

PROTECTION CONTINUED

are visibly bloody should be removed and reared elsewhere until they heal. The conditions that may be contributing to the vice should be corrected immediately. **Crooked legs or toes** may be a result of problems in the incubator (humidity too low) or by brooder floors that are too cold. They may also be caused by deficiencies of vitamin E or magnesium in the dit.

RESOURCES

Damerow, Gail. 1995. *A Guide to Raising Chickens*. Pownal, VT: Storey Communications, Inc.

Lee, Andy and Pat Foreman. 1998. *Chicken Tractor - The Permaculture Guide to Happy Hens and Healthy Soil*. Columbus, North Carolina: Good Earth Publications

Plamondon, Robert. 2003. *Success with Baby Chicks*. Blodgett, OR: Norton Creek Press

HATCHERIES

Ideal Poultry Breeding Farms, Inc.
P.O. Box 591
Cameron, TX 76520-0591
Telephone: (800) 243 3257
Fax: (254) 697 2393
Web: <http://www.ideal-poultry.com>

Moyer's Chicks
266 E. Paletown Road, Quakertown, PA 18951
Telephone: (215) 536 3155
Fax: (215) 536 8034
E-mail: orders@moyerschicks.com
Web: www.moyerschicks.com

Murray McMurray Hatcheries, Inc.
P.O. Box 458, 191 Closz Drive
Webster City, IA 50595-0458
Telephone: (800) 456 3280, (515) 832 3280
Fax: (515) 832 2213
Web: www.mcmurrayhatchery.com

Privett Hatchery
P.O. Box 176
Portales, NM 88130
Telephone: (505) 356 6425, Toll free (877) PRIVETT
Fax: (505) 356 6540
Web: www.privetthatchery.com

Rainbow Breeder Company
P.O. Box 2363
Clanton, AL 35046
Telephone: (205) 280 3771
E-mail: dceiland@hiwaay.net

Shady Lane Poultry Farm, Inc.
520 Agawam Road
Winchester, KY 40391
Telephone: (859) 737 2636
Web: www.shadylanepoultry.com

Strombergs Chicks and Gamebirds Unlimited
100 York Street, P.O. Box 400
Pine River, Minnesota 56474
Telephone: (800) 720 1134
Fax: (218) 587 4230
Web: www.strombergschickens.com



Southern University and A&M College System
Agricultural Research and Extension Center
Ashford O. Williams Hall
Post Office Box 10010
Baton Rouge, Louisiana 70813
Phone (225) 771-2242
Fax (225) 771-2861
www.suagcenter.com

For more information contact:

Dr. James I. McNitt, professor of animal science, at (225) 771-2262 ext.270 or email james_mcnitt@suagcenter.com
or: Lonnie Parker, research farm manager II, at (225) 771-2262, or email to lonnie_parker@suagcenter.com

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BROODING BROILER CHICKS FOR PASTURE

Series, part two: This publication is part of a four-part series on pastured poultry (Publications 196-00—196-03) dealing primarily with broilers although the material is applicable layers.

Your pastured broiler project will begin with the purchase of chicks from any one of a number of hatcheries. The chicks are shipped by U.S. mail the day they are hatched and usually will arrive within 24 hours of hatching. Once you receive the chicks, you will need to brood them. That means you must supply them with warmth, feed, water and protection just like the hen would do. Most growers use the Cornish cross broiler chick although there are other breeds that can be used satisfactorily for meat production.



SPACE REQUIREMENTS

To keep the chicks within the brooding area, there needs to be some sort of barrier for the first couple of weeks. This may be metal, cardboard, or wire. The birds may also be brooded in a box built especially for that purpose. The floor of the brooding area should be covered with litter—any absorbent, non-toxic product like shavings or sawdust about 2" deep. If the brooder has square corners, pile the shaving corners to prevent the birds from piling up there and suffocating each other. Light from a heat lamp will attract the birds, so place feeders under the lights to encourage the birds to get plenty to eat.

Several waterers should be placed in the brooder so the chicks can easily find water. All waterers need to be cleaned every day. When working with the waterers be careful not to spill

Space requirements for housing, feeding, and watering broiler chicks

| Housing | | Amount of Space |
|---------------|--|---------------------------------|
| Age | | |
| 1-4 weeks | | 1/2 sq. ft. per bird |
| 4-8 weeks | | 1 - 1.3 sq. ft per bird |
| Waterers | | Height of Waterers |
| Age | | |
| 1-2 weeks | | 20 linear inches per 100 chicks |
| After 2 weeks | | 30 linear inches per 100 birds |
| Feeders | | Length of Feeders |
| Age | | |
| 1-3 weeks | | 1" per chick |
| After 3 weeks | | 3" per chick |

water and get the litter wet. If this occurs, the wet litter should be removed immediately and new litter installed. The space requirements for the birds are shown in table above.

WARMTH

In the deep south, even in the winter, it is not difficult to provide enough heat for the chicks. The heat may be provided by gas or electric heaters although heat lamps are most commonly used. The chicks may also be provided with a hover under which they can find the heat and get warm. The temperature should be 90°-100° to start and be reduced by 5° each week until the temperature is 70°-75°. Generally, the temperature can be assessed by the behavior of the birds. If they are all clustered under the source, it is too cold. If they are spread about the perimeter of the brooder area, it is too hot. If they are all on one side of the brooder, there is a draft. If they are spread all



around the brooder eating and drinking, the birds are comfortable at the set temperature.

FEED

Mixing proper feeds for chickens is a very complex and precise exercise. There are many suitable rations available from feed dealers and, in most cases, these should be used.

The rations can be changed as the chicks grow; you may begin with a chick starter, then move to a grower and then to a finishing ration. It is your decision whether you will use medicated feeds. These generally contain a drug that prevents coccidiosis, a disease that is caused by a protozoan that grows in unclean areas. If you keep your birds clean and do not expose them to materials from older birds, you may not need the medication. Remember too, if you are producing a naturally-grown bird, you should not use medicated feed.

The feeds are sold as mash, crumbles or pellets. The mash is just the mixture of the ground feeds. Pellets are produced by forcing the mixed feed through a die under pressure. To make crumbles,

the pellets are passed through a grinder to break them up somewhat. Which you use depends on your preference and which feed makes your birds grow best with the least wastage. Chicks are generally started on a mash because it is easier for them to eat.

When the chicks are placed in the brooder, the feed is often placed on a paper plate, a paper towel or a piece of cardboard so the chicks can easily walk up onto it and eat. As the birds learn about feed, small feeders can be used. These have covers on them with holes where the chicks can put their heads through to eat. This helps to keep the chicks from fouling the feed.

As the birds grow, the feeders should be raised and the size increased. The larger feeders should have a bar across the top that will turn if a bird tries to sit on it. This will help to keep the birds from fouling the feed.

be cleaned at least once each day and replenished with fresh water.

As the birds get older, the waterers should be raised. This will help keep the litter out of the water and reduce spillage of feed from the chick's

mouths and esophagus (crop) when they drink. If the chicks eat and then go to drink (which they usually do), food in the mouth or the top part of the crop may fall into the drinker if the birds have to tip their heads down to drink. To avoid this, the drinkers should be maintained at the height of the smallest bird's back. This can be accomplished by placing boards under the drinker as is it raised.

When the birds get older, bricks can be used under the drinkers to get them high enough. More drinkers may have to be added to be sure the birds have access to water all the time.



PROTECTION

Chicks need to be protected from predators, environmental extremes, disease, and other factors that might impact their productivity or survival. Predators can be kept away from the chicks by housing them in a secure building. Rats can be a serious problem because they seem able to get through impossibly small entrances. They can be stopped by putting the chicks in a wooden box-type brooder with a chicken wire lid. Similarly, if the chicks are in a building, most environmental effects can be controlled.

Protection from disease is crucial. As noted above, keeping the chicks and their facilities clean goes a long way toward disease prevention. This will also help to keep insect pests, such as mites and fleas, under control. The chicks are susceptible to stress; so care should be taken that they are not exposed to factors that might upset them. This could be overheating or chilling, dogs or cats in or near the unit, loud noises, flashing lights, children playing with the chicks, lack of feed or water for even a short time, wet litter, and so forth. Any of these can interfere with the chicks' ability to withstand disease so care should be taken to avoid them.

Pay careful attention to pasting, starveouts, cannibalism, and crooked legs or toes.

Pasting is sometimes seen in young chicks. This occurs when the feces are a bit soft and they dry on the vent so the bird can't defecate. If this is seen, gently soaking the vent area with warm water and removing the pasted material will

generally overcome it. **Starve-outs** occur when chicks don't eat within two or three days of hatching and then become too weak to seek food. This can also be seen when the chicks eat litter instead of the feed. To decrease the chance of starve-outs, dip the chicks' beaks into water and then into the feed once they are placed into the brooder. Severely stressed chicks may experience starve outs. Chickens are attracted to the color red; so if one chick gets a small wound, the other chicks may begin to peck at it. This is known as **cannibalism**. One of the most common forms is toe-pecking. There are many causes, including having the brooders too warm, too crowded, with too little feed or feeder space, the light is too bright, or a ration that is low in protein. Chicks that



WATER

When you are starting your chicks, you will need a one-gallon waterer for every 100 birds. In practice, several waterers are usually used to be sure the chicks can find the water and drink as much as they need. The waterers should