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


ACME
LTP Poultry light trap

Test: 02218

Light trap description:
Plastic vertical vanes
spaced on 0.75" centers

Light reduction factor:
28,000,000:1

BRENTWOOD INDUSTRIES
LT CDX150

Test: 00126

Light trap description:
Plastic sectional design
11” thick x 12” wide sections

Light reduction factor:
68,000,000:1

BRENTWOOD INDUSTRIES
LT DE120

Test: 00125

Light trap description:
Plastic sectional design
11.5” x 12” wide sections

Light reduction factor:
1,900,000:1
DANDY MAX FLOW

Test: 12160

Light trap description: Plastic vertical vanes spaced at 0.8”

Light reduction factor: 7,000,000:1

DDI BROWNOUT 1.1

Test: 01066

Light trap description: Plastic vertical vanes spaced at 1.1”

Light reduction factor: 4,000,000:1
DDI
BROWNOUT 1.0

Test: 01067

Light trap description: Plastic vertical vanes spaced at 1.0”

Light reduction factor: 8,500,000:1

DDI
SUPERDARK 0.7”

Test: 01068

Light trap description: Plastic vertical vanes spaced at 0.7”

Light reduction factor: 85,000,000:1

HIRED HAND
HHI BLACKOUT

Test: 04340

Light trap description: Plastic vertical vanes spaced at 0.75", 9.8" deep

Light reduction factor: 14,000,000:1
HIRED HAND
HHI BROWNOUT

Test:
04341

Light trap description:
Plastic vertical vanes spaced at 1", 9.8" deep

Light reduction factor:
5,600,000:1

RED TRUCK SUPPLY

RTS 26

Test:
10469

Light trap description:
Plastic vertical vanes spaced at 0.8", 9" deep

Light reduction factor:
26,000,000:1

RED TRUCK SUPPLY
RTS BROWN

Test:
12738

Light trap description:
Plastic vertical vanes spaced at 0.8", 5" deep

Light reduction factor:
21,000:1
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

TERMOTECNICA PERICOLI S.R.L.
PERIDARK 130

Test:
12348

Light trap description:
Modular plastic
5.1” deep

Light reduction factor:
5,600:1
TERMOTECNICA PERICOLI S.R.L.
PERIDARK 260

Test:
12349

Light trap description:
Modular plastic
10.2” deep

Light reduction factor:
13,000,000:1

POULTRY LIGHT TRAP MANUFACTURERS

Acme Engineering & Manufacturing Corp.    ph. (918) 682-7791
P.O. Box 978                                    www.acmeag.com
Muskogee, OK 74402

Brentwood Industries                          ph. (610) 236-1100
P.O. Box 605                                    www.brentwoodindustries.com
Reading, PA 19603-0605

Dandy                                         ph. (800) 222-4166
P.O. Box 409                                    email: gmsales@i-america.net
Statesville, NC 28687-0409                      http://dandypullethouse.com

DDI                                           ph. (563) 557-0385
221 W. 9th Street                               www.ddicorp.com
Dubuque, IA 52001

Hired Hand, Inc.                               ph. (800) 642-0123
P.O. Box 99                                     www.hired-hand.com
Bremen, AL 35033

Red Truck Supply                               ph. (336) 824-4182
P.O. Box 417                                    www.redtrucksupply.com
616 Andrew Hunter Rd.
Franklinville, NC 27248

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