

LIGHT TRAPS FOR POULTRY HOUSES

Reproductive characteristics of chickens are affected by day length. For this reason, artificial lighting is used inside mechanically ventilated pullet houses to control “day length” and thus, optimize productivity. Not only must artificial lighting be supplied but natural daylight must also be excluded. Light traps are used in mechanically ventilated pullet houses to restrict the transmittance of outside light while allowing air to pass through. Both light restriction and minimal airflow restriction are important factors for a properly designed house.

Characterizing Light Traps

A light trap test consists of two components:

- Resistance to airflow
- Resistance to light transmission

Resistance to Airflow

The light traps were mounted in a 48" x 48" opening in the BESS Lab airflow measurement chamber. Resistance to airflow is presented in graphical format with static pressure (in. water) plotted vs. face velocity (fpm). *When comparing light traps at a given face velocity, a lower static pressure indicates less airflow resistance.*

Resistance to Light Transmission

Four 1500W halogen lamps were placed outside the light traps to simulate direct sunlight. Light measurements were taken at the outside face and the inside face of the light trap. The “Light Reduction Factor” was calculated by dividing the outside light intensity by the inside light intensity. *When comparing light traps, a higher “Light Reduction Factor” indicates greater resistance to light transmission.*

Installation and Management Factors Affecting Performance

Care should be taken during installation to insure a tight installation with no gaps between sections. Any light leakage can lower the installed Light Reduction Factor. Accumulation of light colored dust on the light trap may also lower the Light Reduction Factor.

Additional References

- Czarick, M., M.P. Lacy and G.L. Van Wicklen. 1998. *Light Traps for Breeder Pullet Houses*. Poultry Housing Tips. Volume 10 Number 3. Cooperative Extension Service, The University of Georgia, Athens, GA 30602
- Wineland, M.J. 1990. *Light Management for Broiler Breeders*. Poultry Science Facts. North Carolina Agricultural Extension Service, Poultry Science Department, N.C. State University, Raleigh, NC 27695

TERMOTECNICA PERICOLI S.R.L.
LTP

Test:

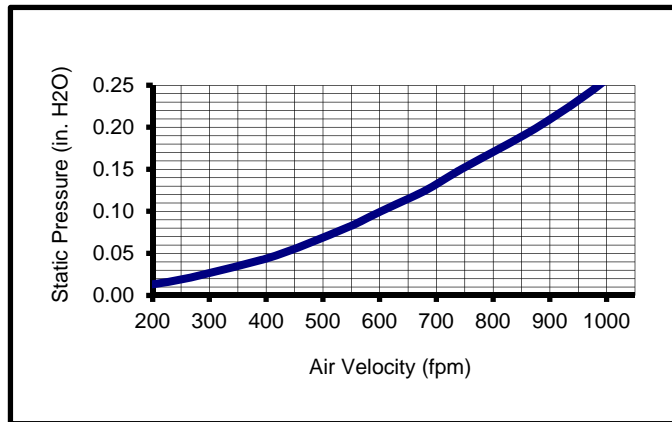
12347

Light trap description:

Plastic vertical vanes spaced at 1.1"
10" deep

Light reduction factor:

2,200,000:1



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PERIDARK 130

Test:

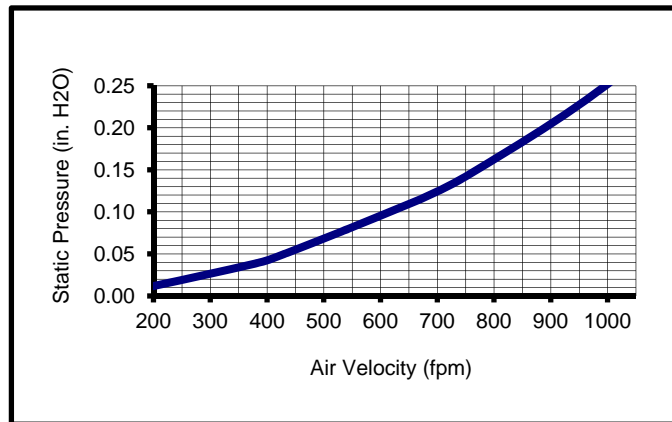
12348

Light trap description:

Modular plastic
5.1" deep

Light reduction factor:

5,600:1



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PERIDARK 260

Test:
12349

Light trap description:
Modular plastic
10.2" deep

Light reduction factor:
13,000,000:1

