

Ammonia Sensor for Livestock Production

Short term spikes in ammonia levels negatively and permanently impact young chickens. Prolonged exposure to elevated levels reduces adult growth rates and feed conversion rates. The National Chicken Council's Animal Welfare Guidelines suggest limiting ammonia levels to 25 ppm and recommend a maximum 10 ppm time-weighted average. Ammonia is primarily mitigated through ventilation systems.

However, because temperature plays such an important role in affecting animal growth, it is the critical variable affected by ventilation. Therefore, the CAFO industry is seeking a real-time ammonia monitor to enable optimal ventilation with respect to both temperature control and ammonia mitigation.

Also, the Environmental Protection Agency may soon increase the need for monitoring solutions. The EPA is considered policy that requires reporting, and therefore monitoring, of ammonia emissions from CAFO facilities.

Current ammonia monitoring solutions include labor-intensive manual test kits, electrochemical sensors that have proven unreliable or intolerant to the harsh CAFO environment, and very expensive optical devices (~ \$40K per unit).

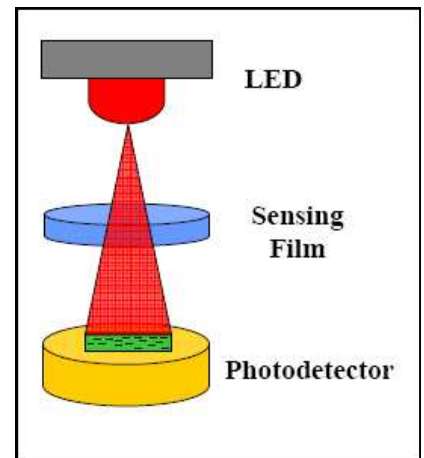


Eltron's Solution

Eltron's ammonia monitor provides growers the data they need to properly manage their ventilation systems, enabling them to decrease costs by optimizing temperature while increasing yield by minimizing ammonia exposure. The Eltron ammonia monitor employs LED-generated light projected through a proprietary sensing film that is optically analyzed by a photodetector to determine ambient ammonia concentrations in a continuous air stream. Analysis results are relayed to the ventilation system, which responds appropriately to tune environmental conditions for optimal animal growth.

Features include:

- 0-300 ppm range with accuracy of 1 ppm
- Real-time analysis – less than 1 minute lag
- Stable in dusty environments



Contact Us

To discuss the possibility of entering into a business relationship with Eltron, contact the Business Development Group at business@eltronresearch.com.