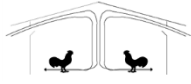




The University of Georgia
Cooperative Extension Service

College of Agricultural and Environmental Sciences/Athens, Georgia 30602-4356



Poultry Housing Tips

Bird Migration in Naturally-Ventilated Broiler Houses

Volume 6 Number 3

March, 1994

There may be an easy and inexpensive way for growers with naturally-ventilated houses to reduce heat stress related mortality as well as increase bird performance during the summertime. It doesn't involve buying more fans, changing fogging systems, or using more electricity. The only thing the grower has to do is install three or four short migration fences, like those placed in tunnel-ventilated houses.

One of the biggest challenges growers with tunnel-ventilated houses have had to face is bird migration. Bird migration is the tendency of the birds in a house to walk into the wind toward the inlet end of the house. It is a very gradual process. Over the course of weeks the density in the inlet end of the house will slowly increase while that near the exhaust fans decreases. If not prevented early on in the growout, there often is not enough space in the inlet end of the house for the birds to move around; while at the fan end of the house, each bird will have several square feet of floor space to itself.

The large differences in bird density lead to significant problems for the grower. First, with so many birds in the inlet end of the house, there simply is not enough feed and water space for the birds to perform like they should. Furthermore, the birds are packed in so tightly that they can't even make it to the limited feeder or waterer space which is available. When birds try to get to feeders and waterers they end up walking over the top of one another, resulting in scratches. Finally, with the birds standing so close to one another so little air can get between them they easily overheat. The net result is bird performance that is severely restricted near the inlet end of the house.

In tunnel-ventilated houses where birds have migrated, it is not uncommon to find a half-pound or more weight difference between those birds in the inlet end of the house compared to those in the fan end of the house. What makes it worse is there are significantly more of the light birds in the inlet end than heavy birds in the fan end. Field studies in tunnel-ventilated houses have shown that if the birds migrate, average bird weight throughout the whole house can easily be decreased by 30 points or more.

What does this have to do with naturally-ventilated houses? Maybe more than we originally thought. The important thing to know about bird migration is that it is caused by air movement. The more of a breeze you have in a house the more likely the birds are to migrate. If you only have a couple of 36" fans blowing the air around in a naturally-ventilated house you are not likely to get much air movement in the house. But, the number of 36" stirring fans has increased to such an extent in most naturally-ventilated houses over the years it is now common to see a 400' house with ten or more stirring fans providing relatively high and uniform air movement.

When circulation fans start to generate a fairly consistent breeze, the birds in a house will begin to act similarly to those in a tunnel house and slowly start to migrate. The migration is towards the end of the house from where the fans are blowing, commonly the west end. The west end of the house is often the warm end of the house due to the setting sun and the minimal amount of evaporative cooling fog present. The fog and therefore the cooling effect is generally higher on the east end of the house because the fans tend to blow and concentrate the fog at the east end of the house. The higher bird densities and higher temperatures at the west end of the house often result in an increase in the number of birds lost on the west end. Think about it; if you are losing a few birds in an area you probably have a significantly greater number of birds which are not eating or gaining weight.

Bird migration in naturally-ventilated houses is not always as obvious as it is in tunnel-ventilated houses. You often have to take a close look at your birds to see migration and even then it may not be apparent until the last week of production. But, even if the birds appear to be slightly more crowded on the end of the house where circulation fans are blowing from, bird density is probably higher than traditional wintertime densities and you don't want wintertime bird densities during hot weather.

Actually, bird migration can be looked at as a positive sign. It means that there is good air movement in the house. No migration indicates there is not enough air movement in the house to keep birds cool and productive during hot weather. Though at the present there is no sure way to eliminate the birds' desire to migrate, there are steps producers can take to minimize potential harmful effects. One of the most important of these is the installation of migration fences. Migration fences allow producers to separate their houses into smaller 100' sections. The birds can still migrate within these sections, but the effect is diluted, since crowding is reduced by spreading it out.

Fences should be about 18" in height. This height is sufficient to keep birds from jumping over it and makes it easy for the producer to step over. It is important that the fences be constructed of a large wire mesh to permit the flow of air through the fence (2" X 4" welded wire works well.) It is important that the fences are strong enough to stand up to the force of birds pushing against them when you are walking through the house.

In order to be effective, migration fences need to be installed as soon as the birds are spread evenly throughout the house. It may be advisable to install the fences at night when bird activity is at its lowest. Since migration is such a serious problem, fences should be installed during all warm weather flocks.

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The University of Georgia and Ft. Valley State College, the U.S. Department of Agriculture and counties of the state cooperating.
Publication made possible by U.S. Department of Energy Oil Overcharge Grant through the Georgia Office of Energy Resources.
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