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Poultry Housing Tips

Tools for Poultry Producers

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In modern power-ventilated poultry houses, producers need more than just a large dial thermometer to determine whether or not they are maintaining the ideal growing conditions. To maximize bird performance, while at the same time keeping energy costs to a minimum, producers need to know wind speed, relative humidity, static pressure as well as be able to see how air is flowing in their houses. But, to do this producers must have the right equipment. Listed below are examples of a few tools producers may want to consider purchasing. Also included are approximate costs, as well as a few sources for these tools. Obviously, these costs are subject to change and other similar equipment from different manufacturers and suppliers may be available.

Wind Speed Meters:

Knowing the wind speed in a tunnel-ventilated house is crucial in determining the amount of wind-chill and, therefore, cooling the birds are receiving during hot weather. A few years ago a simple wind speed meter would have set a grower back hundreds of dollars. The good news is that over the past few years the prices of pocket-sized wind speed meters have been decreasing and their functions have increased. As a result, today you cannot only buy a meter that measures max, min, and average wind speed, but also air temperature and relative humidity at a price below what simple air velocity meters cost just a few years ago.



<u>Manufacturer-Model#</u>	<u>Approx. Cost</u>
Kestrel 1000 - wind speed	\$80
Kestrel 2000 - wind speed & temp.	\$120
Kestrel 3000 - wind speed, temp. & Rh	\$150

Supplier:

West Marine (800) 262-8464
www.westmarine.com

Air Temperature / Rh Meters:

Monitoring air temperature and relative humidity in a poultry house is very important. Air temperature has a large effect on



weight gains and feed conversions. Relative humidity is a good indicator of air quality and therefore can aid growers in adjusting timer fan settings to help insure that their birds remain healthy. With recent advancements in electronics, a temperature/rh meter can be purchased for less than \$30. These meters not only indicate the temperature/rh at the present time but maximum and minimum levels over the past day as well. Some meters have an outdoor temperature sensor which can be placed at the ceiling to monitor temperature stratification from floor to ceiling. Various models from a number of manufacturers are available.

Supplier:

Radio Shack (800) 843-7422
www.radioshack.com

Smoke Emitters:

Seeing how the air flows in a poultry house is crucial if a producer is to truly understand ventilation. The problem, of course, is that air is not visible. With a few smoke emitters, a producer can determine if the air entering through side wall air inlets is mixing properly with the hot air near the ceiling or if cold air is leaking in from around the side wall curtains or exhaust fan shutters and dropping to the floor causing a draft. (Note: It is important to make sure that when you are smoking a house that it is cold outside and hot inside because air acts very differently when it is both warm inside and warm outside.)

<u>Manufacturer-Model#</u>	<u>Approx. Cost</u>
Fumax: KS smoke emitters - 1.5 minutes (ten per box)	\$16
Ventax:5 smoke emitters - 3 minute (five per box)	\$16

Supplier:

Regin HVAC Products (203) 323-0115.
www.regin.com

Infrared Thermometers :

Infrared thermometers are another useful tool which can be an aid to maintaining ideal growing conditions. An infrared thermometer measures the temperature of surfaces not air temperature. Therefore, an infrared “gun” is pointed at the floor, and it measures floor temperature, which when it comes to brooding chicks is far more important than air temperature. Infrared thermometers can also be useful in finding air leakage problems. For instance, if floor temperature is noted to be much



cooler near the side wall than in the center of the house, there is probably too much air leaking around the side wall curtain. With an infrared thermometer, a producer can also check the surface temperature of the ceiling. Cold spots found during cold weather may indicate a problem with insulation (too thin, shifted, or possibly wet). Ten years ago an infrared thermometer would cost a grower over \$1,500; today there are models available for less than \$120.



<u>Manufacturer-Model#</u>	<u>Approx. Cost</u>
Raytek - ST2	\$120

Suppliers:

Davis Instruments (800) 368-2516
 Grainger (800) 323-0620
 www.grainger.com

Magnehelic Static Pressure Gauge:

A static pressure gauge can help a producer adjust side wall inlets, measure house tightness or determine whether evaporative cooling pads are clogged. A magnehelic gauge can also be useful in determining whether the electronic static pressure unit on an inlet machine controller is reading the static pressure correctly.

<u>Manufacturer-Model#</u>	<u>Approx. Cost</u>	<u>Supplier:</u>
Dwyer Model # 2000-00	\$75	Grainger (800) 323-0620 www.grainger.com

Michael Czarick
 Extension Engineer
 (706) 542-9041
 (706) 542-1886 (FAX)
 mczarick@bae.uga.edu
 www.bae.uga.edu/extension/ventilation

Michael P. Lacy
 Extension Poultry Scientist

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