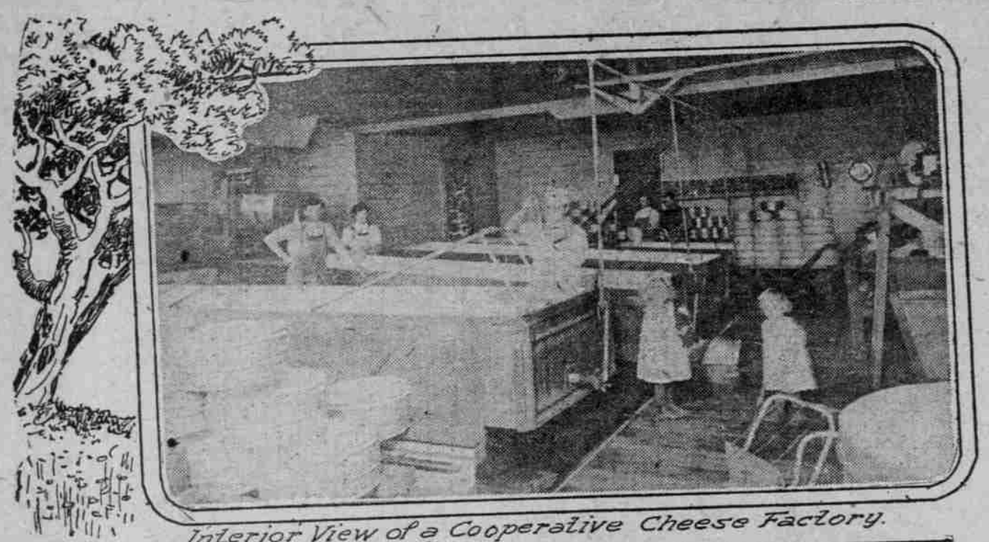
CO-OPERATION PROVES TO BE KEY TO SUCCESS OF OREGON CHEESE INDUSTRY

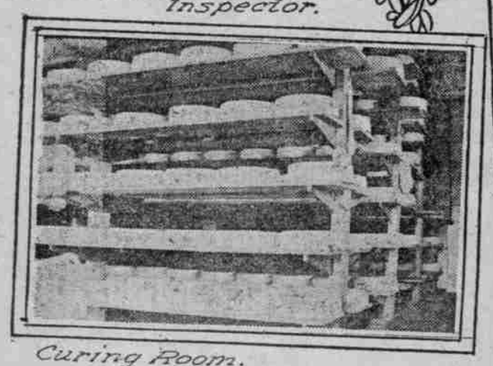
Tillamook Association Grows in Few Years From One Plant to 18, Paying Large Dividends to Stockholders and Good Prices for Butter Fat to Producers, Whether Shareowners or Not.



Interior View of a Cooperative Cheese Factory.

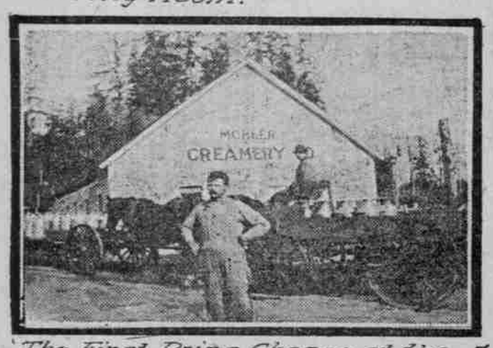
Fred Christenson, Inspector.

Carl Haberlach.



Curing Room.

A Sugar of Milk Factory, A By-Product of Cooperative Factory.



The First Prize Cheese at the California State Fair Was Made at this Factory.

Where a Ton of Cheese is Made Every Day.

BY W. S. RAKER.

FOUR million one hundred one thousand nine hundred sixty-two pounds of cheese, made in Tillamook County, Oregon, last year, sold for $627,185.10 cash at Tillamook. This was all made from 7140 cows, or nearly $100 per cow.

The average butterfat price during the month of May when milk yield is highest and prices lowest was 38 cents per pound. One factory here during the same month got 33 cents per pound for butterfat, but it is not yet in the association and does not have the advantage of the inspection and the co-operative selling agency, which clearly demonstrates the advantage of co-operation in the cheese industry.

"Tillamook cheese" is nothing more nor less than pure, full cream cheese, but it has won a place in the commercial world of the Pacific Coast that "Elgin" has for butter in the effete East. The co-operative idea is the evolution growing out of necessity and assisted by a geographical isolation of the community where it is made.

Co-operation Nets Big Returns.

So successful has this co-operative enterprise become that during the year 1912 $524,718.61 worth of cheese was sold at a price of at least 1½ cents per pound above the market. The standard prices here are Eastern prices plus freight. As the product amounted to 3,211,004 pounds of commercial cheese, it will be seen that these co-operators were ahead the tidy sum of a fraction more than $48,000. This distributed $2700 profit to each of the 18 factories in the combined co-operative industry, with an average of 27 patrons for each factory, just an even $100 profit above the market price to each producer or dairyman.

This extra profit is due largely to the centralized sales department and the inspection departments. The secretary and salesman of the allied factories is Carl Haberlach, and every pound of cheese made by the co-operative factories is sold by him. He in turn is employed by each separate factory, at a salary, as bookkeeper, secretary and financial agent, and he prorates the amount due to every man at the end of every month, and mails each a check for his product at the beginning of each month for the preceding month's product, the cheese being sold each month on the open market, no stock being held over to bull or bear the market, and a more successful, contented set of dairymen, merchants or business men than these Tillamook dairymen would be hard to find. "Necessity is the mother of co-operation" was never more aptly illustrated than in this community, substituting the word "co-operation" for "invention."

Some 18 years ago one Peter McIntosh instituted the first stock company factory and after three or four years of futile attempt to "corner" the cheese market, and at the same time to corner the dairymen, he failed. Then a few hardy pioneers, among whom were Dave Fitzpatrick, George Williams, Mark Harrison, Gus Wickland, Frank Severance, William Maxwell and 15 or 20 others, formed the first co-operative factory, electing Mark Harrison as their secretary and sales agent.

Each contributed $25 and staked his credit for enough more to erect and equip a co-operative factory. All who desired could bring their milk to the co-operative factory, where a practical head cheesemaker was employed, with authority to employ assistants, one man being employed for each 5000 pounds of milk produced daily. A year or two later this man, Haberlach, was elected secretary and sales agent.

To cover this factory expense, 1¾ cents per pound of the finished product was set aside for "making" or factory expense. The saving on this arbitrary amount soon wiped out the existing borrowed money used for constructing the plant, and since then the contributors to the original fund declare themselves a dividend annually of from 20 per cent to 50 per cent of the amount of the original investment. Newcomers delivering their milk to the factory are permitted to contribute their $25 stock and share in the profit, but none may sell stock without consulting the trustees in each plant, thus preventing a corner or selling the management to a trust.

From this original enterprise soon followed another and then another, as the land was cleared and developed and the success of the enterprise was assured, until the original plant was too small and the distance too great, and another factory was built on the same plan and then another, until today there are 18 of these co-operative factories collecting the milk and converting it into cheese, daily, for a distance of 60 miles north and south and 10 miles east (there is no west but the Pacific Ocean) and all in Tillamook County.

One of the early necessities for these allied plants was an inspector, who grades the finished product, as well as the factories and the dairies, and to the efficiency of this department is due, in a large measure, the topnotch prices at which the product sells. Every cheese, whether a triplet, twin, longhorn or Young America, as the four sizes of cheese are named commercially, must grade A1, and the consumer has learned that the "O. K. inspection," branded on every finished product, means just what it says.

The credit for this department belongs to Fred Christianson, a practical cheesemaker, and for years inspector for the allied industry. His pay comes from each factory and is a part of its overhead expense or "making" appropriation. The result of this man's work is reflected by the fact that last year, at the California State Fair, where entries were open to the world, two of the Tillamook co-operative cheesemakers won both the first and second prizes for best full cream cheese exhibited. These men were Hugh Barber, of the Mohler factory, and Andrew Christianson, of the Tillamook City factory, and following this, Henry Berge, of the Long Prairie factory, carried off the first prize at the Oregon State Fair.

The Washington State Fair refused to admit the Tillamook product this year for the reason, it said, that the Tillamookers had carried off so many prizes that Washington refused to compete. The State Fair prizes, for which cheesemakers are requested to compete, make for a keen rivalry for high efficiency.

When this inspector took charge 10 pounds of cheese from each 100 pounds of milk was a good yield—now the average yield is more than 11 pounds of cheese from each 100 pounds milk.

Cows Not Fed Grain.

Approximately 5200 cows furnish the milk for these associated factories, which means that every cow produced her owner about $100 in cash last year, and not a pound of grain was fed—indeed, not a pound of grain in the county. The cows not only subsist, but wax fat on grass and hay, for hay is put up and used to feed the cows through the Winter.

Here is the monthly record for one year of one herd of 25 cows, owned by David Fitzpatrick, one of the original organizers of the co-operative cheese industry:

Milk-check account by months:

January	$ 80.83
February	81.37
March	248.42
April	417.58
May	426.86
June	406.49
July	410.02
August	353.50
September	347.94
October	348.57
November	218.44
December	198.84
Total	$3449.06

This was $137.94 per cow.

These were the figures supplied by the secretary, or sales agent, and does not include the "making" or factory expense, nor does it include the whey, which is used as hog feed, and hogs there flourish and fatten on whey alone. The food value of whey is given by the Oregon Agricultural College as 5 cents per hundred pounds. It might be added that the whey from these cows made $348 worth of pork sold and eight head of brood sows left over to start the new year with.

The herds now are divided between the Holstein, Guernsey and Jersey breeds, but more than half the cows in the county are just common "red" cows. As yet no registered breeder has located in the county. This field is apparently a fertile one for such an industry.

This man, you will note, keeps one cow for each two acres, and that is about the average, as there are on the Assessor's books in the county this year 7140 cows, and the improved land assessed is 15,506 acres.

Insurgent Factories Have Herd.

The remainder of the 1800 odd cows are owned and milked by the "insurgents," who will not, or have not as yet, come into the association, and the four or five insurgent factories "make" their product, and, as a matter of fact, get approximately, the same price for their product as does the association.

There are, of course, some exceptions to this two-acres-to-the-cow rule, some more and some less. There is, for example, Eric Glad, a Swede. Eric came to Tillamook about 15 years ago, and 10 years ago bought 34 acres of stump land. This he has cleared except about five acres, and last year kept and milked 29 cows, with the regulation number of calves, pigs and horses on the place, the cows paying him a fraction more than $3000 last year, or $100 each. In addition to having cleared and paid for this well-improved farm, Eric has raised 11 healthy, happy, well-educated children. The other day he was offered $15,000 for his farm. His laconic reply, "Not for sale," turned the buyer away.

Test Rates Price.

The milk is all brought to the factories, daily, by the dairymen themselves, and is weighed and tested for butter fat by the head cheesemaker, and on this record are their values based and cash prorated them after the cheese is sold.

Formerly the cheesemakers were imported or recruited from Wisconsin or other states, but now the training school conducted in each factory where the helper or assistant cheesemaker works and learns, soon equips him for taking charge of a factory. The first prize, highest scoring cheese at the Oregon State Fair this year was carried off by one of these graduates, who was a helper last year and in charge of his first factory this year.

Another indication of their progressive up-to-dateness was that of their prize-winning cheesemakers. Andrew Christianson was a delegate to the National Dairy Show at Chicago in November, to bring home the latest and best methods. They say if anyone has any advanced knowledge of the cheese industry, they want to know it.

Cheese Sells for 16 1-3 Cents.

The secretary and salesman, Mr. Haberlach, furnished the information that the average price per pound for the cheese last year was 16 1-3 cents at Tillamook; average yield per 100 pounds milk was 11.02 pounds; average of 2.82 pounds cheese per pound butter fat; average butter fat 3.88 per cent; average butter fat price 41.3 cents per pound; average price per 100 pounds milk $1.61, or about the average wholesale price of milk per hundred across the continent.

Industry Grows Steadily.

To show the development or growth of the industry in this locality is the following record for the past six years:

1908	$259,355.29
1909	386,135.81
1910	400,044.84
1911	*358,206.29
1912	524,718.61
1913	541,748.46

*Due to low prices and not to low yield.

This shows that the industry has more than doubled in the past six years, and still there is room for expansion, as not 20 per cent of the available land is in cultivation yet.

The accompanying view of the by-product industry of pork made from the whey has a rival by the erection the past season of a sugar of milk factory, where the whey from one of the factories, the Maple Leaf, where more than a ton of cheese is made daily, is now being converted or manufactured into sugar of milk, the first factory of its kind erected west of the Mississippi River. The whey contains about 4 per cent sugar.

The makers of this valuable medicinal sugar, largely used for baby food, promises to rival the pork industry, as 7c per hundred pounds is the contract price now being paid for this whey by a stock company, an offshoot of the sugar of milk trust, and a movement is now on foot to make this plant co-operative.

Deposits $118.50 Per Capita.

The commercial importance of this Co-operative industry was recognized a year or two ago, when a railroad was built to it and now the industry has the advantage of competition by both rail and water transportation, and lest the thought should prevail that these people are leading a hand-to-mouth existence, let me add that the last census gave the population of Tillamook County as 6226, and the last bank reports made to the State Bank Examiner showed deposits of $756,100.03, or $118.50 on deposit in the county banks for every man, woman and child in the country and this is practically the only developed industry.

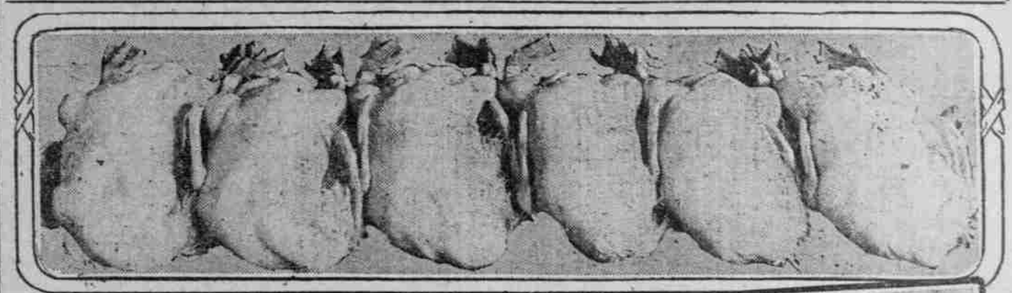
The co-operation germ in Tillamook seems to leaven the whole lump of population. For instance, the good roads question was a serious one in this land of copious rainfall, for, while the rain was making the grass grow naturally to make the milk, it also made soggy, muddy roads. And as improved lands are usually the ones taxed, the taxation for the 15,509 improved acres in the county was a serious problem, as there are 589,308 non-tillable acres in the county, and all but the 15,000 was timber land owned largely by non-resident timber owners.

Timber Pays for Roads.

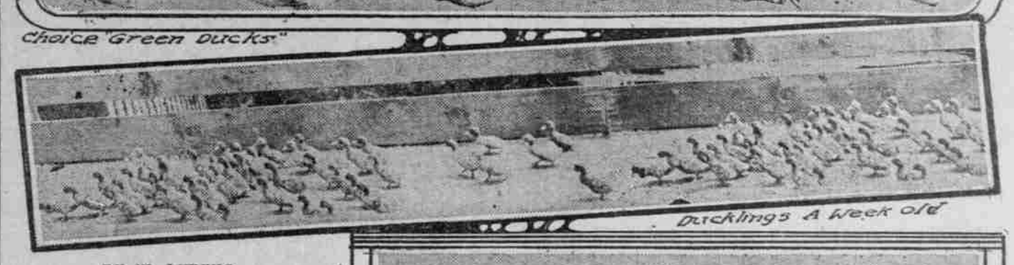
This need of good roads was discussed until the county fathers decided to have the timber land owners co-operate in the expense of road building. To accomplish this, enough county funds were appropriated to cruise or measure the standing timber, and since then the timber owners are paying their just share—about 75 per cent of the taxes, and as a result, this co-operative county has a larger percentage of macadam or turnpike roads than any other county in the state. One main road, 60 miles long, running the length of the county from north to south, is macadamized and the laterals or cross-roads are made permanent. Here is a lesson in co-operative farming that should set an example of its possibilities for the rest of the world.

DUCK RAISING OFFERS PROFITS FOR THOSE DESIRING POULTRY BUSINESS

Large Cities Are Best Markets and There Is Little Danger of Overstepping Demand, While Industry Is Easily Learned, Says W. Ludwig.



"Choice Green Ducks."



Ducklings A Week Old

Ducklings Ten To Fourteen Weeks old, That Weigh Four To Six Pounds When Dressed.

BY W. LUDWIG.

ACCORDING to the census of 1910, of the total number of fowls in this country less than 1 per cent were ducks. In actual numbers there were 2,904,359. This number represented a loss of more than 39.3 per cent as compared with the census figures of 1900, although in recent years this duck industry has been found to be profitable in certain districts of the country, especially near the large cities.

James Rankin, of South Easton, Mass., is credited with starting the Pekin industry in America about 40 years ago. He learned of their wonderfully rapid growth to marketable size and imported a number of breeders. He was successful in raising a number and, after carefully dressing them, supplied samples to a number of rich families in Boston. From this small beginning the industry has grown until now thousands of green ducks are raised every Spring and Summer, notably on Long Island and in Massachusetts, Pennsylvania and New Jersey.

It is estimated that in 1913 on 55 duck farms on Long Island there were more than 1,000,000 ducklings hatched, and the greater proportions were raised for the market. When these birds matured they weighed, when dressed, about five pounds and were sold at an average of 18 cents a pound. Thus it is estimated that the duck industry on Long Island amounts to more than $900,000 a year.

Industry Offers Opening.

The Pekin duck industry affords an opening for enterprising poultrymen and women. The famous canvasback duck and other wild fowls are rapidly disappearing, and it is to the stockmen, the poultryraiser and the waters of the earth that in the future we must look for an adequate amount of food of this kind.

For years Europe has recognized the value of the waterfowl, and they are more commonly bred than in this country. It is often observed that wherever foreigners secure lands that the number of ducks and geese maintained thereon is greatly increased.

At the present time the large cities of the East offer the best markets for the green ducks. In other parts of the country the demand is limited, though rapidly increasing. Providing that you have a good market and a well-equipped plant, duckgrowing is considered safer and more profitable than the chicken business. Ducks are considered hardier than chicks and grow ready for the market earlier. They are troubled with few diseases and the losses are much smaller. Neither do they have lice except at times when the young are hatched by a hen and before the feathers grow. Perhaps their immunity from vermin is due to the fact that their feathers are thick and oily. Ducks require a water bath to keep themselves clean and healthy and the hens seek a dust bath.

Pekin Duck Is Distinctive.

The Pekin duck is sometimes called the Imperial Pekin, the Mammoth Pekin and at times Rankin's Pekin. It is the most prolific and the most rapid-growing duck on the market. In shape and carriage the Pekin has a distinctive type of its own. Some persons describe this type as resembling an Indian canoe, from the keel-shape and the turned-up tail. The drake's two tail feathers turn over into a short curl. The familiar cry "quacks" is uttered only by the female. The cry of the male is more of a cuckle and is not at all loud. The Pekin is the common fowl of China. Its origin is remotely connected somewhere in the evolution of the wild duck. It is supposed as in the history of other races that it is probably the white variety of a race which when first domesticated, broke up into various colors. The plumage is soft and more downy than that of other varieties.

The selection of a plant should be made with considerable care. The conditions should be favorable and one should be near a good market. It seems to be the general opinion that a pond or stream is necessary to raise ducks successfully. However, this is not necessary, although some breeders consider it is advisable to have a stream of water accessable for the breeders as fertility is likely to be much better, resulting in the ducklings being much stronger and more vigorous. Some plants are successfully operated without any water, except that which is placed in the drinking vessels. Mr. Rankin for years has had no pools or streams on his duck plant, yet his green ducks command the highest price on the fastidious Boston market. The young ducks that are to be marketed do not require water except to drink, and they will put on flesh more rapidly if kept from ponds or streams.

Draughts Should Be Avoided.

Construct a house free from draughts, although admitting abundance of fresh air. Perfect dryness should exist and absolute cleanliness should prevail. Ducks are inclined to be dirty and their quarters should be cleaned frequently and thoroughly.

As ducks are hardier and can stand more cold and lack of sunshine, it is not necessary to build an expensive house for fowls. The floor of a duck house should be well bedded with straw and cleaned out frequently, as they readily fall victims to dampness. Dry feet in the house at night seems to be a necessity for good egg production. Ducks are indifferent about their nests, often dropping their eggs anywhere; other times they will make the nests on the floor by burrowing in the straw.

The ducks possess a timid disposition and the Pekins more so than others. They are easily frightened by strangers or a dog and they will injure themselves so badly that they may have to be killed. A fright, if not fatal, will take off several days of growth of the young and stop the laying of the adult ducks. Moving among them at night with a lantern sometimes causes a stampede resulting in the death of a number due to trampling.

Careful Selection Advised.

Purchase the best of stock. Select the breeders with the utmost care. Birds of good size and shape are needed for breeders and under proper care and feeding there need be no fear of a loss. Ducks a year old make the best breeders for the production of green ducks, as they lay more eggs during the Winter and early Spring. A number of the best yearlings should be retained from which to hatch the next year's breeders. Specimens lacking in size and shape usually transmit their defects. Pay special attention to the male, as in theory and in fact he is half of the pen. A faulty female will transmit defects only in her progeny. The male should possess the best of health and vitality.

Care should be exercised not to have the breeders overfat. A layer must be in good condition, but not overfat. There are two kinds of fatness. One we might call soft and the other hard fat. When a duck has been fed a too carbonaceous ration it is passed away as waste or is stored up in the body as hard yellow fat, which may largely interfere with the sexual organs, which become displaced or obstructed, with the result of infertile eggs. Too much fattening food has been fed the birds and at the some time they may be almost starving for nitrogeneous food, which will, if used in conjunction with the fat, be manufactured into eggs. Lack of exercise is also a cause of infertility and can be rectified by giving the ducks a grassy run or pool of water in which to disport themselves.

Incubators Are Used.

Duck eggs may be successfully hatched either by the natural or artificial methods. When few ducklings are required a good hen will answer the purpose, although in large plants today incubators are used exclusively. Duck eggs take 28 days to hatch, except in the case of the Muscovy duck, which requires about 35 days. Duck eggs require more airing and cooling than chicken eggs. During the latter part of the hatch many breeders add considerably more moisture than when hatching chicks. Many sprinkle the eggs with warm water, believing this method insures better and stronger ducklings. Wetting the shell of the egg helps to a certain extent to soften it and makes it more brittle, enabling the duck to break its way out easily. Ducklings sometimes are rather slow to release themselves from the shells. Impatient operators will at times attempt to assist them. This is a serious mistake, as in the majority of cases more harm is done than good. Ducklings should be allowed to take their time in working their way out of the shells and assistance should not be given unless it is found that the ducklings cannot free themselves. A great deal of the trouble arising from poor hatches can be traced directly to improper care and feeding of the breeders. Breeding ducks should have an abundance of green food daily.

The same brooder that broods the young chicks will take care of the ducklings successfully. Allow them to remain at least 36 hours in the incubator before placing them in the brooder. Before placing them in the brooder prepare it by placing chaff or straw on the bottom. Place a small fountain containing water in one corner and have it so arranged that they can only place their bills in the water and not their bodies. The ducklings should be watched and taught the way under the hover and once the was is acquired there will be no trouble. Keep the pens clean both inside and out, as the welfare of the ducklings depenus on this. Provide plenty of shade.

Variety of Food Is Need.

The first food should consist of bread or cracker crumbs slightly moistened and about 10 per cent of hard-boiled eggs chopped fine, shell and all, and with this food mix about 5 per cent sand. The grit at first should not be placed by them, but mix it thoroughly with the food, as it is the most essential part of the whole thing. Feed about four or five times a day. Scatter the food on a small board and place before the young ducklings for a period of 10 minutes and then remove. After they have eaten the food place the drinking fountain with fresh water before them for a short time. The eggs used are the infertile eggs tested out of the incubators during the hatch. After the first five days rolled oats and bran can be fed with a little cut clover or lettuce. At 10 days, feed one-fourth cornmeal with the rest wheat bran with a little rolled oats mixed in and about 10 per cent of beef scraps and green food with the grit mixed in. The green food is cut fine enough and is eaten raw.

At 10 days the proportions of bran and meal are increased and the bread and eggs decreased. The growing ration is now given and is made up as follows: Wheat bran, by measure, two parts; cornmeal, one part; rolled oats, one part; beef scrap, five parts; green food, two parts. This should be thoroughly mixed and fed four or five times a day. The green food increases the bulk of the ration and has a beneficial effect upon the digestive system. When the ducklings reach the age of about six weeks the ration is changed to a fattening feed. Up to this period they are building up big frames and now it is necessary to add the required flesh and fat. The fattening ration: Cornmeal, five parts; wheat bran, 2½ parts; beef scrap, 1½ parts; green food, one part, and coarse sand one-half part. This is then fed until the ducklings are killed.

Rankin Rations Given.

Mr. Rankin's duck rations are as follows: First food for ducklings, cornmeal, one part; bran, four parts; low grade flour to hold together, 5 per cent of grit or coarse sand; about the third day add a little beef scrap and (cut) green rye. Feed five times a day for a few weeks. After that feed three times daily and gradually substitute meal for bran, until at eight weeks the rations are three-fourths meal and the beef scrap increased to 10 per cent or more. The fattening ration consists of cornmeal, 3 parts; low grade flour, one part; beef scrap, three-fourths part; green stuff, one part. This should be fed three times a day from the eighth to the eleventh week. For breeding ducks in the Fall and early Winter feed about equal parts of cornmeal, wheat bran and boiled vegetables with 10 per cent of beef scrap fed morning and evening; at noon a little cracked corn, wheat or oats. After the birds begin laying increase the proportions of meal and scrap and add low grade flour, making mash about as follows: Meal, one part; bran, one part; low grade flour, one part; vegetables, one part, with from 12 to 15 per cent beef scraps.

This is considered a standard ration until the ducks are laying, then a heavy ration is fed to withstand the drain of laying.

Robinson gives Weber Bros.' rations as follows: First three weeks, corn meal, one part; bran, one part; low grade flour, one part; dry bread (ground) and rolled oats, one part; add five per cent of beef scraps, a little grit, and a little cut clover or alfalfa or cut green rye. Mix this dry, then moisten with water and mix to a doughy consistency. Feed five times a day. Water at each feeding. From the third to the eighth week the above ration is modified to corn meal, one part; bran, one part; low grade flour, one-and-a-half parts; green stuff, one-and-a-half parts; beef scraps, one per cent—fed at first four times, then three times a day.

Rations Are Changed.

From the eighth to the 11th week, ducklings for market are fattened on corn meal, three parts; low grade flour, one part; beef scraps, three-quarters part; about three per cent of oyster shells and grit, with occasionally a little green stuff. Those saved for breeders are fed corn meal, three parts; bran, three parts; low grade flour, two parts; beef scrap, one part; (root) vegetables, one part; green stuff, one part; with about one per cent of grit, and a little salt. About once a week one per cent of ground charcoal is added. The mash is fed morning and evening about four quarts to every ten large ducks, and when ducks are laying heavily, they should have at noon about one pint of cracked corn to every 10 ducks.

The ration as used for the youngest ducks contains a greater variety of ingredients, because these growers could only get limited quantities of stale bread and of rolled oats at prices which made them economical foods, and it was judged best to use these for the youngest ducklings. The regular use of grit and shell was necessary, with the ration as fed after the eighth week, because of small proportion of bran. Whether it is better to omit bran and use grit and shell is doubtful. The period in which this ration was used is not long enough fully to develop results of feeding it. The ration fed to stock birds is heavier than the standard rations given.

While it is customary to feed young ducks five or six times a day for the first few weeks, it is not certain that there is any advantage in feeding more than three times, except when the ducklings get no feed but what is given. Ducklings on grass in Spring and Summer will come on as fast on three meals of mush as on five, and will be stronger. For rapid forcing, young ducks may be fed meat much more heavily than any of these rations. They will stand for a while a ration nearly one-third beef scrap. Whether that is a profitable ration has not been fully demonstrated.

Ducks are voracious eaters, especially when young. When a Pekin duck grows about six pounds in about 60 days if properly fed it is readily noticeable that they must consume a great quantity of feed.

Ducks retained for breeders should not be fed a forced ration. The ration should be rich enough though not producing a surplus fat. It should be the object of the breeder to raise ducks to a large size.

Ducks are always in demand in every market. They prove profitable for the farmer. There is no danger of overstocking the market with ducks, and farmers should keep a small breeding flock of 100 or more, to advantage.