \$1 to \$1.25 is allowed. Even in the most thrifty household, however, there is always a large quantity of table scraps, vegetable parings and other "left overs" for the hens, so that a considerable portion of their feed consists of what otherwise would be carried off the place by the garbage man.

Although of less importance than the eggs, the supply of poultry for the table furnished by the home flock is an item that cannot be overlooked. In a flock of 25 which the owner is perpetuating there will be approximately twelve or thirteen cockerels, almost all of which can be used best for food.



Barred Plymouth Rock Cockerel.

Half of the hens must go each year also, so that, allowing for losses and for birds reserved for breeding there still will be enough appreciably to affect the butcher's bill.

Fowls for Ordinary Family.

From twelve to fifteen hens are sufficient to provide the ordinary family with enough eggs and meat to render the keeping of the birds worth while. The amount of outdoor space the flock will require may be estimated at about 25 square feet for each bird. There are instances in which chickens have thrived with much less than this, but unless the soil is especially favorable and the birds receive unusually good care, crowding is likely to prove unprofitable.

Poultry specialists do not recommend, however, that everyone with the requisite space at his disposal should go in for chicken raising. Unless there is a natural interest in poultry or a determination to make the flock a source of real economy, even if it does take time and trouble, the venture is not likely to prove successful. Lack of care may result in disease that will sweep off the entire flock, and it is almost certain to cause a reduction in egg production that will make the birds a burden instead of a help.

FEEDING PULLETS FOR EGGS

Stunted Fowls Will Prove Decided Disappointment—Care and Feeding Are Important.

Pullets that are stunted by poor feeding during the first few weeks of their lives will prove a decided disappointment from the standpoint of their egg production, according to N. L. Harris, superintendent of the Kansas State Agricultural college poultry farm.

"If an abundant supply of eggs is to be expected next fall and winter, the young pullets must be fed from the first with this view in mind," said Mr. Harris. "There is always shortage of eggs in the early fall and winter, due largely to the fact that the care and feeding are not properly attended to during the early life of the chick."

"Hens do not consume feed one day to manufacture it into eggs the next. Chicks should be fed a good ration throughout the entire year instead of being allowed to hustle for themselves after they have attained a weight of two or three pounds. It is practically impossible to induce the hens to lay during the cold winter months unless they have been well developed and started to laying during the nice fall weather."

WOMAN NOW IN PERFECT HEALTH

What Came From Reading a Pinkham Advertisement.

Paterson, N. J.—"I thank you for the Lydia E. Pinkham remedies as they



have made me well and healthy. Some time ago I felt so run down, had pains in my back and side, was very irregular, tired, nervous, had such bad dreams, did not feel like eating and had short breath. I read your advertisement in the newspapers and

decided to try a bottle of Lydia E. Pinkham's Vegetable Compound. It worked from the first bottle, so I took a second and a third, also a bottle of Lydia E. Pinkham's Blood Purifier, and now I am just as well as any other woman. I advise every woman, single or married, who is troubled with any of the aforesaid ailments, to try your wonderful Vegetable Compound and Blood Purifier and I am sure they will help her to get rid of her troubles as they did me."—Mrs. ELSIE J. VAN DER SANDE, 36 No. York St., Paterson, N. J.

Write the Lydia E. Pinkham Medicine Co., (confidential) Lynn, Mass., if you need special advice.

GREEN MOUNTAIN ASTHMA TREATMENT

Standard remedy for fifty years and result of many years experience in treatment of throat and lung diseases by Dr. J. H. Guild.

Free Sample and Practical Treatise on Asthma, its cause, treatment, etc., sent upon request. 25c. & \$1.00 at drug stores. J. H. GUILD CO., Rupert, Vt.

WINTERSMITH'S CHILL TONIC

Sold for 47 years. For Malaria, Chills and Fever. Also a Fine General Strengthening Tonic.

A New Place for Orderlies. There is evidence that life in the army has its humorous side even in war time. In a story that recently went the rounds of the English press, a newly appointed officer who was making his first visit to the mess, with the usual inquiry of "any complaints?" arrived at one mess somewhat earlier than he was expected, and the orderly of the day, being taken by surprise, and in his shirt sleeves, dived under the table to save a reprimand.

"Any complaints?" asked the officer. The corporal, grasping the situation at once, answered for the absent orderly.

"None, sir." "Who is this?" asked the officer, suddenly catching sight of the orderly under the table.

The corporal again rose to the situation.

"Orderly of the day, sir," he answered. "Oh!" said the officer, and passed on.

The next mess were quite prepared, with the orderly, spick and span, standing at attention at the head of the table.

"Any complaints?" "None, sir," answered the orderly. The officer looked him well over. "And who are you?" he asked. "Orderly of the day, sir."

"Then why the dickens aren't you under the table?" was the unexpected retort.

Idleness Makes a Fortune. "If you sit idly you will lose money every minute," is a liberal paraphrase of a well-known Japanese proverb and serves as a protest against idleness, but the Tokyo Hochi cites the case of the great Buddha at Nara, which, despite inaction, is reaping a fortune. During the year ending June 25 the Buddha received 351,000 visitors, who paid admission fees aggregating \$9,350. The exaction of a fee to visit the big Buddha began in 1911, since which time \$127,500 gate money has been received.

Horse Chestnuts as Food. An effort is being made to adapt the horse chestnuts to the human dietary. The nuts are more than half starch and sugar, with some protein and fat, and are nutritious. Their value chiefly depends on the elimination of the bitter elements and the irritating saponin-like glucosides.

South African railways in 1918 will expect \$50,815,000, it is estimated. Portugal this year produces 376,831,577 quarts of grape wine.

"No bowl is too big when it holds Post Toasties"

