

Poultry Science Capital Region Veterinary Science

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# Poultry Pointers



Agricultural & Biological Engineering Agricultural Economics

**POULTRY'S EPA (ENVIRONMENTAL PROTECTION AGENCY) IS YOU!**

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With the onset of summer, poultry producers should be keenly aware of the environment in which they grow poultry.

Poultry can tolerate a wide range of environmental conditions, but most of these conditions are not conducive to optimum growth or efficiency.

Poultry perform best when the environment around them minimizes stress and allows all nutrients to be used for growth and reproduction. If we evaluate summer-time production and the natural stressors that inhibit optimum growth, we must be aware of certain management factors that will

minimize environmental stress on our birds. Among these factors are temperature (ventilation) and water quality.

**Ventilation**

Young poultry will seek an environment where they feel comfortable. Early in their life, chicks and poults are susceptible to drafts and changes in temperature of one or two degrees Fahrenheit. Therefore, in the brooding stage, growers must be careful to observe the birds' behavior and keep the temperature constant.

If the chicks are huddled together, determine whether the behavior is caused by a low ambient temperature or if a drafty condition exists. Air direction is important for young birds — the inlet air should be directed toward the ceiling to temper and mix the air coming into the house. Conversely, air for older birds (greater than 4 weeks) is a means of cooling the birds during the summer.

Air rushing over the heads of the birds by directed vents or circulating fans within the house helps to moderate the environment at the level of the bird. Turkeys which have more featherless area on the head and neck and naked neck chickens are better able to utilize this method of heat dissipation in hot weather than are commercial broilers.

At very high temperatures, or if a hot spell starts quickly and doesn't allow a time for acclimation, mortality as well as tremendous decreases in growth can occur in poultry flocks. Under such situations, circulation of air within the house as well as the addition of moisture by fogging can help "cool" the birds and prevent losses and poor performance.

Ventilation equipment should also be checked and cleaned to allow for maximum air flow. During the winter, the combination of condensation and poultry dust coats belts, motors, wire mesh around fans and air vents, fan blades, fan levers, etc. and restricts air flow to the birds. "Spring cleaning" or "preventive maintenance" is, therefore, needed and shouldn't be delayed until the hot weather occurs.

Alarm systems should also be routinely checked to prevent a disaster that can occur when power outages eliminate mechanical ventilation, which can suffocate a flock. Other ventilation systems (automatic vents, thermostats, etc.) should also be maintained.

**Water Quality**

Fresh, clean, and cool water is the desire of most poultry producers. Between flocks of birds, water systems should be cleaned with a line cleaner and drained. Prior to placement of birds, the line should be flushed so that fresh, cool water is available for young chicks or poults.

Frequently, chlorine treatments are used to help decrease contamination of waterers. Routine cleaning and disinfection is also very important.

The waterers are ideal places for the replication of bacteria. Dr. Eric Gonder, a poultry veterinarian from Goldsboro Milling, Inc., has reported that water in a trough with nutrients from feed residue held at 68-70 degrees Fahrenheit is an ideal incubator for bacteria. He proposed that if two bacteria were added to a feed-contaminated water trough environment, after 10 hours you would have the bacterial equivalent of raw sewage. Therefore, consistent cleaning of water troughs followed by the use of an effective disinfectant can help decrease the amount of coliform bacteria consumed by the flock.

This fact also helps explain the

decrease in condemnations and the improvements in livability enjoyed by broiler growers that have switched to nipple waterer systems. Nipple waterers have no common water bath for growth and accumulation of bacteria, not to mention the decrease in water spillage and drier litter that occurs as a result of using these drinkers. Unfortunately, no nipple waterers have yet been developed to adequately supply the water demands of finishing turkeys.

Water level (trough, bell) or water pressure (nipple) need to be adjusted during high ambient temperatures to allow for increased water consumption by the flock. When adequate water volume is not supplied, feed consumption is decreased and growth is lowered.

Your management is the environmental protection agency (EPA) for your flocks. By protecting against unhealthy environments, you will produce healthier and more productive birds.

Fresh air and water are basic to good production practices. Adopt good management skills to reduce environmental stressors for your flocks.

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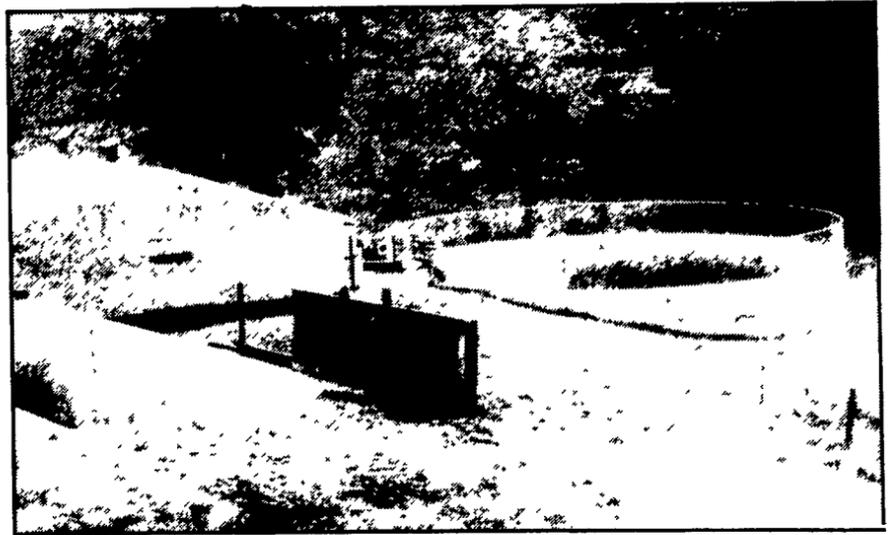
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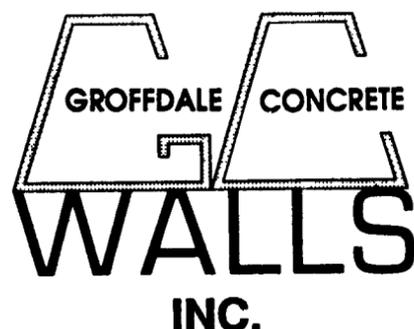
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