

LED Bulbs and Energy Savings for Poultry Production

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Lighting is a significant energy cost for poultry producers. The advent of solid wall houses and dark out curtain houses has increased the need for adequate lighting. Recent improvements in LED (light emitting diode) bulbs for poultry houses are allowing the replacement of traditional incandescent bulbs with new energy efficient LED bulbs. However, there are a variety of LED options and care must be taken to ensure that the proper choice is made.

To compare LED bulbs to incandescent bulbs and to verify the potential energy savings, the broiler demonstration houses at the Hill Farm Research Station were outfitted with separate electric meters, and one house was fitted with LED bulbs while the other house was fitted with conventional incandescent bulbs.

The LED bulbs used were Overdrive 6 W A19 5000K with a cost per bulb of \$11.80. A total of 50 LED bulbs were installed in the house. Total cost of LED bulbs was \$590.

Thus far, four flocks have been evaluated and the results are below.

Flock number	LED KWH used	Incandescent KWH used	savings
21	19075	21425	\$180.28
22	6801	8502	\$130.52
23	6722	8321	\$114.50
24	11983	10065	\$142.92
Total			\$568.52

*KWH x \$0.761= cost

After approximately one year and four flocks, the energy savings has almost paid for the cost of the new bulbs. At this point, none of the new LED bulbs have needed replacement.

Bird performance for the four flocks indicates a slight increase in bird weight for birds reared in the house fitted with LED bulbs.

Points to consider before buying LED lights:

1. Use bulbs that have been tested under commercial conditions and that can dissipate heat
2. Determine light intensity to be sure adequate lighting is provided
3. Be sure wiring, sockets, and dimmers are compatible for LED lights
4. Clean the bulbs between flocks