

Growing Broilers for the State Fair

Broilers are meat type chickens usually about 5-8 weeks of age when ready for processing. Broiler projects are very popular as 4-H and FFA youth projects. Their popularity is because the projects are shorter in length, require less space, and are less expensive than many other projects.

Because all the birds are from the same genetic source, the differences in the conformation of the birds is due to the management practices of the competitor. A successful entry requires good management skills such as maintaining the proper environment, disease control, feeding good quality feed, and keeping good records. The contestants will also learn what selection criteria are necessary when choosing their pen of birds.

Class 2314 at the Kansas State Fair will be for a special competition for commercial type broilers. A set of guidelines are available in the Kansas State Fair Book. All the broilers must be obtained through the Extension Service and Kansas State University on a specified date. Competitors will start with day old chicks and will raise them to about 5-6 weeks of age. Out of this group of chicks, they will choose their best three birds to enter in the Kansas State Fair.

Housing

It is not necessary to build expensive housing and purchase expensive equipment to successfully grow broilers for the fair. The birds require a clean, dry area that can be well ventilated. It should be sturdy enough to prevent predators from reaching the birds. Some participants grow their birds in a corner of a garage, barn, or other outbuildings using a temporary fence. Because broiler chicks grow so fast and gain so much weight in a short period of time, it's not necessary to make the fence more than 3 ft tall so long as the pen remains protected from predators. At the KSU farm, the boiler pens are approximately 30" tall and are formed out of 3/4" plastic PVC water pipe that is coated with plastic netting. The birds will require about 2 sq ft of floor space each. Housing for the broilers should be separate from any other housing used for other types of poultry that you may have.

Ordering your chicks

To enter into the Kansas State Fair Market Broiler Show, you must purchase your chicks through the extension office. Only 4-H members who intend to show the chicks may purchase them. A minimum order of 20 chicks is required. Because all the chicks come from the same hatchery and are from the same breeder farm, they will have similar genetics. This ensures that the difference in the birds at the time of the show will be based solely on the exhibitor's decisions on how to manage and grow the birds.

Brooding the chicks

Before the chicks arrive be sure that the house and pen are very clean. Feeders and waterers should be cleaned and stocked with fresh feed. Broiler chicks should be grown on litter. Litter is something

that's absorbent and fluffy to prevent the birds from injuring themselves. Examples are wood shavings, ground sawdust or wood products, rice hulls, etc. Ground hay or newspaper makes poor litter because it is not as absorbent. The litter should be free of anything that is sharp such as sticks or rocks.

Litter management will be a very important part of this project. If litter gets packed and caked, it could result in breast blister formation on the birds. Caked litter also results in dirtier birds. As the birds grow, you may need to change the litter a few times. Use a rake or shovel to stir the litter thoroughly at least twice daily and remove any caked material.

For the first few days the birds will need some supplemental heat during the brooding period. If you have a large pen, construct a brooder guard made of any material that will keep the chicks herded in the area of the feed, water, and the source of heat. For 50 chicks, a brooder guard of about 5 ft in diameter is adequate. Brooder guards are typically made out of cardboard or plastic that is taped together in a form of a circle. After a few days, the guard can be removed allowing the chicks to roam the entire pen.

Electric heat lamps obtained from a farm supply store or hardware store are excellent short term heat sources for day old chicks. One or two infrared bulbs are recommended depending on the temperature. If you are growing birds for the state fair you probably won't need too much heat since the chicks will be brooded during the summer time. The heat lamps with aluminum shields, guards, and clips make it easy to move the lamp around the pen or raise them as the conditions require. Be sure they are installed properly and secured so that they cannot fall into the litter and cause a fire. Place the waterers and feeders close enough to the heat lamp so that the chicks can easily reach them.

The brooding temperature of chicks is usually around 92°F and the rule of thumb is that you can reduce this temperature by 5°F for each week that the birds grow. A common mistake that some participants make is providing too much heat to the birds. Rapidly growing broiler chicks will need heat only for a few days and then will probably require increased ventilation to keep the temperature down.

The best way to tell if your chicks are comfortable is to observe their behavior. If they are too cold they will crowd under the heat source. If they are too warm they will move to the outside of the brooder guard. Adjust the height of the brooder as necessary.

Lighting

Most broilers are grown using 24 hours of light. The lighting increases body weight gain and improves feather growth. One or two 40 watt bulbs hung over the pen is adequate for most small broiler projects. Some growers will use a timer to turn off the lights for 30 minute periods once or twice during the night. This is to get the birds accustomed to power failure in the event that a storm causes the lights to go out.

Feeding your broilers

Good nutrition is very important for your growing broilers. You should consult your local feed dealer before your chicks arrive to be sure that the type of feed required will be available. Always use the freshest feed possible.

Most broiler starter rations are crumbles, which contain 20-23% protein and are fed the starter ration for about 3 weeks. Then switch to a grower ration for the remaining period. Grower feeds should be pelleted and contain 18-20% protein. Be sure to follow any label recommendations if you use medicated feeds.

Some participants develop their own special formulas for feeding their broilers. One point that is important to remember is that food intake will effect the growth rate tremendously. Therefore, any method that you can think of that will increase food intake will probably increase the growth rate of your birds. One example would be simply working with the birds and moving around the pen. This disturbs them and makes them move around the feeders and waterers. Stirring the litter will move the birds around. Keeping the birds from becoming overheated will stimulate them to eat more feed. Anytime you see the birds with their beaks open and breathing heavily you should suspect that the birds may be too hot.

Another way to stimulate feed intake is to give the birds small amounts of feed that have been moistened with water, milk, or cooking oil. You can do this several times a day. It has been observed that broilers prefer feeds with higher moisture levels, however, this additional moisture can also lead to mold and spoilage. If you are going to moisten feed then you should only make enough that the birds will consume it in about 15 minutes. Then it should be removed from the pen. You can feed the leftover feed to other birds or the culls.

Be sure you have enough feeder space so all birds can eat at once. You can use the pan or tray type feeders for the first seven days. To help them find the food, use a baking pan or a piece of paper with some feed spread across it for 1 or 2 days. After about 2 or 3 weeks, consider feeding the birds from a tube feeder. Tube feeders can easily be adjusted as the birds grow. A rule of thumb is that the feeder height should be about the height of the back of the bird when it is standing upright. Dry feed should be available at all times. If the exhibitor allows the feeders to become empty, their birds may grow at a slower rate.

Ventilation for your birds

The most common mistake I've seen with growing broilers is allowing them to become overheated. After about 4 weeks of age, broilers prefer a temperature of about 65-75°F. Because the Kansas State Fair occurs during the warmer months of the year, it is likely that your birds will experience some higher temperatures. Be prepared to cool your birds by using supplemental fans or other types of ventilation to keep them comfortable.

Culling your flock

You should always cull your birds as the flock gets older. Small, sick, stunted, deformed, or crippled birds should be removed during this time. These culls should still make adequate meat-type birds when they are processed. However, it is unlikely that they will be select birds for a show. Culling the birds will allow more room for the remaining flock and will increase feeder and waterer space for the remaining birds. At this time you should start observing birds for superior uniformity and fleshing. Meat-type birds will sometimes have leg problems depending on feed source and management strategies. Consult KSU number EP-113 for further information about some common leg problems that you may experience.

Flock Health

If obtained from a clean source and cared for properly most disease problems with broilers are minimal. The broilers will be ready to show or processed for food in just 6-7 weeks so they will not have a lot of time to be exposed to disease. One thing that is very important is to never mix your broilers with other birds you may have. The older birds may be resistant to some things that the young chicks have never been exposed to. If you do have older birds, keep them separated and visit the younger birds first when you do your daily chores.

Some exhibitors use medicated feed during the grow-out process. Be sure to read and follow all labels with feeds that are medicated. Some medications will require a withdrawal time that should be followed if the birds are going to be used for processing. If you have clean and well maintained facilities parasites should not be a problem. If you do notice a common ailment among the birds, contact your local health professional as soon as possible.

On occasion cannibalism may occur. You should remove the injured bird and the offender to the cull pen. Generally, it is not necessary to beak trim broilers for exhibition purposes. It will not be necessary to show proof of pullorum testing since the chicks originated from a clean flock.

Selection

The exhibitor will need to make some very important decisions when selecting the birds for their pen. Uniformity of the three birds that you select is very important. In fact, it may be that your best one or two birds will not be selected. Select your three best birds which have good fleshing as well as uniformity.

You should examine your birds and be aware of any of the following defects: cuts and tears on the skin, bruises, breast blisters from poor litter management, an abundance of immature feathers, patches of skin without feathers, lots of broken feathers or damage from cannibalism, crooked breasts or otherwise abnormally shaped, narrow backs which are crooked or humped, too short of body length and depth, deformities in the wings and legs, crooked toes or beaks are not as important so long as the birds are adequately fleshed. A few broken feathers may be OK since these birds are not being shown in an exhibition class.

Selecting your pen for exhibition

Confirmation

Confirmation is a description of the overall shape of the bird and skeletal system. It will count for about 20% of the total score.

The breast bones should be long and straight and free from defects. The longer the breast bone, the more meat the breast will yield. The width of the breast and back of the bird should be as wide as possible. Determine the distance from the breast bone to the back. Birds should be as full and deep as possible. A larger frame means that the bird will yield more meat.

Fleshing

Fleshing refers to the amount of muscle or flesh that occurs on the bird's frame. It will count for about 40% of the final score. On a broiler, most of the meat occurs in the breast, thighs, and drumsticks and this should be evaluated carefully. Give the most consideration to how much breast meat the bird is carrying. Feel the bird's breast muscle for its depth, length, and thickness. Both the thighs and the drumsticks should be heavily muscled.

Uniformity

Uniformity refers to how well the birds match within your pen and will be about 20% of the final score. You want them to be as much of a carbon copy or clone as possible. Modern processing plants rely on uniformity to decrease the number of problems that occur in a processing plant. Exhibitors often find that their absolute best birds do not match very well and must choose three other birds which have good uniformity.

Finish

Finish refers to the amount of fat that is found mostly just under the skin. The value of finish will be about 15% on a broiler carcass. Finish is important for eye appeal to the consumer. Look for the fat deposits between feather tracks on the side of the breasts and along the wing. Be sure not to confuse skin pigmentation with the amount of fat on a carcass.

Skin pigmentation

Most consumers in the United States prefer a yellow pigmented bird. Pigmentation levels will account for about 5% of the value. Skin pigmentation normally occurs in the outer layer of the bird's skin. It is highly influenced by diet. Rations with high amounts of yellow corn or with added corn gluten meal normally result in adequately pigmented birds. Pigmentation is not an indication of finish (fat) or nutrition, thus, only a minor emphasis is placed upon pigmentation.

Handling your birds

Broilers should be handled gently or they may bruise. Poor litter conditions or overcrowding or unclean conditions will result in dirty feathers. If you've done an adequate job raising the birds, washing them may not be necessary. However, if you feel they need to be cleaned, refer to KSU Extension Publication # L-771. Just remember that you could easily bruise the birds when you wash them which can result in a major defect. Do not allow the birds to pile or flap their wings against a hard object or broken bones and bruises could occur.

The best way to transport your birds to the fair is to place them in large cardboard boxes with adequate ventilation. Don't crowd them, remember that these birds are prone to heat stress and they must have adequate ventilation. In the bottom of the box place 4-6" of good clean litter. Cut lots of air holes in the sides. You should stop and check them several times to be sure they are OK. Do not allow the birds to bruise by hitting them against the container or allowing them to flap their wings. Some contestants will bring an additional 1 or 2 birds just in case a bruise occurs during transportation.

Broilers shown at the state fair must be identified by leg bands. Place the leg bands on your selected birds one or two days before you take them to the show.

Checklist for producing quality broilers

1. Be sure you are pre-registered and you obtain your chicks from the extension service.
2. Grow your birds in a space with adequate ventilation and protection from predators.
3. Use quality feed.
4. Cull your birds and be sure that adequate floor, feeder, and water space is provided.
5. Keep the birds comfortable by monitoring temperature.
6. Birds should never be without food or water.
7. Manage the litter properly.
8. If you are providing supplemental moist feed be sure that it does not become spoiled.
9. Observe the birds for proper health.
10. During times of extreme heat, be sure your birds are adequately cooled.
11. Keep records of feed intake and cost in a diary so that you can record any problems you encounter.

Questions and Answers

What should I do with my broiler flock after the contest?

Your broiler chicks were developed for efficient production of meat. Therefore, they would not make very good egg producers. At about 7 weeks of age, your birds should be ready to process into a ready-to-cook product. Contact your local meat processing plant to determine if they custom process poultry. Since not all will process poultry, your county extension office may also be able to assist you to locate a processor. Otherwise, it's a project you can also do yourself. Refer to KSU Bulletin #EP-71 for helpful information about how to home process poultry.

Additional reading:

Youth Producing a Wholesome Quality Livestock Product for the Consumer, KSU # 4H672
Production of Eggs and Home-Raised, Home Butchered Broiler and Turkeys, KSU Food*^A*Syst
Program
Poultry Nutrition for the Small Flock, KSU # EP-80
Processing Farm-Raised Poultry, KSU # EP-71
Management of the Small Flock of Chickens, KSU # MF-2390
Guide in Selecting and Preparing Poultry for Exhibition, KSU # L771
Barbecuing Chicken, KSU # MF - 2306