A small flock of chickens does not require much space or money, and if you manage your flock well, you can earn some money. You might start with a small flock of 25–50 chickens, or you can help your parents in growing and managing a larger flock. Here are some things you can learn in your poultry projects:

- Breeds of chickens
- Brooding temperature
- How to feed and water chickens
- How to keep them healthy
- Care and handling of eggs
- Recordkeeping

Types of Flocks
After you decide that poultry is the 4-H project you want to enroll in, then you must decide what type of chickens you want. Do you just want to grow them for meat and eggs for the family? To produce eggs to sell? Or will you join with your parents in growing broilers?

The Home Flock
Choose a small flock of 25–50 birds to furnish eggs or meat for home use. Here are some recommended breeds:

- Rhode Island Red
- New Hampshire
- Sex-Link
- White Plymouth Rock

These birds lay brown-shelled eggs. They are used to produce both meat and eggs. They have large bodies and eat more feed than the egg-laying type. They are gentle and easy to manage.

You can buy straight-run chicks—about half pullets and half cockerels—or you may buy all pullet chicks. When the chicks are about 9–10 weeks old, separate the pullets and cockerels. Keep the pullets and sell or use the cockerels for food.

The Egg Flock
For an egg-producing flock, select one of these birds:

- Production-type Rhode Island Red
- Leghorn
- Hybrids
- Sex-Link

These birds have smaller bodies than broiler chicks, and they do not eat as much feed. They also lay more eggs.

The Broiler Flock
If your parents raise broilers, assisting them can be your project. You and your parents may work out an agreement so that you receive a percentage of the income for work you do in the broiler operation.

Cross-bred chicks are used for broiler production. These chicks grow fast and produce broilers in 6–7 weeks. A pound of meat is produced on less than 2 pounds of feed. The principles of brooding broilers are the same as for other chickens.

Small broiler flocks are hard to sell. Processing plants prefer to buy large flocks. This is one reason it is better to be in partnership with your parents on broiler production.

Production Principles
No matter whether you decide to grow a home flock, egg flock, or broiler flock, you must know and do certain things to be successful with your project. We call these the principles of production. These production principles are the same for all three types of flocks: heat, water, feed, and sanitation.

Brooding Chicks
The brooding period is from the day the chicks hatch until they are 8–10 weeks old. This is a very important period in the
chick’s life. You must provide your chicks with certain things during the brooding period:

- a warm, dry, clean place to live
- plenty of clean water
- fresh air, but no drafts

**Housing**

You will need some type of house or brooding shelter. This may be a shed or building you already have. You might want to build an outdoor brooder. Your parents, county agent, or your 4-H club leader can help you decide on the housing.

Keep the floor dry. Pine wood shavings make good floor litter. You should start with 4–6 inches of dry litter on the floor.

The chicken house should have windows or openings for fresh air at all times. Do not let the chicks get too hot or too cold.

**Equipment**

**Brooders**

You will need a brooder or heating device to keep the chicks warm. Provide heat for your chicks as shown below:

<table>
<thead>
<tr>
<th>Age of Chicks</th>
<th>Temperature</th>
<th>Age of Chicks</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 day–1 week</td>
<td>90 °F</td>
<td>1 day–6 weeks</td>
<td>90 °F</td>
</tr>
<tr>
<td>1–2 weeks</td>
<td>85 °F</td>
<td>1–2 weeks</td>
<td>85 °F</td>
</tr>
<tr>
<td>2–3 weeks</td>
<td>80 °F</td>
<td>2–3 weeks</td>
<td>80 °F</td>
</tr>
<tr>
<td>3–4 weeks</td>
<td>75 °F</td>
<td>3–4 weeks</td>
<td>75 °F</td>
</tr>
<tr>
<td>4 weeks–adult</td>
<td>70 °F</td>
<td>4 weeks–adult</td>
<td>70 °F</td>
</tr>
</tbody>
</table>

After 6 weeks, keep the temperature near 70 °F as long as needed. Adult birds can usually maintain body temperature without adding heat.

Gas brooders will usually handle 500–1,000 chicks. Do not start more than 350 chicks under a 500 size brooder or more than 750 chicks under a 1,000 size brooder.

An infra-red heat lamp is ideal for brooding 100 or fewer chicks. Many 4-H club members use this type brooder. They hang the lamps 16 inches above the litter.

It is hard to measure temperature accurately with a thermometer under an infra-red bulb. Approximate temperatures can be measured using a thermometer with the bulb end covered with black electrical tape.

Watch the chicks closely to see that they are comfortable. When the temperature is about right, chicks bed down in a doughnut-shaped ring or spread out evenly under the light. If they crowd together, it is too cold. If they crowd near the brooder guard, it is too hot. See Figure 1.

If you need to increase the temperature, lower the bulb. Raise the bulb to reduce the temperature. After the bulb is adjusted for starting the chicks, you can raise it an inch once a week to provide the right temperature.

Provide two 1-gallon water founts or four 1-quart founts for 100 chicks. If you use trough-type waterers, provide at least one 3-foot waterer for 100 chicks. Allow at least three-fourths of an inch of watering space per chick throughout the brooding period.

**Feeders**

You will also need feeders. Teach chicks to eat during the first day or two by putting feed on paper or in chick box lids.

Allow 1 inch of feeder space for each chick for the first 2 weeks, 2 inches up to 6 weeks, and 4 inches through 12 weeks.

Use small feeders. They usually measure 24–36 inches long. One 24-inch feeder will take care of 50 chicks for the first 2 weeks. To calculate feeding space, count the length of both sides of the feed trough. A feed trough 24 inches long provides 48 inches of feeding space. As the chicks grow, change to longer and deeper feeders.

You can also use tube feeders. Use three tube feeders for each 100 chicks.
Remember these two things about feeding chicks:
• Always keep the edge or rim of the feeder the same height as the chickens’ backs.
• Never fill your feeders more than half full. If you fill feeders full, chicks will waste feed.

Getting Ready
Before your chicks arrive, be sure you are ready for them. Clean your house and equipment. Scrape and sweep out all old litter, manure, dirt, and dust. Use a hose and wash the house to knock down dust and cobwebs.

Disinfect using lye water or a strong detergent. If you use lye water, be sure to ask your parents or county agent how to mix and use it. Disinfect equipment, but be sure to rinse it in clean water afterward.

After the floor of your house has dried, put 4–6 inches of clean, dry litter on the floor. Arrange equipment so it will be ready when chicks arrive.

Starting Your Chicks
Start your brooder or heating device at least 24 hours before the chicks arrive so the temperature will be up to 90 °F. The temperature will be 90 °F 2½ inches from the floor or litter.

Cover the shavings inside the chick guard with paper for the first 3 or 4 days.

Fill the waterers so the water will become warm. Baby chicks do not like cold water.

Put some feed on the paper or in chick box lids.

You may wish to arrange your equipment as shown in this drawing:

![Diagram of chick care](image)

Watering
Provide your chicks with clean, fresh water at all times. Wash the waterers at least once each day and disinfect them at least once each week to help prevent diseases.

Feeding
Start your chicks on a starter mash. Feed the starter mash for the first 6 weeks. Then change to a growing mash. Continue feeding the growing mash until the pullets start to lay.

Keep dirt and litter out of the feeders.

Vaccination
There are four diseases to vaccinate against: Marek’s disease, fowl pox, Newcastle, and bronchitis. Your county agent or feed dealer can help you with this.

Sanitation
Keep your brooder house dry to prevent diseases.

Keep all visitors out of your brooder house. They often bring disease germs on their clothing or shoes.

Don’t allow other chicks to mix with your chicks. They might spread a disease in your flock.

If your chicks get sick, contact your county agent. He or she will help you determine what the disease is and how to treat it.

Management
Make sure your chicks have plenty of feed and water and are comfortable. This means you should look at your chicks several times a day. Remove any sick or crippled birds at once.

Watch for feather picking. If feather picking starts, ask your county agent or feed dealer about debeaking the birds.

Records
Keep records at all times. Records tell you how well you have done with your poultry project. Keep a record of these things:
• number of chicks started
• number of chicks that died
• cost of chicks
• cost of brooding
• cost of feed
• all other costs

Use the record form at the back of this manual. A good poultry producer always keeps a complete record of the flock.

Ask your county agent for Publication 268 The Home Flock. This publication will help you grow better chicks.

Rearing Your Pullets
At the end of 10 weeks, your chicks have passed the brooding stage. They are now ready for the growing or rearing stage. It will take 12–14 weeks more before they begin to lay.

At this stage, remove all roosters. Roosters will only eat feed, which is a waste. If you started with all pullet chicks, you will not have any roosters.

You may rear your pullets in a house, or you may turn them outside. If you keep them in the house dur-
ing the growing period, make sure they have plenty of
room. Crowded conditions will encourage feather pick-
ing or cannibalism (picking each other).

Give each pullet 3 square feet of growing space.
Make sure your pullets get plenty of fresh air at all times.

**Equipment**

Your pullets are now large enough to eat from large
feeders. You can use the same size feeders you will use
in the laying house. Give each pullet 4–5 inches of feed-
er space. Give each pullet about three-fourths of an inch
of drinking space.

**Sanitation and Disease Control**

Allow no visitors in your chicken house. Do not allow
your pullets to come in contact with other chickens,
especially old hens.

Parasites infest chickens. The most common are
mites and lice. They infest chickens any time of the year
but are most common in the fall. Your county agent can
suggest the best insecticides to use.

**Ranging Pullets**

If you let your pullets run outside, they can get by with
less space during the growing period. For small flocks,
you may use the same house they were brooded in by
letting them run out during the day. Do not let your
pullets range on land that has had chickens on it in the
past 2 years.

Provide some kind of shade for your pullets. It is
very important to keep the waterers and feeders in
the shade.

Protect your pullets from stray dogs and other
animals.

Use the same kind of feeding program as with the
confined rearing. Your feed bill may be a little lower
because the birds will eat some green feed.

Keep records on your flock during the growing
period. There is a form for this in this publication.

**The Laying Flock**

When your pullets reach 20 weeks of age, it is time to
confine them to the laying house. The hens will be easi-
er to manage, and you will get fewer dirty eggs.

The laying house should be comfortable. Keep
the house dry, and provide fresh air without get-
ting the temperature too cold or too hot. Here are
the requirements:

- 4–5 inches of dry litter on the floor
- 2½–3 square feet of floor space per hen
- 5 inches of feeder space per hen
- 1 inch of watering space per hen
- One nest for every four hens

Provide at least 14-16 hours of light daily using nat-
ural daylight or artificial electric lights. (Provide one
100-watt bulb for each 400 square feet of floor space.)
Keep clean, dry shavings or other material in the nests.
This material should be 3–4 inches deep. Clean and
adequate nesting material will ensure clean eggs and
fewer broken eggs.

Feed a laying mash when the pullets begin to lay.
The laying mash may be a complete feed in mash,
crumble, or pellet form. This complete feed is usually
about 15 percent protein, and it is all the feed the
hens need.

You may need to place oyster shell in small pans or
hoppers throughout the house. Oyster shell helps make
strong egg shells.

Chickens are peculiar creatures. They like the same
feed day after day, so avoid changing feed. Make a
habit of feeding your hens the same hour each day.

Provide plenty of clean, fresh water. Clean
waterers daily.

Gather eggs at least four times per day. This pre-
vents broken and dirty eggs, and helps to keep egg
quality high. Store your eggs in a cool place. The best
temperature for eggs is 50–55 °F. Eggs are always stored
with the small ends down. Do not store cracked and
dirty eggs with clean eggs.

Sell only clean, uncracked eggs. Know in
advance where you are going to sell your eggs. If
you have a small flock, you may be able to line up
several customers and deliver eggs once or twice a
week. With a larger flock, you may want to sell to a
local grocery store.

In caring for a laying flock, many things become
routine or habit such as feeding, gathering eggs, mar-
keting eggs, and recordkeeping. There are many other
important jobs, however, that you do every day:

- Keep nests clean and prevent hens from roosting in
the nests.
- Remove culls and diseased birds from the flock.
- Remove wet spots or caked litter.
- Check birds for lice and mites.
- Keep rats and mice out of your laying house and
feed room.
- Keep records. They can tell you if you are making
money from your poultry flock. Record forms for
use with your laying flock are in this publication.
4-H Poultry Record
For Year 20___
Junior Report for ___ Year

My name is _________________________________________________________.

My parents are _____________________________________________________________________________________.

My address is ______________________________________________________________________________________.

My birthday is _________(month) __________(date) __________(year). I am in the ______________________ grade.

This is my _______ year in 4-H club work. I live in______________________________County.

Answer as many of the following questions as you can:

What is a dual-purpose breed? ________________________________________________________________

List the breeds that are best for a small flock to furnish eggs. ________________________________________

What does a baby chick need to keep it comfortable, healthy, and growing? ____________________________

What temperature is recommended for starting baby chicks? _____________________________

How much should the temperature be lowered each week? ______________________________

How can you keep your chicks from wasting a lot of feed? __________________________________________

How often should you wash your water founts? ____________________________________________

What diseases can you vaccinate pullets against? _____________________________________________

What two parasites commonly affect chickens? ________________________________________________
Brooding Record

Date chicks started ____________  No. chicks started ___________  Breed or cross ____________

Mortality (number of chicks that died):

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<td>Total</td>
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</table>

Feed Used

Chick Starter  _____lbs.  $___________cost  No. chicks dead to end of brooding period_______
Grower  _____lbs.  ________cost  Pounds of feed used per chick started___________
Broiler Feed  _____lbs.  ________cost  Pounds of feed used per chick raised___________
Other  _____lbs.  ________cost  Income (birds sold or used as broilers)___________
Total  _____lbs.  ________cost  Expenses_______________________________

Net Profit or Loss_______________________________

Cost of Fuel  $___________cost
Cost of Chicks  ________cost
Cost of Feed  ________cost
Other Expense  ________cost
Total  ________cost
Pullet Growing Record

Junior Report for ___Year
(Starts at 10th week and ends at the completion of week first eggs are laid.)

______________________________________ ______________________
Name of club member Date project started

______________________________________ ______________________
Address or county No. Birds @ 10 weeks

Mortality (number of pullets that died):

10th week_________ 18th week_________
11th week_________ 19th week_________
12th week_________ 20th week_________
13th week_________ 21st week_________
14th week_________ 22nd week________
15th week_________ 23rd week________
16th week_________ 24th week________
17th week_________ 25th week________
Total ______________

Vaccination Record

<table>
<thead>
<tr>
<th>Date</th>
<th>Fowl Pox</th>
<th>Bron.</th>
<th>N.C.</th>
<th>Cost</th>
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Total Cost of Vaccination__________________________
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<tr>
<th></th>
<th>Grower</th>
<th>Other</th>
<th>Cost</th>
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<td>10th week</td>
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<tr>
<td>25th week</td>
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</table>

**Total Feed Costs**

No. birds that died in growing period

Pounds feed per pullet for the growing period

Brooding costs $

Pullet growing costs $

Total cost to date $
Laying Flock Record

Junior Report for ___Year

Get a Monthly 4-H Poultry Record (Form 183) from your county agent to keep in your laying house. This form will provide space for daily egg records and feed consumption records and costs.

Date hens start to lay _________________ Number hens at start of laying ___________

Number of hens that died or were removed from the flocks:

1st month______________________________ 7th month______________________________
2nd month_____________________________ 8th month_______________________________
3rd month_____________________________ 9th month_______________________________
4th month_____________________________ 10th month______________________________
5th month_____________________________ 11th month______________________________
6th month_____________________________ 12th month_____________________________

<table>
<thead>
<tr>
<th>Eggs produced</th>
<th>Monthly Totals</th>
<th>Egg Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st month</td>
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<td>2nd month</td>
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<td>Total</td>
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</table>
## Feed Used

<table>
<thead>
<tr>
<th>Feed Used</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Layer _____________ lbs.</td>
<td>$__________</td>
</tr>
<tr>
<td>Oyster Shell ______ lbs.</td>
<td>_______</td>
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<tr>
<td>Other_______________ lbs.</td>
<td>_______</td>
</tr>
<tr>
<td>Total _____________ lbs.</td>
<td>_______</td>
</tr>
<tr>
<td>Feed per hen for period _____________ lbs.</td>
<td>_______</td>
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<tr>
<td>Av. no. eggs per hen _____________</td>
<td>$__________</td>
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<tr>
<td>Total egg sales _____________</td>
<td>_______</td>
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<tr>
<td>Total costs at start of lay</td>
<td>_______</td>
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<tr>
<td>Feed and other costs during lay</td>
<td>_______</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>_______</td>
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<tr>
<td><strong>Net profit or loss</strong></td>
<td>$__________</td>
</tr>
</tbody>
</table>

(Include in your records all eggs used at home. Calculate their value at 60 per dozen.)

Ask your county Extension agent for additional copies of this record form.
Distributed in Mississippi by Danny Thornton, Extension Instructor, Poultry Science.

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