



Heat Stress in Poultry – Key Points

- ❖ Consider both temperature and humidity when assessing potential heat stress conditions
 - High humidity decreases poultry heat loss from the lungs making the birds more susceptible
 - Example temperature and humidity indexes are available at http://lib.dr.iastate.edu/extension_ag_pubs/163. Note that for older turkeys, temperature at 85F with humidity above 50% places turkeys in the danger zone, at 90 F and 50% RH the risk increases to extreme
 - Measure both temperature and relative humidity in the barn
 - If misting or fogging at low humidity's, monitor relative humidity to prevent excessive moisture in the air that can exacerbate the heat stress condition
- ❖ Ventilation and air circulation at bird level are critical to remove bird heat
 - Naturally ventilated barns are at risk if air is calm and supplemental fans are not present. Supplemental fan placement affects circulation http://www.bae.ncsu.edu/extension/ext-publications/air_quality/AG-775-turkeys-shah.pdf
 - Mechanically ventilated barns can also be at risk if barns lack ventilation capacity & air mixing for the size and number of birds present
- ❖ Night time cooling is very important in order to allow bird recovery especially when multiple days of heat stress occur
- ❖ Mitigation other than facility adjustments mentioned above can include:
 - Use of water soluble electrolytes and vitamins starting before heat stress
 - Potassium chloride (KCl) at .6% in the water is most effective
 - Don't use the electrolytes any longer than three days
 - Withdrawal of feed 6 hrs before peak heat stress
 - Restore feed when temperatures decline that day
 - Have feeders full when lowering the feed line
 - Can use lighting during the night (midnight feeding) to allow feed intake
 - Delay activity in the barn such as moving of birds or litter conditioning
 - Provide shade for pastured poultry or decrease sun exposure in the barn
 - Flush water lines and waterers periodically to keep water fresh and cool

Resources

"Livestock Industry Facilities and Environment: Heat Stress Indices for Livestock" (1998). Agriculture and Environment Extension Publications. Book 163. http://lib.dr.iastate.edu/extension_ag_pubs/163

Ventilating to Cool Modern Grower Turkeys. http://www.bae.ncsu.edu/extension/ext-publications/air_quality/AG-775-turkeys-shah.pdf
Hybrid Turkeys. Minimizing the effects of heat stress. July 2015.

<http://resources.hybridturkeys.com/system/resources/W1siZiIsIjIwMTUvMDgvMTIvMTRfNDJfNDRfODVfTWluaW1pemluZ19lZWFOX1N0cmVzZ19KdWx5SMjAxNS5wZGYiXV0/Minimizing%20Heat%20Stress%20July2015.pdf>

Aviagen. Hot weather management tips. Issue 22. http://www.aviagenturkeys.us/uploads/2015/11/13/ati_hot_weather_management.pdf

QUESTIONS OR COMMENTS?

Send a message to Sally Noll, Poultry Extension Specialist, nollx001@umn.edu