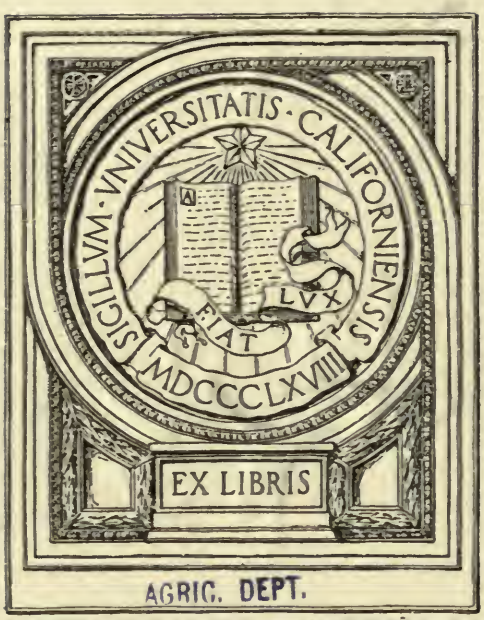

DEPARTMENT OF AGRICULTURE

(LIVE-STOCK BRANCH).

PROVINCE OF BRITISH COLUMBIA.

# MARKET POULTRY

## BULLETIN No. 49.

BY

H. E. UPTON, Assistant Poultry Instructor,

Assoc. O.A.C.

THE GOVERNMENT OF
THE PROVINCE OF BRITISH COLUMBIA.

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
Printed by William H. Cullin, Printer to the King's Most Excellent Majesty.
1913.

DEPARTMENT OF AGRICULTURE,
VICTORIA, March 8th, 1913.

*Hon. Price Ellison,*
*Minister of Finance and Agriculture,*
*Victoria, B.C.*

SIR,—I have the honour to submit herewith for your approval Bulletin No. 49, entitled "Market Poultry," compiled by H. E. Upton, Assistant Poultry Instructor, dealing with co-operation in marketing of poultry products, ideal standards of the different breeds of poultry, fattening for market, feeds and feeding, balanced rations, etc., which it is anticipated will be of material assistance to all those engaged in this profitable and rapidly growing branch of farming.

I have the honour to be,
Sir,
Your obedient servant,

WM. E. SCOTT,
*Deputy Minister of Agriculture.*


A type of general-purpose stock.

PROVINCE OF BRITISH COLUMBIA.

# DEPARTMENT OF AGRICULTURE.

(LIVE-STOCK BRANCH.)

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*Minister of Agriculture.*

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*Secretary of the Department.*

# MARKET POULTRY.

By H. E. Upton, Poultry Instructor.

## INTRODUCTION.

WHEN one walks through the many markets that handle poultry products and closely observes the quality and condition in which dressed poultry is displayed for human consumption, he quickly asks why the stock is so lean and bony, or why it looks so bad, sometimes even mouldy. With the exception of a few markets which handle specially fattened stock, the majority handle stock which has been in cold-storage for some length of time. Good storage requirements must be had to keep dressed poultry in its prime condition if being held for any length of time before marketing.

A finished roaster. Compare with following illustration.

Another bad feature arises from the fact that much of the dressed poultry has not been properly fitted before it goes into storage. Some specimens have had to be cut open in the breast in order to remove the crop, which was full of grain before being killed. Other specimens have bones which stand out very prominently, denoting that the stock has neither been bred for market poultry, nor has it been fed in such a way as would make the product more edible Fowls should be bled if they are not intended for immediate consumption after killing.

The poultrymen are in a state of unrest at the present time as to the disposal of their surplus cockerels. If the light-weight cockerels (that is, Leghorns, Minorcas, etc.) have not been hatched at the proper time, it is as well to sell them for whatever they will bring. July and August broilers do not return enough for their keep. To have the stock hatched on time and cater to the market requirements would mean a greater profit to the poultryman, and also help advance poultry-growing towards the system which must come if the best is to be gained.

Heavy-weight varieties have not been too highly recommended in some parts of the Province because of the difficulty one has had previously in marketing the products other than eggs. With the increased prices of foodstuffs and the existing scarcity of the same, there will ever be a growing demand for more and better-dressed poultry. We feel that the producer should be placed in touch with the situation, thus instructing the consumer to demand a better grade of dressed poultry and help to eliminate so much cold-storage stuff from our markets, a goodly amount of which is not produced in British Columbia.

A cold-storage fowl. Notice the dried, shrunken appearance.

## CO-OPERATION.

While the demand for dressed poultry and poultry products is growing, there is an opening for the progressive poultryman or a body of progressive poultrymen to work together and cater to a market which, when once educated to the quality of good poultry products, will pay a premium to the producer. The producer will thus benefit himself, other producers of good stock, the markets, and also the consumers.

There is very little profit for the individual poultryman to fatten or plum up his surplus stock for market, but there is certainly a grand chance for many of the small producers in districts to combine and send their stock to one centre. At this centre the stock may be fattened and marketed in a more uniform and attractive appearance. With an unlimited amount of produce to market, there is greater chance for selection and grading than when there are only a few dozen fowls to market or a few dozen eggs to be sold. The Cowichan Creamery, of Duncan, has done exceptionally good work in handling the surplus stock for producers in that vicinity. All its patrons are well pleased with the results which have been obtained. It is to be hoped that several other of the associations will combine together and market their products on a business basis, whereby they will also derive the many benefits from co-operation.

## STOCK FOR MARKET POULTRY.

All breeds and varieties are not suitable for market poultry, for there are several which do not hold in combination within themselves the power to lay a goodly number of eggs as well as being a nice table-fowl, although feeding has much to do in the securing of a good marketable fowl. One must practise selection

in the breeding stock to get a framework on which to produce the flesh. If males have been selected that have long breast-bones, well covered with flesh or muscle to the tip of the bone, and mated with females which compare favourably to the detailed standard which is given, one should produce chickens which are good utility birds, having well-covered breast-bones. Greater gains are made by marketing roasters than probably any other form of dressed poultry which is sold.

A pair of good general-purpose fowl.

From practical experience, the writer feels he could recommend the following breeds and varieties for general-purpose stock:—

*Plymouth Rocks.* — There are five varieties in this breed, the three most popular being the Barred, White, and Buff. This breed is undoubtedly one of the best farmer's fowl which we have. The best strains are good winter layers, fair summer layers, and make exceptionally good roasters. They are very hardy and good sitters. The standard weights are: Cock, 9½ lb.; cockerel, 8 lb.; hen, 7½ lb.; pullet, 6½ lb.

*Wyandottes.* — There are several varieties in this breed, the most popular being the White, Buff, Silver Laced, Columbian, and Partridge. This breed has practically the same characteristics as the Plymouth Rock, but is a little more blocky in type. Wyandottes make good broilers and roasters. They are good mothers and fair sitters. They lay a goodly number of eggs, though the writer thinks that the old strains lay a better number of eggs than the later strains, which have been bred much shorter in the back than the old type. The standard weights are 1 lb. less than those of the Plymouth Rocks.

*Rhode Island Reds.*—There are two varieties of this breed, Single and Rose Comb. Their body is much longer in appearance, and not so massive as the Plymouth Rock and Wyandotte. They

are hardy, good winter layers, fair summer layers, but do not seem to be as good sitters as the two above-mentioned breeds. The standard weights are: Cock, 8½ lb.; cockerel, 7½ lb.; hen, 6½ lb.; pullet, 5 lb.

*Orpingtons.*—This breed differs in colour of leg and skin from the above three mentioned. The more popular varieties are the Buff, White, Black, and Jubilee. The Buff and White seem to have taken a greater hold with American and Canadian poultrymen than have the Black or Jubilee. They are exceptionally good winter layers, and make good roasters and fair broilers.

*Dorkings.*—This is one of the oldest English breeds we have, and are an exceptionally good type when bred by standard requirements of a utility fowl, being long in the body and short in the legs. They lay large, white eggs, and are good sitters.

*Sussex* and one or two other varieties will do very well from the dual-purpose standpoint in some parts of the Province. We would not recommend either Sussex, Dorkings, or Faverolles for the cold, damp parts of the Province, however, because they are less hardy.

Strain and individuality play an important factor in each case. There is often as remarkable a difference between two strains of one breed as exists between two breeds of different origin. In an experiment which was conducted along dual-

(A.)

(B.)

**Note prominent head and breast of (A) compared to (B); also his pronounced appearance, denoting strength and vigour.**

purpose lines, pure-breds gave higher profits than scrub stock. In crate fattening, the pure-breds made a greater gain in live weight, and the cost of the feed for them was less than that of the scrub stock. They also appeared to be much more uniform, and had a more saleable appearance. (Re. Dom. Poultry Bulletin No. 54, p. 53.)

One can breed quite successfully most varieties of poultry for a certain ideal, so long as constitutional vigour and stamina are given the first choice in selection. A good utility standard is given in the following lines, which will help one to select their breeders:—

(*a.*) *General Appearance.*—Weight: Cock, 7 to 8½ lb.; hen, 5½ to 7 lb. Form: Long, moderately deep, broad, low set, rectangular, and well balanced. Quality: Bone moderately fine and clean, feathers soft and medium in quantity,

skin fine, and scales fine. Condition: Face and head appurtenances bright red, eye bright, feathers glossy. Style: Active and vigorous, but not restless, showing strong character.

(*b.*) *Head and Neck.*—Comb: Medium in size, fine texture, even and well attached. Beak: Short, stout, broad at base, well curved. Face: Short and full, clean cut, short distance between eye and beak, distance well filled in; head broad at crown, eye clear and full, bright red or bay in colour; appendages medium size, fine and smooth. Neck: Moderate in length, well arched, good flowing hackle in male.

(*c.*) *Body.*—Shoulders: Broad, and rather flat on top. Back: Broad, width well carried back, good length, with a gentle concave sweep to tail. Breast: Deep, wide, full, and round; fleshing abundant over breast and extending to point of keel. Keel: Long and straight, well covered with flesh over entire length. Tail: Well spread and full, not pinched.

(*d.*) *Legs and Feet.*—Size: Medium in length, plump, well muscled, set well up on the body. Legs: Straight, short, wide apart, strong in bone, but not coarse. Toes: Medium in length, straight, strong appearance.

A good comparison of strong and weak young stock.

*Notes on Standard.*—The above standard, while not calling for much explanation, would be more clear with one or two detailed explanatory notes for the beginner. Any specimens possessive of a long, crow-shaped beak should not be used in breeding. Diagramatically speaking, we prefer a U-shaped breast-bone, it being deeper and broader and should be free from crooks. With a breast-bone of this style we have a good breeder for utility stock, as also a nice-looking table-bird when dressed. A bird possessing a keel which is long and straight, in conjunction with the above-mentioned breast-bone has a framework on which a goodly amount of meat can be grown. It is the breast and keel of the fowl which make up the frame on which the greater part of the meat of the market-fowl is found. If one pays strict attention to the above points when selecting breeding stock, we will not have so many triangular-shaped specimens in our yards.

## FATTENING MARKET POULTRY.

The market price received for the ordinary lean or unfitted chicken is so small that the profits which might be obtained from a little extra work are given no attention. It is estimated that from 60 to 80 per cent. of the live weight of the unfitted chicken is unedible matter; so, also, the consumer must pay a high price for nothing more or less than offal. Many breeders of general-purpose stock know that after experimenting themselves and studying the records of many stations, the greater profit is realized from stock that is fitted and marketed in first-class condition. There are, however, many breeders who still market their surplus stock alive, or, if dressed, in poor condition. Either of these methods means a loss to the producer. It is for their benefit, as well as for the betterment of market conditions, that the subject of fattening is given so much detailed description.

There are several methods employed in different parts in fattening poultry, but the pen and crate methods seem to be the ones in vogue throughout the Dominion and the United States. The cramming-machine is used in some places to make a more prime roaster, but for the farmer or small commercial man the use of this machine is not advised. From the writer's experience, better success, in conjunction with a more even product, has always been obtained with the crate method. Crate fattening is more economical than pen fattening, though pen fattening is usually resorted to because of the lack of proper facilities for the other method. A very

easily made and efficient fattening-crate can be constructed of laths, with a few light boards from a packing-box or soap-box used for ends and partitions. The standard crate measurements are: 6 feet 6 inches long, 18 to 20 inches high, and 16 inches wide. The top, back, and underneath parts are formed of laths running lengthwise. The laths on the top and back should be about 1½ inches apart. The slats on the front should run up and down, being placed 2 inches apart, so that the birds may eat from the V-shaped trough in front of the crate. The laths on the underneath portion are placed ¾ inch apart. The back slat should be placed at least ¾ inch from the last slat on the underneath portion, so that the droppings will pass through upon the floor, rather than accumulate in the crate. A V-shaped trough 2 inches deep and 2½ inches wide at the top (inside measurements) is placed in front of the crate on brackets, or it may be hung on two pieces of hay-wire, the trough being raised about 2 inches from the level of the underneath portion of the crate. After the crate is finished it may be placed upon stands or upon legs about 2½ to 3 feet

Three grant roasters. The breast and keel are plainly seen.

The Cowichan fattening-crate.

off the floor. Nothing, however, should be placed in under the crate, thus keeping the birds in a more sanitary condition. The crates should be disinfected, after each crateful of birds has been disposed of, with some good, strong disinfectant. At the end of each season it is well to scrape the manure from the crates and give them a good washing with boiling water, thus holding to sanitary laws.

The fattening-crate used by the Cowichan Creamery (as shown in the cut) has the following dimensions: Length, 10 feet; width, 20 inches from outside slat;

height, 20 inches over all. There are five rows of laths placed lengthwise on top. These are placed about 2½ inches apart. Seven rows of 1-inch stuff, the edges of which have been skived down, are nailed on to the bottom of the crate about 1½ inches apart. A piece of 1-inch stuff should be centred on the bottom, the other three on each side being nailed equal distances apart. The back and three centre partitions are solid, made of two pieces of 1 by 8-inch shiplap. All other framework is made of material 2 inches by ½ inch, except end braces. Inch and a quarter nails are used in the lathwork and 2-inch nails for the rest of work.

In constructing the front of crate, each compartment of which has five pieces of laths up and down, one piece 16 inches long should be centred in the middle of the compartment stationary, and two placed at equal distances on each side of same, nailed permanently. The centre lath works as a door by nailing two pieces horizontally across the two laths which have been nailed on either side of the stationary piece, and driving two nails on either side of the centre lath itself to hold same in firm upright position, yet allowing play enough for easy working up and down.

The material required for such a crate is as follows: 29 laths 49 inches long by 1½ inches wide; 4 feet of 1¼-inch material planed for braces at top and bottom ends to attach laths to; 70 feet of 1-inch stuff for bottom pieces; 20 feet of 2- by ½-inch material for bottom and top front brace to which partitions and front laths are secured; 36 feet of 1- by 8-inch rough shiplap for partitions and back; 1 lb. 1¼-inch nails; 1 lb. 2-inch nails.

A crate this size allows five compartments of 20 by 22 inches inside measurements. The feed-trough measurements are the same as for the standard crate.

The objectionable features of the pen method are many. When a number of birds are placed in a house or small coop, there naturally is a tendency to move around and walk over each other; hence much of the food eaten is wasted by supplying energy to the bird for its movements. In crate fattening, one can guide the feed much more readily, keep the birds in a smaller space, have them in a more sanitary condition, and keep the room darker, preventing so much restlessness.

There are several little details, however, which should be given consideration as to the handling of the stock before placing them in the crates. A bird weighing from 3½ to 4½ lb. pays better returns than a heavier or lighter bird, when crate-fattened. Stock should have reached this weight when from the age of four to four and a half months.

### Experiment 1.

Experiment to show results of fattening immature stock and mature stock of weights recommended:—

| Number of Cockerel. | Weight when put in Crate. | Weight at End of First Week. | Weight at Killing-time. | Total Gain. |
|---|---|---|---|---|
| Leg-band. | Lb. oz. | Lb. oz. | Lb. oz | Lb. oz. |
| 60 | 3 8 | 3 7 | 4 6½ | 0 14½ |
| +13 | 3 9 | 3 6 | 5 4 | 1 11 |
| +67 | 3 12 | 3 12 | 4 14 | 1 2 |
| +0 | 3 0 | 2 14 | 3 14 | 0 14 |
| 223 | 4 7 | 3 13½ | 4 12 | 0 5 |
| 236 | 3 3 | 3 0 | 3 14½ | 0 11½ |
| 255 | 3 8 | 3 5 | 3 14 | 0 6 |
| 275 | 5 5 | 4 15 | 5 7 | 0 2 |
| 276 | 4 1½ | 3 13½ | 5 0 | 0 14½ |

Brown-Upton, University of Maine, 1910-11.

*Notes on Above Figures.*—It must be remembered that individuality will play a large part in all cases. Birds Nos. 60, +13, and +67 made good gains, comparatively speaking. Birds Nos. 275, 255, and 223 made very poor gains. The quality of flesh was much improved, but the stock was range-fed too long before fattening. The above results are a few specimens experimented with out of several crates.

In selecting for size, one desires to fatten birds which have practically attained their full growth of framework. A fair amount of meat should be developed on the body.

Crate fattening will yield a good profit to the man who pays strict attention to the three above-mentioned factors when selecting his stock. Even if they be not crate-fattened, but shut up in the house for two or three weeks' time, they will yield more profit than when range-fed.

## FEEDS AND FEEDING.

As to the method of feeding that is generally used in fattening poultry, it would probably be well to mention one or two of the little details that come up before placing the birds on a genuine fattening ration. We would advise one to start feeding a little wet mash to the surplus stock when on the range for a week or two before placing them in the crates. By this method the crop becomes more

Cut showing cramming-machine used at the Cowichan Creamery and Fattening Station.

enlarged, and the digestive system is made more adaptable to handle the wet mash, and more of it, when they are placed in the crate. After this time of preparation the birds should be dusted well with a good lice-powder, to prevent the irritation which would undoubtedly cause loss of weight when in the crate. They should then be starved twenty-four hours before giving them the first feed.

Begin feeding the birds with a very small quantity of food, usually about 2 oz. of the mixture at the first feed, then increasing the amount gradually each day, keeping the birds hungry at all times, though having the birds always eager to eat. Oftentimes a good feeder can make the stock eat as high as 36 oz. of grain to the twelve birds at a feed. The eighteenth or nineteenth day of fattening in the crate is usually the last day when the birds can be forced to eat a greater amount of food. From this time on the birds gradually eat a smaller amount, so therefore they should be starved, dressed, and marketed immediately. At this time some English fatteners begin to use the cramming-machine on the stock for a week or so, in order to put an even more prime roaster on the market than the crate method has produced.

EXPERIMENT 2.

Experiment to show loss and gain in weights on relative days:—

| Bird's Number. | Weight when put in Crate. | Weight after Two Days. | Weight after Five Days. | Weight after Seven Days. | Weight after Nine Days. | Weight after Eleven Days. | Weight after Fourteen Days. | Weight after Sixteen Days. | Weight after Eighteen Days. | Weight after Twenty Days. |
|---|---|---|---|---|---|---|---|---|---|---|
| | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. | Lb. oz. |
| 234 | 4 10 | 4 4 | 4 2 | 4 3 | 4 4 | 4 4 | 4 6 | 4 7½ | 4 10¼ | 5 0 |
| 239 | 4 3¾ | 4 3 | 4 1½ | 4 2½ | 4 3 | 4 3 | 4 7 | 4 9 | 4 12 | 5 0 |
| 240 | 4 0 | 3 14 | 3 14 | 3 12 | 3 13 | 3 13 | 4 1 | 4 3½ | 4 5 | 4 11 |
| 241 | 4 6 | 4 4 | 4 4 | 4 2½ | 4 7 | 4 7 | 4 14 | 4 15½ | 5 0 | 5 3 |
| 242 | 5 6 | 5 3 | 5 0 | 4 11 | 4 15½ | 5 0 | 5 2 | 5 3 | 5 6 | 5 14½ |
| 245 | 4 1½ | 3 13 | 3 11 | 3 11 | 3 12 | 4 0 | 4 4½ | 4 6 | 4 6 | 4 8 |
| 247 | 4 6 | 4 2 | 4 0 | 4 ½ | 4 0¾ | 4 4 | 4 6 | 4 8¼ | 4 12 | 5 0 |
| 258 | 3 15½ | 3 10 | 3 11 | 3 12 | 3 11 | 3 12½ | 3 14 | 3 15 | 4 3 | 4 12 |
| 259 | 4 4½ | 4 0 | 3 15 | 4 0 | 4 2 | 4 4 | 4 4 | 4 6 | 4 11½ | 5 5½ |
| 260 | 4 2 | 4 1 | 3 13 | 3 13½ | 3 14 | 3 15½ | 4 0½ | 4 6 | 4 6 | 4 9½ |
| 262 | 4 9 | 4 8 | 4 6 | 4 6 | 4 6 | 4 7½ | 4 10 | 4 11½ | 4 15 | 5 5½ |
| 267 | 4 4 | 4 0 | 3 13 | 3 12½ | 3 14 | 4 0 | 4 3 | 4 5 | 4 9 | 4 12½ |

Brown-Upton, University of Maine, 1910-11.

When the above experiment was conducted, the experimenters wanted to see exactly what happened during the fattening periods. The writer admits the results are nothing alarming. Yet, considering the stock was handled over so much and still put on good gains, one can readily conclude that good profits can be made from crate fattening.

The feeds which are generally employed in fattening are barley-meal, cornmeal, low-grade flour, shorts, and white middlings. Ground oats are also used by many, but they yield a larger profit for the amount fed when the hull has been sifted out. The mash is usually mixed in the proportion of 1 lb. of the mixed ground grain to 1½ lb. of the sour, skim, or butter milk. It is well to mix the food about twelve hours before feeding, thus letting the food cream, so to speak, which renders it more easily digested, on account of the bacterial action which takes place within the food. If skim-milk, or milk in any form, cannot be obtained, it is well to soak some beef-scraps in hot water, and use the liquid in the place of the milk. Several different rations have been used and given out as being profitable. However, there are many detailed factors that the person engaged must give attention to when he fattens the stock. The following rations are some which have been termed successful by many:—

*Ration No. 1.*—Cornmeal, 3 parts; ground oats, hulls sifted out, 1 part.

*Ration No. 2.*—Oatmeal, cornmeal, barley-meal, equal parts of each.

*Ration No. 3.*—Cornmeal, 3 parts; white middlings, 1 part; ground oats, 1 part.

*Ration No. 4.*—Ground oats, 2 parts; ground barley, 1 part; cornmeal, 1 part.

*Ration No. 5.*—Ground oats, 200 lb.; white middlings, 100 lb.

*Notes on Rations.*—No. 1 is probably one of the most profitable rations to feed in fattening when cornmeal can be got cheap enough. If the stock be well matured, a person could afford to pay $2 a hundred for cornmeal, if there were enough birds to make fattening a paying proposition at all.

Ration No. 2 is very good. It would work very well in cold weather, and yet produce fat on the birds. In warm weather a ration like this is to be discouraged.

Ration No. 3 is very good.

Ration No. 4 has given good results wherever used.

Ration No. 5 is that which is used by the fattening-station at Cowichan. Stock to be fattened in colder climates would fatten at a cheaper cost on Rations 1 and 2. For warm seasons or that which is experienced for about nine months out of the year in that district, the ration works to good advantage.

Some experiments have been conducted by feeding dry ground grain to the birds in the manner that the wet mash would be fed when fattening. They were also given access to drinking-water as suited themselves. It was observed that the birds seemed to choke when eating the dry grain. Naturally, they would become ravenous when fed in this way, and would therefore try to eat too much at a time. Though only conducted twice, conclusions were to the effect that this was not a profitable method of fattening. An experiment was also conducted by the writer, in which twelve males were put in a pen 8 by 10 feet and fed whole grain, with milk to drink, for three weeks' time. The result was that the texture of the flesh was not improved

A neatly packed box of dressed poultry.

in any way, but the stock weighed more at the end of the period of fattening than when put in. The results tended to prove that more profit would be obtained from stock fed in this way than when marketed directly from the range.

## CAPONIZING.

We do not think that caponization is a profitable practice to the small producer, under the present market conditions. The same amount of time used by the small producer in fattening will pay better returns.

## PREPARATION OF STOCK FOR MARKET.

Not infrequently does a producer have hard work to market his produce because of the slack appearance it has when being sold. If the producer does not spend a few moments in adding to the neatness and attractiveness of his article, he is throwing a share of his profits away. For example, if a poultryman has a dozen fowls to market, and throws them in his wagon on a bran-sack, and another dozen are packed in a box lined with clean parchment paper, with their feet and heads washed, the contrast is quickly noted by the buyer. The producer will thus obtain a premium over and above those which are marketed in a slack condition. Though 2 cents a pound on a few birds may not be a very large factor, on a commercial basis it is the small amount which counts up fast and displaces many of the debits to the credit side.

## STARVING BEFORE KILLING.

Too often, well-fatted roasters have their crops full of grain when marketed. The crop and entrails, as also the meat around the same, soon begin to turn green,

Dislocating the neck. Note the head is turned to right angle with neck, breaking the joint by a pull downward.

due to the bacterial action which is caused by the food souring. Although the body of a fowl should never be placed in contact with water, the housewife is justified in washing the carcass of a bird that has not been starved, with soda-water, in order to sweeten the meat.

It is policy to starve all fowls for twenty-four hours before killing them. At about the twelfth hour of fasting, one should give them a drink of water, to wash out the digestive system.

## KILLING AND PLUCKING.

If poultry is to be used soon after killing, there will not be much danger of disintegration set up by the blood which lodges at the base of the brain from dislocating the neck. Some believe that the bird does not bleed properly unless it has quite a long neck, on account of the fact that all the flowing blood has only this small crevice to run into.

Bleeding. Note the way knife is held in right hand and blood-cup attached by hook through nostril.

If the stock is to be held for a certain length of time before marketing, it is advisable to use a method of killing which will rid the body of the blood as it is in circulation when death occurs. To meet this demand, the following method, with diagrams, is given after the experimental work conducted by the United States Department of Agriculture * as to the best methods with best results obtainable. This method is endorsed by commercial poultrymen, colleges, experimental stations, and many experts. When killing, the bird should be suspended from the ceiling or rafters by a stout cord attached to its legs, to the height of the picker's chest, as shown in cut. A blood-cup is usually hooked through the nostril of the bird, in order to catch the blood. By this practice the blood is kept from the feathers, which may be used as a by-product. Almost any kind of a knife will work well, but it is better to have a knife which is about 2 inches long and a ¼ inch wide, with a thin, flat, but strong handle, and a blade which may be sharpened on both

A good killing-knife. Exactly half-size.

sides, with a very sharp point. Having it sharpened on both sides, one does not need to turn the knife when braining the bird after it is bled. The fowl's head is held lengthwise in the killer's hand, in an inverted position, and the knife is run in just beyond the bony surface of the head, then the jugular vein is cut on the left side when the bird's head is upside down in the hand, as shown in the illustration. If the cut is made properly, the bird bleeds profusely. After this the knife is centred in the groove located in the centre of the roof of the mouth. The knife is placed downward in the groove, and then pushed backward into the bony structure of the head to the distance that might be explained as between the eye and the ear of the

* Circular No. 61, United States Department of Agriculture.

bird. A sharp half-turn will paralyse enough of the brain-tissue to kill instantly and loosen the feather-muscles. This is all done so quickly, especially by the adept picker, that the bird has no chance to suffer from the practice. Plucking should be

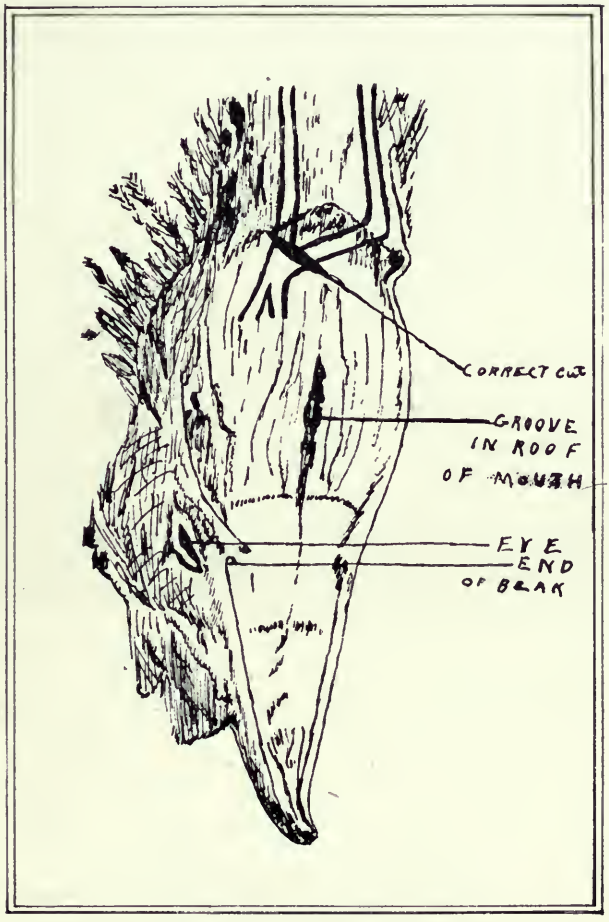



Diagram of fowl's head, showing the cut for bleeding, as also groove for braining.

commenced at once, pulling the body-feathers first, then the wing and tail feathers. As soon as the fowl is rough-picked, the pin-feathering and finishing can be done more quickly in a sitting position.

In the stool method, which is used by some of the large packing-houses, the picker usually stuns the bird with a club; then it is bled from the outside by cutting the jugular veins. The brain is pierced from the outside, also, at the same distance employed in the string method from the inside. It is really a dirtier method than the string pick, but when one acquires the knack it can be done more quickly.

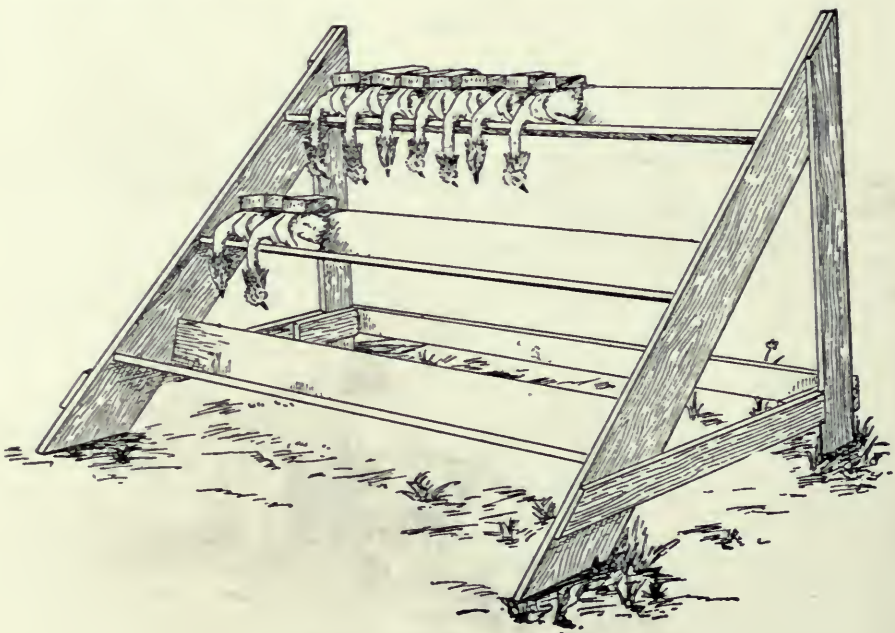
## DRESSING MARKET POULTRY.

In dressing poultry for market, dry-picking is a system which gives better results than steaming. It is in the outer layer of the skin of the chicken that one finds the taste so peculiar to this sort of meat. When a bird is steam-picked, this taste is taken away, because the outer layer of tissue is wholly destroyed. It should be a person's aim, when picking a chicken, to have it in its best condition and ready for the oven after it has been drawn. Several ideas and methods have been advanced regarding the best method of removing the feathers, but if the picker, when plucking, pulls the feathers in a backward position from which they grow, he will gradually work out a system of his own.

Picking and finishing.

## SHAPING.

After fowls have been plucked, the picker should wash the blood from the head and the dirt from the feet and shanks with a damp rag; then place them on the shaping-board as shown in the illustration. The shaper is made by nailing two



A three-tier shaping-board

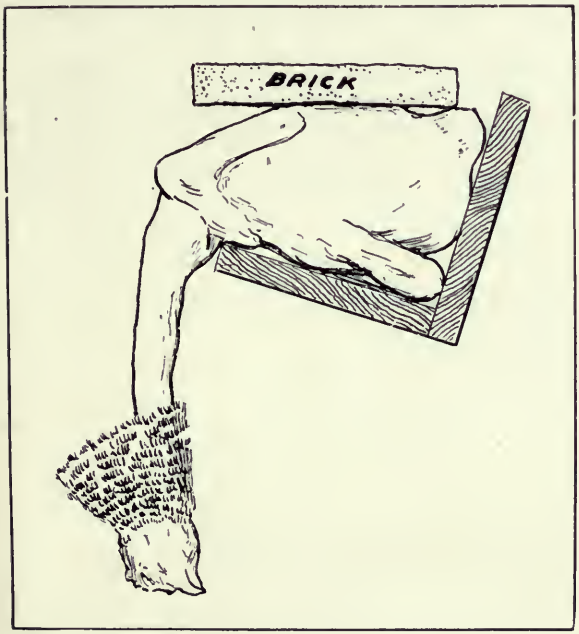
⅜- by 6-inch planed boards together at right angles. The trough should be nailed into a frame and incline slightly backwards. With legs placed alongside the breast and the breast downward, force the bird into the angle of the shaper, cover with paper, and lay a brick or something heavy on the back and something on the side, to hold it in position. The shaping should be done in as cool a temperature as possible without freezing, and should be continued for at least twelve hours.

## HOW TO MARKET.

Poultry should be marketed with their heads on and in an undrawn condition. In the larger markets of the East, dressed poultry will not bring as high a price when it has been drawn or the heads removed. The head is the health-indicator of the bird, so, thus, removing the head from the fowl might give a suspicious intention. If the entrails have been drawn from the bird, one might also suspect that it was sick before being killed. Birds marketed in this way would pick up dust and bacteria of all forms.

## COOLING.

There are two methods of cooling. One is to leave them on the shaper, and the other is to plunge the birds in ice-water to cool more quickly. When the fowl is plunged in cold water the body takes up much moisture, and, although it gives a more plump appearance, the gloss is destroyed from the skin, and if the carcass be held unfrozen for any amount of time it becomes hard and has a dried-out appearance. If dressed poultry is to be chilled or frozen, the low temperature must be constantly maintained until the product is to be consumed. Fluctuating temperatures will cause a condensation of moisture, and allows the bacteria and enzymes to perform their destructive work on the dressed carcass. The United States Department of Agriculture is doing quite extensive work with storage relative to poultry. For the ordinary poultryman it suffices to mention that poultry should not be held for any length of time in a damp room. If the product be stored, the temperature of the room should be held at an even degree, generally stated as below 40° Fahr. or 4° Cent.

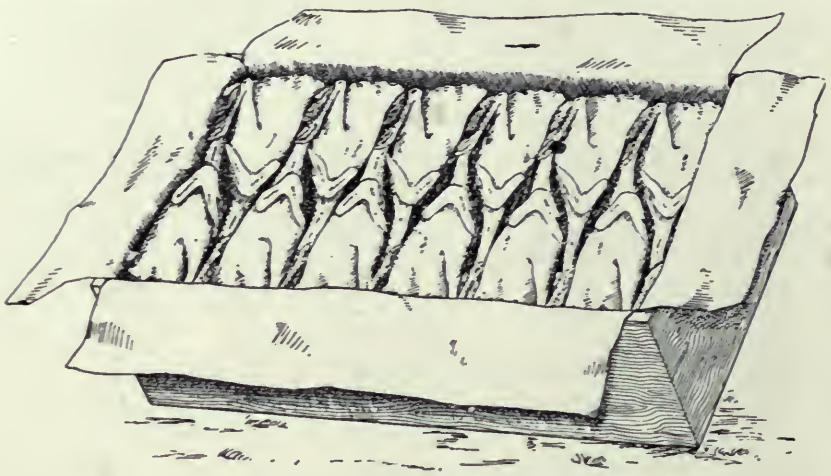



Fowl on board, showing the correct placing, with brick as weight.

After removing poultry from storage in a frozen condition it should be thawed gradually, by hanging the same in a cool place for about twenty-four hours. When frozen poultry is plunged into water in order to thaw it, then soon eaten, it has a flat or rancid taste. Dressed poultry should never be refrozen, if a good, edible article is desired.

The object of cooling poultry is to get the animal heat out of the body as soon as possible. Bacterial action takes place quickly in the warm carcass.

When thoroughly cooled, the birds should be packed in shipping-cases made of basswood, spruce, or ash. If possible, we recommend the use of spruce or ash



A good method of packing twelve birds.

in making the boxes. Pine and cedar are liable to taint the flesh. When ready for use, the boxes should be lined with parchment paper. It tends to prevent evaporation, and also keeps the birds and boxes clean.

Several methods of packing are in vogue, but the three most common in the East are the breast, back, and side packs. The following set of dimensions will assist any who are desirous of making their own boxes, whether it be individual or association packing:—

| No. | Inside Measurement. | Thickness of Sides. | Wood Ends. |
|---|---|---|---|
| 0 | 19¾″ x 15 5/16″ x 4″ | 7/16″ | 9/16″ |
| 1 | 21½″ x 16″ x 4 3/16″ | 7/16″ | 9/16″ |
| 2 | 23 3/16″ x 16⅝″ x 4 5/16″ | 7/16″ | 9/16″ |
| 3 | 24 13/16″ x 17 5/16″ x 4⅝″ | 7/16″ | 9/16″ |
| 4 | 26½″ x 18″ x 5¼″ | 7/16″ | 9/16″ |

Case No. 0 is for 12 chickens weighing (plucked) from 2½ to 3 lb.
" 1 " " 3 to 3½ "
" 2 " " 3½ to 4 "
" 3 " " 4 to 4¾ "
" 4 " " 4¾ to 5½ "

The packing should be done in such a way that the shape the shaping-board has given the stock will be retained. By following the above dimensions when constructing the boxes for packing, the packer will be able to send out an attractive package that will stay firmly packed with ordinary handling.

Not more than one grade of poultry should be placed in the same box. The grade and weight of enclosures in the box and full shipping directions should be marked on the outside, and also on a slip placed on the inside of the box.

Although we have no standard at the present time for dressed poultry, the following grades are recognized in every market:—

*Broilers.*—Should weigh from 1¼ to 2½ lb. each. Stock weighing under this figure come under another head, and stock weighing over 3 lb. belong in the roaster class.

*Roasters.*—Should weigh from 5 to 10 lb. or more at the end of the season. They are sometimes classified as medium, small, and large roasters.

*Fowl.*—Embraces all other kinds of dressed poultry when marketed, whether yearling (males or females) or more.

## SHIPPING LIVE POULTRY.

For those who ship poultry alive, whether it be for immediate killing or not, overcrowding should be avoided. Overcrowding is not only cruel, but the stock loses weight quickly, as well as deteriorating the quality of the meat.

A suitable crate for shipping fowls alive.

If coops were constructed of laths or slats on the top and sides the weight of the coop would be very much lightened, and the stock could secure more fresh air. If over fifteen head are to be shipped in one crate, a partition of slats will keep the stock from huddling and sweating in one corner, which often means the total loss of one or more birds from suffocation.

Eighty cubic inches, at least, for mature light-weight varieties and 95 cubic inches for mature heavy-weight varieties should be allowed for the most profitable results.

Sick poultry should not be marketed. It is the shipper who loses when sick birds are shipped, and not the commission-man.

## CONCLUSION.

There is no reason why the great figures telling our imports of poultry produce should not be made smaller and our export figures larger from now on.

A better system of standardization must be put into operation in the Province ere long. The only true way to have such a system work successfully is by organization. To have organization successful means the co-operation of all the poultrymen and people interested in poultry-growing throughout the Province.

Much has been accomplished along these lines, but each step must be taken carefully. One must not forget that the market end of the business has to be given consideration as well as the ranch itself.

The proper way to handle poultry. Note the hand holding the primaries and legs to prevent restlessness.

## BULLETINS AT PRESENT AVAILABLE FOR DISTRIBUTION BY THE DEPARTMENT OF AGRICULTURE.

No. 7.—Flax.
„ 8.—Feeding Farm Animals.
„ 20.—Varieties of Fruit recommended. (Revised.)
„ 25.—Orchard Cleansing.
„ 26.—Practical Poultry-raising.
„ 28.—Production of Eggs.
„ 29.—Poultry Industry on the Pacific Coast.
„ 30.—Guide to Bee-keeping in British Columbia.
„ 32.—Control of Bovine Tuberculosis in British Columbia.
„ 33.—Fruit-growing Possibilities, Skeena River and Porcher Island Districts.
„ 34.—Fruit-trees and Black-spot Canker.
„ 35.—The Place and Purpose of Family Life.
„ 36.—The Preparation of Food.
„ 37.—The Preservation of Food.
„ 38.—The Construction of Silos.
„ 39.—Natural and Artificial Incubation and Brooding.
„ 40.—Alfalfa.
„ 41.—Labour-saving Devices in Household.
„ 49.—Market Poultry.

Applications for bulletins should be addressed to the Secretary, Department of Agriculture, Victoria, B.C.

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ERRATA.—On page 10 the title of cut at top of page should read: "Three grand roasters. The breast and keel bones are well hidden."

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The Department is indebted to "Successful Poultryman," Vancouver; Cornell University, and Ontario Agricultural College for the use of several of the cuts printed in this bulletin.

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VICTORIA, B.C.:
Printed by WILLIAM H. CULLIN, Printer to the King's Most Excellent Majesty.
1913.