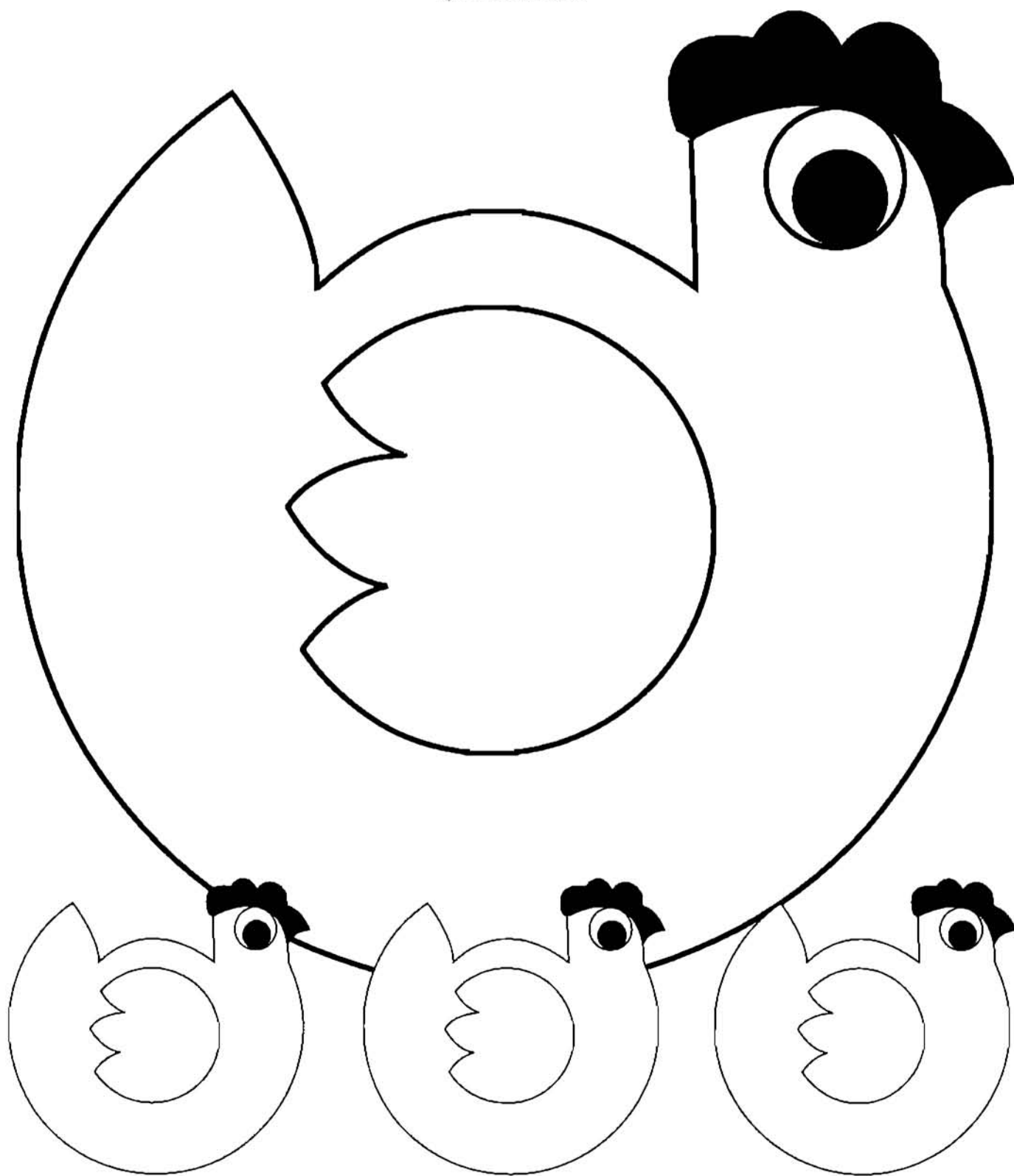


The Home Poultry Flock

by G. H. Thacker



The small home chicken flock should be regarded as a hobby project the cost of which will be partially returned in the form of eggs and poultry meat for family use. The flock owner should not expect either to reduce cost or to improve quality as compared with that of eggs and poultry meat available in the marketplace.

As with any other hobby or special interest project, some individuals with skills and aptitudes in particular situations will obtain a cash return greater than cash costs. Most persons, however, will have modest costs not fully returned, but will find satisfaction in the recreational aspects of the project, much as the backyard gardener does. There will, unfortunately, be others whose experience with chickens will be a disaster.

In many urban and suburban locations any kind of livestock or poultry is either restricted or inappropriate. Check zoning regulations; and if you have close neighbors, avoid offending them with the noise, odors and flies resulting from a flock of chickens.

Starting the Flock

You can start a flock with hatching eggs, day-old chicks, started pullets, or mature hens sold from a commercial flock. Buying mature hens from a poultryman who is replacing his flock with younger pullets is the most economical way and a good way to start. Hatching eggs, in addition to being limited in availability, involve skills and equipment not suitable for the beginner. Day-old chicks share some of the same disadvantages but are more practical than hatching eggs. Started pullets are two or three times as expensive as the mature hens (about \$1 each for hens, \$2 to \$3 for pullets), but they will lay more eggs than older hens and are easier to handle than chicks or hatching eggs.

A distinct advantage of either started pullets or mature hens over baby chicks is that they very likely have been vaccinated for the most troublesome diseases and in general have less risk of loss from disease or mortality.

When mature hens are purchased from a poultryman for starting a flock, it may be desirable to molt the birds deliberately at the start. Ask the poultryman or county agent for advice.

Most layers in New York are White Leghorns or Leghorn-type white-egg layers. For both meat and eggs some of the heavier breeds or crosses including Rhode Island Reds and Plymouth Rocks are preferable. Availability will be a factor in choosing. A few local hatcheries, feed stores and mail-order farm and suburban catalogs may be sources.

Ten to 15 layers properly handled will supply plenty of eggs for family use and will not require heavy expenditures for shelter, equipment and feed; nor will it be such a severe loss if disease strikes the flock. Such a project would involve buying 10 to 15 pullets or mature hens or 25 to 35 straight-run (both sexes) day-old chicks and using the cockerels as fryers or roasters.

How Much Will It Cost?

It is about as difficult to estimate costs for the home chicken flock as it is for lawn and garden projects. People have widely varying attitudes about investing in items that add interest to the project. Logic and strict economy do not typically govern all decisions.

Some persons will have housing for little or no cost. Others will want to use their handyman skills in the home shop to build an attractive unit which will fit well into the landscape. A shelter cost of \$25 or \$30 per bird could result. The range of costs for equipment would be similar. The commercial poultryman has housing and equipment investments of \$3 to \$7 per bird, depending on the age of his housing and equipment and on the type of operation. The range for the hobby flock can start as low but can go several times higher. "Start-up" costs for a flock of 15 hens, including housing, equipment and birds, can be as little as something under fifty dollars; or they can be as high as several hundred dollars.

The following list gives the likely range of variable costs for birds and feed, the usual business cost allowances for labor, taxes, utilities, and so forth being ignored. These are assumed to be either minor or, like excessive costs for housing and equipment, charged to recreation.

A. Straight-run day-old chicks:	
35 chicks @ 25¢-35¢ each	\$8.75 — \$11.75
Feed — 7-10 lb each for cockerels	
@ 8¢-11¢/lb	9.40 — 16.50
16-20 lb each for pullets	19.20 — 33.00
Cost of 15 22-week pullets and 15	
7-10-week fryers	\$37.35 — \$61.25
B. Started pullets: 15 @ \$2.50-\$3.00 each	
	\$37.50 — \$45.00
C. Yearling hens: 15 @ 80¢-\$1.25 each	
	\$12.00 — \$18.75
Feed for layers — 80-100 lb each	
@ 7¢-11¢/lb	\$84.00 — \$166.50

Using a mid-range of costs and making some allowance for the value of poultry meat under plan A cash costs to the end of a laying year for birds and feed only will be about \$180.00 for either plan A or B. That amounts to 66¢ per dozen for 18 dozen eggs produced per hen housed. The figure will vary with higher or lower production. Under plan C cash costs will be lower, about \$135, but so will egg production. If the birds produce only 14 or 15 dozen per hen housed, then the cost per dozen will be higher. Under the most favorable conditions of high production, cost saving and flock livability it is unlikely that costs will be as low as 50 cents per dozen even when some allowance is made for salvage value of the hens as poultry meat. That costs will range higher than suggested is far more likely. This cost outlook is not very serious if only 10 or 15 birds are involved and the family can use the eggs and meat. Costs can be a burden if enthusiasm for the hobby leads to multiplying the flock size to several hundred birds without the likelihood of sharp cost reductions.

Starting with Chicks

The hobbyist who elects to start with chicks must first locate a source and then order 25 to 35 straight-run chicks or 15 to 20 pullet chicks to be sure of housing 12 to 15 pullets at 22 weeks of age. Order them in advance and be fully prepared when they arrive. Late spring or early summer brooding is safest.

The usual commercial brooding equipment, especially heaters, will not be appropriate for the very small flock. Instead of a regular brooder house and brooders use a large cardboard box located in the garage, basement or wherever there is room temperature environment. A box 2 or 3 feet wide by 3 or 4 feet long and 15 to 20 inches deep will house 25 to 35 chicks for 2 or 3 weeks. A heat lamp securely hung 18 to 20 inches above one end of the box will keep the chicks comfortable and allow them to move in and out of the heat zone. A smaller ordinary light bulb (60- to 100-watt) may supply enough heat if one end of the box is semi-enclosed; the bulb must be carefully positioned to avoid any fire hazard. A hardware-cloth cover on the box will confine the birds as they grow and learn to fly out. Use clean dry litter in the box. Wood shavings are good. Rice hulls, shredded cane, sphagnum peat moss or dry sand are other possibilities. Availability will be a consideration. Avoid coarse or moldy materials; and especially at first, avoid any slick surfaces. Chicks can be started on wire. Hardware cloth ($\frac{1}{2}$ in. \times $\frac{1}{2}$ in.) nailed to a 1 \times 2 or 1 \times 3 wooden frame is best for young chicks. Put litter or paper under the wire for easy regular cleaning.

If chicks are started on the floor of a larger room in warm weather, instead of in a box as already described, be sure to use a chick guard to keep them near the heat, feed and water for a week or so. The guard can be a 12- to 15-inch strip of corrugated cardboard or wire netting, formed in a circle, which may be enlarged to give more room. By the time chicks can fly over the guard it can be removed.

One pint or quart fruit-jar waterer, emptied and cleaned daily, will supply water. Use a shallow box lid, tray or square of rough paper for feed the first day or two until chicks learn to eat and drink readily. A little feed will be wasted. As they learn to eat freely, add a regular chick feeder; and when they use it well, remove the shallow feeders.

When the chicks are 6 or 7 weeks old, or when they have outgrown their brooding quarters, they should be moved to pens where they can stay at least through the rearing period. If the birds are moved at 3 or 4 weeks, some heat may still be needed, especially on chilly nights. At any age the behavior of chicks will indicate whether their heat supply is right. When chilly the flock will huddle together and vocalize in a way you will soon recognize as a sign of discomfort. Even a small flock could pile up and smother. When comfortable they will move about freely and will rest and sleep in a scattered arrangement around their heat source. When too warm they will pant and will stand with their wings held out from the body.

Less heat or more air may be needed then.

The time to switch to a larger feeder and waterer will be determined by the size of the chicks. The same round hanging feeder can be used from chick size on. Make adjustments to control waste and fill according to changing daily consumption. Feeders and waterers should be at about the level of the back of the bird, when standing. A 3-foot trough feeder can be used in place of the round hanging feeder. A 2-gallon vacuum-type waterer, metal or plastic, is recommended, although other types can be used. Regular cleaning should continue.

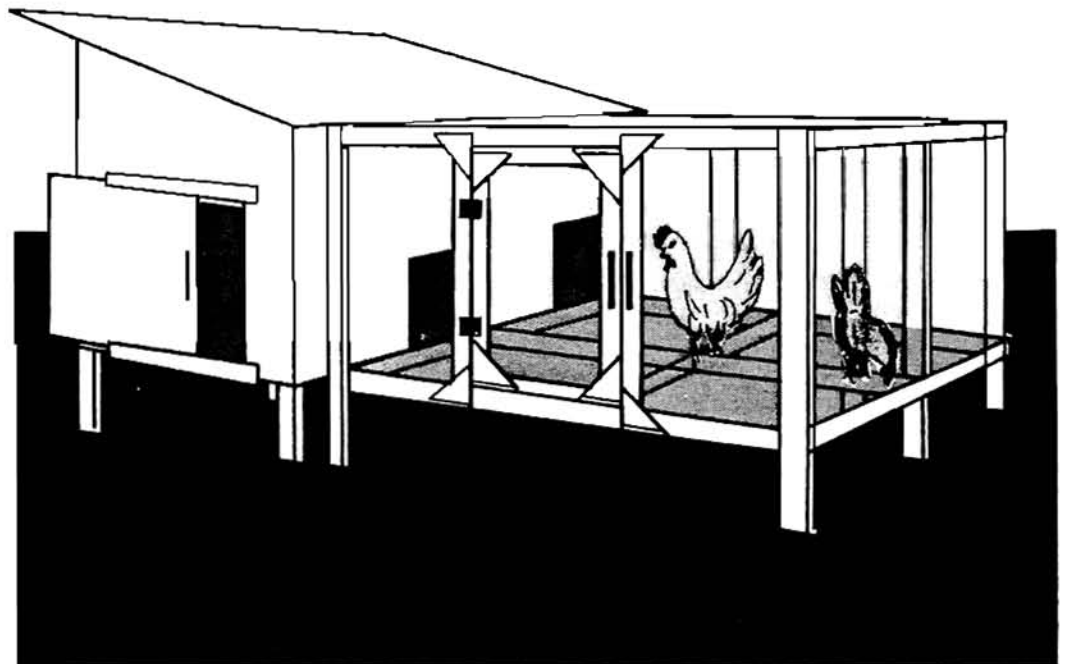
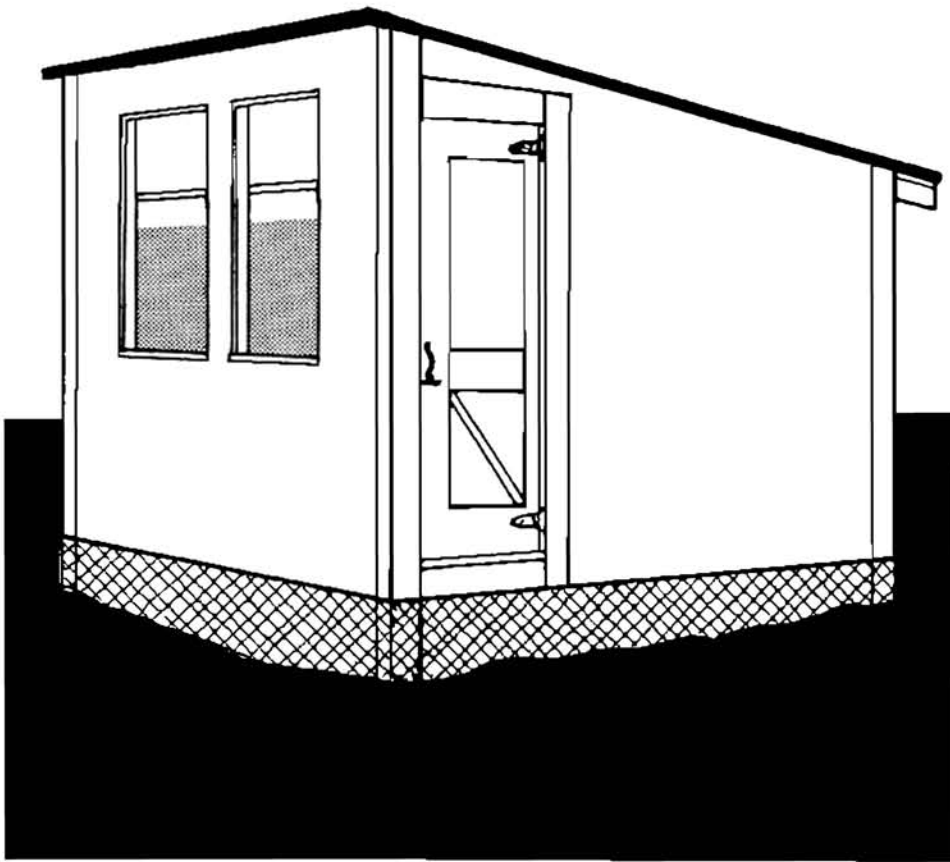
The cockerels should be ready for slaughter from the seventh to the tenth week, depending on the size wanted and the kind being reared. Leghorn cockerels should be dressed at light weights ($2\frac{1}{2}$ to 3 lb) since they mature sexually quite early. The sooner they are out of the flock, the better.

Shelter

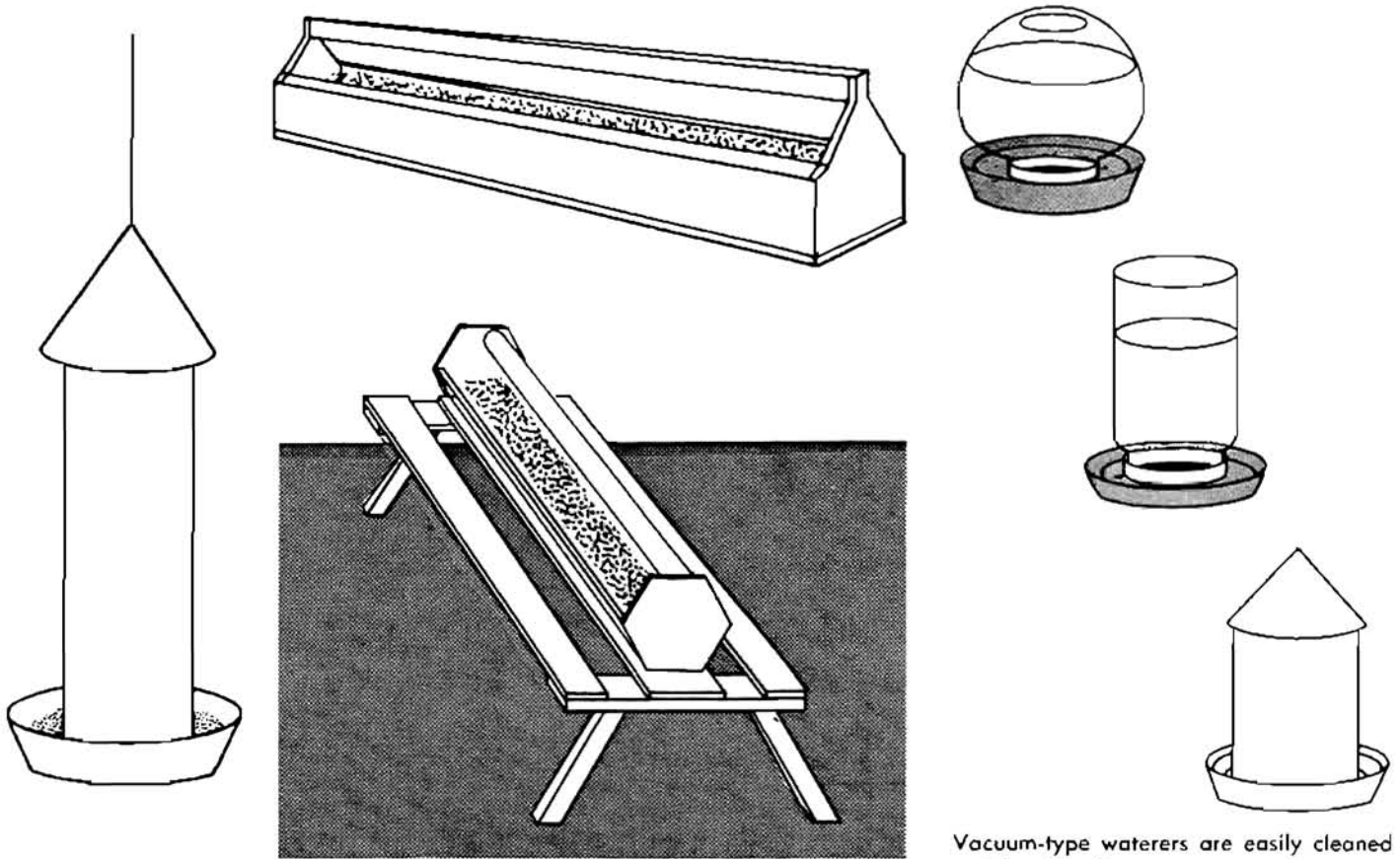
Housing for commercial poultry flocks is so well designed with insulation and mechanical ventilation that birds are comfortable except for a few very warm days each summer. Heat from the birds warms the house even with some ventilation in cold weather and keeps room temperatures about 55° most of the time and always safely above freezing.

Whenever possible the beginning hobby flock should use existing housing with little or no additional cost. That must not, of course, extend to the point of cruelty to animals through unreasonable exposure. Birds must be protected from storms and from temperature extremes both from a humane standard and to permit them to remain healthy and productive. Too much space can be a problem in cold weather. Ten or 15 birds need only 30 or 40 square feet of floor space, less if kept in multiple-deck cages. It may take some ingenuity to design an area within existing shelter that will allow birds to keep themselves warm safely. Use of windows for light is not essential. A 15- or 25-watt bulb will suffice, a timer being used to provide 14 hours of light per day for layers.

The cost of a new building for the hobby flock may be prohibitive. Where cost is not a strong factor, copies of drawings of small shed-type houses can be obtained and will make it easier to plan and build such a structure. A 5 \times 7 or 6 \times 8 wooden structure $4\frac{1}{2}$ feet high at the rear and 6 feet in front is suggested. Use of exterior grade plywood will make the building strong and easier to build. The plywood can be used for floor, exterior siding, inner lining and roof deck. It must be of the proper grade for the intended use. The building can be attached to skids so that it can be moved around, or it can be built permanently with concrete floor and foundation. Wooden-floored buildings should be raised on blocks, with the floor about 12 inches off the ground to avoid dampness and to discourage rodents. Pole buildings with dirt floors are sometimes used, but they have difficult rodent problems and are hard to clean properly.

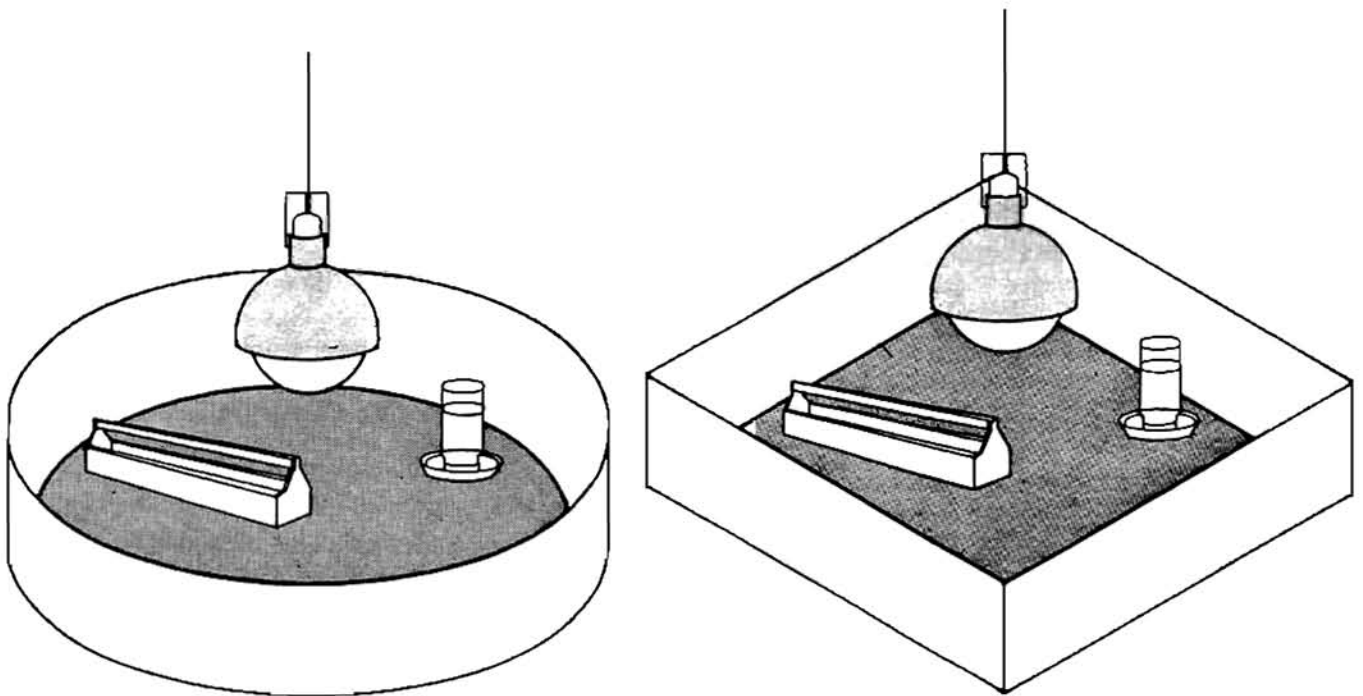


Housing for the hobby flock should be simple, inexpensive, convenient, but must protect the flock.



Equipment for feed can be purchased or homemade.

Vacuum-type waterers are easily cleaned and kept sanitary.



Convenient chick brooders need not be expensive.

Compact hutch-type structures designed to be serviced from the outside are sometimes used for the small flock. For seasonal use only, they can be a wire-floored, open design with nests, feed, and water outside the pen area. It should be possible to plan a convertible arrangement that would allow for fitting insulated panels on the sides and the floor so that the birds would be comfortable all year.

Provisions for ventilation and insulation to temper the extremes of heat and cold should be considered. A single-walled uninsulated structure will be cold and damp in winter and too hot in summer. Ceiling insulation is most important. Sidewall insulation is desirable. Ventilation by windows or slot vents which can be adjusted to the weather is necessary in a tightly constructed house.

Housing should be adequate to provide comfortable conditions so that the birds will stay healthy and productive whether confined year-round or permitted some range during mild weather.

Equipment

Equipment for the flock can be constructed at home or purchased. For the conventional floor flock you will need roosting arrangements, nests, a feeder, a water container, and lights. If you start chicks, you will need brooding equipment including brooder, chick guard, and chick-size feeders and waterers.

Roosts should be at the rear of the house over a wire-enclosed pit. Two 2×2 roosts spaced 14 inches apart, the width of the house, should be adequate. Allow 8 to 10 inches of space per bird. One nest, 12 to 14 inches square, placed a convenient height for gathering eggs, is needed for each 4 hens. A sloping cover to discourage birds from roosting and soiling the nests is advisable.

Feeders, either wooden or metal, should provide 3 or 4 inches of feeding space per bird. They should be designed with a lip on the edge to reduce feed waste. They should be large enough to hold a day's feed supply when half full (filling more than that encourages waste), and should have legs with feeding perches to prevent the scratching of litter into the feed. Chick feeders are placed on the litter until the birds are active enough to kick litter into them. They can then be raised as the chicks grow or be placed on slat or wire platforms. A wooden or metal reel lengthwise of the feeder discourages feed waste and soiling. Round hanging feeders are adjustable convenient feeders to use.

Waterers must supply plenty of clean water at all times. For chicks they can be fruit-jar vacuum type or similar designs up to 1- or 2-gallon capacity. Similar metal or plastic vacuum type or trough, pan or pail types can be used for layers. Automatic waterers connected to the water system are most convenient but may not be feasible for the small flock.

Feeders, waterers and other supplies for small flocks were formerly stocked at most rural hardware, feed and variety stores. They are less available now, but some feed

stores and mail-order farm and suburban catalogs, as well as poultry speciality firms, are still sources. Supplies may not be available on short notice. Some used items, such as steel nests, cages, feeders and waterers, are occasionally available on a local basis.

If used cages are available, they can be satisfactory for the small flock. Hens in cages will lay about as well as in floor flocks, some health problems are reduced, and eggs may be cleaner. One-bird cages prevent cannibalism, but multiple-bird cages may aggravate it. The cage bird is even more at the mercy of the flock owner's neglect than the floor bird. The investment per hen will be higher if new equipment and housing are provided with cages. They are best adapted to existing facilities which will not be too affected by cold weather, or for seasonal use.

Feeding

Both feed and water must be regularly available to the flock. It may be satisfactory for the flock to clean up all feed and water daily, but they should not be out of either for any lengthy period. Water is especially critical. It would be better to have alternate water pans to promote sanitation than to risk neglect which would leave birds without water. The basic feed should always be a balanced complete ration. No attempt should be made to get by with just table scraps and grain. Most table scraps have no merit for poultry feed; too many items, because of off flavors or spoilage, are unsatisfactory. Properly formulated commercial rations, though relatively expensive in small quantities, are the best solution for the hobby flock. Some saving, but not much, can be made when a limited amount of tender green feed can be given, either by allowing the flock some range or by feeding lawn clippings or other cut green feed. Usually only as much of any supplemental feed should be given as the birds will readily clean up in 15 minutes to a half hour.

Buy prepared feeds in quantities which will be used in 2 or 3 weeks, particularly in warm weather. Hens will use about one-quarter of a pound of feed per day. A 25-pound bag of feed should last 10 hens about 10 days if waste is controlled and the feed is a good high-energy ration. Expect to use 80 to 90 pounds of feed per layer kept for a year. To grow a pullet to 22 weeks it will take about 20 pounds. Commercially prepared feeds are the same as those used by commercial poultrymen. They are of good quality; and if the feeding directions of the manufacturer are followed, they should give good results.

Flock Health

Careful sanitation, comfortable housing, proper feeding and general good management are the best preventives for keeping the flock healthy and free of diseases and pests. The commercial poultryman observes these safeguards and in addition uses certain vaccination and treatment programs. He takes birds to a diagnostic lab when appropriate to protect his large investment. He treats birds for lice and mites whenever they occur. He may occasionally

treat birds for internal parasites. Some of these practices are either impractical or unavailable to the small flock owner. He can treat for lice and mites. Generally he will be wise to abandon the flock for a period of several months or a year if it becomes unthrifty or diseased. Individual birds that appear diseased should be killed promptly. Burial 18 to 24 inches deep is the safest measure for any dead birds from the small flock. Be sure none can be unearthed and carried around by predators or pet animals.

Careful sanitation includes thorough cleaning and disinfecting of housing and equipment before putting it to use for a new flock. It includes routine measures to reduce soiling of feed and water, cleaning water equipment regularly, removal of damp litter and keeping the house dry and comfortable. One flock should be removed completely before new birds are housed, a break being allowed for cleanup between flocks. Brooding and rearing of birds should be done separately with no contact between young and old birds.

Coring for the Birds

Most hobbies can be neglected periodically without serious results or public concern. A garden may become weedy, unsightly and unproductive from neglect. Anyone with a "weedy garden" failing should not keep chickens. Chickens are live, warm-blooded animals. Their demands for food, water and protection are continuous. The potential flock owner must be aware that he is accepting responsibility for full-time care of the birds and restraints on some of his freedom of activity.

Care of the birds starts with concerns already mentioned. They must have comfortable shelter. They must be protected from a variety of predators. They must have an established routine of feeding and watering; the feed supply must be correct, available but not wasted. Both feed and water need protection from soiling by the birds themselves or by other sources. Watering equipment especially will not stay sanitary unless cleaned regularly. Too much open feeder capacity leads to stale feed. Let birds use up nearly all the feed regularly. Learn a routine which will accomplish this without either wasting feed or neglecting the needs of the flock.

Chickens must be protected from themselves and each other. Chicks will drown in improperly designed waterers, pile up and smother when chilled. Older birds hang themselves or break legs on equipment. But by far the worst characteristic for self-damage by the flock is their tendency to cannibalism and feather pulling. The peck order among birds is no fable. Dominant birds rule the roost and are likely to be vicious in establishing dominance. An injured bird is fair game for torture, frequently ending in death. In commercial flocks cannibalism is prevented by two practices. Light levels in the pens are kept low, and the birds are debeaked. Hens and pullets get along well in a room so dark that you have trouble reading newsprint, even after your eyes adjust to the darkness. Dim light

alone will not stop cannibalism if it has started. Debeaking is a surer cure. If an electric debeaking machine is unavailable, it is possible to use dog nail clippers or similar cutting pliers to remove one-quarter to one-third of the upper beak in such a way as to reduce damage from picking. Care is needed to avoid bleeding and infection without the burning action of a regular debeaking machine. Regrowth of the beak will occur and may necessitate a repeat clipping. Any bird injured for any reason should be removed from the flock. If the injury is serious, slaughter is probably wise.

Chickens will eat their own eggs if they are accidentally broken and not removed. If they acquire a special taste for eggs, they can learn to break and eat them. Regular removal of eggs protects quality and is a preventive.

Commercial layers are now kept in total confinement, usually in windowless houses. The home flock can also be confined; or it can be allowed out on sun porches, in pens or on free range, depending entirely on the location or the individual situation or preference. In many locations free ranging or even just visible chickens will be unwelcome. Plan accordingly.

Loss from predators, including rats, coons, possums, foxes, snakes, owls, hawks and the neighbors' or flock owner's pet dogs and cats, must be considered. Young birds are a risk with any of these predators. Where risks are great, total confinement within pens or buildings that bar entry may be the only successful preventive.

Whether the flock is confined or not, supplemental lighting is useful to provide layers with a minimum of 14 hours of light daily. In a windowless house, with the aid of a timing clock, use a routine setting to suit your convenience. In a house with windows use supplemental light in the morning from mid-August or September 1 until mid-April or May 1. Hours of light per day are a controlling factor in egg production. Declining day lengths discourage egg production. Increasing day lengths, up to 14 hours or so, stimulate. Low intensity has the same effect as bright lights under practical conditions, without aggravating other flock problems. A simple timing device that will reset automatically, but can be adjusted weekly to compensate for changing day lengths, will be suitable if protected from dust. When you are starting chicks, bright light is desirable for a few days until they are well started. After a week or two, only dim light is needed for growing birds if they are confined. Shorter days, 9 or 10 hours of light, are used in commercial pullet production; but the small flock, started in the spring months in a house with windows, needs no rearing lighting program.

Nests in the laying house must be kept well supplied with litter, and eggs should be gathered regularly to protect quality and reduce breakage. At least daily gathering is important. For someone to gather them at noon is desirable. Excelsior, straw or other clean litter which will stay in the nests but not stain eggs can be used.

Litter for the floor can be straw, wood shavings or similar clean dry material. Coarse sphagnum peat moss

purchased in bales can be used for litter. It is highly absorbent, readily available, sometimes dusty and always expensive. Its use may be justified if you can benefit from its use as a combination fertilizer and soil conditioner in the garden or flower beds. Litter from the chicken house should be used in the garden. That from the roost pit should be spread thinly to avoid nitrogen burn.

Care of Eggs

Eggs should be gathered regularly and refrigerated promptly. Leaving them in the nest increases chances of soiling and breakage. Store only clean, sound-shelled eggs if they are to be kept for some time. Soiled eggs can be washed in detergent water and then used promptly. Eggs with shell damage also should be used promptly.

Eggs will keep well in the refrigerator for quite a while. If you want to hold some for up to 6 months, select only clean, sound eggs, and place them first in cartons and then inside plastic bags. This method reduces loss of moisture and carbon dioxide and maintains quality. Remember, however, that eggs will pick up flavors from certain items in the refrigerator such as onions, apples or other items with penetrating odors. Eggs can also be frozen for longer storage. The simplest way is to break them into a bowl, mix thoroughly without beating, and freeze in quantities to be used all at once. They must be thawed completely in the refrigerator for use and used promptly when thawed. Yolks frozen alone or without mixing with the whites will gel unless sugar or salt is added. Whites can be frozen alone without treatment.

Disposal of the Flock

The home flock owner should be prepared to slaughter and dress his own chickens. Fryers or roasters if you start with day-old straight-run chicks and hens when they retire from production to become stewing chickens are included. Neither custom dressing nor the live sale of birds is available in most situations. If you are squeamish about killing birds or about the mess involved in cleaning them, consider this aspect of the project before becoming involved.

Disposal of the wastes from dressing birds should be done in the same way as that of birds which die from other causes. The wastes should be buried deep enough to avoid odors or risk of disturbance. A trench or deep hole ready at all times for prompt, safe disposal of wastes is advisable.

Poultry Hobby Alternatives

Exhibition poultry. For the hobbyist who is interested in the recreational aspects of his small flock, there are special poultry projects. Some varieties of poultry, though less productive than ordinary commercial varieties, have other attributes of interest. Some are strikingly ornamental and unusual in appearance; others are miniature. Fancy or exhibition poultry include breeds and varieties of

full-sized chickens and bantams which most persons see only if they attend a poultry show. Fancy appearance rather than high production of eggs or meat is stressed for such poultry. Bantams, because of their small size, take less space and use less feed. Care of ornamental chickens is the same as for regular varieties.

Other poultry. Ducks, geese or turkeys are possible alternatives, either as exhibition poultry or as meat for table use. Nuisance restrictions for ducks or geese may be even greater than for chickens, since they tend to be noisy, messy and not well adapted to confinement. They have the advantage of being relatively hardy with minimum shelter requirements, and they will forage for a good share of their feed during the growing season. They can be started in about the same way as chickens with similar equipment and can be given mixed chicken rations and grain along with the food they get from pasturing. Geese make particularly good pasture foragers. Turkeys are less effective as foragers and a little more difficult to start. Disease problems are likely with turkeys, less so with ducks or geese. The job of killing and dressing is more difficult with turkeys and waterfowl than with chickens. All three can be adapted to the seasonal flock arrangement, suggested in the next section, by starting them each spring and getting them on the table or into the freezer before winter starts. Availability of stock is limited.

The seasonal flock. A sensible alternative for the hobby flock would be keeping a flock only during the seasons of relatively mild weather. By obtaining "used" hens in March or April and using them up as meat before Christmas, the season of extreme winter weather would be avoided. From May 1 to October 1, housing could be very simple, mostly protection from storms and predators. Just when to start and finish should depend on the housing available for protecting the birds. Such a program can result in quite a saving and can make the project more practical for the beginner, especially if inexpensive or homemade equipment is used.

A larger flock? Reference has been made previously to the hazards of letting enthusiasm for the poultry project overcome judgment about flock size. There should be no expectation that costs per dozen eggs or per pound of meat will be much lower with a flock of several hundred birds. Economies of scale do not apply until flock size is large enough to purchase raw materials in bulk in truck loads and to attract all the services and supplies essential to modern competitive farming. Small flocks under 1000 hens were once very common on most farms. They have largely disappeared for economic reasons. Flocks of 10,000 or 12,000 hens can produce economically but are unlikely to produce income for full employment. Other farm or non-farm activity usually supplements the income.

Poultry meat production in New York offers little opportunity. It is very highly specialized in concentrated areas of production. Returns to producers have been too low to attract participants in New York State.

