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Michigan State University Extension Service  
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**FARMING KNOW-HOW**  
**Guidelines to Better Family Farming**

## Want To Raise A Few Turkeys?

**COOPERATIVE EXTENSION SERVICE**  
**Michigan State University**  
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Raising a few turkeys is easy - if you avoid some of the hazards that many new and a few seasoned turkey growers encounter. Here are a few things to remember about turkeys:

1. Turkeys are very curious! Young turkeys have been known to drown in a half-filled pail of water—not just one bird, a bucket full of birds, one after the other!
2. They are very friendly! They can become pets. This has been known to destroy their commercial value as Thanksgiving dinner.
3. They are very susceptible to the blackhead organism; 100 percent mortality can result if they contract this disease and have not been protected with medication. Many chickens carry blackhead organisms without apparent effect on the chicken. Therefore, one of the cardinal principles is

never raise chickens and turkeys together; turkeys must be completely isolated from chickens.

4. Turkeys are not stupid, but they are different. It is important to have plenty of waterers and feeders available for them when they are a day old and first trying to find feed and water. They have been known to starve to death by eating nothing, or they eat litter instead of feed and then starve to death—with feed near by!

### **What Turkey? What Variety?**

There are three turkey varieties or strains that are more or less readily available. The turkey is native to America and all varieties and/or strains originated in the United States. Six or eight varieties have been developed from the original wild Bronze turkey. The large white, sometimes called Broad Breasted White (BWW), is the bird that

most commercial producers raise, is the most available and may have better meat because it has had more selected breeding pressure than the Bronze. The Broad Breasted Bronze has fallen from favor due to its black pin feathers which are very noticeable on the dressed bird.

Large Bronze and White Turkey males (toms) will weigh 25-30 pounds at 22-28 weeks. Females (hens) will weigh 16-20 pounds at 18-24 weeks of age—if properly fed and managed.

The Beltsville White is the third variety or strain that might be available. This strain was developed at the USDA Research Station at Beltsville, Maryland. It is a small white-feathered bird. The males will weigh 13-18 pounds at 22-28 weeks of age. The females will weigh 8-12 pounds at 18-24 weeks of age, depending on the care and feeding programs.

Where are turkeys available? Check the classified ad section of farm magazines in February, March, April and May. Vocational agriculture teachers, 4-H agents, county Extension agriculture agents and MSU Poultry Extension are also possible sources of information. You will probably not be able to obtain a few day-old turkeys, called poults, from your neighbor who happens to have a tom or two and a few hens. Commercially, all turkeys are produced by means of artificial insemination. When left to their own mating, the present day turkey flock produces few fertile eggs. They have been so highly selected for meat production that natural mating is not successful.

## Housing

A small flock of turkeys can be successfully raised in an area of

approximately 100 square feet—10 feet by 10 feet. Ten to 12 day-old poults can be easily started and grown in such an area. A smaller area (brooding area) is fine for starting the day-old poults, but remember that the birds grow whereas the pen usually must stay the same size.

One idea that really helps expand the space is a sun porch. A porch that is 8 by 10 feet will provide more space for the birds. The porch should have one- by two-inch welded wire flooring with chicken wire sides and top. Two by four's placed 16 inches on center under the welded wire will support the birds. The porch should be at least one foot above ground level. A 10 by 10 foot brooding area and an 8 by 10 foot sun porch will provide space enough to raise 20 large or 30 small turkeys, probably more turkeys than you want to raise.

## Equipment

Keep very young poults warm and dry. Shavings, crushed corn cobs and straw make very good litter material. Sawdust also works, but not as well because it tends to pack when wet. Cover the litter material with cloth, burlap bags or

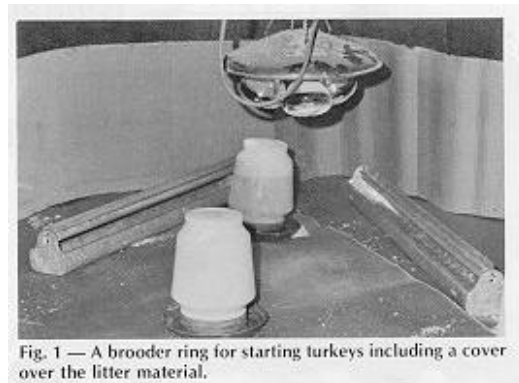


Fig. 1 — A brooder ring for starting turkeys including a cover over the litter material.

rough paper (Figure 1) for the first four or five days. After four or five days have

passed, the birds will have located the feed and water and will not eat the litter material.

## Heat

Heat can be provided with a 250-watt heat lamp (Figure 2) hung two feet above the floor level. This will provide a warm area under the light and cooler area out beyond the direct light rays.

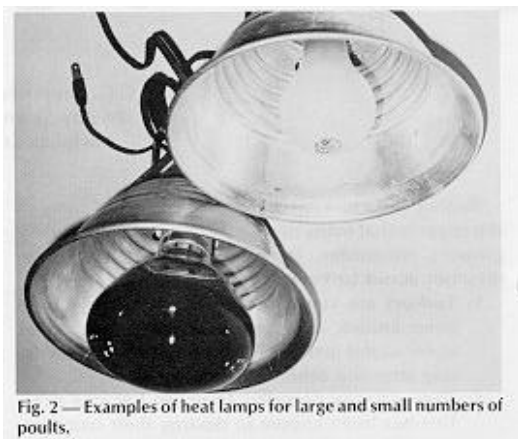


Fig. 2 — Examples of heat lamps for large and small numbers of poults.

This arrangement will be satisfactory for a large group of poults. For smaller numbers of birds, a 100-watt light bulb and a large cardboard box will get the birds started.

A cardboard corral (Figure 1), 12 to 18 inches high and 5 or more feet in diameter, will confine the poults to the heated area for the first few days, when the birds are on the floor. The corral should be removed after five to seven days to give the birds more area.

## Feeders

A hanging feeder (Figure 3) is a good type with which to start the birds. It can be placed on the floor, which will allow day-old birds to eat from it. As the birds grow, the feeder should be raised. The birds' shoulders should always be higher

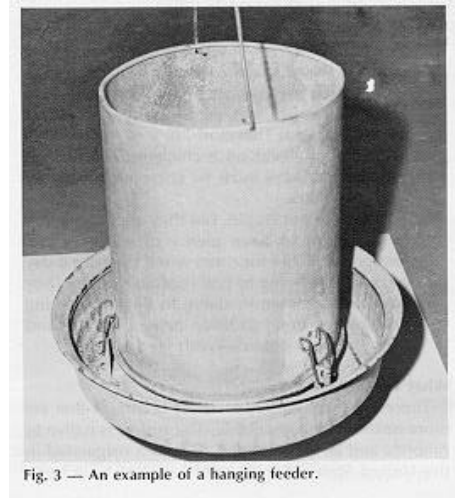


Fig. 3 — An example of a hanging feeder.

than the rump when they are eating. The birds should not reach down for feed after the first few weeks. When they reach down for the feed, they frequently bill feed out of the feeder into the litter. Feed is very expensive litter.

When the birds get older, a covered feeder (Figure 4) can be built (a cross-section plan is shown in Figure 5). Mash in one end and grain (corn, oats and wheat) in the other end will do a satisfactory job of feeding the larger

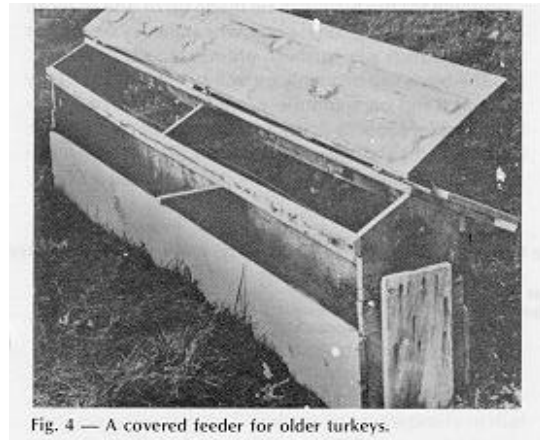


Fig. 4 — A covered feeder for older turkeys.

birds. The feeder works very well for birds on range as the feed does not get wet and spoil.

chicken water fountain (Figure 6) for the first few weeks. As the birds get older and larger, use a water pan with a wire guard (Figure 7).

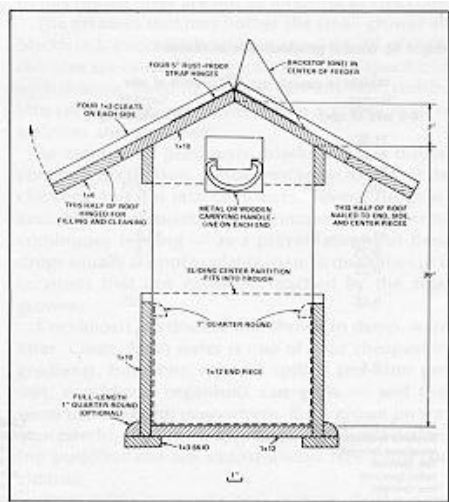


Fig. 5 — A blueprint for constructing a covered turkey feeder.

## Feed

Commercial turkey growers may have as many as four different feeds to give to their birds as they grow from day-old to market. You will need to buy at least three different feeds—starter, grower and finisher. Frequently the grower feed can be made into a finisher by giving the birds access to grains (corn, oats, wheat, etc.). You should use the feeds as follows:

## Waterers

Water can be provided by using a small

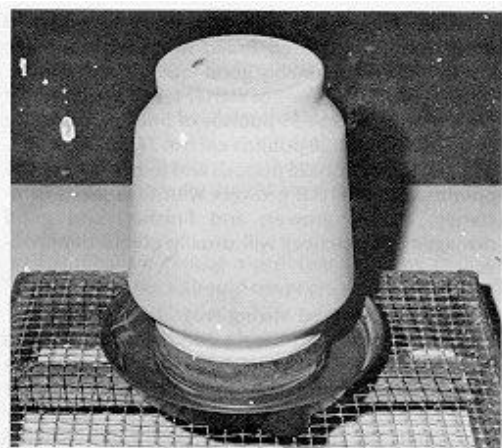


Fig. 6 — A waterer to be used for turkeys during the first few

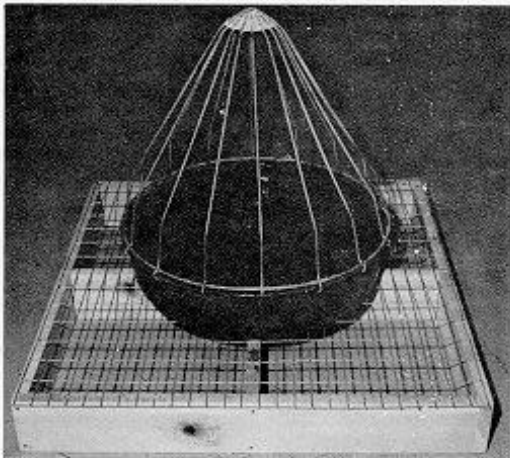


Fig. 7 — A waterer to use for older birds.

Age	Feed	% Protein
0-6 weeks	starter	28-30
7-13 weeks	grower	21
14-24 weeks	finisher	16-18

Table 1 shows the results that might be expected from feeding well bred Broad Breasted Bronze or White turkeys reasonably good feeds. They will consume about 4.5 pounds of starter feed, 20 pounds of grower feed, and 50-55 pounds of finisher feed. The birds will average 20 pounds each at 24 weeks of age, with the toms about 25 pounds and the hens about 15 pounds.

Commercial growers with four feeds (prestarter, starter, grower, and finisher) and good management practices will usually obtain better results.

## A Do-It-Yourself Feed Mixing Program

For producers who have a good, succulent green pasture available for turkeys, the following program might be

used for the small flock of birds. For the first eight weeks follow the cultural practices already presented. The starter ration given in Table 2 should be used. If you keep your turkeys out on range, be sure to fence the area. They can't fly but will wander off.

A simple feed formula for birds that are out on range can be mixed for those producers who can get the ingredients for either of the grower formulas listed in Table 3 (no vitamin trace mineral mix is used, as it may be difficult to find). These diets will provide 20-21 percent protein and should be fed after 8 weeks of age. At 14 weeks of age, the birds also should have available small grains, free choice, in a separate feed hopper. Figure 4 shows a feeder that can be used for mash in one end and grain in the other. This mash and grain mixture should be fed from 14 weeks of age to slaughter at 20-28 weeks of age in order to provide a finisher feed. The small grains that should be made available for the birds can be made up of one or more of the following grains: corn, wheat, heavy oats (32 or more pounds per bushel), emmer, spelt, or barley.

The birds will probably grow more slowly than they would if fed on a complete, well-balanced commercial turkey feeding program, but do-it-yourself programs will produce good turkeys if followed properly. Don't forget the word free choice means that all necessary items-water, mash, small grains, and good pasture- are available at all times.

## **Disease Control**

Disease control in a small flock of turkeys is not difficult, but CARE, SANITATION, and ISOLATION are

the keys to a successful disease control program. Unsuccessful programs occur when the producer fails to take care of the birds properly. This results in disease, or at least in birds that do not grow and gain normally. It has been said that if turkeys are not properly cared for they will look for an opportunity to die! In this regard, they are not as forgiving as chickens.

The diseases that may bother the small grower are blackhead, coccidiosis and airsacculitis. All of these diseases are caused by organisms that are specific for each disease. Keeping these organisms from coming into contact with your birds can be accomplished by isolation and sanitation.

As mentioned previously, blackhead is a disease common to chickens. It does not seem to bother the chickens, but it is fatal to turkeys. Several drugs are available and are used by the commercial grower for continuous feeding — as a preventative. But these drugs usually are not available in small quantities or in locations that can easily be reached by the small grower.

Coccidiosis is a disease that thrives in damp, warm litter. Clean, fresh water is spilled and litter gets wet, coccidiosis organisms can grow — and they seem to be present everywhere. Birds grown on wire (sun porch), dry litter and grasscovered well-drained (no puddles) soil are almost always free from coccidiosis.

Airsacculitis is a respiratory disease. As the name suggests, it is a disease that invades the air sacs: The lungs in the turkey are rigid and are imbedded in the rib area. The air sacs act as bellows, drawing air into and pushing it out of the lungs through the nasal openings. The best way to avoid

this disease is to buy the poults from a hatchery that tests for the disease in the breeder flock. This is one of the very few diseases that is transmitted through the egg to the poult. There is no satisfactory treatment for airsacculitis.

### Debeaking

Cannibalism can be a problem, but one that the small turkey flock should never encounter if the birds are given enough space. No one is certain about the cause of cannibalism, but several factors seem to contribute to its presence. Too much of anything seems to trigger cannibalism — too much heat and light, too many birds in too small a building or too long without feed and water.

A remedy for cannibalism is debeaking. The act of debeaking removes a portion of the upper beak and little of the lower beak (Figure 8). This is easily done when the birds are young.

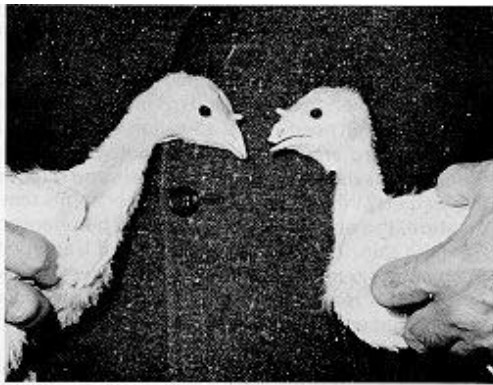


Fig. 8 — Debeaking. Notice the bird on the right after the debeaking process.

The tip of the upper beak is removed up to but never more than half-way from the tip to the nostril holes in the top beak. The poultry industry uses electric debeakers to debeak large numbers of chickens or turkeys. The debeaker has a hot cutting blade that burns its way

through the beak at the desired point. This burning action cauterizes the wound to stop any bleeding that might occur.

The grower with a few birds to debeak can use a pair of sharp wire cutters, a knife, or fingernail clippers (if the birds are young). A red hot soldering iron will cauterize the wound if it bleeds. Just sear the wound for a few seconds.

### Marketing Turkeys

Turkeys should be ready for market on or before 24 weeks of age. Broad Breasted Whites or Bronze toms should weigh 25 pounds or more live weight. When killed, dressed and eviscerated —ready-to-cook— they will weigh 19 or more pounds including the neck and giblets. A 30-pound tom will weigh about 24 pounds ready-to-cook. They lose about 20 percent in the killing, dressing and eviscerating. A live hen that weighs 18 pounds will weigh about 14 ½ pounds ready-to-cook.

Commercially, turkey growers market their hens at 18-19 weeks and their toms at 21-22 weeks of age. It might pay to weigh your birds at that age. If the toms weigh 25 pounds or more and the hens weigh 16 pounds or more, think seriously about marketing them. You can also determine when the bird has enough fat by examining the skin on the breast between the front end of the keel bone and wing socket. Remove a few feathers in this sparsely feather-covered area and "pinch test" the skin. Pick up the skin with your fingers. It should be creamy (yellow if a lot of corn and pasture are in the diet) and about like folding a blotter in thickness. A turkey that is not "finished" (ready to market) will have skin that appears

reddish blue — and there is no fat or little fat under the skin or anywhere else on the bird. Some fat is desirable.

## Processing

Processing turkeys takes time and effort but is not difficult. A strong quarter- or three-eighths-inch rope end an inch block of wood (see Figure 9) will make the task somewhat easier. Tie

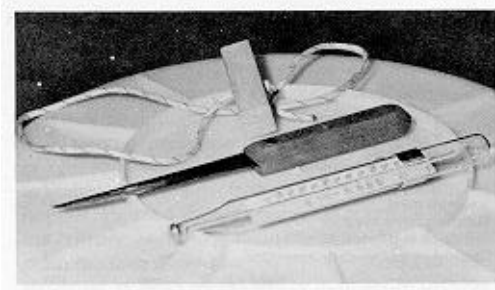


Fig. 9 — Equipment for processing, including rope, block of wood, knife and thermometer.

the legs with the rope shackle (Figure 10) and hang the bird so the head is at least waist high. Hold the head firmly in



Fig. 10 — Proper way to hang a turkey before processing, using a rope and wood shackle.

one hand and cut the jugular vein (one

goes from the head to the body down each side of the neck). The bird will flop so you will want to stoop down below the wing action and hold the head firmly — with pressure down to keep the head from throwing blood.

After the struggling has stopped, dip the bird into 140-145° F water for 30 seconds. Turkeys are large birds so you will need at least a 5-gallon vat. Be sure to move the bird around so that the hot water penetrates to the skin. Hang the bird up again and remove the feathers. When using scalding water at this temperature, the outside layer (bloom) will be removed from the skin. The skin will look red and leathery if the bloom is removed and the bird is allowed to dry out. For this reason the bird should be cooled in a tank of cold water (a new or very clean garbage can will work); running water is better than still water.

The cooled and plucked bird is now ready for evisceration as follows:

1. Remove the head and legs.
2. Remove the windpipe and crop under the neck skin. Cut the neck skin down the back of the neck and remove the neck. The crop is a sack at the base of the neck on the front of the turkey and is a storage place for feed. The crop will be more easily removed if the birds are taken off feed the night before slaughter.
3. Cut open the abdomen between the tip of the keel (breast) bone and vent (anus).
4. Cut around the vent and remove the intestines. Be sure that the heart and lungs are also removed. They are far forward in the body cavity.
5. Wash the carcass and put it into cold clean water until you are ready to put it into a package.
6. Clean the liver by removing the adhering membranes including a



dark green sack. This sack contains bile, which is very bitter; be careful that you do not break it or cut it open.

7. The gizzard should be cleaned. It is a semi-round muscle about the size of a man's fist. Inside there is a fibrous sack that will contain some feed. The muscle can be cut and the sack removed —without breaking it if you are lucky. It will be easier to remove the fibrous lining if the gizzard is cold.
8. Remove the oil gland at the base of the tail on the back of the bird.

Now you are ready to package the bird. Put the heart, liver, gizzard, and

neck inside the body cavity of the bird. Place the bird in a large plastic (freezer type) bag. Remove as much of the air as possible and tie the bag. The bird will keep better frozen if nearly all the air has been removed and the bag has been tied as tightly as possible.

The bird is now ready for sale, cooking or frozen storage. If it is put into a freezer, maintain the freezer temperature at 0° F. It is best not to allow the temperature to fluctuate more than a few degrees. Fluctuating temperatures tend to cause more freezer burn (dehydration) than a steady cold temperature even when the bird is well wrapped.

**Table 1. Feed Consumption of Broad Breasted Bronze or White Turkeys (Males and Females) from Day-Old to 24 Weeks of Age.\***

Age	Cumulative feed consumption (pounds)	Average live weight (pounds)		Average live weight (pounds)	Feed per pound of live wt. to date (pounds)
		males	females		
1 day-6 wks	4.4	3.2	2.8	3.0	1.45
7 wks-13 wks	24.5	11.4	8.4	9.9	2.47
14 wks-24 wks	76.4	25.1	15.7	20.4	3.75

\*Source: USDA Turkey Production Agriculture Handbook No. 393.

**Table 2. Starter and Grower Feed Formulas. (Feed formulas that might be used if products are available.)**

Ingredients	Weight in pounds per 100 pounds of mix	
	Starter (0-8 wks of age)	Grower (8-13 wks of age)
Ground yellow corn	21.50	56.0
Standard wheat middlings	30.0	
Meat scrap (55% protein)	15.0	5.0
Fish meal (60% protein)	10.0	3.775
Dried whey (plain or delactosed)	2.45	
Soybean meal	10.0	20.0
Alfalfa meal (17% protein)	10.0	10.0
Salt	0.25	0.5
A & D feeding oil (good-2250A)	0.25	
Antibiotic supplement (25 grams of wide-spectrum antibiotic per pound)	0.05	0.025
Dicalcium phosphate or steamed bone meal		3.0
Ground limestone or oyster shell		1.2
Vitamin trace mineral mix*	0.5	0.5

**-The vitamin trace mineral mix should contain per pound of the mixture:**

Vitamin A (USP units)	1,000,000	Vitamin B <sub>12</sub> (micrograms)	1,200
Vitamin D <sub>3</sub> (ICU)	300,000	Butylated hydroxytoluene (mgs)	22,680
Vitamin E (milligrams)	1,200	Manganese (percent)	2.4
Vitamin K (milligrams)	350	Zinc (percent)	2.2
Riboflavin (milligrams)	600,000	Iodine (percent)	.048
Niacin (milligrams)	8,000	Iron (percent)	.8
Folic acid (milligrams)	800	Copper (percent)	.08
d-pantothenic acid (mgs)	1,000	Cobalt (percent)	.008
Choline chloride (milligrams)	60,000	Bacitracin (aureomycin or terramycin)	+

**Table 3. Grower Diets (After 8 Weeks of Age) for Turkeys on Good Grass Range.**

Ingredients	Ration A	Ration B
	(pounds)	(pounds)
Ground yellow corn	50	30
Wheat middlings	30	30
Meat Scraps (50% protein)	19	
Salt	1	1
Soybean meal		30
Steamed bone meal or dicalcium phosphate		6
Ground oyster shell or limestone		3
<b>Total</b>	<b>100</b>	<b>100</b>
Calculated Analysis	Ration A	Ration B
Protein %	20.0	21.0
Calcium %	1.9	2.9
Total phosphate %	1.3	1.3

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