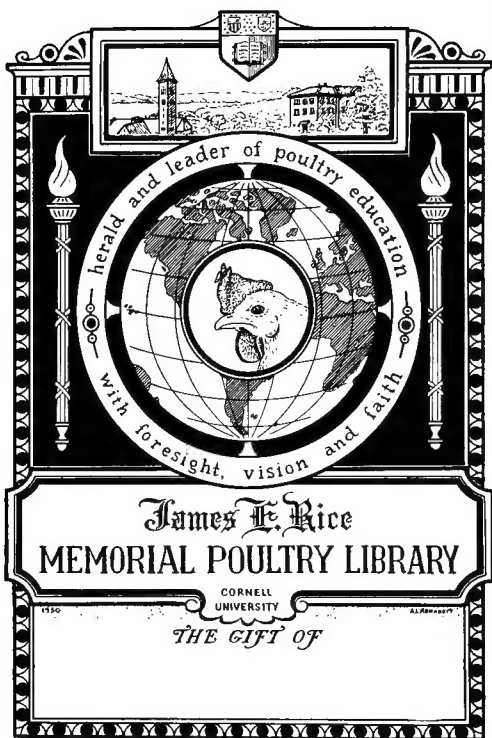


# Duck Dollars



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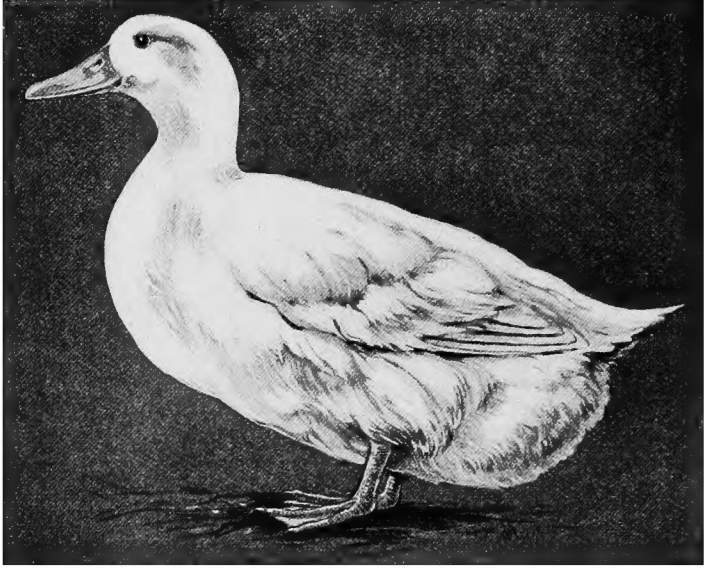
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**Young Pekin Duckling**

One of the Weber birds, a female, ten weeks old, saved for a breeder and with some of her fat trained off by running around the range. The parallelogram shape of body which is aimed at in breeding is here in evidence. The neck of this female duck is shorter than that of the average female. The necks of the males are as a rule longer than the necks of the females.

This is one of several poses which a duck assumes. She is in repose. At feeding time, and when they are waddling, the necks of both ducks and drakes are elongated and the body is tipped upward, the whole poise being different from what this picture shows. Many birds are so fat at killing age that their bellies rest on the ground when they are standing in repose like this bird. When such birds walk, they have to make an effort to pull their bellies off the ground, and roll from side to side in their walk, like a sailor ashore.

The above picture is a drawing by an artist, and not a photograph. Actual photographs of ducks and drakes are given on other pages of this book.

# DUCK DOLLARS

**Successful Experience of the  
Weber Brothers, of Massachusetts,  
who have Amassed a Fortune  
raising Ducks and who are willing  
that Others should Profit by their  
Knowledge and Methods**

**Edited and Published by  
WILMER ATKINSON CO.  
PHILADELPHIA**

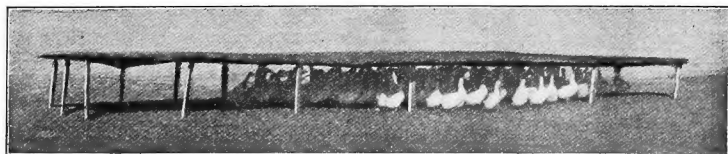
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# Contents

	Page
Foreword . . . . .	7
How the Webers Started . . . . .	9
How to Start with Ducks . . . . .	20
Ducks for Business . . . . .	22
Shelter and Ventilation . . . . .	25
Care of Breeding Stock . . . . .	28
Sex, Pairing, Breeding . . . . .	35
The Egg . . . . .	41
Youngest Ducklings . . . . .	47
Fattening . . . . .	57
Killing, Picking, Shipping . . . . .	62
Markets . . . . .	73
Question Box . . . . .	79



Under This Shelter Roof to Get Out of Sun and Rain

# List of Illustrations

	Page
Young Pekin duckling .....	2
Under this shelter roof to get out of sun and rain.....	5
Here come the little ones out of the nursery for an airing.....	8
Old Weber homestead .....	9
Ducklings five weeks old in yards of second nursery house.....	12
Feeding time for ducklings in the yards of the fattening sheds.....	16
First nursery yards .....	19
Exterior of brooder house .....	27
Interior of brooder house .....	28
On grass .....	30
Food-mixing machine .....	32
Drake, showing curl feather .....	36
How to handle live birds .....	38
Incubator cellar, showing machines which hatch the eggs into ducklings .....	42
Where they lay their eggs .....	44
Egg-testing lamp .....	45
Fertile egg, seventh day .....	45
Double brooder house. Yards on both sides. Walk through center of house .....	46
Ducklings two weeks old .....	48
Food and water troughs .....	50
Thousands of youngsters .....	52
Ducklings in the sun at midday .....	54
Winter scene, brooder house .....	56
Ready for feeding .....	58
Meal time .....	60
Fattening yards .....	61
Knife used in picking .....	62
Sticking knife .....	62
Duck picker at work .....	68
Ready for shipping .....	70
Pen of ducklings on dirt run a week previous to killing.....	71
Ducks in the first pen moved in this picture, causing the white streaks .....	72
Parallelogram shape of body, depth of keel and plumpness of Weber ducklings are shown here .....	74
Fattening shed and pens .....	76
Shelter roof for ducks on the range .....	78

## Foreword

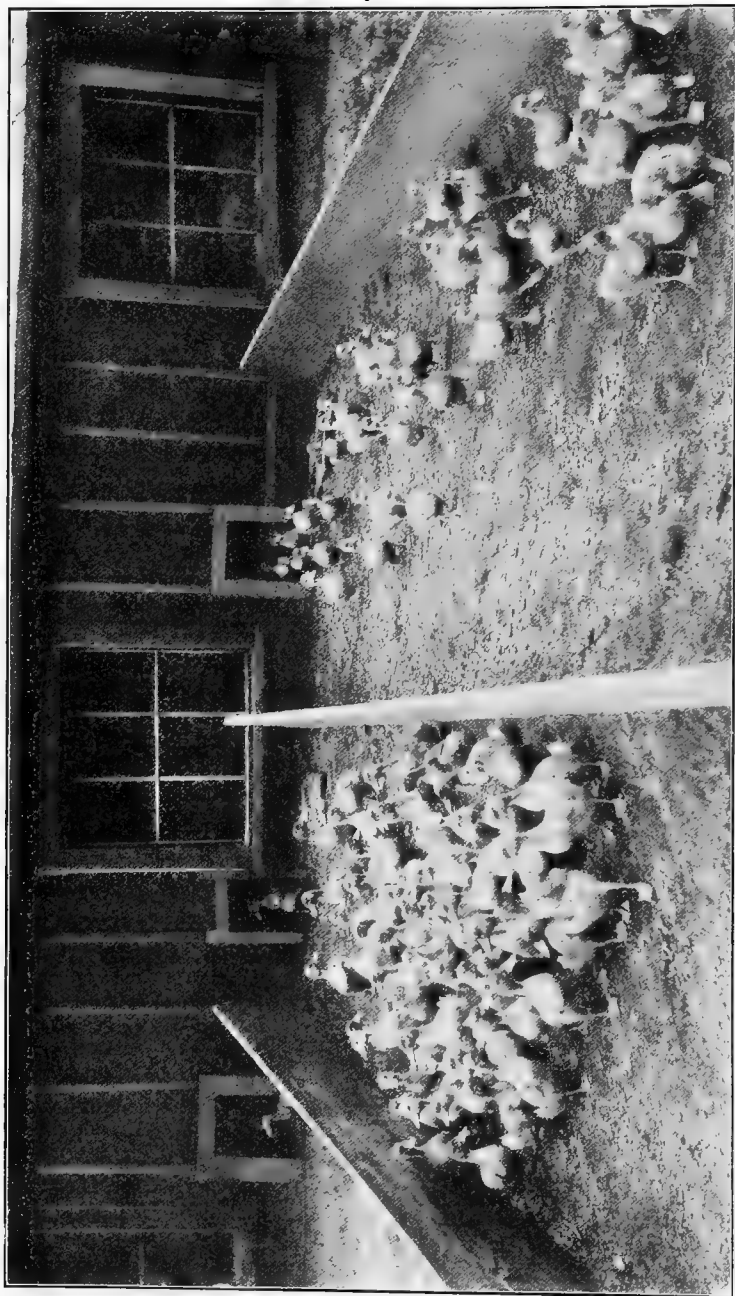
"Duck Dollars" gives the reader a summary of what the Weber Brothers have accomplished in duck raising and how they do it. Here are given their methods, rules and secrets in full. This instruction has been commended by the highest authorities as the simplest and clearest exposition of the subject so far written. It is told in the Webers' own words, as first published in book form by the American Pekin Duck Company, and is here republished by arrangement with the owner of the copyright, having been brought down to date by revision, re-editing and re-writing when necessary.

We are glad that the Webers' experience has stood the test of a number of years, and that their phenomenal success is not merely an accident which might not be repeated year by year. We have no hesitation in saying that they conduct one of the most successful, financially, and well-managed duck farms in America; one whose methods can be successfully used no matter where ducks are raised. That they have been willing to disclose the secrets of their success that others may share them is creditable to them.

This publication of this duck booklet will result in considerable interest being centered in the Weber Brothers' farm at Wrentham, Mass. Those who are interested should remember that these men work a full day on their farm and ought not to be bothered by trivial questions, or asked to confirm doubters. The whole story is told here and all questions answered.

Before taking over this book the publishers spent more than a year in investigating the business, and Michael K. Boyer, the poultry editor of FARM JOURNAL, says that there are many statements relating to the successes which could be made even stronger than they are here given.

Minor points the beginner will find quickly cleared up by his own efforts after he starts. No attention will be paid to letters unless a self-addressed, stamped envelope is enclosed for reply. Questions, if asked, should be framed so that they may be answered "yes" or "no," or very briefly, and the inquirer should number his questions and keep a copy of them, so that replies can be made by number without repeating the question. Letters in which the writers describe their personal means, location, etc., should not be sent, as the Webers cannot be expected to give advice of that nature. The post-office address of the duck farm is: Weber Brothers, Wrentham, Mass.



Here Come the Littlest Ones Out of the Nursery for an Airing

## How the Webers Started

The Weber farm for the breeding of white Pekin ducklings of an advanced type consists of 100 acres, and is located in Wrentham, Norfolk county, Mass., twenty-five miles south of Boston. It is now (1911) owned by two brothers, from forty to fifty years of age, named John and David.

The work is divided between the two, and they have (September, 1911,) five hired men, not counting the expert duck pickers, five in number, who work by the piece. Seven hired men were employed up to the middle of August. John manages the care of the eggs and the incubators. David looks after the growing stock, sale of the feathers, and directs the killing, picking and shipping.



Old Weber Homestead

Mr. Weber, senior, his wife and the sons Henry, William, David and John came to America from Germany in 1868, and settled in Boston, where the family was increased by two girls. The father worked at the leather trade in Roxbury. In the old country, the family lived a rural life, and longed for it here. The father looked for farms and a chance to do

farming. He moved to Dorchester, a suburb of Boston, beyond Roxbury, and worked at gardening. It was not until 1883 that he realized a long-cherished hope by locating in Norfolk county as a real farmer, with fifty-five acres to till. The son William was then in Chicago at work, David was in Boston in the leather business, Henry was also in Boston at work, leaving the youngest boy, John, at home with his sisters. The father first thought he could do best at truck farming. Later fifteen cows were kept and the milk sold to contractors. It was hard times, and the family managed to live but did not prosper.

The start with poultry was in 1888, when the father investigated white Pekin ducks. It was an experiment, and all the family was apprehensive of failure. In spite of the necessity of the most rigid economy, Mr. Weber understood the vital importance of beginning with the best obtainable breeding stock. The ten ducks and two drakes, all white Pekins, together with the incubator, cost \$175. They were bought of a duck breeder who lived a few miles from their home. This was thought to be a bit of folly, and the men folks had to "catch it" from their rela-

**Parent Stock,  
Ten Ducks,  
Two Drakes**

tives. They really felt quite ashamed. The incubator was transported at night, so that nobody would see it and laugh at the Webers. They hid it away in an old shack back of the house, and for months kept it covered with old grain sacks. If they failed, they did not want anybody to know it. The shack was so low that they had to crawl in to reach the incubator in the corner.

They tried the incubator first with hens' eggs, putting in 600 at Christmas, 1888, and for a wonder, and much to their astonishment (for then they did not know the possibilities of an incubator), the thing worked; they got 280 chicks out of it, selling them in the spring at favorable prices. Inexperienced as Mr. Weber and his son John were, and handicapped by the incubator being in unsuitable quarters, having a widely fluctuating temperature, they "got the hang" of the machine and made it go. Meantime the ducks were laying all right, and so the next lot of eggs to go into the incubator was the duck eggs. They hatched out as well as the hens' eggs, and so, the first year, 1889, 600 ducks were raised and marketed. After hatching the ducklings, the next handicap came from the brooders, which had been poorly constructed, and had wretched lamps. Leave the lamps lighted and burning well and they would smoke, or go out. Brooders were in their infancy then.

The ducklings were taken to Boston twenty miles over the road and marketed after a personally-made bargain in which the buyer was met face to face. The first ducks weighed four pounds apiece at ten weeks of age and sold for thirty cents a pound, a total of \$1.20, a good price. (To-day their ducklings weigh six and one-half pounds each. In August, 1911, they killed three for a special order which weighed twenty-four pounds. As nearly as the family could figure, it had cost only twenty cents to raise the duckling (no labor charge was reckoned then). Here was a remarkable profit staring this hard-working family in the face. If they could market 600 ducklings so profitably, why not more? The boys, William, Henry and David, were called home to help. The cows were sold off, for the milk farming was found to be an expensive way of employing one's time, when several hundred per cent. profit could be made on ducks.

At the end of the first year, forty-two females only were kept for layers. The eggs from these were run through the incubator again and 2,900 ducks marketed the second year. Early difficulties conquered, new troubles came up, but how could these discourage the family when a big profit awaited only the production of the ducklings?

A new light was dawning in the brains of these experimenters, and it was eclipsing the bright chicken vision which they had read and heard so much about. During the first two years, when the incubator was not working on the duck eggs, it was used for chickens; 600 chickens were raised the first year and 1,500 the second. The chickens then were dropped, as the more profitable ducks needed the room and time, and all were cleaned out with the exception of a few to provide eggs for table use.

### **Incubator Worked Well**

### **Remarkable Profit**

### **Chickens Eclipsed**

The third, fourth and fifth years were periods of steady progress, more ducklings being marketed each year.

The brother Henry died in 1892, and the father in 1894. The farm was left to the mother with the three remaining boys to run it. Confident of their powers, and determined to make themselves a success, they went forward on ducks with renewed energy. The farm was doubled in size by the purchase of adjoining land, old buildings were torn down and new ones erected. More incubators were bought.

From 1892 to 1895, in the hard times, the prices for the ducks fell off. In that period the importance of improving the size and breeding qualities of the stock was driven home to the Webers.

It was found that a duckling weighing more than the best in the market, and looking better than the best in the market, got the top price from well-to-do buyers who have the best things for their tables, no matter whether times are good or bad. Ducks and drakes were selected for size and breeding qualities from the thousands raised, and only the very finest specimens kept to supply the eggs for the next crop. Before long the Webers had such fine stock that government department men, experiment station experts, poultry editors and artists, and poultry enthusiasts from everywhere visited the duck farm to see for themselves and tell about it. The Webers very cheerfully gave all the information to everybody.

**Improving  
Size and  
Fertility**

The first evidence that the Webers were prospering with ducks was shown in 1893, when the son William built a house opposite the old homestead with duck money (he had married two years before). David built for himself a house in 1900. He married in 1904. John was married in 1902, and the following year moved into a new house. Aside from these three residences, duck buildings have been torn down and re-erected at a total cost of over \$35,000. Just how much more duck profits have been saved and banked is not known, but judging from the proportion which the average man's expenditures for home and living bears to what he puts away for a rainy day, the amount must be large. The farm and all the buildings are owned free and clear. The interest of the mother was bought out, and the three sons own everything. The residences are of modern construction, with hardwood floors, hot-water heating, hot and cold water and conveniences, including acetylene lighting for one of the residences from a private plant, and a water system of their own. The families have an automobile, they travel in their holidays, have a hunting camp down in Maine, and various fads and pastimes more or less expensive, and generally indulge themselves and their children like the average well-to-do American families. The mother lives with the son David, and the old farmhouse is now a boarding and lodging house for the help, run by a housekeeper. In May, 1911, the oldest brother, William, retired with a competency from the firm, selling out his interest and moving with his family to Illinois, where his wife's relatives live. He is there breeding a few ducklings for pastime only.

**Tangible  
Prosperity**

These successful men smile now as they recall the time when they



Ducklings Five Weeks Old in Yards of Second Nursery House



transported that incubator at night and hid it where nobody could see it and keep an amused watch over their experiment. If they did it, others can do it. They were unskilled when they started. They had no guide but their own experience. It took two or three failures of details to hammer the successful way into them. Now they raise ducklings with as much ease and certainty as a sawmill turns out boards. They start the incubators and the ducks later get to market with no guessing. No matter how many thousands they ship to market, the marketmen always want more. There never has been a time when the duck market has been glutted, or the ducks slow sellers. The Webers seldom go to market, and have always sold to commission men and dealers, never direct; but there is no doubt they would have made more money if they had sold their product direct to consumers. They have not had time to work up such a selling system, but have always done well with what the commission men and dealers were willing to pay them.

The large business has been done with the following building equipment: One house 25 x 260 feet; one 30 x 300; one 16 x 150; one 12 x 160; one 16 x 110; one 12 x 250; one 20 x 510; one 12 x 60; one 9 x 60; one 20 x 50; one 20 x 40; three 20 x 300, and three incubator houses. Total square feet of floor space, 42,040. There is no building now more than twelve years old, except one storehouse built fourteen years ago. Early buildings, poorly planned or inadequate, have been torn down to make room for the modern ones. The water plant consists of a gasoline pumping engine and a twelve-foot wheel on wood tower, a two-inch main pipe leading to a 14,000-gallon tank, one 2,000-gallon tank and over half a mile of galvanized iron piping. (In 1911 an addition to the water works was erected, and enough new piping laid to bring the total up to one and one-half miles.)

#### Modern Duck Buildings

The firm has sent annually for several years 40,000 to 45,000 ducklings to market, the daily work of from five to nine pickers being necessary.

Two gasoline engines have been in use at the farm, one to pump water, the other (of seven horse-power) to run the food mixer. The food-mixing machine saves two men's labor, and paid for itself in a few months after installation. For the late afternoon feed at the height of the season, 300 pailfuls are given to the birds. Grain, grit, shells, etc., are bought by the carload. The teaming is done by a neighbor. Only one horse is kept for farm work. The farm has its own ice-pond, enough being cut to cool the refrigerating tanks. (No ice is used in shipping to Boston market.) During the time when most of the ducklings are growing, two tons of feed a day are used. The only expensive food is rolled oats, of which only fifteen barrels a year are fed. The other feeds are the cheapest obtainable for any live stock.

#### Details of the Business

The farm ships a large quantity of the white feathers for which fifty cents a pound is obtained. The receipts for these feathers amount to about \$100 a week.

There have been twenty-five incubators in use, each of 450 duck-egg

capacity (600 chicken egg). There are a score or more of other incubators which have been sent on by the manufacturers for trial.

The investment in farm (100 acres) and duck buildings represented up to the summer of 1911 an expenditure of \$35,000, but on account of the advance in prices of lumber during the past ten years, this farm and these buildings could not be reproduced for that sum. The business can be said to have produced a net income of \$20,000 a year on an investment of \$35,000 capital, not counting the labor of the two brothers as salaries. This is a dividend of fifty-seven (57) per cent., making the duck business, as the Webers do it, rank with the most successful enterprises. If we allow each of the two brothers a salary of \$50 a week, or \$2,500 a year, for the daily labor which they do, or \$5,000 for the two, there is still left for net dividends each year \$15,000, or a net dividend of forty-three (43) per cent. on the capital invested (\$35,000). The tendency of the age has been to give youth educations in the professions as the best opportunity; but demonstrations such as the Webers are giving are changing this, and giving force to the advice, "back to the farm." To take the city of Boston, for example, the physicians whose income from practice is more than \$10,000 a year do not exceed a score, and the same may be said of the lawyers, journalists or other professional men. The graduates of colleges and technical schools, as money-makers, are also not in the same class with these duck breeders. The growth in farm interest, farm instruction, government appropriations, etc., the past decade, is justified, and the movement has only begun.

For many years the Webers have sent either to the New York or Boston marketmen, or both, from 40,000 to 45,000 ducklings a year, known as the Weber dry-picked Boston ducklings.

**Fifty Cents Profit per Duckling** They are now shipping exclusively to two Boston marketmen. On each duckling they plan to make, have made and are now making a net profit of fifty cents. The net income of the farm, therefore, for many years, has been rising \$20,000 a year.

When grain was low they made that profit. When grain is high, as it is now, they get more for their ducklings, so the average net profit of fifty cents a duckling has remained the same.

They started from nothing, poor, and have made themselves rich in this business. Out of their profits they have added to equipment from year to year as they have gone along. Their first equipment was meager; their present equipment is first-class. In the fall of 1909 a new water plant costing \$1,500, consisting of a six horse-power gasoline engine, triple action pump, tank, piping, etc., was installed. In the summer of this year (1911) \$5,000 is being spent in equipment, including a new house 25 x 200 feet for growing young ducks and a new storehouse 30 x 50 feet. Two gasoline engines and two feed mixers will be located in the basement of this storehouse. The first floor will be used for storing grain and the second floor for storing feathers. Four more breeding houses, each 15 x 20 feet, colony houses, are to be erected in the fall of 1911, located in the meadow, for experimental purposes.

By a process of evolution under their control by selection through a series of years, they have produced a market duckling which is much sought after. In 1909 they began tying up their ducklings for shipment with red and white tape in which the trade-mark "WEBER DUCK" is woven at intervals of two inches. This gives each duckling, as displayed in market, an individuality, and prevents substitution. Buyers call for the tape-marked duckling accordingly, and prefer it to all others.

**Tied with  
Special Tape**

The Webers no doubt could make more money by selling direct to buyers, as the best eggs, fowls, butter, etc., are sold, but they are satisfied to sell to marketmen and wish to avoid further details.

They formerly shipped to New York as well as Boston, but for the last two years they have sold only to Boston, and wholly to two firms.

These firms contract to take the entire output. The Webers contract to furnish no specified amount, but to ship what they are able. There are many other firms of marketmen both in Boston and New York which are eager for the Weber ducklings, and the Webers could sell a number practically unlimited, but 45,000 ducklings a year have represented their capacity. For the season of 1912, they have reserved 1,000 laying ducks and are installing now (September, 1911,) a new large-sized incubator with a capacity of 24,000 eggs. The smaller incubators are being taken out and stored. This will give them for 1912 an estimated output of 75,000 ducklings, or 28,000 more than their best previous record. From this output they expect to make a profit for the year 1912 of \$35,000 to \$38,000, or about as much as the whole plant is worth.

**Sell Only to  
Middlemen**

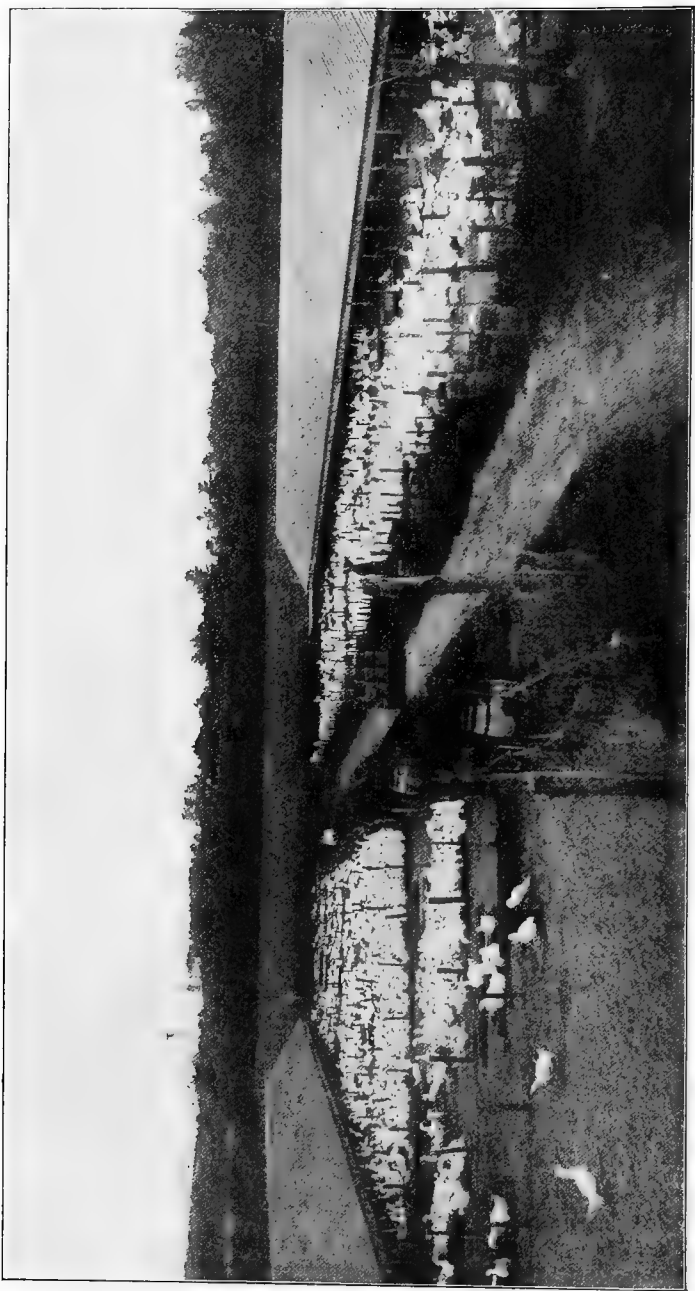
They claim for their strain more eggs per year and a higher fertility than any duck farm of which they have knowledge. For example, in 1909, they say they marketed from 700 adult layers more ducklings than another breeder who saved 1,800 adult layers. The following two records, they claim, never have been equalled, namely: (1) In 1909 the marketing of 47,000 ducklings from 700 layers; and (2) in 1910 the marketing of 40,000 ducklings from 500 layers. In other words, each adult duck produces for them eighty-five ducklings in the ten months constituting the season. Their eggs have a high fertility, hatching ninety to ninety-five per cent.

**A Wonderful  
Record**

In August, 1910, they had seven men working on the farm besides themselves. The Webers count on one hired man to care for 6,000 ducks. Other farms are said to require about double that number of hired help to produce equivalent results.

The market price of ducks paid to the Webers has risen five cents a pound since 1906, or twenty-five per cent., which has more than paid for the advance in feed.

The Webers receive at best wholesale from thirty-three to thirty-five cents a pound. They get most in January, February, March and April. Beginning about May 15th, the price drops, and from July on is from twenty cents a pound. The lowest price in recent years has been eighteen cents a pound. In the hard times of 1892 and 1893, the lowest-



Feeding Time for Ducklings in the Yards of the Fattening Sheds

on-record price of eleven cents a pound was reached; but even at this price the farm made a profit.

A neighbor, for a certain sum per year, calls at their farm daily for the killed packed ducklings and teams them to Walpole, whence they go by local express to Boston at one-half the rate charged by one of the interstate express companies from the Pondville or Wrentham station. The empties are returned free, whereas an interstate express company now charges for all empties.

There are breeders of ducks now in every part of the United States and Canada, but they have been working with poor stock and largely by guesswork. Most of them are breeding the common, or puddle ducks, or the lightweight ducks of colored plumage, all of inferior size and fed on lake or sea-shore fish until the flesh tastes more or less fishy.

**Not Fed  
on Fish**

The Weber strain of Pekins is different from the common ducks. Their birds are what they have made famous as the cross-bred, white-feathered Boston ducklings, fattened on grain and beef scraps, and weighing five to six pounds when marketed at ten weeks of age.

The plain facts about modern duck raising have never been told to the whole people. There have been writings about the subject by the workers in it, but they have talked, in a great degree, to themselves, in an obscure way, discussing methods, and not "talking up the goods" to the public as they rightfully can be talked up.

Perhaps the most surprising point, to the average reader, is that the Weber ducks are raised without water. (Swimming water, we mean; they are great drinkers.)

A farm which is good for nothing from the old-fashioned farmer's standpoint is just the place for ducks. Their manure will make the most sterile fields productive enough for the green stuff and vegetables that may be grown. The 1911 crops on the Weber farm helped by the duck manure were a sight, the millet being three feet high and the corn *from fifteen to sixteen feet high*. The crops of mangels and carrots were extraordinary.

The Weber ducklings are not raised as a small breeder raises chicken. An incubator is the device which multiplies the money-making possibilities. In the first place, these modern ducks will not reproduce their young by nest-building and setting. They have been bred to lay eggs and not to sit on them. If you wish to start small and without an incubator, you have got to take a common, old-fashioned hen and set her on the duck eggs to hatch them out.

On account of the incubators the Webers save great expense by carrying only comparatively few breeding birds from one year to the next. From each duck they get eggs enough to raise four-score ducklings that year. A duck reproducing at that rate must be good to start, and must have intelligent care and feed.

**Incubators  
Necessary**

Ducklings are on the Webers' hands only ten weeks. Then they vanish to market and the Webers get the money for them, and their room also. This goes on day after day, raising, killing, shipping, the markets

taking them all the time, as they do chickens. Prices for ducklings are highest in the East in April and May. It is not necessary to get these high prices all the year to make the business a success. The Webers have taken the markets as they have come every month of the year, knowing all the while they were making a good profit, even when prices were at times one-half to one-third lower than at others.

The Webers have found by experience the cost of raising ducklings (feed and labor, including expert pickers making from \$20 to \$30 a week) to be from six to ten cents a pound, depending on the fluctuating prices of grain. Others say the same, including the government reports from experimenters.

It costs, therefore, from thirty to sixty cents to get the duckling up to the market and into the market. The selling price is fifty cents more than this. For many years after learning the business by hard knocks, they have figured confidently on making half-a-dollar profit on every duckling,—that is what actually happens.

Ducks have no lice or other vermin. They are not bothered by hawks. They have no diseases. Hawks are an ever-present pest in many parts of our country. They will not touch the youngest duckling. By no disease, we do not wish to give the impression that ducks resist all ill-treatment. Fed improperly they will have diarrhœa. Kept in the sun constantly when little and given no shade they will be sunstruck. Allowed to become crowded and panic-stricken, they will get lame and otherwise injured. Starved, they will die like any animal. But these matters are absolutely under the control of the breeder, with very simple and sure arrangements. There will be no losses from what is commonly known as disease. No medicine or pills or drugs of any kind are of any use in the duck business.

The buildings necessary for the duck breeder vary with the climate. A good way to start is to put your incubator in the cellar of your house, or in a room, and your ducks in one small building, and enlarge as you get ahead.

The beautiful white feathers picked from the ducklings before marketing are worth good money, forty-five to fifty cents a pound. Every twelve ducks will give a pound. Generally this revenue will pay for a good part of the picking. The demand for these beautiful white feathers is active and eager. A buyer came from New Jersey a few months ago and offered to contract for the entire output of the Webers for 1912. They are now shipping the feathers to buyers in four different cities. The feathers are put up in bales weighing about 100 pounds, and are shipped by freight.

The following food is given:

	Rolled oats.	Beef scraps.
<b>What</b>	Bread-crumbs.	Green stuff.
<b>They Eat</b>	Bran.	Vegetables.
	Corn-meal.	Grit.
	Flour (low grade).	Ground oyster-shells.

The rolled oats cost the Webers \$3.25 to \$5 a barrel (180 pounds).

This is the most expensive item in the ration. They are fed only to the youngest ducklings and to them only for a brief period.

The bread-crumbs are made from stale bread given away (or sold for little) by bakers. Bought in quantities it costs only \$25 a ton.

The bran (also called shorts) is the outside shell or wrapper of wheat. It costs only \$20 a ton, but in the West near the flour mills it is much cheaper.

The corn-meal is common yellow Indian meal which has been ground (not cracked). It costs from \$1 to \$1.25 per 100 pounds in the East; in the West it is cheaper.

The low-grade flour costs \$28 a ton in the East—cheaper in the West.

The beef scraps cost \$2.50 per 100 pounds. They form a small per cent. of the ration, at a certain time.

By green stuff is meant anything growing, like common grass, oats, clover, rye, millet, etc.

The vegetables are cheap on the average farm, and are a fine duck food. Turnips and carrots are easily raised and turned into duck meat.

The grit may be ordinary sand or gravel for a certain period in the life of the ducks, after which the cheapest granite grit is bought. Fancy grits costing as much or more than grain are not used.

The ground oyster-shells essential to the egg formation are the widely-known common and cheap kind.

The part which water plays according to certain rules in duck raising is an important one. It adds volume to the feed and it makes the feed cost less because it makes the same amount of feed more filling.



First Nursery Yards

The little ones are seen poking in the dirt and running around enjoying themselves. Wire netting eighteen inches high separates each pen. The birds do not fly at any age, nor jump from one pen to another over the netting.

Ducklings are given a vast amount of water to drink between meals, also, and this fattens them. Water fattens ducks more than any other poultry—they absorb a lot of it in the course of a day.

The Webers say they do not know of anything raised on such a cheap and simple ration as ducks, as above described. No expensive grains are needed. That is where the profits come in. The producing cost is low but the selling price is high. Even when sold to middlemen, the price is from three to five times the cost of the feed.

## How to Start with Ducks

Those who, after reading this account, may wish to start breeding ducks should bear in mind the following: The best way is to buy the eggs. A trio of two ducks and a drake, or of more ducks and drakes, may be purchased; but it should be borne in mind that ducks cannot stand much transportation. If you live within twenty-five miles of a duck farm, so that you can go there yourself and take home in your wagon a trio or more, that is feasible; but if you are situated so that the ducks and drakes will have to be shipped you by express, better go slow, for live ducks, as a rule, cannot stand long railroad journeys. They become alarmed, lose appetite, refuse to eat or drink, and may die in transit, or shortly after arrival. It is not possible to ship them with any degree of safety from the Atlantic to the Pacific states. They will be dead on arrival, or will die shortly after. The express companies will not pay for such deaths or disablements. Shipments by express of live stock are made only at owner's risk. The express companies will settle only for losses of ducks caused by wrecks, or something of that nature. Duck shippers will not take the risk of guaranteeing safe delivery, as the birds are out of their control when accepted for by the express company. The result is, that in the case of deaths in transit, the loss has to be borne by the purchaser, often to his intense disappointment and sometimes resentment. The birds have cost him generally at least \$2 apiece, and sometimes as high as \$6 apiece, and the loss comes hard, especially as the buyer is in no way to blame, except, perhaps, for taking the risk. So we advise that you avoid this risk and disappointment by buying duck eggs.

A start with duck eggs is a different matter, there being a minimum of risk. Eggs for hatching are being shipped all over the United States and Canada daily. The Webers have shipped their duck eggs as far as Germany with success. Of course the beginner cannot expect to go into the markets of his city and town and buy duck eggs fit for hatching. Generally in the markets there are found only duck eggs which have been rejected from the incubators because of the very lack of that fertility which the beginner wants. Also there are eggs found in the markets laid by ducks with which no drakes have run. The beginner must buy of a duck breeder only those eggs which are sold for the special purpose of incubation,



either by a sitting hen or by an artificial incubator. Orders for such fertilized eggs are taken in advance from October on, but they cannot be delivered until about the first of February, because duck eggs are not fertile when laid in November and December. The buyer, if he wishes to do business the following spring, should place his order for eggs beginning October 1st. His order will be placed on file by the duck breeder and the eggs shipped when ready from February 1st on. If the beginner waits until January to June before placing his order for eggs, he will get them delivered right away if the breeder has them for sale. It is a fact, however, that the number of duck eggs for hatching offered each year is comparatively small, and many late buyers are disappointed. If you read this for the first time in July or August, better not start at ducks until the following spring, when the eggs will be at their highest fertility. Use up the fall months in building and getting ready.

**November  
Eggs Not  
Fertile**

**Start in the  
Spring**

Duck eggs for hatching are shipped by express after careful packing in a carton or box made for this purpose. The package is stamped "Handle with care. Keep from freezing." It is the experience of egg shippers that, as a rule, they are handled with care and are kept from freezing, and the traffic is large and successful. The express cars are heated, and the eggs have no chance to freeze there. A temperature of from fifteen degrees to thirty-two degrees Fahrenheit would have no effect on the eggs in their well-packed container, in any event, unless continued for two or three days. The only danger is, that an ignorant or careless expressman at destination, with the mercury at or below zero to fifteen degrees above, would leave them on the depot platform for twenty-four to thirty-six hours. This must be avoided. A good way, after you have ordered the eggs, and after you have been notified by the shipper of the date of shipment, is to go to your express agent and tell him that you have some duck eggs coming about such and such a time. Ask him to take them inside his office when they arrive, and tell him why. Ask him to notify you on arrival by telephone, and then you go yourself to the depot and get your eggs. Or, if you live in a city or town where the express company has a wagon delivery, ask him to get them to you as soon as possible after the train is in, and offer to pay him a little extra for such prompt service. Remember, you cannot recover from the express company for freezing or breakage. All such risk is borne by you. Another point: Suppose after putting the eggs through your incubator, or under your sitting hen, you hatch out only a few, or have some other misadventure with them, you may feel that it is not your fault, and may try to collect damages of the egg shipper, but no egg shipper is legally bound to pay such a claim. It is a risk incidental to the business, which you must take. It may be the fault of your incubator, the lamp, ventilation, or of yourself or hired man, or a dozen other causes. It is true, also, that it may be the fault of the eggs, that they were not laid by good, rugged stock, and not properly fer-

**Look out  
They Don't  
Freeze**

**Set  
Quickly**

**Buy of Reputable Breeders**      tilized, gathered and shipped, but your remedy is not at the end, but at the beginning. Buy the eggs only of reputable breeders of skill and ability who make it their business to please, and who consequently have done and are doing a large business. No absolute guarantee as to how eggs will hatch can be given. The best guide is the experience of an honest breeder, and from such a man you should buy the eggs, and rely in confidence on what he tells you,—and beyond that, look to yourself, the help you hire, and the appliances you buy.

There are many makes of incubators on the market, each fully described in the catalogue of the maker. The Webers have used two types, one an old pattern not advertised now; the other more modern, which is advertised. They like the old type as well as the new. They have tried many. They are to try a new large-sized incubator of 24,000 egg capacity beginning with 1912. They do not think that their success with ducks is dependent on any one type of incubator.

**The Man Counts**      William Weber, the oldest brother, who ran all the incubators while connected with the firm, is an expert of experts in this line, and no doubt could master any incubators set before him, and turn out the thousands of ducklings just the same. Both the other brothers are also expert incubator operators. So do not write the Webers asking them to recommend an incubator manufacturer. It should be remembered by beginners that an incubator is largely a tool, and the work it turns out depends considerably on whose hands it is in. The choice of an incubator may be made intelligently by comparison of catalogues and the machines themselves.

In buying duck eggs, remember that you buy the breeder's intelligence and skill as well as the eggs. You cannot raise the best type of Pekin ducks unless the best type of Pekin ducks laid the eggs. The ducks which you see on the farm you visit will be reproduced in the eggs which you buy from that farm. The germ of the ducks you want must be in the eggs or you cannot produce them. Do not think that by superior management of an incubator or brooder you can produce an improved strain of ducks. By selection of the best ducks themselves, from those you raise, and in that way only, is advancement possible. A setting of duck eggs, twelve in number, costs as high as \$5, sometimes higher, and more eggs at the same rate.

## Ducks for Business

The white Pekin is the queen of all ducks. This breed was brought to America from China, where they are raised now, and highly esteemed.

**Pekin is Queen**      The first specimens of Pekins were imported fifty years ago. In this comparatively short period, a great deal has been done to improve the size and breeding qualities of this variety.

Other varieties of tame ducks are the white Aylesbury, Indian

Runner, white Muscovy, colored Muscovy, colored Rouen, black East India, black Cayuga, blue Swedish, Crested White, gray Call, white Call.

Everything written in this book applies to the white Pekin strain which we have developed. These teachings do not apply to the other above-named varieties. Commercially, we believe in the Pekin only. The other varieties may be bred for show-room or for amusement, but as to their money-making qualities we are in doubt. We have no doubts as to our Pekins. They are easily raised in great numbers, and are in active demand in the markets and sold at a large profit.

America leads in the development of the Pekin. The duck breeders in England are few and far between. They have experimented most with the Aylesburys. The Pekins mature more quickly than the Aylesburys and their feathers come out more easily when picking. The Indian Runner duck is smaller than the Pekin and has dark pin-feathers. It is not so salable as the Pekin; side by side in the markets the Pekin will beat it in looks, size and price. The Indian Runner is a good layer, but this does not offset the other points mentioned. Muscovy ducks are fighters and hard to handle. Gray and white Call ducks are bantams bred for the show-room, but never for profit. The black East India is another bantam variety, seldom weighing more than two pounds. The other above-named varieties are rare.

**America is Ahead**

**Other Breeds of Ducks**

In disposition, as well as size, quick maturity and fecundity, the Pekin is exceptional. Pekins do not quarrel. They are easily driven and handled.

**Pekins do not Quarrel**

Duck raising should be entered into not for amusement or for a pastime, but to make money. It is worth all of one's time and attention and will richly reward the earnest, methodical worker. We have tried to make these instructions so simple and plain that there can be no question as to procedure.

Perhaps the most surprising point, to the average reader, is that our ducks are raised without water. Don't think you must have a pond or brook on your place.

**Ducks without Water**

Our ducks have web feet, but we have bred out of them the desire to swim and bathe. The advantages of no swimming water were quickly made manifest to us. We know the methods and flocks of a few duck breeders who use water, and we never could find that the ducks were better in any way.

Perhaps you have a brook or pond. A brook is handy, perhaps, in that it will reduce the work of watering. But the ducks will not get any larger or fatter because of it. They will drink from a brook or pond, thereby lessening the work of their caretaker.

Anybody raising ducks with a pond on his place will find that some ducks will lay eggs in the water. Unless the water is shallow, and the eggs easily reached, this will be a source of annoyance and loss. As ducks lay at night, or early in the morning, this trouble can be overcome by shutting the birds up at night and not letting them into the water until about 9 a.m.

**Many Eggs Lost in Water**

If you have a spring or brook with a fall so that water can be diverted and made to run through the duck house or houses, that may be worth trying.

Most beginners without instruction think that ducks must have swimming water to thrive and, lacking a pond or brook, will dig a rain-hole without inlet or outlet. This quickly gets muddy and slimy and becomes an abomination,—a menace to both ducks and owner.

We have heard of duck raisers on the coast of Delaware, who have had trouble in the following way: The tides would force the stagnant marsh water back into the duck ranges, and when the ducks got into this brackish water it was bad for them. **Beware of Tide Water** Some actually would be poisoned and die. Look out for this stagnant, foul-smelling marsh water if you breed ducks on the sea-coast.

The rice-fields of the South are ideal for ducks. They will pick up plenty of free nourishment there. Ducks are good, also, to go over harvest fields to pick up the left-behind grain. This is a suggestion for large farmers who breed ducks. **Ducks are Good Gleaners**

The cost of from six to ten cents a pound to bring a duckling to killing age, according to the location of the plant and according to the prices of grain, includes labor as well as food. Figuring food alone, five cents a pound would cover the cost. **Cost of Producing**

Of course a duckling does not eat so much when it is small and newly hatched as it does when it has reached the killing age. If you keep a duck from killing age on for breeding, it will cost you about twenty-five cents a month in feed and labor to carry the duck. This is why good breeding stock sells for much higher prices than the killed ducklings.

The labor charge is cut down in proportion to the increase in the number of ducks kept. The care of 30,000 ducks may be divided among six men.

Bearing in mind what we have said about cost, it may be estimated accurately that a duckling of market age, weighing five pounds to six pounds, will cost to produce from thirty to sixty cents.

The wholesale selling price is at least twelve cents a pound, depending on the location of the market and the season. Eleven cents is the lowest we have ever known it here, and thirty cents the highest. For many years twenty cents has been the minimum. This means that each duck will be sold for from sixty cents to \$1.50. A duck which has cost the high price to produce will sell for the high market price; for this is the way the market runs. **Wholesale Prices**

In speaking of these profits, we do not estimate the sale of breeding stock. If you keep what you raise until they are of breeding age, and then sell them to your neighbors, or to anybody, by advertising or exhibition, you will make more. Nor do we take account of the sale of duck eggs. Duck eggs are salable on account of their large size and good cooking qualities, and many are in the markets; but the big duck raiser has a better use for most of his eggs than the table—he has his incubator in mind—he wants them for seed. **Selling Duck Eggs**

## Shelter and Ventilation

Until one gets a large plant in operation, buildings for ducks are a secondary matter. The average home place with a little land is big enough to make a start. Quite a business in ducks can be done on limited ground.

We know of duck plants where double our number of breeders are kept producing less than half the number of ducklings we market yearly. We produce from sixty to seventy-five or more ducklings to each breeding duck a year, while the breeders above referred to produce only about thirty. We relate this as proof of what a strain of Pekins will do when it has been built up by selection, and attention to the details of the breeding. It is a waste of energy, time and money to keep 1,500 birds producing eggs when half that number will do as well.

**Expensive  
Buildings not  
Necessary to  
Start**

Every house has a cellar or back room where the first incubator may be run. The few breeding ducks may be housed in the woodshed or small building or shack of any kind. Not even wire netting eighteen inches or two feet wide is needed to confine them; boards fifteen inches wide will serve. Use carriage house, barn or outhouse. The mature breeders can stand any amount of exposure in our winter, but they should have the chance of getting in under where it is dry, and where they can squat on dry leaves or other bedding so as to keep their feet warm. If a freezing night comes and you have your breeding ducks in a very cold shelter, better get them into the barn or other fairly warm place where their eggs will not freeze.

**Raise Ducks  
Anywhere**

After April, in the North, they can safely lay anywhere without danger of frozen eggs.

If you are in the South, or any state where the climate is warmer than ours, you should handle your ducks, as far as shelter is concerned, as you observe poultry raisers do whom you know. Understand, the pictures and descriptions of buildings which you see in this book apply to cold New England. Duck breeders here put up expensive, substantial buildings, some with hot-water heaters, burning coal; and the fact that they can do this, covering their farms with such structures, is proof of a substantial kind that there is money in the duck business.

When the youngest ducklings come out of your incubator, they need a brooder, or foster-mother wooden device. If there is anybody who reads this book who does not know what a brooder is, the picture of it in the catalogue of the manufacturer will tell, and the machine, with the directions that go with it, will be understood at once. Brooders are used both indoors and outdoors. An outdoor brooder, however, should not be put out in very cold weather, just because it is labeled for outdoors. Protect it all you can in such weather by putting it in a shed or under cover somewhere.

**Brooders are  
Necessary**

The little ones are managed in a small portable brooder in the same manner as described in this book under the head of "Youngest Duck-

**How to Handle** in itself. lings." What is written there applies to your little ones, only we describe them there as having a big house over their heads, whereas your brooder is a small house

Progress in the duck business means buildings. There are single brooder houses, double brooder houses, cold houses, fattening sheds, incubator cellar, killing and shipping house, grain storehouse, and so on.

Ducks should always be on the ground. Do not have floors in any duck houses.

The ordinary brooder house is built with an uneven double roof (not single roof). That is, the back roof is half as long as the front roof.

**The Brooder House** It is high at the back to give walking space for the attendant; this form of construction gives head room there. Erect the house so that the long side of roof will face the sun, that is, the south.

For a house less than 150 feet long (sixteen feet wide) use lumber of the following dimensions: Studs two by three inches, plates two by four, sills two by six, rafters two by five, collar beams one by six. For

**How to Build** a house thirty feet wide and more than 150 feet long use studs two by four, sills three by five, rafters two by six, collar beams one by six, and for plates two two-by-fours spiked together. In a house thirty feet wide or over use collar beams two by five. A house of this width should have posts to hold up the roof.

Lay the sills of all houses on posts, or brick or stone piers. Set the piers about five feet apart.

In houses built with even double roof, the walk is down the middle under the ridge-pole, and not down the back. Such a house has pens on each side of the walk.

Good, substantial duck buildings can be erected cheaply provided roofing paper be used instead of shingles. There is a great difference in roofing papers, however. Many have to be painted frequently in order to keep them efficient, and the cost of this paint, with labor of applying, will soon amount to more than if shingles had been used at first.

**Have a Tight Roof** The pens in the nursery house should not be more than three feet wide. Some recommend that they be four, five or even six feet wide.

**The Nursery Pens** Not more than fifty little ducklings should be put into a pen, and fifty will go into a three-foot pen all right.

Those who have built wider pens have found it not wise to put more than fifty into the pen. They will crowd together anyway, and more than fifty in a bunch may make trouble by walking over one another. The stronger ones will tramp over the weaker ones and hurt them. No lanterns are used in the nursery at night to keep the ducklings from crowding, because the little ones are under the brooder covers, shut in the darkness, where the lantern light could not penetrate anyway.

In a house with pens only three feet wide, the ducklings should, of course, not be kept longer than three weeks. After that age they should be transferred to more roomy quarters.



**Exterior of Brooder House**

The hot-water heater (coal for fuel) is in that end of the house nearest the eye. The brick chimney leads straight up from the heater pit. Note the ventilators at regular intervals in the roof. Never build a tight house for ducks, but always provide for ventilation.

The small structure in the foreground is a simple shelter for ducks outdoors to protect them from the sun and the rain. The posts are three feet high. The ducks know enough to go under the shade without urging, whenever their well-being demands that they should.

Ducks need fresh air, and in building the houses provision should be made for ventilation. Tight houses are not to be built.

**Fresh Air  
Necessary**

If you have a tight house full of ducks, and keep them there three or four days and nights in bad weather, the inside of the house will grow very warm, and ammonia from the manure will rise, making your own eyes and the eyes of the ducks smart.

Every 100-foot house should have two ventilators through the roof, and should also have windows at the back to be opened when needed. These windows should be managed according to the weather.

Early in the morning, when you go into a house filled with ducks, you will see the hot air and ammonia fumes going off from the ventilators.

If no provision whatever is made for ventilation, and a large number of ducks are kept in a house, the air will get so bad that some ducks will actually go blind from the irritation of their eyes by the ammonia rising from the manure.

**Blindness  
from  
Ammonia**

When the weather in the spring begins to get warmer so that there is no danger of the eggs freezing, take out the windows entirely, so that the air will circulate freely from that time on, all through the house. Nail laths or wire netting over the windows to prevent the ducks from getting out at night, and also to prevent cats and other animals from getting in. You must manage the windows so that the eggs will not freeze. Be governed by the time of year and the weather.

### Open the Windows

Nail laths or wire netting over the windows to prevent the ducks from getting out at night, and also to prevent cats and other animals from getting in. You must manage the windows so that the eggs will not freeze. Be governed by the time of year and the weather.

## Care of Breeding Stock

Ducks and drakes, which after the first year you save for breeding stock, should be handled as this chapter advises. If in winter, house them.

Thirty head should be put in each pen: twenty-five ducks and five drakes. Allow ten square feet for each bird. That is to say, the thirty



Interior of Brooder House

This is the nursery for youngest ducklings. The pens are three feet wide. Cross boards are set half way in the pens, as pictured, so that the little ones will not wander far from the hover. The board tops of the hovers are seen. (The milk can is on top of one section.) The hot-water pipes are directly underneath the board tops. The pipes (bent) are for the purpose of carrying water from a central pressure supply, so as to save labor when filling the small drinking fountains used for the youngest birds.

The timbering of the brooder house is well illustrated in this picture. As shown, the roof is double uneven, with the long side facing the sunny, or south side, and the narrow roof facing the north. A house of this construction is made any length, to suit the number of ducklings which it is desired to handle.



birds should have a space of 300 square feet. A pen containing 300 square feet would be twenty feet by fifteen feet in size, or ten feet by thirty feet. This is the space inside the house. Each outside yard for a pen of that inside size should have from 1,300 to 2,000 square feet. If the pen is fifteen feet wide, then outside the house it should be close to 130 feet long. An outside yard ten feet wide and twenty feet long is not long enough. Yards for thirty head should be fifteen feet wide and ninety feet long.

### Thirty in Each Pen

The pens are separated from each other by wire netting which should be two feet wide. Eighteen inches is not wide enough for these big ducks, especially when snow covers the ground. The proper size of wire netting is No. 19, two-inch mesh or three-inch mesh. The next finer size of wire, No. 20, is not stiff enough.

In building these outside pens with the twenty-four-inch wire netting, drive the wood stakes first, then tack the wire netting on with galvanized iron staples. Do not drive the staples clear home. Drive them down three-quarters of the way so that when you wish you can pull out these staples with a cotton hook.

### How to Build Fence

A very handy tool in handling the wire netting and staples is a hammer and staple puller combined. Do not nail the wire netting tight to the stakes and later pull up stakes and wire netting together and roll them into a bale. You will find this awkward and clumsy work. A roll of wire netting and stakes, ninety feet long, is hard to manage. The staples should be pulled out and saved and the netting rolled up separately. The stakes should be loosened with a sledge hammer and pulled up and out of the way. This is done before you plow up or spade up the yards previously to sowing them down to rye or other green stuff.

A good time in northern latitudes to plow up the yards is in August and the rye is then sown. In many places in the West winter wheat should be sown instead of rye. In the South wheat should be sown. Wheat should also be sown in California. In this matter of sowing green stuff you will be guided by what you see around you in your state.

### Plow up the Yards

Inside this house where the breeders are kept use board partitions two feet high, not wire partitions. These board partitions will prevent the wind from blowing in drafts.

Either wooden troughs or wooden pails may be used for giving the birds water in and out of this house. A galvanized iron pail specially made so as to have a wide base is the best. The ducks would tip over the ordinary pail whose base is narrower than its top. The ducks do not climb into the pails. They do not try to take a bath. They use them only to drink from. When giving them water, always provide a vessel deep enough so that the water will reach above the nostrils and give the birds an opportunity to clean out their nostrils in the water.

### The Kind of Trough

### Depth of Trough Necessary

Two food boards are enough for a pen of thirty head, each board being five feet long and twelve inches wide, with a three-inch strip nailed around the edges. Two gallons of water should be given at a time for a pen holding thirty birds.



On Grass

When the ducklings are crowded out of the nurseries by the on-coming hatchings, they are put out on the range. If they are kept for breeders, they are allowed to stay on the grass. Ducklings to be killed, however, are taken off the grass two weeks before killing time and placed on dirt. If allowed to stay on the grass, their flesh will be yellow, not white, as it should be, and as the markets demand.

On meadow land, ducks of the size and age shown above have a fine time grubbing for worms. They do not scratch the surface like a hen, but get down under the dirt with their bills and grub. They eat worms greedily, as many as they can stuff into themselves all day long, until the food passage is distended to large size. This diet of worms cuts down the regular feeding ration and has a good effect on the breeding qualities of the stock, not only in producing more eggs, but influencing the fertility to a remarkable degree.

Ducks saved for breeders are fed on the same food which they had while growing to killing age, but instead of being on a dirt range they should be on a grass range.

This food is given to them twice a day, morning and evening. They should be watered more often during the day. This water is an important factor in their growing. They can be watered five times a day in addition to the two times at which they feed. The value of water is strikingly seen in the case of strawberries. By giving plenty of water to his berries the strawberry grower can double the size of his berries.

Plenty of  
Water

This food for the birds saved for breeders is as follows (by measure): Vegetables, ten parts; green stuff (or cut dried clover), ten parts; beef scraps, ten parts; low-grade flour, twenty parts; bran, twenty parts; corn-meal, thirty parts. In addition, grit and shells and a pinch of salt should be put in.

The Feeding  
Formula

About one per cent. of grit is enough, also one per cent. of shells. For salt, use the common fine table salt. Do not use the coarse salt such as is used in making ice-cream. That is too coarse. Nearly all animals need salt to keep them in a healthy condition. It will improve their appetites and keep their blood in good order.

About once a week put into the ration one per cent. of ground charcoal. The object of this charcoal is to sweeten and clean the stomach of the bird. It corrects any acidity in the stomach.

Charcoal

The food ingredients above are mixed up dry first so as to get them thoroughly stirred up, then water should be added until the mixture becomes lumpy but not sloppy. Test it by picking up a handful. It should be lumpy and crumble, but should not stick to the hands. If it sticks to the hands, it has too much water in it.

Use one of your food pails to measure the various ingredients.

Measure the  
Feed

Feed the mixture as soon as you have it mixed. In the winter time, to save labor in the morning, you can mix at night and have it all ready to feed in the morning.

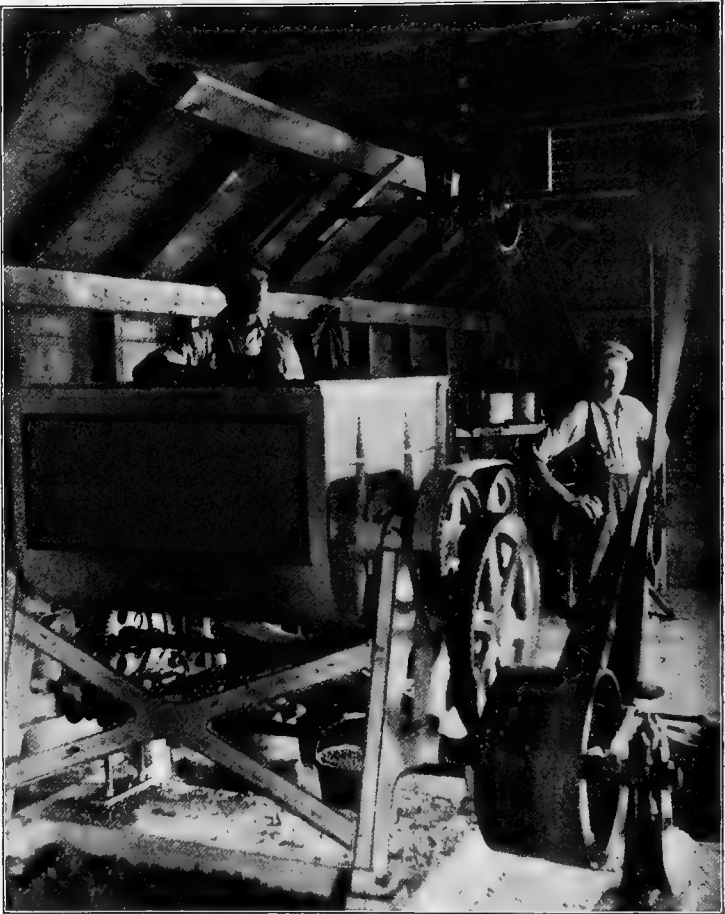
A pen of thirty ducks should eat about a pailful of this at each feeding.

When ducks are laying well, they should be given a quart of whole corn at noon. We mean that each pen of thirty ducks should have a quart of whole corn. They like it and begin to ask for it about noontime, each day. The object of this whole corn is to stimulate and fortify the system. Cut open a duck's egg after it has been germinating two weeks and you see the large amount of blood in it. Draining this out of the duck at the rate of one egg a day is quite a strain on her system, and the corn is fed especially to strengthen the bird.

A Quart of  
Corn

Clean food is essential. Do not let the food boards get dirty. When the ducks are through feeding turn the food boards over, face down, so as to keep them clean.

It is said that you can get hens and pigeons too fat to lay, but this



**Food-Mixing Machine**

This is really a machine used by bakers for mixing dough, but it is just what is wanted for mixing the rations for ducks. This size cost \$320, but it saves the labor of two men. There is a smaller size sold at half that price. The mixer shown in above picture is run by power, a gasoline engine. The steel hopper is stationary, and the mixing is done by two horizontal revolving metal paddles, moving in opposite directions.

is not true of ducks. By overfeeding a hen you can stop her laying, but you cannot overfeed a duck so as to stop her laying.

### **No Danger of Overfeeding**

The pens inside the cold house should be bedded when necessary. For bedding, hay, straw, sawdust, meadow hay, leaves or baled shavings can be used. The shavings are best. They are cheaper and more convenient to handle. A bale of them weighing from ninety to 100 pounds costs only about twenty-five cents.

This bedding should be put down inside the pens in the house to a depth of one inch to start. The foundation is dry sand or gravel. A new layer of bedding should be put down twice a week on top of the old bedding. It is not necessary to clean out the old shavings. If the pens are cleaned out with a fork twice a year, that is enough.

### **Bedding Pointers**

The bedding should be changed on some fair day when the ducks are outdoors out of the way. Do not change the bedding while they are inside of the house, for if you do it will frighten them.

### **About the Bedding**

The ducks tread down the manure and shavings into a hard layer. The peculiarity of this manure (for the mass is nearly all manure) is that it does not heat and ferment in the pens indoors, but when you throw it outdoors in a pile it does heat and ferment. It is a splendid dressing for lawns or for general use about the farm, same as any manure. It is very rich, and vegetation to which it is applied will thrive luxuriantly.

Grow vegetables in the summer to feed to the ducks in the winter. Anything in the vegetable line is good, such as turnips, carrots, mangels, cabbages, small potatoes and beets. A change in the food can be made with advantage every other day, giving the same vegetables to the birds only three times

### **Green Food Necessary**

a week. For a large number of ducks, a great labor-saving machine is a vegetable cutter. Run the vegetables through the cutter so that when they come out they will be in pieces about three-eighths or one-half an inch square. The ordinary hand cutter is sufficient even for a big lot of ducks. It is not necessary to run the cutter by power. After the vegetables have been cut, boil them in kettle, tank or caldron. Small potatoes should be boiled and then mashed while hot with a pestle, skins and all. The vegetables should be boiled until they are soft. It takes carrots about two hours boiling to soften.

### **Boil the Vegetables**

Cut clover for ducks costs about \$1.50 per 100 pounds. It is cut clover which has been cured dry.

Ducks use their bills in rooting as pigs root with their snouts. Loam frequented by a flock will get to look as if a harrow had been run over it. Ducks root to get grubs and worms, which they love and which do them good, making their eggs more fertile. Hens scratch the surface of the ground only, but ducks get under the surface. A newly-plowed field or a swamp is much enjoyed by ducks. They will root there until they are filled clear to the neck with worms. Insect life of all kinds is relished. If a young duckling by chance eats a bee or a hornet, the duckling will be injured or per-

### **Ducks Are Worm Eaters**

haps killed. There are many homes with orchards, sink-spout or a little meadow where a flock of ducks would be very much at home and have a fine time. It is good business to turn ducks into such places because the worms cut down the grain bill and are just so much clear gain in cost.

The proper number of ducks (which you are saving for breeding) to be kept outdoors in the summer in one flock is 100. Do not keep more than 100 on one grass range. If you do, they are more liable to run over one another in case of fright or panic and hurt their wings.

**The Grass Range** The grass range for 100 ducks should be at least 150 feet long and fifty feet wide.

The ducks are up and about all night long more or less. They rest in the sun in the daytime, but at night they do not care to be absolutely tranquil.

During a black night, with no moon, they are liable to take alarm and crowd over one another in fright in a corner of the pen, and this will result in injured wings, and lameness of some of the birds. To avoid

**A Lantern at Night** this a lantern should be lighted and hung from a limb of a tree in the grass range or from a wooden post planted in the middle of the grass range. The light from this lantern will enable the birds to see the pen and one another, and they do not take alarm nor crowd. The oil in the lantern lasts easily all night long. The lantern should be filled with oil every day. This item of kerosene oil for the lanterns is a small one even on big plants.

Some breeders with fancy houses and pens, who have electric light on their premises, also have electric light for their ducks, having one small twelve or sixteen candle-power bulb for each pen.

Ducks in a new home, or even ducks in their old home, do not all begin laying at the same time. Given a certain flock of ducks, if half of them are laying by February 1st, that is doing very well.

**When They Lay** One month later all of them may be laying. We are speaking of our latitude now, remember. In southern latitudes, like that of Virginia, for example, ducks begin to lay earlier. Birds that are hatched in March begin laying in August. This is true all through the South and on the Pacific coast.

Ducks do well in Canada. Unlike hens, they are fond of snow. They will wade around in the snow and slush and enjoy getting out on snow during the daytime, even in the coldest weather. However, to

**Don't Mind the Cold** get eggs from them, their feet should be kept warm, and this means that in cold, snowy places like Canada they should not be allowed to stand on the snow all the time, but should be protected by being given a chance to go inside a house.

The breeding ducks will lay better if you let them outdoors every day during the winter, except when it is bitterly cold. If there is water in the yards which has not frozen, or which has been melted by the sun, they will play in it, and it will not hurt them. After a fall of snow, it is well to shovel about ten feet from the house out into the pens so that they will have a space to rest in during the day without being liable to cold feet. They will play on the snow, but they will not lay so well when their feet get cold. Of course, they know enough to court the bare

ground in preference to the snow, and you do not spend any time driving them from the snow to the dirt.

We believe in keeping the old birds breeding and laying for two full years, or until they are twenty-eight to thirty months old. Then they can be sold off for market. If sold alive, they will bring from eight to nine cents a pound—if dressed, from eleven to twelve cents a pound. They are not worth so much as a duckling because they are old and tough. They can be told by their extra large size, the darker color of the bill, and the hardness of the breast-bone. The breast-bone of a duckling at killing age is not hard, but soft—it is only gristle. We do not keep breeding ducks at work longer than two years, because they have done a lot of work by the end of that period, and are not equal to any more. At any rate, with plenty of young stock coming along all the time, there is no need of taking the risk of infertile eggs. You can always find live ducks of breeding age advertised for sale, but the price tells whether they are young stock suitable for breeding, or the old, worn-out birds, good only for the pot. If the price is from \$1 to \$2 each, you can be sure that the birds are not good for breeding, but are castaways, no longer wanted by their owner, who is trying to get rid of them alive for something above the market price for killed old birds. Remember, a bird of breeding age is two or three months older than a duckling of the killing age. No breeder can afford to feed and keep his choice birds that length of time, culling out unfavorable specimens meantime, and sell them at low prices, if he has any reputation for breeding, and pays his bills. If he wanted the \$1 selling price with the least cost price to himself, he would have sold the duckling to market at killing age. The fact that he has kept the bird for months beyond the killing age and then offers it for \$1, or even \$2, shows that he is letting it go at less than cost, and therefore he is getting rid of it because he has no further use for it. It is not right for anybody to sell such stock alive, representing that it is good for breeding. The market for prime young breeding stock always is steady at good prices.

**Keep Two  
Full Years**

**Price of  
Breeding  
Ducks**

**A Good  
Market  
Always**

## Sex, Pairing, Breeding

The duck is distinguished from the drake both by sight and by hearing.

The drake, when full-feathered perfectly, has in his tail-feathers one feather which curls up, as shown in the picture. This is not an invariable test, because sometimes the curl feather may have been pulled out, or lost out from molting or other cause. The curl feather shows on the drake when he is four months old, and it is sign of puberty; in other words, that he is ready for breeding.

**Ducks and  
Drakes**

A duck quacks, but a drake does not. The drake makes a noise—it is a sort of low, rasping, hissing-like noise hard to describe, but much different from the quack which the duck makes, and which you can instantly distinguish.



Drake, Showing Curl Feather

This photograph of a drake shows the curl feather in the tail which is first seen at puberty and is the mark of the sex. The ducks do not have it. Sometimes a drake will be found without this curl feather, which may have been lost in molting, or have been pulled out. In examining a lot of birds, the quickest way to tell the sex is to pick them up one by one by the neck and listen to the noise or note which each makes.



A drake is generally larger than the duck, but not always.

The best and quickest way to distinguish the sex of a bird is to pick it up by the neck and listen to the noise which it immediately makes. When we are examining a pen of them rapidly, we never take time to look for the curled tail feather. We pick each up by the neck, one after the other, and listen to the note, or noise, made by each, the decision being made instantly.

#### How to Distinguish Sex

Ducks will lay eggs, but not fertile eggs unless they have had intercourse with a drake. We have known a beginner to run an incubator the specified time, filled with eggs laid by ducks with which no drake was allowed to run; result, no ducklings from said eggs, which was quite a puzzle to the beginner until he thought the matter over. Some people have no imagination, or take everything for granted, or are actually ignorant about the simplest things. Given a duck's egg, it does not follow that the egg is fertile. The beginner should be sure that the eggs which he puts into the incubator come from ducks which have received the attentions of drakes. It is not uncommon for incubator experimenters to fill up the machine with eggs bought at a grocery store. These beginners do not know, nor do they seem to care, whether eggs have been fertilized or not.

#### Fertilization Necessary

The duck in love-making makes the first move by bowing her head low; then the drake bows his head low. They bow faster and faster; the duck squats and permits the drake to mount her. He seizes her with his bill by the back of her head, wearing the feathers off as the season progresses. Connection being quickly performed, the drake drops, or falls, from the duck, and bolts away from her five or six feet, then stops.

#### Ducks Pairing

When you see the ducks and drakes bowing to each other, this is the sign that they wish to pair, and will, then or soon.

The first active period of heat comes on when the duck or drake is about five months old. In excessive heat, and without drakes, ducks sometimes will mount each other, acting like two cows, or two female rabbits. Do not be led astray in the matter of sex by observing such actions.

One service of drake to duck will fertilize a dozen eggs. One drake will attend five ducks. Twenty-five ducks to five drakes is the most successful proportion, no more.

#### The Right Proportion

Drakes have no preference for a certain duck in their love affairs. As a rule, they do not quarrel among themselves over a duck or ducks, or interfere with one another. Sometimes all the drakes in a pen except one will annoy or persecute that one. He seems to make all the rest jealous or irritable unanimously, and they unite to prevent him from paying attention to any duck in the pen. Such a drake should be removed from the pen, as the others will make his life miserable.

The drakes are strong, and one can force a duck to have connection against her will. This is not true of most animals. It is best not to interfere with him. At first, the ducks will invite him; as the period goes on, they will not. The drakes act in a bold, aggressive manner all the time except when they

#### The Drakes Are Strong



Figure 1.



Figure 2.

#### How to Handle Live Birds

This is the way to pick up and carry the live ducks and drakes which are four weeks old or more. (Do not handle the little ducklings just out of the incubator in this manner.) Catch the birds by the neck in a firm grasp, as shown in Figure 1. Never pick up a bird by the body. If you do you will make trouble both for yourself and the duck. Carry them from pen to pen, or from pen to killing-house, as shown in Figure 2. Do not fear that you will strangle the ducks or break their necks.

You can carry three or four birds, or more, as many as you can lift, between two hands, in front of your body.

do not wish to pair. Then they go about with their heads and necks drawn in. When they are making love, they extend their heads and necks, and walk proudly.

The drakes keep cleaner and whiter than the ducks. Their bills are a darker orange color.

Drakes and ducks are stronger sexually than other animals their size, or anywhere near their size, and their reproductive work proves it. The testicles of the drake (inside the body) are of extraordinary size, as large as eggs or lemons. The duck lays an astonishing number of the big, fertile eggs.

### **Ducks Are Great Layers**

Suppose you wish to pick out certain ducks or drakes from a pen, for breeding or for killing, or for examination, or for any purpose. Do not go at it single-handed. Get a helper. Also a board ten feet long and a foot wide. Give your helper one end of the board and you take the other end. Both you and

### **How to Catch Ducks**

your helper then walk to a corner of the pen, holding the board between you, driving the ducks along ahead of the board into the corner. Then you can reach the duck or drake you wish and pick it up by the neck. Never attempt to drive more than twenty at a time into a corner.

The following does not apply to youngsters, but only to grown ducks and drakes: Always catch a bird by the neck, in a firm grasp. Never pick up a bird by the body. If you do you will make trouble for yourself and the duck. You are liable to bend, or twist, or dislocate or break the bones of the wings and legs. You can carry three or four ducks, or more, as many as you can lift, between two hands, in front of your body. Do not be afraid of strangling the ducks or breaking their necks.

### **How to Carry Ducks**

The foregoing applies only to birds beyond the age of four weeks. Little ones just out of the incubator can be gathered by armfuls or apronfuls. From one to four weeks of age they can be handled best by picking them up with the hand around the body, and this will not hurt them.

Walk around, not through. Never walk through a flock of ducks, young or old. Always go around them. An inexperienced person will always try to go through a flock, which will confuse the ducks, and some will crowd under his feet and will get hurt either by his feet or by themselves as they jostle one another. Just walk slowly and take your time, and they will get by you. Do not rush around among them.

### **Walk Around Ducks**

A yearling duck is not a duck that has lived a year, but a duck which has passed through one year's work. For example, a duck may be hatched in March, but she will not be a yearling duck the following March. She will not be a yearling duck until the end of the second December following the March in which she was hatched. By that time she has passed through one year's laying.

### **What Are Yearling Ducks?**

The selection of breeders should be going on all the time while you are killing. Select the very best and save them for breeders and kill the balance for market. To examine a bird in order to find out whether it should be saved for breeding, pick it up by the neck, look at it and feel of it.

### **Selecting Breeders**

In selecting breeders, first look for the largest, but do not take a large bird that is sluggish in behavior. The big, active ducks make the best breeders. Do not take any birds which have black feathers. Black feathers are not necessarily a sign of bad blood. They may be what is known as a "throw-back" in the breeding or a "sport," liable to come out in any breeding, no matter how pure the stock is.

In breeding large numbers of ducks there will occasionally be freaks, such as three-legged and four-legged ducks. We have seen three-legged and four-legged ducks grow until we killed them for market. The supplementary legs were not so large as the two legs on which the duck walked, but were dwarfed.

Sometimes a duck will be found with more than one egg orifice. We have seen freak ducklings with as many as five egg orifices.

We do not do any inbreeding. Our stock is crossbred. In the years that we have been building up our strain, we have greatly increased the size of the breast and the depth of the keel. By poor selection of breeders from year to year and thoughtless inbreeding, some breeders of Pekins of our acquaintance have weakened their stock, and cannot now produce the bird they ought.

The breeder should aim to introduce new blood into a certain pen or pens every other year, to keep up the size and vitality. A drake which, for example, has served three to five ducks for two seasons should be replaced by another at the end of that time.

We do not do any pedigree or record-keeping. Such drudgery is a waste of time and is a wholly unnecessary detail. By separating the birds into flocks, each with its drake or drakes, there cannot be inbreeding.

It is surprising what improvements a duck breeder, if he is careful and intelligent, can make in his flock in size and good laying qualities, by selection of the best specimens from year to year. We have got our birds up to the point where they produce twice the number of fertile eggs which the earlier generations did years ago, and the birds have a longer and deeper keel, and weigh more. These are important factors in money-making, especially the matter of fertility. Those who start with our breeding stock get the benefit of the years of study and selection we have done. They should continue the work with their own breeding stock, remembering to save for breeders only the largest and best birds.

Do not get the idea that you can buy any kind of a white Pekin duck and in quick time build up a strain of superior size and breeding qualities. You might just as well try to breed a race-horse out of common drudge horses. The blood that makes for size and fertility can be produced only by years of effort. It is much better to start with a trio of stock at \$10 a head than to buy a bargain lot at \$2 or \$3 apiece, or even less, as they are sometimes sold. The precious seed eggs from first-class stock only are what you wish to secure from the ducks you are breeding. By buying first-class breeding stock or eggs you jump over years of effort which you will have to go through if you start with scrub ducks picked up at bird and poultry stores, or bought here and there of anybody who happens to have a few ducks.

**Don't Inbreed**

**How to Avoid Inbreeding**

**Increasing the Yield**

**Get Good Stock to Start**

## The Egg

Shut up the breeding ducks and drakes at night and do not let them out until eight o'clock the next morning. They lay their eggs during the night and early morning. By eight o'clock in the morning they have all laid.

**Eggs Laid at Night**

Fill the water pails in the outside yard and let the ducks out to drink, then go from pen to pen inside the house and gather up the eggs.

Sometimes a very cold night will come on in our latitude. In that case it is necessary to go around as soon as you can in the morning to get the eggs, so that they will not have a chance to freeze. (This applies only to a cold house. In a warm house you would not have to watch out so carefully for frozen eggs.) One frosty morning, in the value of eggs spoiled by freezing (provided you are not on guard), would more than pay for the heater necessary to warm the house.

If the weather is stormy, do not let the ducks out of the house, but go around from pen to pen among them slowly gathering up the eggs. Do not go hurriedly, for if you do you will scare them.

**Don't Scare the Ducks**

Use a basket to gather up the eggs. Some eggs are in the shavings where the ducks have hidden them. Sometimes a duck will make a nest three or four inches under the shavings, then lay in the nest and cover the eggs with shavings. She will do this night after night in the same place, so after you have once located the place you can go to it morning after morning unflinching. Most of the eggs are in plain sight, on top of the shavings.

The first eggs of a duck are infertile. After she has laid several eggs then they begin to run fertile. The first eggs should be used for cooking or sold at market, where they bring from thirty cents a dozen up. They almost invariably bring more than hens' eggs, and there is a good demand for them. They are a trifle different in taste from hens' eggs. There is some prejudice against duck eggs in some markets on account of the fishy taste found in the eggs of common or puddle ducks. Ducks which are fed on grain lay fine eggs of good flavor. As far as cooking goes, duck eggs taste the same as hens' eggs, and a duck egg will equal two hens' eggs.

**First Eggs Are Infertile**

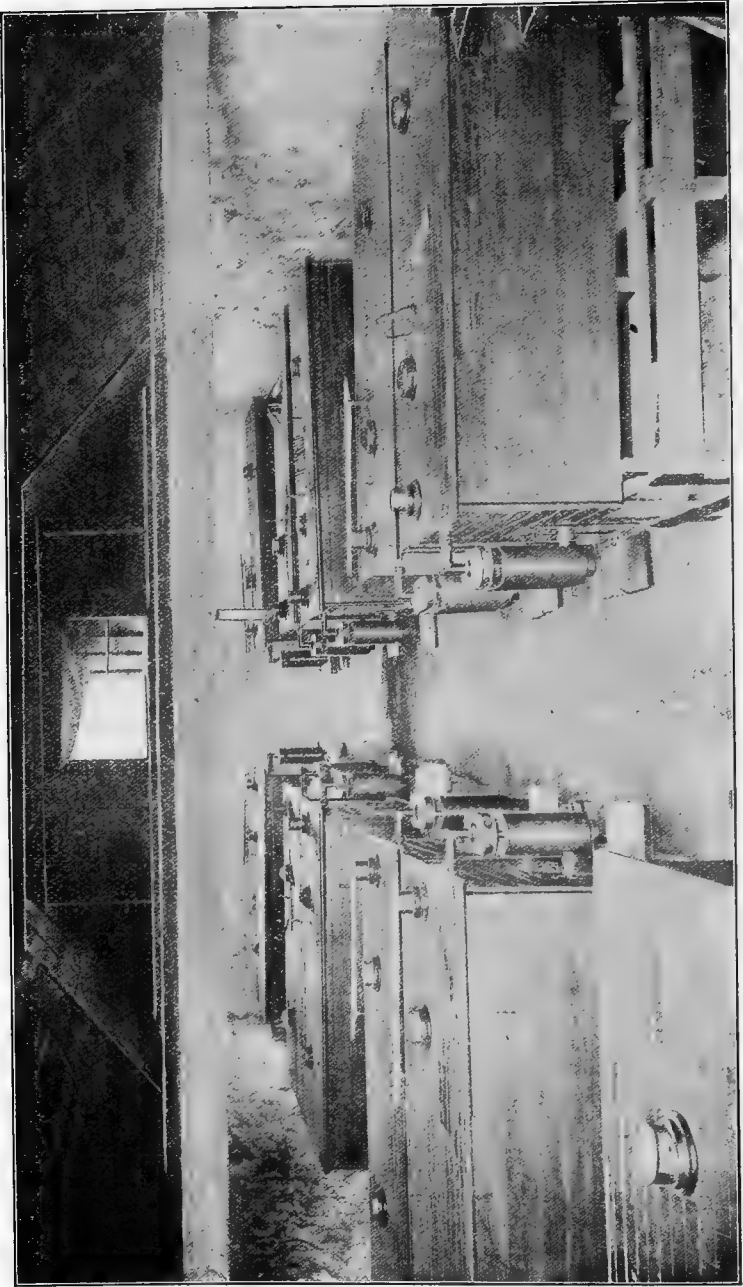
**The Flavor of Eggs**

The number of eggs laid by the duck steadily increases. By February 1st, in our climate, about half of them should be laying. We begin to save eggs for the incubators as soon as we see that the production of eggs is increasing steadily from day to day.

As soon as gathered, the eggs should be taken in the gathering basket to a cellar and washed there in cold water at a temperature of about forty-five degrees. Do not use ice-water or hot water. If you use ice-water, you will freeze or chill the germs in them. If you use warm water, you will start the germs to growing.

**Washing the Eggs**

Use a cloth to wipe the eggs clean. After washing them, put them in a basket in the cellar, and keep them there at a temperature of about



Incubator Cellar, Showing Machines which Hatch the Eggs into Ducklings

forty-five degrees, so that they will not freeze and so that germination will not start. The ordinary cellar of a house is just the right temperature. The air should be good in the cellar, that is to say, not foul or close, because the egg-shells are porous.

While they are being kept in the baskets in the cellar, the eggs should be handled every three or four days so that they will not spoil. That is to say, they should be taken up and turned. The object of this is to prevent the yolk from sticking to the side of the shell. In warm weather if the egg is allowed to stay in one position continuously, the white will get soft and the yellow will go through the white to the shell.

**Turn the  
Eggs Over**

The eggs should be kept in the cellar no longer than two weeks before putting them into the incubator. We have kept them a month, but not more than two weeks is the best time.

If the temperature of the cellar rises to fifty-five or sixty degrees, a slow process of incubation goes on inside the eggs. Keep the eggs more than two weeks in a cellar at sixty degrees instead of forty degrees, and they will hatch earlier than others.

In selecting eggs for the incubator, do not take all of them. Take only the perfect eggs. Eggs which are small, large, ill-shaped, and having holes or pit-marks should be rejected. The selecting or sorting of eggs might be done after washing and the rejected eggs used for cooking. Two weeks in the cellar would not spoil the eggs for household use.

**Sort Eggs  
Carefully**

The incubator should be cleaned and put in order, the lamp lighted and the machine run empty for two days at a temperature of 102 degrees. Then put in the eggs. The temperature will fall at once because the eggs are cool, but do not fuss with the regulator. Leave it alone and let the temperature rise to 102 degrees, as it will, slowly, in twenty-four hours. The thermometer then will be 102 degrees again.

**Preparing the  
Incubator**

After the eggs have been in the machine thirty-six hours take the tray out of the machine, put it on a table nearby and turn the eggs with fingers or hand. Run the flat of the hand over them so as to roll them around, stir them. It is not necessary to turn them an exact half-circle. The object of turning them is to supply new albumen to the germ. The embryo feeds on the white of the egg. When you turn the egg with your hand you give an opportunity for new food, new albumen to get to the embryo. A hen instinctively turns her eggs in the nest twice a day for the same reason.

The little duckling is made wholly from the white of the egg. The albumen contains the feathers, flesh, everything. The object of the yolk is to furnish food for the duckling during the last few days of its life in the shell.

After that first turning of the eggs thirty-six hours after having being put in, the eggs should be turned morning and evening.

**Turn  
Morning  
and Evening**

The incubator cools off more or less while you are turning the eggs on the tray on the table nearby, but this should cause no alarm. When



Where They Lay Their Eggs

This house is heated by hot water so that the eggs will not be frozen on cold winter nights. The pens have a dirt (not board) floor and shavings are put down for bedding. The partitions between the pens are not made of wire but of boards, so that the pens will not be drafty. The ducks lay at night. Some try to hide their eggs in the shavings, but they are easily found, and the same ducks will try to hide them in the same places the following night. Let the birds outdoors at eight o'clock in the morning and then go from pen to pen and gather the eggs in a basket.



a hen leaves her nest, as she does to go off for food, eggs which were being covered in the nest are cooled off.

On the evening of the seventh day after the eggs have been put in, they should be tested. That is to say, if you put the eggs in on Saturday, they should be tested the following Friday. Duck eggs have a white shell, which is transparent, and it is very easy to test them. We have a box big enough to hold a lamp. (These egg-testing lamps are made and sold in various forms.) Our box has a hole cut in the front of it a little smaller than the eggs. Felting is glued around the hole so that in handling the eggs rapidly they will not be knocked and broken against the wood.

### Testing the Eggs

The operator should take four or five eggs in his hand. He can test them very rapidly, as fast as he can pass them in front of the opening. The light is confined by the hole in the box, and when the egg is put over the felting the hole is stopped and all the light from the lamp must shine directly through, the egg.

### The Egg Tester

If the egg is a fertile one, and has been germinating while it has been in the machine, you will see inside of the egg something like a spider. Veins will cover almost the entire egg. You can see the speck forming the eye of the duckling, and, in fact, the little duckling itself. The development covers nearly the entire interior of the egg. If you do not see this development, you will know that the egg is infertile.

### Infertile Eggs

If you find an egg which is cloudy or addled, and without the spider-like network of veins, it is not good. Eggs that are addled can be mashed up, shells and all, and fed to your growing ducks with their grain mixture.

Any eggs which you find black or bad-smelling should be thrown away.

The clear eggs in which you find no germ and which are not addled you can use in cooking, or you can sell them.



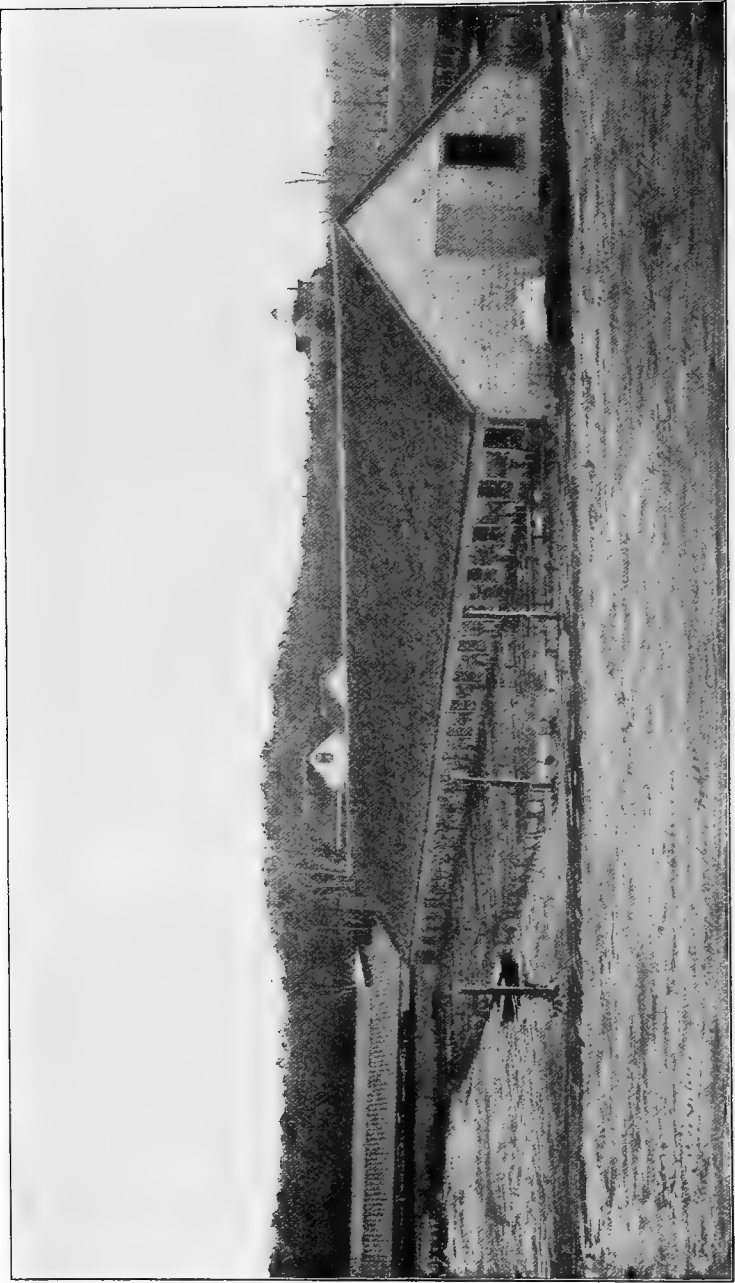
Egg-Testing Lamp



Fertile Egg, Seventh Day

If the egg is fertile and has been germinating in the incubator for seven days, you will see something like above picture.

The white space at the end is the airspace. The white line all around the egg is the membrane just inside the shell.



Double Brooder House. Yards on Both Sides. Walk Through Center of House

This testing should be done in the incubator house alongside of the machine. In very cold weather we use a cloth and cover the eggs while we have them out of the machine, so that the heat can be kept in them as much as possible. Test a whole trayful before putting them back into the incubator. Work quickly in cold weather.

There is no more testing of the eggs, but you must turn them in the incubator night and morning, twice a day, right along until hatching. If an egg shows black while you are doing this at any time, such an egg should be thrown out, for it is rotten. If when you open the incubator you detect a bad smell, you can find the egg which is at fault, if you cannot see it, by running your nose along the eggs, held close to them, until you come to the bad one. It should then be thrown out.

The eggs should begin to pip on the twenty-fourth day after being put into the machine. When you see this pipping starting among the eggs, stop turning them and do not open the machine until the hatch is over. The hatch should be completed, **When They Hatch** if the machine is run properly, on the twenty-eighth day.

Remove all eggs that have not hatched at that time, and all shells.

The temperature of the machine for the first three weeks should be 102 degrees, and for the last or fourth week 103 degrees.

In minor matters not covered by our directions under "The Egg," run the machine according to the directions which go with the incubator.

After hatching, the ducklings should be left in the incubator from twelve to thirty-six hours, until they have dried off. Just before the eggs hatch, the ducklings absorb the yolk and live on that for thirty-six or forty-eight hours. If they are taken out of the machine too quickly they are not hungry and will not eat. You should leave them in the machine from twelve to thirty-six hours, so that they will not only be dried, but hungry. **Don't be too Quick**

Take them out of the machine gently. Pick them up or guide them with the fingers by handfuls and sweep them into the basket. Then remove them to the brooder or brooder house. The temperature of the brooder or brooder house should be near ninety degrees. The food and water should be already in the brooder before you put the little ducklings in from the incubator. They will be hungry and will go to eating and drinking at once.

## Youngest Ducklings

You have allowed the ducklings to stay in the incubator twenty-four hours after they have come out of the shells. They are double the size of a chicken, and in appearance about twice the size of the egg-shell which enclosed them.

A period of twenty-four hours in the machine dries them so that they are strong enough to stand on their feet. They have absorbed through the navel the yolk which surrounded them at birth, and this sustains them for the twenty-four hours. **Let Them Dry**

At the end of the twenty-four hours put them into a basket and carry



#### Ducklings Two Weeks Old

They are shown here in the yards of the first nursery house. When this picture was taken, the small slides through which the birds pass from house to yard were all open. These slides are left open during the day so that the ducklings can pass in and out at will. At night the ducklings are driven into the house and the slides closed.

this basket to your brooder or nursery of first brooding house. Put them in the runs, which are three feet wide and nine feet long.

The hot-water pipes are not on the ground, but are eight inches above it. On top of the water pipes is a wooden cover, one for each pen. The object of having the hot-water pipes above the ducklings is to give them heat from the top such as they would get from an er the natural mother. Bottom heat would weaken the legs of the ducklings and is not natural. The little creatures huddle up closely to each other under the hot-water pipes so as to get the heat on their backs. Should they touch the hot-water pipes they cannot be burned.

Take these youngest ducklings into the nursery just before noon, the warmest part of the day.

Their first food has been previously placed on the food boards ready for them. There is a water drinking fountain in each pen, the No. 1 or smallest size (see page 50). This water dish, like the others, is arranged so that the ducklings cannot jump into the water and get damp, and also so that no water can stand in it for any length of time. A self-feeding reservoir fountain is exactly what is not wanted. The water should be renewed at each feeding time. It is not necessary to scald the fountains, but they should be rinsed out. They may be scalded, say once a week.

The first food includes bread-crumbs and rolled oats. The rolled oats are the same as a.e commonly used for the table, costing from \$3.25 to \$5 a barrel, each barrel weighing 180 pounds.

The bread-crumbs are made from stale bread by running the bread through a meat grinder. Buy dry, stale bread from the bakers for about one cent a pound; \$20 a ton. Also use up dry and stale home bread. Bread-crumbs for a small number of ducklings can be prepared from the bread by hand without a machine.

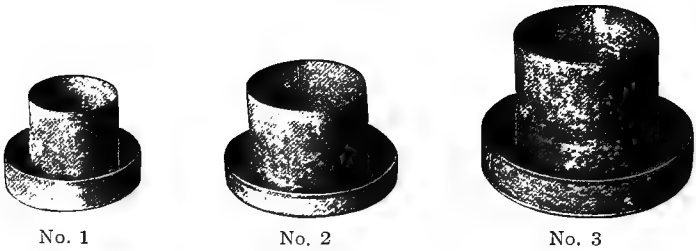
Take half rolled oats and half bread-crumbs to make this first mixture. Take them by measure, not by weight. Use for a measure an ordinary quart measure. Take one pailful of rolled oats and one pailful of bread-crumbs, or two pailfuls of rolled oats and two pailfuls of bread-crumbs, and so on. Put in five per cent. of good, sharp, ordinary sand with the bread-crumbs and rolled oats. The object of this sand is to provide grit, which the little ducklings need as well as the old ones. Two handfuls of sand to each pailful of mixture is what we mean by five per cent.

Put these three ingredients, rolled oats, bread-crumbs and sand, into a box and mix them in the box. Then moisten this mixture with water, not enough to make the mixture sloppy, but just enough to moisten the particles. If you have milk, you can use milk instead of water, because the ducklings will grow faster when milk is used than when water is used. Understand, do not make this first mixture sloppy. Make it damp, that is the idea.

The foregoing is the food for these newly-hatched ducklings for forty-eight hours after being put into the nursery. The food is there in each pen as the ducklings are put into it from the basket from the incubator.

**The First Feed**

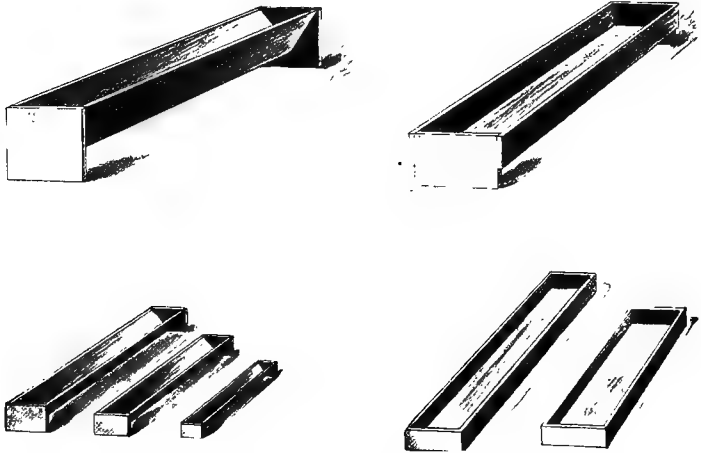
**Don't Forget the Sand**



**Water Fountains for Ducklings**

These three sizes must be used for successful results. The smallest, or No. 1 size, is used for the youngest ducklings. The No. 2 size is used next. When the ducklings are four weeks old, the No. 3 size is used. For birds near killing age, or older, use an ordinary pail or water trough (see below).

The No. 3 size fountain is too large for the little ducklings. They would get inside of it and drown. The smaller sizes are not large enough for the ducklings after they have grown, because the water then would not be deep enough to reach their nostrils. The ducklings need water deep enough to submerge their bills wholly in it, so that they can wash from their nostrils any sawdust or food which may lodge there.



**Food and Water Troughs**

These should be built in different sizes. They are used both indoors and out as directed. There is no hard and fast rule for their size and construction. The caretaker should use them according to the age of the ducklings.

Do not stand and watch these little ducklings. They will not feed until you go away and leave them alone. The food is scattered on a board and the ducklings walk out from under the hot-water pipes to the board and eat, now and then going to the water fountain for a drink. The run-way is partitioned off half-way with a board placed there temporarily so that they will not wander too far from the hot-water pipes and get down to the window where it is cold. At night they are shut in completely under the hot-water pipes by taking this board and moving it up to the head of the pen, next the top board above the hot-water pipes.

For the first two days, the food above described should be before these youngest ducklings continuously. For that reason, visit the nursery five times a day for these first two days to renew the food on the boards in the pens and to renew the water in the fountains.

**Food Always  
Before Them**

The food board is three feet long, the same width as the pen, and six inches wide. This has laths nailed on the ends and sides to prevent the food from sliding off or from being pushed off.

The beginner should be constantly impressed with the importance of keeping the brooders scrupulously clean. Every other day the droppings and dirty sawdust should be removed from under the pipes. The best way to go at this job is from the walk side of the brooder. Take off the cover. With a narrow shingle, scrape out underneath the pipes, taking out only the wet and dirty sawdust, and putting it into a bushel basket which is carried outside when full; or, in a larger brooder house, use a wheelbarrow. As each brooder is cleaned, put in a thin layer of fresh, dry sawdust from a basket taken on your arm from pen to pen.

**Care of  
Brooders**

The food boards should be scraped with a shingle or piece of tin each day to keep them respectably clean. Take up each board and scrape it into a basket. It will be covered with sawdust, refuse, etc.

**Cleanliness  
Essential**

In our system of care of brooder house, this scraping of the food boards and washing the fountains is done regularly every day after the two o'clock feeding. The attendant goes along each pen, picking up the fountains and food boards and placing them on the brooder covers. The boards are then scraped (with a sheet iron scraper about six inches square) into a bushel basket, this refuse being thrown on the manure pile. The fountains are then washed and rinsed, after which they are filled with water while standing on the brooder tops. On a plant of large magnitude, three men work together doing this job. While the cleaning of boards and fountains is going on, one of the men is bedding the pens, using dry pine sawdust for this purpose. When the task is completed, the men immediately begin putting down the fountains and food boards, and the ducklings then are ready to receive their next food.

The five feeding times are as follows: 6 a.m., 9 a.m., 11.30 a.m., 2.30 p.m., 5.30 p.m. The ducklings will get eager and hungry and will cry for food at each of these feeding times. They are not old enough to make a quacking noise, but

**Feeding  
Hours**



**Thousands of Youngsters**

This shows how they look on a pleasant day out in the yards of one of the nursery houses. The narrow strips of wire netting which separate the pens cannot be seen in the picture, but they are there. Ducklings this age are quite an attractive sight. The small sliding doors are always up when the birds are out. They were dropped when the picture was taken so as to get all the ducklings in.

Each pen of the youngsters is handled precisely the same as the next. In the fall, the wire netting is rolled up, the wood stakes pulled up and the ground plowed and sown (in our latitude) to winter rye. This sweetens the ground as well as furnishing green food. If the birds were allowed to run on the same dirt year after year, and make manure upon it, the ground would become tainted, affecting both the size and fecundity of the stock.



peep. This peeping noise increases in volume until they are six weeks old. Then they begin to make a quack more like the old birds.

When washing out the drinking fountains, use a rag or dish-cloth and two pails of water. Wash in one pail and rinse in the other.

Be careful not to step on the little ducklings in giving the first food. They are very tame and will get all around your feet if you give them a chance.

**Their  
Appetites  
Should Be  
Kept Eager**

Do not put down too much food on the boards. The night feeding should be the biggest of the five because the food eaten then has to last them through the night.

Be sure to keep them eager and hungry. Do not load up the boards with the mixture so that they will overstuff themselves. Remember that for these first two days they are learning to eat.

In hot weather water them twice as much as when the weather is cooler. Fill the fountain often. They will drink this water up quickly, within five or ten minutes, then fill the fountain up again.

**Hot Weather  
Watering**

Do this watering always at each feeding. The easiest way to get the water into the little fountains is to pour it from a milk-can, which is better than a dipper because it holds more and is handled easier. Do not fill these milk-cans from a faucet. That would take too much time. Let the faucet water run into a tub and fill the milk-cans by dipping them into the tub. This saves work.

Beginning with the third day, the food for the young ducklings changes to the weaning food. Mix the same ingredients of food as the first two days with bran and corn-meal in equal parts, by measure not by weight. That is to say, take one measure of rolled oats, one measure of bread-crumbs, one measure of bran and one measure of corn-meal; in other words, twenty-five per cent. of each.

**The Weaning  
Food**

By bran we mean wheat shells, also called shorts. It is the outside, flaky shell of the wheat. It costs about \$20 a ton in carload lots, but is cheaper in the West. It is a by-product of a flour mill.

Corn-meal is common yellow Indian corn which has been ground, not cracked. It costs here in the East about the same as bran. This weaning food is given for seven or eight days.

When the ducklings are seven or eight days old, cut out the expensive rolled oats and bread-crumbs and in their place in the mixture put low-grade flour, which costs about \$28 a ton.

**Feed at Eight  
Days**

Remember, that all these mixtures are moistened with water, but not so as to be sloppy. They should be damp. When you take up a handful which has been mixed properly with water, it will not stick to the hands, but will hold compactly together in a lump.

**Beware of  
Sloppy Food**

The food which begins at seven or eight days of age also has green stuff and beef scraps. To summarize, then, prepare the food as follows: Equal parts of bran and corn-meal, ten per cent. of low-grade flour and ten per cent. of green stuff, such as green grass or rye or millet (which has been chopped up in a cutting machine or by hand in a pail), beef



**Ducklings in the Sun at Midday**

These birds are seven weeks old. Youngest ducklings are harmed by the hot rays of the midsummer sun, and should be given a chance to get into the shade. Remember that ducks at all ages should have access to shade.

scraps five per cent., grit one per cent. The scraps, if too coarse, should be screened, the fine part being used for the small birds and the coarse part for the older ones.

For grit use common sand and gravel off the farm for the first three days of the duckling's life. From then on use grit made from granite in two sizes, fine and medium. Use the **Grit** fine grit at first and the medium grit as the duckling gets older.

Keep the ducklings in the first nursery house two to three weeks, depending on how you are fixed for room. If you have a hatch coming off from the incubator, clean out a sufficient number of pens in the nursery to make room for the new-comers.

The nursery house has a dirt floor, not a board floor. This dirt (sand or gravel or dry loam or clay) should be in each pen with dry sawdust laid down on top of the sandy bottom. Carry **Use Dry** this sawdust into the nursery house in a wheelbarrow and shovel it from the wheelbarrow into the pens, **Sawdust** then rake it level to a depth of an inch. Use dry pine sawdust. Almost any sawdust except oak can be used. Do not use oak sawdust, for if you do it will turn the drinking water blue as it gets off the bills of the ducklings, and this bluish drinking water does not smell or taste wholesome. Pine or spruce sawdust is good.

When the ducklings are two or three weeks old, take them in a basket, a pen at a time, to the second brooder house where the pens are four feet wide instead of three feet wide, and ten feet long instead of nine feet long. **The Second Brooder House**

All ducklings are fed four times a day in this second house at the following hours: 6 a.m., 10 a.m., 2 p.m., 5.30 p.m. This second house has a hot-water heating arrangement exactly like the nursery house, except that the pipes are farther from the floor. **The Second House**

The outdoor runs of this second brooder house are twenty feet long. It depends on the weather whether or not you let the three-week-old ducklings outdoors into these runs from the inside pen. On bright, sunny days, not too cold (if in winter) you can let them out, and their exercise outdoors will do them good. Remember, just now we are talking about our latitude and our winters. If you live in southern latitudes or in a warmer climate than ours, or if it is summer-time with you in this latitude, you can let the young ones outdoors more freely. Do not let them out in the rain or snow. **Keep Them Dry**

All the feeding in this second house is done inside the house, same as in the nursery house. The food boards in this second house are larger than in the nursery. They are four feet long and nine inches wide or just wide enough to be cleaned with a shovel. Before each feeding time, scrape off the sawdust, refuse food, etc., from each board with a shovel and throw this refuse into the walk of the house. Every four or five days this refuse should be raked into a pile and carted out in a wheelbarrow.

The No. 2 water fountains used in this second house are made in the

same style as the fountains used in the nursery, only larger, and hold twice as much water.

When the ducklings are four weeks old, change this No. 2 drinking fountain to the larger or No. 3 size.

**Size of  
Drinking  
Fountain**

You may ask why would not one size of water fountain be all right for all ages. The largest, or No. 3, fountain would be too large for the little ducklings.

They would get inside of it and drown. They would also struggle to reach the water and would weaken themselves. The smallest size is not large enough for the ducklings after they have grown because the water then would not be deep enough to reach their nostrils. The nostrils of a duck are plainly visible. They are two open holes at the base of the bill. The ducklings need water deep enough for them to submerge their bills completely in it so that they can wash from nostrils any sawdust or food which may lodge there.

When the ducklings are five weeks old, they are taken (on a large plant) from the second house to a third, called a cold house, that is to say,

**To the Cold  
House**

it has no heating apparatus. If the weather is cold when they are five weeks old, use your own judgment as to putting them into the cold house. Wait until a warm,

sunny day. It depends on the season and the locality. Ducks at this age can be driven in large flocks.

Feed and water the ducklings outdoors in the pens of the cold house. They do better if fed outdoors. It depends on the weather. If you put

**Look Out for  
Storms**

them into the pens of the outdoor house in the morning of an early spring, and a northeast storm comes up, cold and raw, drive them back into the house and



Winter Scene. Brooder House

shut the doors and windows. The ducklings would not know enough to go into the house away from the storm. They would go to meet the storm, as far from the house as they could get, at the end of the run. The rain would not drive them in. The ducklings would stand up as straight as they could so as not to get their backs very wet, but they would not know enough to go into the house. The rain would beat down upon them and exhaust them, and before long the little creatures would fall down exhausted and this exposure might kill them. Remember we are talking now about the young ducklings. The old ducklings know enough to go in out of the rain. When the storm breaks, they will scoot for the house. The ducklings eight, nine, ten and eleven weeks of age, and older, will stand rain in our latitude.

### Keep Them Dry

May is the worst month in New England to watch for weather in managing young ducklings.

The cold house is the home of the ducklings from five weeks until they are eight weeks old, when they are ready for fattening. The object of the cold house is simply to keep them out of the rain and snow. In the summer-time, or in southern latitudes, an orchard which has shade trees will do for ducklings when five weeks old, except on days when big storms come up. On those days the young ducklings must be housed.

Where only forty or fifty pailfuls of food are used daily, the best way to get it to the different houses and yards is by use of a wheelbarrow. The No. 7 size wheelbarrow will take ten or twelve pails. If water must be conveyed, milk-cans (previously mentioned) are best to use, as the water will not spill in carrying them in the wheelbarrow. If, however, several hundred pailfuls of food are used daily, a large, four-wheeled truck may be used to advantage, provided the land is level enough to allow the men to draw it, otherwise it is best to use a horse and wagon.

### Distributing the Food

## Fattening

The fattening starts when the ducklings are eight weeks old. They are driven from the cold house at this age into outdoor (or fattening) sheds. These are sheds which are simply a roof on posts, the sides being open. The roof should be tight, but it is not necessary to make it absolutely tight by shingling or paper. All that is necessary is to nail battens over the cracks between the boards which form the roof. The fattening sheds are used from the end of April to November 1st, in our latitude. In southern latitudes their use could begin earlier.

### Fattening Sheds

In the fattening sheds, feed three times a day, morning, noon and night—6 a.m., 12 m., and 6 p.m. Feed a mixture of corn-meal, low-grade flour, beef scraps, oyster-shells and grit, and green stuff when you have it. Mix the food in these proportions: Three parts of corn-meal, one part of low-grade flour, three-quarters of a part of beef scraps with about three per cent. of oyster-shells and grit mixed equally, then one part of



**Ready for Feeding**

On a large plant, wooden pails will be found to be the best means for carrying the food to the ducks. After the food is mixed in the house, it is put into the pails, which are stacked up as shown. If the ground is level and a large number of the pails are to be transported to the ducks, a four-wheeled truck (not shown in picture) drawn by two men is the best device for wheeling them. If a smaller number of the pails are to be transported, wheelbarrows are the handiest.

Wooden pails are cheaper than galvanized iron, and they are better, because they may be nested when empty, and a lot of them carried by one man. Metal pails might be nested, but their combined weight on the arms of the operator would be very tiresome.

green stuff, when you have it. The ducklings like the looks of the mixture better and eat more of it when the green stuff is in it to give it color.

#### A Rich Food Mixture

This food is given until the ducklings are ten or eleven weeks old, when they are killed. This is a rich food mixture to fatten.

The secret of properly feeding this fattening mixture three times a day is to feed just what will be eaten up clean in fifteen minutes. If there is any left over after the ducks have eaten briskly for fifteen minutes, the food board should be scraped entirely clean.

#### Keep Their Appetites Eager

When you get skilful at feeding from practice you will know just how much to feed. The idea is not to give these fattening ducks too much food, for if you do they will not keep fat.

Make the morning feeding light. Make the noon feeding light. At night be more liberal. Then give them the food good and strong. This will last them through the night.

#### More Food at Night

Keep them eager. They ought to go to the man who is feeding them at feeding time. Do not disturb the ducks while they are feeding. Go on about your business to the next pen. A green man standing around the food board and watching them will keep them away from their food. Scare them off and they will not go back to the food.

Always water before feeding. Give the water to these fattening ducks in water troughs built like illustration on page 50.

Give the food to them on boards the width of a shovel. Keep the water trough close to the food board. Do not put it at the end of the yard, for if you do the ducks will not go to it to get water, especially in hot weather. They eat at the food board greedily, and they want water every now and then handy, to keep them from choking. They do not like water which has been standing in the sun. Give fresh water at each feeding time, also water between feedings. That is to say, this extra watering for the fattening birds is done at 9 a.m. and 2 p.m.

#### Water Near the Feed

You judge by the appearance of the bird when it is fat enough to kill. Killing age may be at eight, nine, ten, eleven or twelve weeks of age. Pick up the duck by the neck and feel of the body.

Feel of the duck's back. If it is fat there it is fat all over. If it is thin there, put it back into a pen reserved for culls. These culls should be examined three weeks after being thrown back to determine whether they are then fat enough to kill.

#### When to Kill

If you cannot tell by feeling of the duck whether it is old enough to kill, put it in a bag and weigh it. When six or eight weeks old it ought to weigh four pounds, or four and one-half pounds. At ten weeks it ought to weigh five and one-half or six pounds.

#### The Proper Weight

When they are really fat they ought to be killed. Keep them longer and they are going to lose some fat.

When they are eleven to twelve weeks of age they have a light molt, shedding some feathers. They lose their appetites and go back



**Meal Time**

Wire netting separates these pens. (It can hardly be seen in the photograph.) These ducklings are in one of the cold houses and are six weeks old. (In another week they will be ready to drive into the large fattening sheds.)

They are seen getting their food out of the boards with raised edges and their water (look closely) from V-shaped watering troughs. It is important to set the food and water troughs near each other because the birds run to the water after every other mouthful, both to get a drink and to wash their bills. In the fall, these yards, as well as the others, are plowed and sown to green stuff (winter rye) in order to keep the soil fresh.



in weight a little. They should be killed and sent to market just before this light molt starts.

Do not mix at any one time more food than you need at that time, or it may sour over night. Get the knack of feeding so as not to have to clean up the boards after fifteen minutes of feeding.

An experienced man seldom makes a mistake by over-feeding. Sometimes in extremely hot weather the ducks' appetites are hard to gauge.

#### Do Not Feed Sour Food

This stuff which may be cleaned up after feeding should be scraped off, either into a pail or basket. It is not necessary to waste it even if it is a little sour. It may be mixed in and fed with new food, provided there is not much of it. It is said of the duck growers in France that they allow the food to sour a little purposely for the reason that they think it fattens more quickly.

#### Feeding in France

Novices in the duck business have trouble in the brooder house with ducklings dying from sour food; watch out sharply for sour food there. If you should find any sour food there, you can get rid of it by mixing it with good food and giving it to the older birds.

The color of the skin of a first-class duckling when ready for market should be white, not yellow. This is one of the reasons our ducks bring better prices in the markets. Yellow skin is caused by too much green food, or by letting the birds stay on green grass ground too long before killing.

#### Color of the Skin



Fattening Yards

Road down the middle allows easy access to all pens with food and water.

For the last two weeks previous to killing the ducklings should be kept on bare (dirt) ground. The object of green food is to keep the bowels of the birds in a good, open, healthy condition. Too much eating of green and too much lying on green grass make their flesh yellow.

In our latitude we use for green stuff much winter rye. We buy the seed not of a seed man, because he charges seed prices, but of a grain man, at grain prices. We sow this winter rye in the latter part of September and the first part of October. Sow it in September and you have a chance to cut it twice before freezing. The ground where we plant it (the runs) is so rich with the duck manure that the winter rye grows much faster than on the average farm. It does not freeze in the winter, but stays green. If a warm day should come and the snow melt in the winter, you can cut the winter rye and feed it to the ducks. Just before we expect a snow-storm we cut it and keep it frozen in a building where no sun penetrates. It will keep well. Use as necessary.

## Killing, Picking, Shipping

The killing is done by the picker, who stands, holding the duckling between his legs, takes a sharp knife, double-edge, opens the mouth of the bird and cuts the roof of the duckling's mouth inside, making a cut of considerable depth so as to sever all the blood passages.

Then he stuns the duckling by striking it with a club. This club is generally about eighteen inches long and not too heavy. Part of a wagon stake or a hoe handle answers very well. The bird is struck a good sharp blow so as to make it insensible. One blow is all that is neces-



Knife Used in Picking

This knife is seven and one-half inches long over all. The blade is three and three-quarters inches long, and three-quarters of an inch wide. It must be of good steel so that a razor edge can be kept on it. Each professional duck picker has from half a dozen to two dozen of these knives, and it is an important part of his business to keep them sharp.



Sticking Knife

The duckling is killed with this knife. The blade is six inches long and one inch wide. The whole knife, handle and all, is ten and three-quarters inches long. The back should be ground and sharpened two inches down from the point, as well as the front edge, and the point should be kept sharp.

sary, although some pickers less skilful than others strike the duckling two or three times. The blow is aimed directly upon the top of the head with the club. The skull is not smashed.

The bird is stunned immediately after sticking so that the blood will run better.

While the duckling is bleeding, the picker goes immediately to his chair beside the feather box, sits and begins picking. The duckling is cooling now, and when the temperature of the blood gets below ninety-eight degrees it congeals and stops running out of the duckling. The picker's feather box is about level with his knees so that he can drop the feathers easily off the duckling into the box as he picks them. He holds the head of the duckling between one knee and the box to prevent its fluttering and soiling the feathers with blood. There is a pail of water suspended from a wire directly over the feather box and the picker frequently wets his hand in this pail. This water causes the feathers to stick to his hand, which also gives him a grip or purchase on them so that he can pluck them out without much effort. The wing and tail and other coarse feathers are thrown out, as they are too hard and rough. The picker works by making a sharp jerk in the opposite direction from which the feathers lie, the skin meanwhile being drawn by the other hand so that it is tight. If very tender, the skin at the roots of the feathers is held between the fingers, and the feathers are pulled out straight, a few at a time. The pin-feathers are wet to cause them to stick to the hand, and are then caught between the thumb and the blade of the knife held in the right hand.

**Beginning to Pick**

**Picking Pin-Feathers**

This knife is an important item to the picker. Each picker has from a half-dozen to two dozen of these knives, and he sharpens them at noon or after work, so that his working hours are not used up in the sharpening. We illustrate the style of knife used by the pickers. The blade is good steel. It is ground and honed, then stropped on the ordinary razor strop. Each picker has one of these leather razor stropps hanging beside him from the feather box. The knife is kept as sharp as a razor, for part of the bird really must be shaved to make a clean picking job.

The pickers make from \$20 to \$30 a week, in some cases more. It is all piece work. They get so much for every duckling. When their price is five cents for every duckling, the feathers pay for the picking. Some pickers demand eight cents a duckling. It is money well earned, and the weekly wages they make are not too much, as a degree of skill is required. It is a real trade.

**Feathers Pay for Picking**

Old clothes should be worn in picking. The professional picker takes off all his clothes before beginning work in the morning, puts on an old shirt and a pair of full-length overalls which are white to begin. They are first oiled with raw linseed-oil and left outdoors in the sun to dry for a week, then they are given a coat of linseed-oil and varnish. This makes the overalls moisture proof. They are generally worn by the picker until worn out. They are never washed. They are hard and stiff—like armor plate.

**Lime in Picking Room** In the picking room there should be a barrel or box of lime, air-slaking. This air-slaked lime is sprinkled around the picking room on the floor, to keep the place sweet.

The picker who makes a slip and cuts the skin of the duckling, or rips it, must sew it up. For this purpose each picker has a needle and a spool of thread, and if he makes a cut or rip he quickly sews it. When he has done this it is almost impossible to find the place.

The professional picker generally strops his knife by turning it on the strop on the edge, not on the back, as a razor is stropped. However, each man has his own way of keeping his knives sharp.

**Picking Sixty-five a Day** A good picker should pick from forty to fifty ducks in a day. More than fifty a day is above the ordinary. Often a skilful picker is found who will average sixty-five a day.

Each picker has a counter or tally device like a baseball umpire's counter, and as he finishes a bird he turns the counter.

He puts the bird, when he is done with it, into a tank filled with water. This tank is made with compartments, eight or ten of them.

**Washing the Carcass** Each picker has his own compartment for the birds which he picks, so that his work can be checked by the foreman. The foreman, who is generally the man who ties up the birds and carries them forward to the shipping boxes, takes the birds one at a time from the picker's tank and washes them to get the blood off, and the dirt off the feet. The washing is done in an ordinary pail. It is finished in cleaner water in a second pail. The foreman then puts the duckling into another tub of water, not ice-water, but ordinary faucet or spring water, to get the animal heat entirely out of the carcass. This saves ice when the ice is used later on in the process.

The foreman then ties up the bird, and this is an interesting process, as it makes a handsome, compact duckling. There are one or two details about this work of tying which should be noted carefully. The head of the duckling is bent around and back and put under the wing. A trade-marked tape is

#### **How to Tie up a Duck**

then passed around the entire bird at the middle of the body and a common hard knot made at the wing. The feet are allowed to stick straight out. The tape confines the head and wings. A forming box or press such as is sometimes used in tying fowls is not necessary for ducklings. The operator works on top of a table with his hands alone. If string instead of tape is used, the string should not be fine, like harness thread, for instance. Such fine string or thread, although it may be strong, will prove a nuisance because it will cut the fingers of the operator. The string should be a good-sized white kind which can be handled easily and rapidly by wet fingers without cutting them. After the knot has been made the operator cuts the string with his picking knife. Be sure that

#### **A Trade-Mark Tape**

the knot is on the side at or below the wing. Ducklings are often seen in the markets with the knot of their tying string directly over the center of the breast, just the

#### **How Not to Do It**

are often seen in the markets with the knot of their tying string directly over the center of the breast, just the

place where it ought not to be, because there it looks slovenly, and spoils the appearance of the birds.

This string sinks into the flesh and is almost out of sight and hardly shows when the flesh is soft and wet.

When the operator starts to tie up the duckling, it is lying on the board, breast up. He grasps the head in his right hand, swings it around to the right and puts it between the wing and that side of the body. The duckling after tying is put into one of the refrigerator tanks. Each tank is a convenient size, about six or eight feet

**The  
Refrigerator  
Tank**

long, three or four feet wide and three to four feet deep. These refrigerating tanks are made of common Yankee pine, or they can be made of cypress, or any wood suitable to hold water. If you give these tanks a good coating of paint inside you will find that they will wash out much quicker and better, and will not become slimy like an unpainted tank. Water is first put into the tank to about one-half the depth, then the ducklings are put in. As a rule the birds float in the water. Once in a while a carcass will be found which will sink. As more and more ducks are put in, they press down those already in the tank. The ice of course floats on top of the water. The duck is allowed to stay in the tank of ice-water until shipping time, which is generally from twelve to twenty hours later. The object of the ice-water is to plump the flesh and condition it. The water also adds slightly to the weight of the duck.

The ducklings should be plumped in the ice-water over night and shipped the following day as the trains run.

**"Plump  
Them" over  
Night**

The ducklings are shipped to market by express (not freight), either in boxes or barrels. We use boxes in shipping by express to the Boston market and get the empties back free. We used barrels when we shipped to the New York market, because then the shipments were handled by two express companies, and we could not get back the empty boxes at a cheap rate.

**What to  
Ship in**

The shipping box we use is a substantial affair. A light, fragile box would not answer. The box holds twenty-four ducklings. Sometimes twenty-six will go in.

The inside measurements of the shipping box are twenty-four inches long, fifteen inches wide, fourteen inches deep. It is built of one-inch pine. Better and lighter wood can be found in various sections of the United States. The cover of the box is not on hinges, but is bolted on with two bolts, one at each end of the cover in the middle. These boxes are used over and over again until they are worn out. They last for four or five years. The common or merchandise rate is charged by the interstate express companies for taking the killed ducklings in these boxes to market. For the ordinary express-train journey of six or seven hours or less, no ice is used. If the breeder is shipping long distances, ice should be packed in the box along with the birds. There is practically no limit to distance which killed ducklings can be shipped, as the markets are located in America, if the shipper packs correctly.

**No Ice  
Necessary  
for Short  
Journeys**

Before putting the ducklings into the shipping box the box should be lined with brown paper. We do not mean that this paper should be tacked in. We have a supply of brown paper such as grocers use, the sheet being long enough to go across the box. We put a sheet on the bottom of the box which covers one side, then another sheet, then a third sheet on top of the ducks after they have been put in. This brown paper prevents the ducks from coming in contact with the wood, which may be dirty. It keeps them clean, and the interior of the box has a sweet, clean look when opened.

Shipping boxes like these should be used by anybody shipping to his market when he gets the empties back free. If the empties are not to be returned free, barrels can be used, as we used them in shipping to New York city. We used sugar and flour barrels. They cost us eighteen cents empty. A sugar barrel will hold from forty-five to fifty ducklings. We do not head the barrel, but lay the paper in, then the ducklings, and on top of the barrel we stretch a piece of burlap, tacking it around the top of the barrel. A flour barrel holds from thirty-two to thirty-five ducklings.

Sometimes an expressman, if he is green at handling these duck barrels, will turn one over and stand it on its head instead of on its bottom. This jams the top layer of ducklings, but does not spoil them. In the summer we put ice in the barrel. The ice melts, as it should, because poultry keep better with cold water sprinkling over and around them than they do with only ice on them. The water collects in the barrel, and if the expressman turns the barrel over it will run out and annoy him. The best way is to use boxes and not barrels if you are located so you can.

The New York market is a very strong one. People who do business in New York and live out in the country, if they want to raise ducks need not fear for the market. That city will take an unlimited quantity of anything in the poultry line. The same is true in a smaller proportion of any other city in America or Canada. Wherever people are gathered together there is a lot of eating going on, and anything in the poultry line is absorbed naturally as a sponge takes up water.

We never use ice in shipping ducklings to Boston. The dealers give us fair weight. We have never had any trouble with any marketman on ducklings. We have a set of scales in the shipping room, and we get the net weight of every box as it is made up. We allow for shrinkage in the dressed ducklings, and are able to hit it exactly right after experience. First we let the carcass drain for five minutes before putting it into the box. We squeeze it with our hands to get as much water out as possible. For every 100 pounds net weight of ducklings there will be a shrinkage in going to market of three or four per cent. That is to say, when a marketman weighs them and pays according to his weight, he will return to you a weight of ninety-six or ninety-seven pounds to every 100 pounds which you weighed.

Prepay the express charges when shipping ducklings to market.

This ends the matter. See them weighed yourself at your depot, pay your own agent and he will give you a receipt. He is a friend of yours and he will weigh them correctly. If you let the shipment go forward to the city, express charges collect, you never know exactly whether the charges are figured properly at the other end. The expressman who does the weighing at the city end may be a new boy, just entered the employ of the company. The delivery-sheet writer may make an error. By the time the box gets to the marketman there may be an excessive charge. It is not for the interest of the marketman to question the charge, because it does not come out of him, but out of you. He will sign the driver's sheet as quickly as possible, pay the charges, and that ends the matter except when he bills it up to you; and you have to stand for them, unless you wish to go through the red tape and delay of getting a rebate. For these reasons we say to you emphatically, always prepay your shipments.

**Prepay  
Express  
Charges**

The question is often asked, How long a distance can killed ducklings be successfully shipped to market? Even breeders who live in the West sometimes want to ship to New York. It is hard to answer this question in positive terms; it depends on the season, on the man who is doing the shipping, on the express company which is handling the shipment and on the promptness with which the shipment is picked up at destination. As a rule, we would say that a distance of 400 or 500 miles, such as from Buffalo to New York city, is all right. Meats and poultry are sold cheaper in Chicago than in the eastern cities.

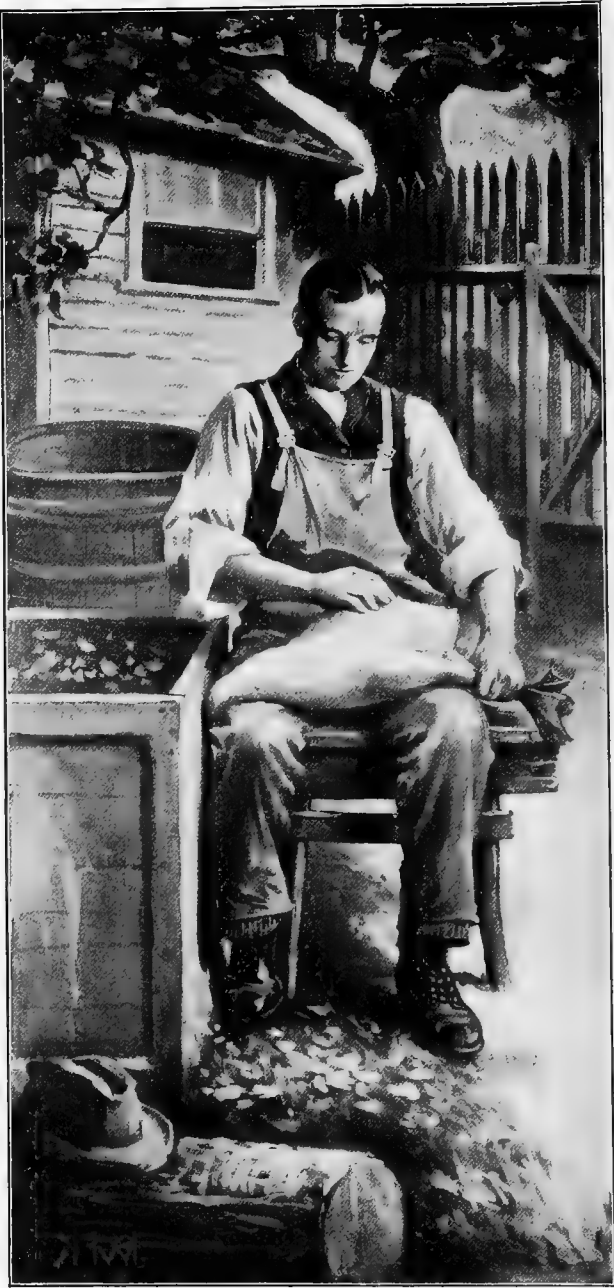
**Long  
Distance  
Shipments**

In choosing a commission man or marketman, it is a good idea first to make him your friend. Tell him what you are going to produce. Write him or see him. Talk to him in a friendly way. Do not look upon him as an enemy. Do not change around from one dealer to another. When you have found a good man and got him acquainted with you and your ducklings, stick to him. His customers will praise your ducklings; they will tell him they are fine. He will write to you and say he is pleased with them. His trade in them will grow, and he wants it to grow because he will make more money. Let him push your goods. Stick to him and he will stick to you, if he is any kind of a man. If you change around from one dealer to another, they will not take the interest in your ducklings if they know that some other man will get the next lot of them.

**Get a Good  
Market**

The whole duckling is not picked. The wing is picked up to the first joint. The neck is picked half way up to the head. The duckling is not opened or drawn. You must not take out the insides of a duckling before shipping. The birds will not keep nearly so well. They will begin to mold on the inside with the slightest delay. The marketmen want them undrawn, and that is the way you always should ship them. The birds are drawn by the marketman when he sells them to the customer, or the customer cleans them at his or her home, hotel or restaurant, or wherever the cooking is done.

**How to Pick  
Ducklings**



Duck Picker at Work



The killing and picking of ducklings can be avoided entirely by shipping them alive. Many small breeders never ship any ducklings killed, but always alive. There are poultry gatherers everywhere who go about in wagons picking up live poultry. You will find their advertisements in the papers, asking you to write or telephone them, then they will call and get what you have. These gatherers take their goods off to the marketmen to be killed and picked. In some cases they do the killing and picking themselves.

### Shipping Ducklings Alive

Some marketmen will take the ducklings alive. Write and find out whether the marketman to whom you propose to ship will take the ducklings alive.

The Hebrew and the Chinese trade in the large cities consumes large quantities of ducklings. They wish them alive as a rule. Fowls have to be killed in a certain way to conform to the Hebrew religion. An excellent trade in live ducklings can be worked up with Hebrews and the Chinese.

### For Special Markets

Ducklings sold killed or alive straight to the consumer bring the money which the commission man or dealer gets. A trade of this kind is worth working up, for the greater profits in it.

Breeders are shipping ducklings to New York, Philadelphia and other markets outside of New England, which have been scalded and picked. When a duck is scalded before picking, the feathers come off much easier. Not over five cents is paid for picking a scalded picked duck, because it is much easier work. The tail feathers are left on.

A dry-picked duck in any of the eastern markets is always called a Boston duckling.

Many city markets see nothing but scalded ducks. The process of scalding is, first to immerse the duckling in a wash-boiler of water that has just come to a boil. The water must not be hotter than this. The duckling is held by the head and feet for half a minute in the water, then the feathers are immediately picked off. It is quite common for women who have a few ducks, and ship only a few at a time, to scald them before picking.

### How to Scald Ducks

To show you the present condition of the New York market with regard to scalded ducks and dry-picked ducklings, it is true that for every 100 ducks marketed in New York city ninety-five have been picked after scalding. It is more trouble to dry pick them in the manner we have told under "Killing, Picking, Shipping."

### Scald or Dry- Pick as Trade Demands

Some picking is done before killing, generally in mid-summer when the feathers come out easier. This is a cruel practice which hurts the birds, and we do not think it ought to be done.

We once had a man in our employ who claimed to be able to kill a duckling so that the feathers would come off easier. His theory was that he had found a certain spot in the brain of the duckling which when he ran his killing knife into it affected the nerves of the whole body of the duckling, so that the feathers were, as it were, released by the duckling. This seems silly to read, but it is a fact that this picker got his feathers off more quickly than his fellows. He always ran the knife into



Ready for Shipping

Ducklings killed, picked and ready for packing and shipping. The string which confines the head under the wing has not yet been passed around over the breast and tied. Observe the large frame, full breast and general plumpness of these birds. When the photographer took the above picture, the ducks were lying on a horizontal table and the camera was six feet distant, higher than the table. The result is, that the three ducks on the inside (or bottom) row appear larger than the four behind (being nearer the camera). They all, however, were about the same size and weight, with the exception of the two at the left of the lower row, which were exceptionally big.

These ducklings sell readily on their good looks and their delicious taste. Their plump, white flesh and trim appearance make them marked objects in any poultry or general market display.

The ducklings in the picture were eleven weeks old when killed and weighed sixteen pounds to the pair.

the brain of the duckling from a peculiar angle. We do not vouch for the value of this information, but simply print it as a bit of gossip of the pickers.

Ducklings about to be killed should have their last food at night so that their food passage is empty when killed the next day. They can  
**The Last** be given plenty of water to drink before killing, but  
**Feed** if the food passage is filled with grain when the bird is  
**for Ducklings** killed, this grain will ferment, sour, turn green and spoil  
 the flesh. If by mischance a duckling is killed which has eaten and filled  
 the food passage with grain, the neck should be squeezed and the grain  
 washed out through the mouth before shipment.

The ducklings do not lose weight between their last feeding and killing time provided they have all the water they want to drink.

A large plant will kill and ship on an average 200 ducklings a day, when busiest 400 a day. An average of 350 to 375 a day will keep nine pickers at work.

Every twelve ducks will give up a pound of feathers, worth on an average forty-five cents. This price may vary in different parts of the country. We have been getting fifty cents a pound in late years—more than ever before. There are feather buyers everywhere. Their advertisements may be seen in many journals.

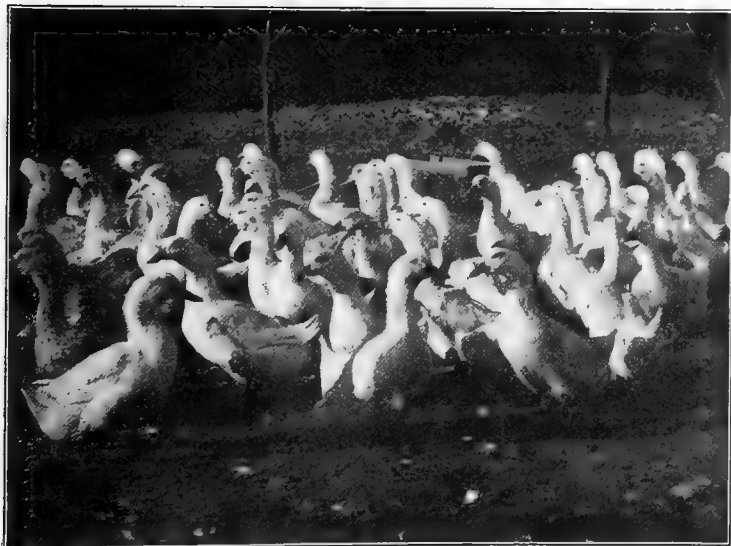
**Value of the Feathers**

The feathers are taken from the picking room several times a day and put in the feather loft. We throw them on the floor of the loft and stir them up with a pitchfork once a day for three or four days. By that time they are dried at the roots and can be pushed together into a pile to make room for new feathers from the picking room. Turn the pile over with a pitchfork once a week. The idea is to get the feathers loose. Do not let them pack up and get heated, and ferment.

**Keep the Feathers Cool**

To ship the feathers to market, use bags made of white cotton cloth. Formerly we made the bags at our own expense, then we found out that the feather men, if we asked them, would send us the bags, so we got rid of this expense. Write to your feather man; tell him what you have, and he will send you the bags. A feather bag is generally six feet long and two and one-half feet wide. The feathers are packed into it tightly by hand. Sew up the top of the bag with string. The weight of a bag packed properly

**How to Ship Feathers**



Pen of Ducklings on Dirt Run a Week Previous to Killing



Ducks in the First Pen Moved in This Picture, Causing the White Streaks

should be seventy-five to 100 pounds. It takes twenty to thirty minutes to stuff a bag. A bag may be filled easiest when it is suspended beneath a hole which has been cut in the floor of the loft. The feathers are then pushed, packed or shovelled in more easily than if picked up by handfuls.

The feathers have a little odor when shipped. The feather man takes off this odor by using first a steam renovator which dries the feathers and kills all the animal germs in them with superheated steam which is very dry. The feathers are then put through a blowing machine, which separates the down. **Separating the Down**

The feather men get more money for this down than they do for the feathers.

These feathers are used to make bed and sofa pillows and all kinds of pillows. They are also used to make beds, especially for foreigners from Europe, where feather-beds are much more in use than in this country. There is quite a trade in these feather-beds, old-fashioned as they are. The demand for feathers for pillows never lets up.

## Markets

The best way to find out how the market stands is to ask the commission man or dealer for what he is selling ducklings. Don't tell him you have, or may have, some to sell. Ask to buy some. Then you will learn the real facts about the market. **How to Find True Prices**

With that information in hand, see the dealer and tell him you will sell ducklings at that price, less his commission. To find out the true prices, anywhere, always ask to buy, and never to sell. Then make your own selling price so as to give both you and the dealer a fair profit.

There is considerable foolishness in the commission business in this way. Some of the commission men claim to be handling farm produce on purely a commission basis, returning to the shipper the full price received, less ten per cent. commission. This is not always true. They are not satisfied with ten per cent. profit. They buy as low as they can and take ten per cent. off that, then they sell for what they can get, and this selling price represents a profit of from thirty to 100 per cent.

In various sections of the country where we have customers, we have written to commission men and poultry dealers (whose names we could learn in no other way than by looking in city directories), in order to find out what they would pay for ducks. We have done this at remote points, as we had plenty of knowledge as to the immensity of the big city markets.

We have always found by such inquiries that ducks are sellers everywhere, and we know that ducklings bred from our stock would go like wild-fire anywhere.

We recall one customer in the vicinity of Atlanta, Georgia. In writing to the wholesale dealers there, in October, when prices for ducklings are the lowest of the year, we received the following replies: **Prices in Atlanta**

I. "We are selling now old ducks that dress fat for sixteen to eighteen cents a pound, and this demand will continue throughout the



The Parallelogram Shape of Body, Depth of Keel and Plumpness of the Weber Ducklings Are Shown Here

poultry season. We could place stock of your quality to the extent of 800 to 1,000 pounds a week."

2. "Ducks such as you breed usually sell here at sixteen to eighteen cents a pound. Our market prefers scalded stock. However, dry-picked stock keeps longer and better and can be sold all right. Poultry is sold here with heads and feet on, undrawn. Crops must either be empty or drawn. We will be glad to serve you."

In the winter-time, throughout the South, the hunters bring in to the markets wild ducks and sell them to the dealers for forty cents a pair. These ducks, small, skinny and rank-tasting as they are, sell readily to families. Tame ducklings bred from our stock would be a revelation to Southerners accustomed to eating the fishy, small wild ducks. Many of the southern dealers wish the tame ducklings shipped to them alive.

It will surprise western people to learn that ducklings are shipped to the New York market from as far west as Iowa. We are in receipt of a letter from H. S. Webber, Iowa, stating that the duck breeders there are shipping to New York steadily. It is Mr. Webber's opinion that he could ship a great many more ducklings to the New York market provided they were the equal of the ducklings now being marketed in New York. Duck food is cheap in Iowa and the whole Middle West, so much cheaper than in the East that the express on the killed ducklings from the Central States to New York would not amount to much in comparison.

**The West  
Can Supply  
New York**

Six or seven years ago, the farmers in Illinois and other neighboring states received only six and seven cents a pound for their ducks, alive. Now they receive twelve and thirteen cents a pound, live weight. Consumers in the West have found out the fine quality and flavor of properly raised ducks. That is one reason why prices have increased as they have in the East the past few years.

Ducklings are handled by the Iowa dealers both alive and dressed.

In Minnesota and Wisconsin the duck markets are very good.

The markets in San Francisco and other cities on the Pacific coast are great ones for ducks, and big money is going to be made there by duck breeders. The people on the West coast spend their money freely and have the best of everything for their tables.

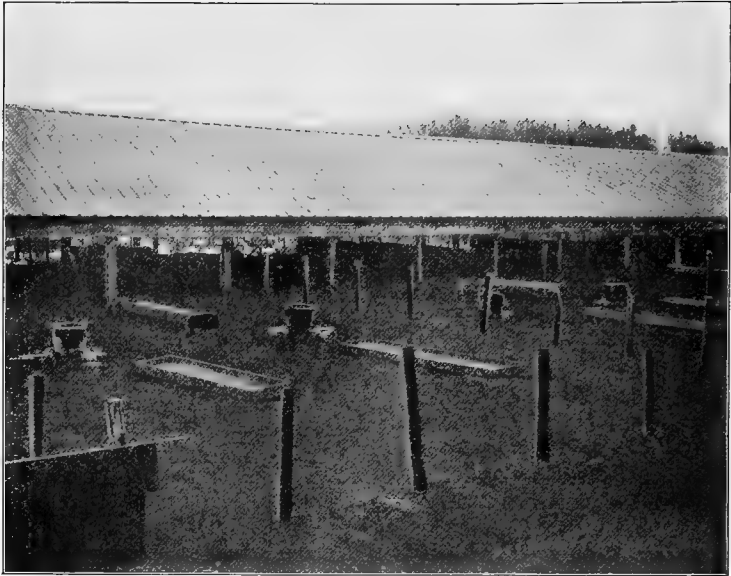
The beef wholesalers handle an enormous quantity of poultry. We have the following letter from a leading one in Chicago:

"We are at all times in the market for fancy ducks. There is no limit to the quantity we could use."

What is true of the above firm with regard to the demand for ducks is also true of the others of the great beef wholesalers.

The best ducklings now in the Chicago and St. Louis and surrounding markets are shipped there from New York. Anybody getting in now with good ducks in the Central States, and shipping to Chicago and the other cities there, will have abundant cause for congratulation.

New York and Boston will take all the ducklings offered at what are now the highest prices in America. Those of our customers who raise ducklings in New England, and in New York, Pennsylvania and other



Fattening Shed and Pens

As shown, the shed is open on both sides, giving plenty of fresh air at all times. It is simply a shelter from the sun, for the ducklings which are being fattened for market do not mind the rain at this age. The roof is not shingled. The cracks between the boards are covered with two-inch striping. (No roofing paper here.)

The yards are separated by wire netting, but under the shed boards are used. The feed boards and water-pails are shown in the yards. The pails are near the food boards so that the ducklings can waddle quickly from food to drink and back again.

states within shipping distance of New York and Boston, are more favored than those in remote states, but the day of the latter is coming.

There is not a place where ducklings cannot be raised and sold at the same profit we make here in the East, because it is all a question of finding men, women and children who like table delicacies. These people live around every market. Ducklings are as salable as anything eatable they buy.

Lake, ocean and river steamers, dining cars on all railroads, hotel and restaurants everywhere, clubs, etc., all want good ducklings. Sell to them direct if you can, and make the fifty to 100 per cent. profit which a middleman will make if you sell to him first.

Commission men, poultry dealers, hotels, etc., are pestered continually with letters from poultry experimenters and dreamers. Most of them pay no attention to letters written by curiosity seekers and throw them into the waste-basket. They are always interested to talk business with anybody who actually has poultry to sell, and proves it



by his letter. Anybody who starts off on a campaign of letter-writing or walking tour of investigation as to whether ducklings are salable, and at what prices, would better, as we have suggested before, inquire for what he can buy them. Let the dealers come to you, when you have the ducklings ready. If you are breeding the right ducklings, they will drum you for the chance to sell them. It is all under your control.

Make a start, turn out the ducklings and begin learning the markets as well as other details by actual practice. An ounce of this practice, this actual handling of the business, is worth a ton of theorizing. The subject takes on a near and real aspect. We have had customers write four-page letters for weeks asking full details about size of shipping boxes, locations of markets, names of marketmen who would take 100 ducklings a day, etc., fearing that should they embark in the industry they would flood their nearest city with ducklings which would be a drug in the market—and all the while these beginners did not have even a trio of ducks; their fears existed on paper only. Anybody who can entertain doubts that ducklings and other poultry can be sold profitably when raised, has not intelligence enough to succeed in poultry raising. Such people should face at the start the fact that they are unfitted for business on their own hook, and should keep on working for others more resourceful and more enterprising. It is weak and pitiful, when a man, presumably intelligent and at the age of discretion, will write and say: "I live in a small place 200 miles from any city, and I don't think I can market ducklings if I raise them, or make any money with them; do you believe I can?" What can be said to such a man to convince him? Can anything be said briefly? Hardly. Such a man must be educated from the beginning. He has no imagination. He cannot conceive that there are people who like to have good things from day to day on their dinner tables; city people, and country people, too, not only the wealthy ones, but the comfortably well-off, who are searching for nice, appetizing food to eat all the time. Never having been in a great city market, he does not realize that tons and tons of ducklings and carloads of chickens and eggs melt away there every day like dew in the morning sun. We speak of this subject emphatically because it is an exasperating experience to receive a letter from a beginner expressing doubts as to the markets, and fears that he will flood his nearest market, once he starts. Such letter-writers almost invariably state their alarm that the whole country soon will be raising ducks, and that ducks will drop in value to nothing.

**Nothing  
Like Actual  
Experience**

**A Flooded  
Market  
Unlikely**

Another doubt of beginners is that they cannot sell ducklings except cheaply to commission men and dealers. Why should a duck breeder sell to a commission man or dealer, if he does not wish to? The selling of his product is always under the control of the breeder. He can sell to whom he pleases and is not obliged to take the first offer. We have always sold to commission men and dealers and made a good profit; but we have been well aware all the time that we could have made more money selling over their heads direct. Some dealers and commission

men will not pay what ducklings are worth if they find they can impose on the breeder, or keep him in ignorance of the market.

As a rule, most of the poultry markets in the United States and Canada do not know yet what a good duck is. There is a splendid opening everywhere for breeders with the right birds. Get into your nearest market, capture your share of it and get the good prices which your ducklings will bring.

What is known among epicures as a canvasback duck is a wild duck from the breeding grounds of Chesapeake Bay. They live largely on the wild celery which grows there. They weigh eight pounds to the pair. They are much prized by many diners on account of their peculiar flavor due to the wild celery, and are worth about \$5 a pair in the markets.

Most of the dealers know only the common or puddle duck, weighing three or four pounds when full grown. At three months they weigh only between three and four pounds. The eggs are small and greenish in color. The Pekin eggs are large and white. It takes the whole summer for the puddle duck to mature. Compared to our Pekin ducklings they look like a sparrow alongside of a chicken.

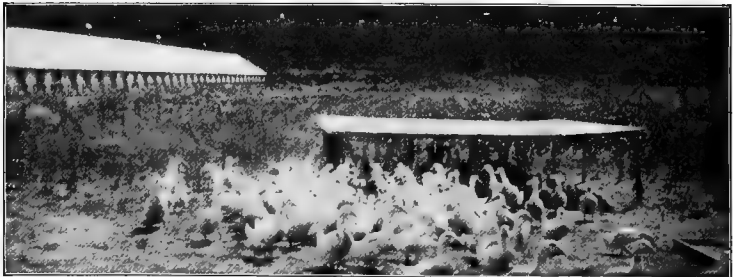
It is not uncommon to see in the markets small, thin, bruised, half-fattened, half-picked ducks. Many of them have bloody bills and their feet are dirty with caked manure and mud. Avoid sending to market anything in that class. Open a box of our ducklings and you see first

#### Few Good Ducks in the Market

the brown paper, a good introduction to the contents, then the contents themselves, clean of bill and feet, white and plump, something good which whets the appetite and makes one long for possession. Ducklings properly marketed give the buyer a good impression.

The red-head duck (wild) is thought to be good eating in some sections, Maine for example. A friend of ours killed a red-head down in Maine which weighed four pounds. Three trout were found in her gullet. She was roasted with all skill at command, but tasted oily and fishy, and was a disappointment.

If you actually go into the Boston and New York markets in the spring and try to buy ducklings, thirty to thirty-five cents a pound is what you have to pay. Some reporters for the newspapers, when they set out to write a market article, announce themselves as reporters, and ask the dealers what prices they will put into the papers. The dealers



Shelter Roof for Ducks on the Range

naturally talk low prices so as not to frighten off the buying public from their stalls. Other reporters go on an imaginary shopping tour, asking the dealers, without disclosing their identity, just what they will take for this and that, and in such a way they get the true market prices. It all depends on the reporter who does it.

Some dealers in New York wish ducklings alive, others killed; some dry-picked, others scalded and picked. The best way to ship our ducklings is dry-picked, and if you ship them that way even to dealers who say they are now getting ducklings scalded, they will be better pleased. They talk and write as they do, in some cases, because they have had no experience with dry-picked ducklings. You must inform the dealer what you can do, get his instructions and make recommendations to him as well as listen to his recommendations.

## Question Box

*Q.*—You say that when you are picking the ducklings, after sticking, you hold the head between your knees. I don't see how you can get the feathers off if you do that. I have tried it and the bird flops around and I have difficulty in getting the feathers off. *A.*—Please read the remarks on picking again. We do not write there what you say we do. We tell you to hold the head of the bird between one knee and the feather box. This leaves the body in your lap, where you can turn it around to suit yourself as you pick it. You hold the head tightly against the box and this prevents the bird from flopping around and soiling its feathers and body with blood. Sit in a chair while you pick.

*Q.*—My ducklings have a yellow tinge to their flesh when I ship them. What is there in the food which causes this? *A.*—This is caused by allowing the ducklings to lie on green grass before you kill them. You must take them off the grass range one week or so before you kill them, and put them on to dirt. The yellow color seems to go through the feathers to the skin.

*Q.*—My flock appear restless at times during the night and do not always go to bed and sleep. This worries me a good deal. Do you think they are sick? *A.*—They do not act like most animals when night comes. It is perfectly natural for them to be restless at times and move about more or less. During the day they like to sit motionless at times with heads under the wing.

*Q.*—My marketman says to scald the ducklings before taking off the feathers. Now, why can't I put the whole bird right down all over into my wash-boiler? You say to hold the bird by head and feet and scald only the body. *A.*—Do not scald the bill and feet because if you do you will discolor them. You also will take the feathers off the head. This you must not do. The feathers are left on the head.

*Q.*—I am going to grow celery and feed it to my ducklings and get a higher price for the birds. Why don't you do it? *A.*—That is a foolish idea. It is true that wild ducks which feed on wild celery bring better prices because of the improved flavor, but if you raise celery in a garden, you can get ten times more money for it as it grows than in the

form of duck-meat flavor. It is expensive flavoring. It is also a failure as flavoring, because a celery-fed domestic duck does not taste anything like the wild canvasback duck fed on wild celery, and cannot be substituted for the canvasbacks. A big, grain-fed duckling is better eating than a canvasback, and will bring as high a price when people get better acquainted with it. Canvasbacks are sold at high prices because they are comparatively scarce, and because for years fancy eaters have been in the habit of paying high prices for them. The demand has been cultivated by restaurants and hotels along with the terrapin and champagne demand.

*Q.*—It seems to me strange, if there is so much money in ducks as you say, that instead of marketing 45,000 or 50,000 a year as you have done, you have not marketed 100,000 or even 200,000 a year, and got rich much quicker. If your figures are correct, and the work, as it seems to me, is only a question of hired help, why have you not pushed the business harder? I am of good business ability, and I see no reason why I cannot accomplish in five years what might otherwise take twenty. Please advise me. *A.*—Go slowly. If you have been “figuring,” tear up the paper and listen to reason. Is not experience worth acquiring? If ducks could be turned out like bricks from a machine, it would be necessary only to speed up the machinery and work day and night. But they are living things and have to be nourished and cared for. A man is busy and has quite a good job on hand when he is shipping 1,000 ducklings a week to market, making a net profit of \$500 a week on them. If one ships 100,000 ducklings a year to market, he must erect more buildings, employ more help and be busier. To make a success, a man must keep things under his control. Don't bite off more than you can chew. What is the use of trying to do three years' work and make three years' profits in one year? People who deny themselves every pleasure but money-making find that when they are ready to stop work and enjoy their fortune they have made a mistake. We have known poultry beginners, fanciful dreamers, to start with a plant costing as high as \$5,000 with 1,500 head of birds, and the stories of their failures were blazoned all over their districts. Start small, and then an occasional mistake is not going to put one out of the business. An error can be corrected, and the lesson having been learned the error will not be repeated. There is positively no “out” about the duck business which will bring ruin. One man may not make so much money as another; that is to be expected. It is a question of starting with the right stock, following the right teachings and acquiring skill, experience and capacity, according to the individual.

*Q.*—In my state (Texas) there do not seem to be any ducks like yours, and people with whom I talk do not think there would be any sale for them. *A.*—Texas folks like chickens, or beefsteaks. You don't live on cereals altogether, down your way, any more than we do. You have a clear field and, take our word for it, Texans will buy good ducklings, pay your price, and come back to you for more.

*Q.*—If these ducklings are such exceptional eating, as you state, why can't I get up an attractive little booklet and circular and mail them around and get a list of steady buyers that way? *A.*—You can, and you

ought to; that is just the way the finest eggs, poultry, butter, etc., are sold, at the highest prices.

*Q.*—I dislike the idea of killing the ducklings. Can I sell them alive? *A.*—Yes. There are thousands of poultrymen in the business of picking up birds alive from farmers, and marketmen everywhere who will take them alive.

*Q.*—I do general farming. Do you think I can grow the foods your ducks eat and do better feeding them to ducks than selling them separately? *A.*—Yes, you can get much more for them in the form of duck meat. If breeders make big profits with ducks by buying everything, as we do, those farmers who have to buy only a part of the ration, raising the most of it, will make more money.

*Q.*—Instead of buying so much food stuff, why don't you raise it on your farm? *A.*—We wish to have our time free for the ducks and do not care to be busy at general farming, as we are satisfied with the profit on ducks from feeding bought food. We grow vegetables and green stuff for our needs, as that is no trouble.

*Q.*—What is the proper time for killing ducklings? *A.*—From ten weeks to three months of age. Keep them longer and they eat off the profits every day. The average farmer or housewife raising ducks for amusement by guesswork does not realize that. The age of ten to twelve weeks represents the maximum of plumpness and tenderness with the minimum of expense. After that age, the plumpness and tenderness decrease and the cost of keep is being added to all the time.

*Q.*—I read what you say, that worms are fine for ducks and save on the grain bill. Why not raise worms? Is any treatise published on propagating worms? Guess you will think I am joking. *A.*—Don't know of any worm guide. 'Would advise that you try the method seen in Belgium, where there is considerable swampy land. It is not uncommon there to find a duck raiser walking in the swampy land at the head of a flock of ducks, his wooden shoes at every stride squeezing out of the muck worms which the ducks gobble greedily—a sort of automatic self-feeding, non-paying scheme.

*Q.*—Is there anything gained by breeding a small duck? A relative of mine living near here who did some duck breeding a few years ago used to get a good price for small ducklings, and said his dealer sold them quicker than bigger ducklings. *A.*—About ten years ago, some hotel and restaurant men in New York went to their duck and poultry markets, and said: We don't want you to give us too large a duckling. We get a good price now on our bills of fare, and we wish from you (so we can make all the money possible) a medium-sized bird. When half of a medium-sized bird gets on to the table, it certainly will be large enough for one or two people. A whole big duckling is large enough for a family dinner. Keep the size down so they will cost us less and make us more money." The duck marketmen evidently did not argue the matter much. They passed the word along to the breeders in the territory south and west of New York, where most of the ducks then were being produced, and these breeders, to please their trade, actually began to breed for smaller size. Before long they were shipping to market ducks weighing not more than four pounds. The result was what

any sensible man could have predicted. The consumers, the men and women who ate the ducklings, complained, and would not order them so often at hotels and restaurants. The hotel and restaurant managers soon changed their requests to "Give us the big ducklings again." The breeders went back to the early methods. They found building up size not so easy as pulling down. Qualities cherished and perpetuated by years of study and skill had gone. To-day the flocks of these breeders are not yet back to a big-sized duckling, but feel the effects of the period of stunting. It is safe in poultry breeding to work for the biggest and juiciest. Anybody in any occupation who trades in an inferior article, hoping to make a bigger profit by selling it at the price of something better, is not playing fair to himself or to anybody.

*Q.*—I live on the seacoast. Is there anything in the air that would be prejudicial to the duck industry? *A.*—Snow does not last long on seacoast land, and this is a point in favor of the coast, because the ducklings will get out on the ground earlier in the spring, enjoy more exercise and do better. There is nothing in salt air or sea breezes unfavorable to ducks.

*Q.*—I see you have plenty of windows in your houses. How many are advisable? *A.*—Put in windows freely. Light and sun are good for ducklings. When warm weather comes the windows are raised or taken out altogether so as to give plenty of free air.

*Q.*—My ducks like to play in the muddy and swampy land. Will it hurt them? *A.*—No, it will do them good. You can't keep them out of the muck. They will run for it.

*Q.*—How shall I get my ducks to lay? *A.*—Feed them as we tell under "Care of Breeding Stock." It is all a matter of food. They cannot lay unless they are nourished. If you starve them they will not do much for you.

*Q.*—My ducklings do not seem very bright. They walked into a hole in the field and fell in and could not get out. Some were lamed and injured before I got them out. *A.*—Ducklings are more or less stupid and must not be given a chance to fall into holes, or to run against sharp obstructions.

*Q.*—I have read in poultry books that ground over which fowls run becomes tainted and unhealthful in time if something is not done to purify it. Is this true of a duck farm? *A.*—Yes, and that is the reason crops of green stuff, like rye, are grown, to sweeten the soil. They do it, too, unfailingly.

*Q.*—In dressing my first duck for the table, I tried to find the crop, to see if there was any food in it, but could not find it. *A.*—A hen has a crop, but a duck has not. The food passage in a duck runs from the mouth to the gizzard.

*Q.*—I have an incubator for hens' eggs. Can I use it for ducks' eggs? *A.*—Yes. Of course, the ducks' eggs being larger, you cannot put in so many.

*Q.*—Why is an incubator house built like a cellar? *A.*—Because it will not be freezing cold there in the winter, and in summer it will be twelve to eighteen degrees cooler than outdoors (making it a good place to keep eggs then). To build an incubator cellar, dig only three feet

deep, and use the dirt to bank up the walls outside. Build the walls of stone and cement. Put a roof over it, and a door at the end. Ventilate it well. Don't forget the ventilators, because egg-shells are porous. Dead air, with a large proportion of carbonic acid gas, and little oxygen, will badly influence the ducklings growing in the eggs.

*Q.*—Why do you keep ducklings of different ages separate? Why not turn all in together, the young and the old? *A.*—Because the old and strong birds would trample on and kill the smallest and weakest ones.

*Q.*—At what age can ducklings be put outdoors safely? *A.*—When they are six weeks old, rain and cold will not hurt them, and they can be left out in their yards all night, unless it is bitter cold and stormy, and they will thrive better for it.

*Q.*—At what age does a duck begin to lay? *A.*—When she is from four and one-half to five months old.

*Q.*—Don't you lose any ducklings after you have hatched them? *A.*—There is a loss of only about two out of every hundred.

*Q.*—What is the color of eggs laid by Pekin ducks? *A.*—White.

*Q.*—Can I get along without an incubator? *A.*—If you try to work without an incubator, you must have hens to sit on and hatch the ducks' eggs. The ducks are not broody and will not sit on and hatch their eggs. Better have an incubator.

*Q.*—In case I do use a hen, how many duck eggs shall I put under her? *A.*—Nine under a small hen, and eleven or twelve under a large hen.

*Q.*—Will a hen brood the young ducklings, or would you provide a brooder? *A.*—Get a brooder. A hen is awkward in brooding ducklings, as a rule, injuring some by crushing.

*Q.*—How would you advise working up a duck market in a place where ducklings are comparatively unknown? *A.*—Make the prospective customer a gift of a duckling and let him or her serve it for dinner. He will be won over by the experiment and, we predict, will report to you that the dish is ahead of chicken or turkey. Sales will follow as a matter of course. This is a good way to get acquainted with a hotel or restaurant keeper.

*Q.*—Is your system of feeding followed by many? *A.*—There are some breeders of ducks who care more for low cost than they do for flavor of meat. They feed fish caught from the ocean or lakes in nets. Ducklings fattened on fish taste fishy and their flesh is not fine-grained.

*Q.*—Would you advise a woman to go into duck raising? *A.*—It depends on the woman, as it does on the man, also. Some men get enthusiastic, and like to figure the money they are going to make, but after a while cool off and become lazy and indifferent. A woman who likes hens and chickens will like ducks. The work is not much different. We know of good work done by women raising ducks. Of course women should hire help if they run a large duck farm. Some women are better fitted for poultry raising than men.

*Q.*—What would you advise with regard to the selection of a farm? *A.*—No matter how poor and how cheap the land, the manure from the ducks will fertilize it. Land which has a gentle slope, or which is

gravelly, will be drained better than low, level land. It ought not to be possible for pools of water to form and get stagnant.

*Q.*—You say that in the winter-time, to save labor in the morning, the food is mixed at night. How do you mix it? *A.*—In mixing the food by hand, use a common, ordinary square shovel and a box. The most convenient size of box will be found to be six feet long, thirty inches wide and two feet deep, set on legs about eighteen inches high, and holding thirty-five to forty pailfuls of food.

*Q.*—You say that the mark of the sex in the drake is a curl feather in the tail. I have some drakes with two curl feathers in the tail. *A.*—Certainly; drakes are seen with two curl feathers in the tail, although sometimes one or both are missing.

*Q.*—You give some details as to watering. Please give further details. *A.*—Ducks saved for breeders, and on a grass range, are fed twice a day, morning and evening. They should be watered more often during the day in warm weather. It is a good plan to keep cool water before the breeders all the time. We say on page 31 that they can be watered five times a day in addition to the two times at which they are fed. We do not mean by this that one should be continually carrying water to them, but that the object to be attained is to keep cool water before the breeders nearly continuously.

*Q.*—On care of breeding stock, you say to feed the mixture as soon as it is mixed. Why? *A.*—During the summer it is a good plan not to mix the food until it is needed, as it is apt to get sour. In the winter, to save labor in the morning, you can mix at night and have it all ready to feed in the morning.

*Q.*—Some tell me that the down from ducks can be marketed separately from the feathers. Is this so, and does it pay? *A.*—The process requires special machinery and is not practiced except by feather merchants and feather renovators. We never heard of a duck breeder separating the down from the feathers.

*Q.*—I would thank you if you could give me good directions for picking ducks wet, or by scalding, as this is the method followed in this section where all of the ducks and poultry are shipped to the New York market. *A.*—Picking ducks by the scalding method is very easy after a little practice and experiment. If you are in doubt, go to your butcher or poultryman and he will tell you further; and, perhaps, you can watch him while he scalds a hen or a duck and picks it.

*Q.*—Your feed directions say one pailful is sufficient for thirty ducks. Is the size of the pail ten, twelve or sixteen quarts or more? *A.*—Ten quarts. If you use a twelve or fourteen-quart pail, do not fill it to the top.

*Q.*—Would a good grade of what we term shorts take the place of low-grade flour? *A.*—Yes; flour is used principally to make the feed hold together. In details like this, methods of feeding different from ours will give profitable results. Use the food materials which you have in your state.

*Q.*—How few ducks need a light at night? *A.*—Twenty. The more ducks one keeps in a flock, the more noisy and restless they are in the dark.



*Q.*—Please give me the amount of feed necessary for a pen of thirty breeding ducks. *A.*—A ten-quart pailful twice a day.

*Q.*—Please tell me the difference per pound between ducks alive and dressed. *A.*—In the eastern markets, the difference is four to six cents a pound. We mean by this that live ducks sell for four to six cents a pound less than dressed ducks.

*Q.*—I live within one mile of a city that has a population of 55,000, but there is no market there for ducks, so I am going slow and try to work up a home trade. *A.*—You are in error in stating that there is no market for ducklings in the city of 55,000 people. They are not sold there now, perhaps, because there are no ducklings to be shipped there to be offered for sale. You may have been told that there is no market there by somebody who has no call for something which does not yet exist for him. It rests with you to ship to such a market and create the supply. The demand is there waiting for you. You will have to show your goods and attract admiration for them, and sell them on merit, as everything is sold. There are thousands of families in that large city who would eagerly buy delicious ducklings for a change of eating, once a week, or oftener; and such people you ought to reach by circular, or word of mouth, or by letter, and get them interested. They are consuming milk, eggs and poultry now, of course, and it rests with you whether they shall consume ducklings. Give a pair of ducklings to the leading marketman there, if necessary, and let him display them in his stalls to his trade. You will find they will sell, and the dealer will ask you for more. If you are the first duck raiser to start shipping to that city of 55,000 people, you are lucky, for you can get a foothold with your stock quickly, and you need not worry about selling all you can turn out. But you must tell and show people what you do. Do not be afraid to talk and advertise. If you hide your light under a bushel it certainly will not be seen, nor will people go to you inquiring for the illumination.

*Q.*—I should like to know the cost of erecting a 100-foot duck house. *A.*—A duck house 100 feet long by fifteen feet wide, covered with roofing (which never requires painting) is built in a good, substantial manner for about \$2.50 per running foot.

*Q.*—I wish to ask only one question, and that is, could ducks be raised profitably by attending to them in the ordinary way, say with a few, giving part of my time to them, as I am employed regularly at something else which takes me from home? *A.*—Certainly, you can manage them exactly as a small poultry plant is managed by men who work at something else for their main living.

*Q.*—How many ducks would I need to supply 100 eggs to fill incubators every two weeks? I should wish to run two incubators, one hatching two weeks later than the first. *A.*—Twenty ducks and four drakes would be about the proper number.

*Q.*—Brewers' grains cost but \$3 per ton in New York and make excellent feed for cows. Can brewers' grains be fed to ducks and if so, with what result? *A.*—We have had no experience with brewers' grains, but see no objection to feeding them in moderate quantities mixed with other feeds, say about twenty per cent., and fed to ducks after they are six weeks old.

*Q.*—You say that in selecting breeding birds, other considerations besides size need to be considered. What? Please enlarge upon the proper selection of breeding stock from a flock. *A.*—The most important consideration in selecting breeders is contained in three words, stamina, vitality and activity. The experienced duck breeder has these three features always in mind when making selections. Secondly, size and weight are in order, in connection with shape, contour or symmetry.

*Q.*—You speak of granite grit, and I should like to learn if that is really necessary and distinctly better than other gravel which the birds might pick up anywhere. *A.*—Where only a few ducks are kept, common sand or fine gravel may be sufficient. Duck grit, however, is so cheap that we use it for our birds and always recommend it.

*Q.*—What is the relative proportion of duck eggs needed to fill an incubator of 150 hen-egg capacity? You may also give me the figures as to geese and turkey eggs. *A.*—An incubator of the foregoing capacity will hold 100 ducks' eggs and seventy-five geese or turkey eggs. No matter what the size of your incubator, you can put in it two duck eggs for every three hens' eggs.

*Q.*—If you were to turn the eggs with cold and clammy hands, would it not be apt to chill the embryo at certain stages, and thus impair its vitality? I have never noticed any caution in this matter, but it seems to me that if one were to come in out of a cold day, and especially with low blood circulation which no amount of action or warmth would generate, and do the work of turning the eggs, it would not be just the thing. Perhaps people with cold hands should don a pair of woolen gloves before turning eggs in an incubator, or let some one else do it. *A.*—No danger. You do not pick up the eggs to hold them long enough to chill them, no matter if your hands are cold as ice. You turn the eggs with the tips of the fingers. Certainly you can wear gloves as a preventive if you wish, and your mind will be at ease on this point. We warm our hands by holding them up against the heater of the incubator.

*Q.*—I can get scraps, meats, etc., from the restaurants and hotels here. Would you advise their use at any time after the ducklings are six weeks old? *A.*—Yes, this is an excellent way to obtain feed for the ducks. The stale bread could be soaked in water and mixed with regular grain with fine results.

*Q.*—When we scald a duck, can the feathers be made marketable like dry-picked ones? *A.*—Yes; the feathers are put very thinly on the floor of a room and shaken with a hay-fork every few days until dry, then they are pushed upon a heap to make room for more.

*Q.*—I have been observing the market quotations here (Iowa) for several months, and find they never exceed twelve cents. If the ducklings average six pounds, they would average seventy-two cents. If it costs from six to ten cents per pound to raise and market them, I am unable to figure out fifty cents profit on each one. *A.*—The market quotations you see apply to the commonest or puddle ducks, always about a third to a half lower than the quotations on first-class ducklings. They generally apply also to old ducks, not to the young and tender dry-picked ducklings, with which few markets are acquainted. You cannot learn the true market prices by what you see in the papers, as these frequently run

for months without change, and are inspired almost wholly by dealers who wish to buy as cheaply as they can. To find out the true prices in your city, go out in person, or telephone, and offer to buy ten-week-old ducklings of good weight. In raising ducklings, you would have an important advantage in getting your grain much cheaper. In Iowa, ducks can be raised for less than five cents a pound.

*Q.*—The only thing I don't understand is about plowing up the yards in August. How do you manage this with the ducks? Are they inside the house when the yards are being plowed up, or out on the range? *A.*—Plowing in August, mentioned in the foregoing, refers to the breeding yards. The ducks are through laying, they have earned their money and should be disposed of, or put on the range, and the yards gotten ready for the coming fall, for the new breeders.

*Q.*—Do duck houses need to face the south? *A.*—It is always advisable, in this section of the country, to face the duck buildings either south or southeast.

*Q.*—How are the roof ventilators made? *A.*—Make a box thirty inches long and ten inches wide, open at the bottom. Nail two boards on the top end, pitch, roof fashion, to keep out the rain. Saw a hole in the roof of the house just large enough to receive the ventilator. Nail it on and fit snug with roofing paper.

*Q.*—When ducks are allowed to stay outdoors at night, is there no danger from skunks, weasels, etc.? *A.*—After ducks are six weeks old, there is no danger.

*Q.*—Will rats kill the young ducklings? *A.*—Yes. No danger after they are six weeks old.

*Q.*—Do you keep on hatching as long as the ducks lay? *A.*—Yes.

*Q.*—Is there any special month that is better for hatching breeders? *A.*—Yes. April and May are the best months.

*Q.*—If one wishes to keep breeding ducks over from one year to the next, can the feathers be picked from the live birds and marketed? If so, how often should they be picked? *A.*—It is not advisable to pick the feathers from live breeders. It does not pay. The birds would receive a setback, making them less valuable as breeders the following season.

*Q.*—When breeding stock have ample range, with green grass, in spring and summer, is it necessary to give either vegetables or clover, and might the meat be reduced? *A.*—It is not necessary to supply any vegetables when ducks have a green range. The meat ration should be kept up, however.

*Q.*—Do you advise saving stock for breeders from yearlings, or two-year-olds? *A.*—There is not much difference in either case. The important point is to have the birds strong and vigorous.

*Q.*—Do you allow visitors at your duck farm? *A.*—If they wish to come for business and not for sightseeing, appointments may be made by letter. (No visitors on Sundays or holidays.) Always write a week or more before you intend coming. Read page seven of this book with regard to correspondence, questions, etc. The railroad station nearest the farm is Pondville, on the New York, New Haven and Hartford Railroad. The Weber farm is about one mile walk from the depot.

# Index

<b>A</b>	PAGE	<b>E</b>	PAGE
Age to kill breeders.....	35	Egg record.....	15
Ammonia .....	27	Egg, setting .....	21
Answers to questions.....	79-87	Egg tester.....	45
<b>B</b>		Eggs .....	41
Barrels for shipping.....	65	Eggs, buying .....	22
Bedding pointers .....	33	Eggs, flavor of .....	41
Beef scraps .....	19	Eggs, hatching .....	21, 47
Blindness .....	27	Eggs, infertile .....	21, 41, 45
Bread crumbs .....	19, 49	Eggs, in incubator .....	43
Breeders, age to kill.....	35	Eggs, laid at night.....	41
Breeders, feeding .....	31	Eggs, laid in water.....	23
Breeders, price of.....	35	Eggs, selling .....	24
Breeders, selecting .....	39	Eggs, sorting .....	43
Breeding .....	35, 37	Eggs, starting with .....	20
Breeding pens.....	28, 29	Eggs, testing .....	45, 47
Breeding stock, care of.....	28	Eggs, turning .....	43
Brooder house .....	25, 26, 55	Eggs, washing .....	41
Brooders, care of .....	51	Employees .....	9
Brooding house, heating.....	49	Equipment, cost of.....	15
Buildings .....	13, 25	Express charges.....	67
Buying eggs .....	22	Expressing ducks.....	20
<b>C</b>		<b>F</b>	
Care of breeding stock.....	28	Fattening .....	57
Care of brooders.....	51	Fattening sheds.....	57
Carrying ducks .....	39	Feathers .....	18
Catching ducks .....	39	Feathers, curing .....	71
Cellar, incubator .....	25	Feathers, sale of .....	13
Charcoal .....	31	Feathers, shipping .....	71
Cleanliness .....	31, 51	Feathers, value of.....	71
Cold house .....	56	Feed .....	18
Cold weather .....	34	Feed, first.....	49
Color of skin .....	61	Feed measure.....	31
Corn .....	31	Feeding at night.....	59
Corn-meal .....	19	Feeding before killing .....	70
Cost of equipment .....	14	Feeding breeders .....	31
Cost of feed.....	18, 19	Feeding ducklings .....	51
Cost of producing.....	18, 24	Feeding hours .....	51, 55
Curing feathers .....	71	Fencing .....	29
<b>D</b>		Fertility, improving.....	11
Division of labor.....	9	Fertility record.....	15
Down, separating.....	73	Finding a market.....	76
Drinking water.....	49	First feed.....	49
Drying youngest ducklings....	47	Flooded market.....	77
Ducklings, cost of raising.....	18	Flour, low grade.....	19
Ducklings, handling .....	25	Food boards.....	29, 51
Ducklings, newly hatched .....	47	Food, distributing.....	57
Ducklings, picking .....	67	Food mixer .....	13
Ducklings, profit on.....	14, 18	Food troughs.....	50
Ducklings, shipping alive.....	69	French feeding.....	61
Duck-raising in North.....	25	Fresh air.....	27
Duck-raising in South.....	25	<b>G</b>	
Ducks as fertilizers.....	17	Grass range.....	34
Ducks as gleaners.....	24	Green food.....	19, 33
Ducks, handling .....	39	Grit .....	19, 55
Ducks, kinds .....	23	<b>H</b>	
Ducks, markets for.....	35, 37	Hatching eggs.....	17, 21
Ducks, puddle .....	17	Heating brooding house.....	49
Ducks, scalded .....	69	History of Weber family.....	9
Ducks, scarcity of good.....	78	Hot-water pipes.....	49
Ducks, shipping .....	20	Hot weather watering.....	53
Ducks, wild .....	78	Hours for feeding.....	51, 55
Ducks without water.....	17, 23		

I	PAGE
Ice in shipping.....	65
Ice pond.....	13
Icing in summer.....	66
Inbreeding.....	40
Income, net.....	14
Increasing yield.....	40
Incubator cellar.....	25
Incubator experience.....	10
Incubators.....	13
Incubators necessary.....	17
Incubators to use.....	22
Infertile eggs.....	21
Investment of capital.....	14

K	
Killing.....	59, 62

L	
Labor charge.....	24
Labor, how divided.....	9
Lantern at night.....	34
Layers.....	39
Laying.....	34
Location of farm.....	9
Long shipments.....	67, 75

M	
Male characteristics.....	35
Manure.....	33
Marketing age.....	17
Marketing ducklings.....	15
Markets.....	14, 35, 67, 73, 74, 75
Markets, finding.....	76
Middlemen handle output.....	15
Minor points.....	7
Modern duck buildings.....	13

N	
Net income.....	14
November eggs.....	21
Nursery pens.....	26

O	
Oats, rolled.....	18
Original stock.....	40
Overfeeding.....	31, 53
Oyster-shells.....	19

P	
Pairing.....	35, 37
Pekin ducks.....	22
Pickers.....	63
Picking ducklings.....	63, 67
Picking room.....	64
Plumping carcasses.....	65
Plowing up yards.....	29
Poultry.....	9
Power for food mixer.....	13
Preparing ducklings for market.....	64, 65
Preparing eggs for incubator.....	41-43
Price of breeding ducks.....	35
Prices.....	73
Prices paid for ducklings.....	15
Prices, wholesale.....	24
Profit in first ducklings.....	10
Profit per duckling.....	14, 18
Proper feeding.....	59
Proper weight.....	59
Puddle ducks.....	17

Q	PAGE
Question box.....	79-87
Questions.....	7

R	
Receipts from feathers.....	13
Refrigerator tank.....	65
Rich food mixture.....	59
Rolled oats.....	13, 49
Roofing.....	26
Runs, plowing.....	29

S	
Sale of feathers.....	13
Sand.....	49
Sawdust, dry.....	55
Scalded ducks.....	69
Scarcity of good ducks.....	78
Selecting breeders.....	39
Selling eggs.....	24
Separating down.....	73
Setting eggs.....	21
Sex, determining.....	35, 37
Sheds, fattening.....	57
Shelter.....	25
Shipments, long distance.....	67
Shipping box, lining.....	66
Shipping cases.....	65
Shipping eggs.....	20, 21
Shipping feathers.....	71
Shipping live ducklings.....	69
Size, improving.....	11
Size of drinking fountain.....	56
Skin, color of.....	61
Start in spring.....	21
Start with eggs.....	20
Stone piers.....	26
Storms.....	57
Swimming water.....	17

T	
Teaming.....	13, 17
Tide water danger.....	24
Tying up ducks.....	64

V	
Vegetables.....	19, 33
Ventilation.....	25
Ventilators.....	27

W	
Washing carcass.....	64
Water, drinking.....	31, 49
Water fountains.....	50, 51, 55
Water in feed.....	19, 20
Water in hot weather.....	53
Water supply.....	13
Water troughs.....	29, 50
Weaning food.....	53
Weber family history.....	9
Weber strain.....	15, 17
Weber's start in business.....	9
Weber's success.....	7
Weight.....	59
Wholesale prices.....	24
Wild ducks.....	78
Windows.....	28
Winter rye.....	62
Wire netting.....	29
Worms as food.....	33

Y	
Yearling ducks.....	39





