



Raise your best.

**WHAT MAKES THE BEST
BARNs WORK
FOR BIRDS AND PRODUCERS:
YOUR ALL-IN-ONE POULTRY BARN PRIMER**



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Ask any poultry producer what number matters most as they look at the efficiency of their operation, and one number will keep coming up - feed conversion efficiency - because the goal of every grower is to create an ideal environment that will make birds want to turn pounds of feed into pounds of meat.

The best way to create the ideal environment for birds is to focus on your poultry barn systems, including ventilation, feeders and waterers and lighting.



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CHAPTER 1

VENTILATION

VENTILATION

Good ventilation is an important part of poultry feed conversion efficiency. Temperature and air quality are significant for keeping the birds comfortable and eating well, so keeping your barns well ventilated can be a profit producer for your operation.

There are two primary types of ventilation setups:

1. Power ventilation

- Keeps the barns warm
- Exhausts CO₂ and other gasses

With power ventilation, when the chicken house fans come on, the vent doors are pulled open, and air is brought in through the inlets. That air mixes at the peak of the house, creating turbulence and pushing the warm air down. This gives the cool damp air that just came in a chance to warm up before it falls down to bird level.



VENTILATION MAINTENANCE

KEEP YOUR BARN VENTILATION RUNNING AS SMOOTHLY AS THE DAY IT WAS INSTALLED:

- Maintain the belts on your fans and ensure proper placement
- Clean fans and shutters of dust and debris
- Check vent and tunnel doors for the proper seal
- Keep cooling equipment clean and free of wear
- Use sensors to ensure you're getting the temperature you've set up

2. Tunnel ventilation

- Keeps the houses cool
- Continually brings in fresh air

With tunnel ventilation, air is pulled by fans through the poultry house. These houses are often about 500 to 600 feet long, with 5- to 6-foot tall tunnel doors on one end. While there is sometimes water on the cool cells, wind speed is the primary method used to cool the house and the birds inside. The wind chill from 14 fans can make an 80 degree poultry house feel like 70-72 degrees.

A large flock of white chickens is gathered in a farm setting. Several red, multi-tiered feeders and waterers are visible, with chickens pecking at the feed. The background is slightly blurred, showing more chickens and farm equipment. A large red hexagonal graphic is overlaid on the right side of the image.

CHAPTER 2

FEED AND WATER

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FEED AND WATER

If you want to get the most out of your flock, they have to convert feed well, and in order to keep them coming back to the feed pan and the waterer, they need to be happy with what's in front of them.

Presentation Matters

Just like us, birds are fairly visual about what they consume. It's important to keep feed and water fresh and clean. If the birds don't like the presentation, they won't eat as much and won't grow as efficiently.

Accessibility is Key

The lip of your feeder or waterer should be even with the bird's back. This prevents spilled feed and waste. This also means height adjustments will need to be made to feeders and waterers as birds develop.



All about the Flow

Birds like to have feed available on demand, 24/7 - in fact, feed availability is essential for good feed conversion. Good feeder flow and spacing throughout your barns, along with a good control pan, is key to having the right flow.

POULTRY FEED MANAGEMENT

A robust poultry feed management system can help you predict when you will need more feed and can alert you when it's time to call for a delivery. The system can even connect with integrators to let them know that you'll need a delivery soon. Integrators can also use the system to monitor all the barns they deliver too - helping them plan routes that will make their deliveries more efficient as well.

"Integration with bin scales is important for consistent poultry feed management. Cumberland bin scales are accurate to within one percent the actual weight of the feed in the bin. So, producers have a better idea of where they stand throughout the production cycle. This also cuts down on what can be an often inaccurate practice of visually checking the feed bin." - Tom Kain, District Sales Manager

The background image shows a vast, industrial-scale poultry farming facility. It features numerous rows of cages, each equipped with a red feeder and a water dispenser. The facility is covered by a large, translucent, ribbed roof structure. The overall scene is dimly lit, with the primary light source being the overhead artificial lighting.

CHAPTER 3

LIGHTING

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LIGHTING

Just like ventilation and feeder setups, proper poultry barn lighting also impacts feed conversion and growth. A solid lighting program leads to increases in bird weight and maintains consistency in the lifespan of the animal.

A poor poultry barn lighting system can inhibit bird growth, and it can also cause an animal to grow too fast, creating a host of issues for bird health.

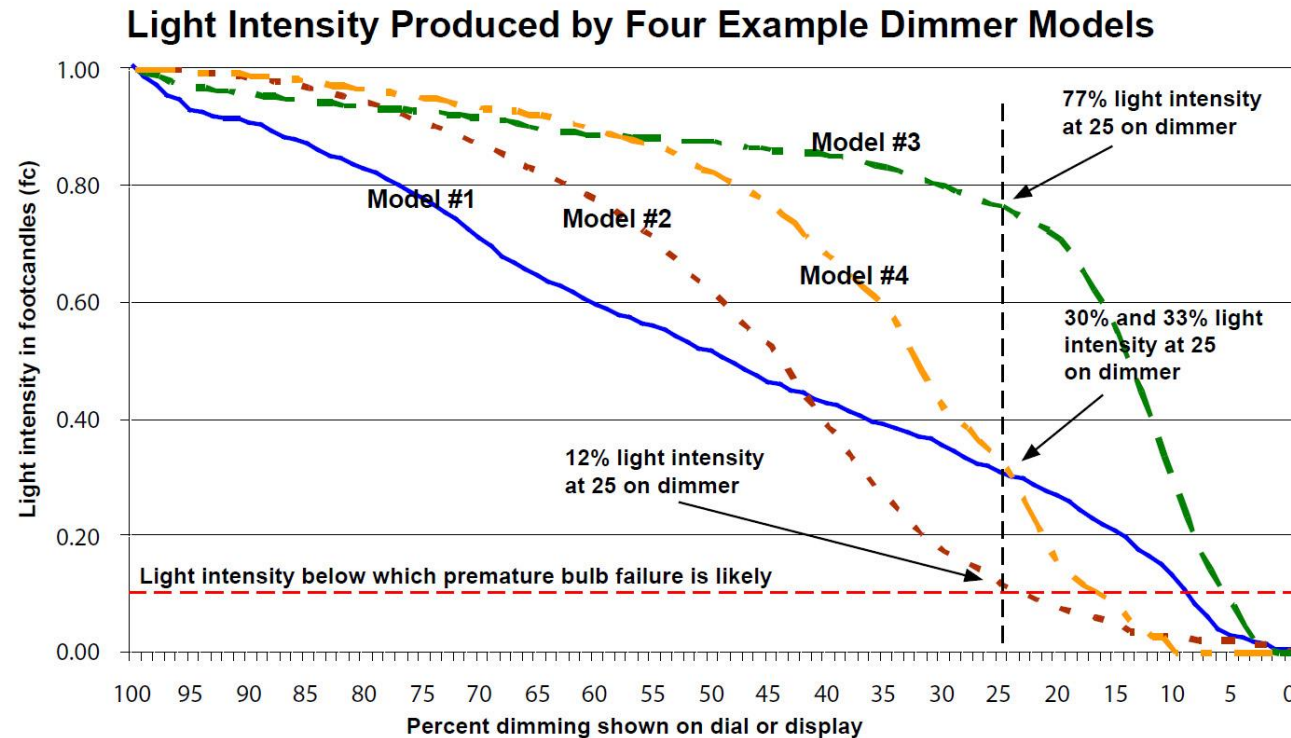


THERE ARE THREE KEY CONSIDERATIONS FOR POULTRY BARN LIGHTING:

Intensity: How many foot candles of light you have in your barn

Spectrum: Color, which poultry see differently than humans

Duration: How long the lights are on, with the goal of creating a natural sunrise and sunset pattern that benefits bird welfare





GOOD BULBS MAKE ALL THE DIFFERENCE

In the past, LED bulbs were simply too expensive for most poultry producers to use. But today's LED bulbs are more affordable, and the energy savings they provide means the cost can be recouped fairly quickly. The biggest watch out today is that producers should avoid buying low quality LED bulbs for poultry barns. Low quality LED bulbs can negate the positive impact of a quality dimmer and a well thought out lighting program.

CHOOSING THE RIGHT DIMMER

A QUALITY LIGHTING DIMMER IS AN IMPORTANT TOOL FOR ANY POULTRY BARN. HERE ARE THREE KEY CHARACTERISTICS OF THE BEST ONES:

1. Increasing and decreasing intensity: Find a dimmer that gives consistent control from high to low end.
2. Minimize flicker and flash: Some dimmers are designed to minimize flicker, by skipping over the voltages that cause the flashes.
3. Bulb versatility: Select a dimmer that allows for flexibility among bulbs, so that a lower quality bulb won't have any significant impact on your production.



CHAPTER 4

SMART CONTROLLERS

SMART CONTROLLERS

It's important for poultry producers to consider new technologies that can make an operation more efficient. Having a connected poultry barn makes it easier to develop programs that keep your flock in the ideal environment. The controller can not only automate your fans, heaters, feeders, bins, etc, it can also help you address potential equipment issues.

With a smart controller, producers can monitor and adjust barn systems on the go. A smart controller - such as the EDGE 2 - can tie together your barn's most essential functions and put the power right in the palm of your hand. By collecting data from your EDGE controller, you track the productivity of your flock and identify when to perform prescriptive maintenance - limiting your down time waiting for repairs in the aftermath of a breakdown. Cumberland is developing practical products that can improve your poultry operation. Our goal is to help producers have peace of mind as they run a successful poultry operation 24 hours a day, 7 days a week, 365 days a year.

SENSORS

SENSORS OFFER CLARITY AROUND WHAT'S HAPPENING ACROSS THE ENTIRE BARN, SO YOU CAN MAKE THE RIGHT MANAGEMENT DECISIONS. SOME OF THE SENSORS MOST COMMONLY USED IN TODAY'S MOST EFFICIENT POULTRY BARNs INCLUDE:

- Temperature Sensor
- Humidity Sensor
- Static Pressure Sensor
- Ammonia (NH3) Sensor
- CO2 Sensor
- Wind Speed Sensor

Cumberland understands what it takes
to keep your birds happy. Let our experience and
knowledge help take your operation to the next level.

Want to learn more about how Cumberland can
help you develop the ideal bird environment?
Visit us at CumberlandPoultry.com



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