Author	Technology	Research	Key Results	Limitations
[21]	IoT/Environmental monitoring	Development and validation of low-cost IoT system for poultry farms	Correlations >0.90 between prototype and calibrated sensors. Cost 13% of conventional. 97.8% effectiveness in transmission.	Limitations in ammonia measurement at high concentrations. Dependence on internet quality.
[22]	Integrated IoT/ML System	Development of intelligent mobile application with image processing and CNN	Dataset as a basis for training and testing. Implementation of image processing and CNN techniques.	Insufficient quality and diversity of data. Need for exploration with more extensive datasets.
[23]	Environmental control/DHT22/ESP8266	Implementation of temperature/humidity control system	Precise control of environmental parameters	Monitoring limited to basic variables
[24]	Environmental monitoring/IoT	System with mobile app for control and visualization	Automatic environmental control with intuitive interface	Validation in single installation
[25]	Poultry management/IoT/Monitoring	Experimental design of automated system for regulation and feeding	Automated IoT system with smart windows and integrated sensors to improve breeding conditions	Limited testing period. Dependence on predetermined configurations without advanced ML customization.
[26]	IoT/ML/Monitoring	Experimental implementation of system with sensors	Integrated system with measurement of environmental parameters and animal health. Interface for visualization.	Tests in a single pilot farm. Limited validation period. Insufficient integration with ML algorithms.
[27]	Database Design/IoT	Development of database model for poultry management in Baltic farms	Comprehensive data model for regulatory requirements and optimization. Cloud architecture with MQTT agent. CO2/NH3 sensors implemented.	Regional implementation (Baltic). Primarily environmental focus. Needs adaptation for different types of production.
[28]	Precision Livestock Farming/IoT	Literature review on PLF applications in animal production systems	PLF-Industry 4.0 integration for real-time monitoring. Technologies: IoT sensors, cloud, big data, 5G networks. Applications in different species.	Focus on research vs. commercial implementation. Limited economic analysis. Insufficient addressing of privacy/security.
[29]	Poultry management systems	Development of Aihen platform with production prediction using XGBoost and IoT sensors	Platform with: IoT environmental monitoring, XGBoost prediction, web/mobile interface, recommendations based on SHAP values.	Limited historical data. Inconsistent data. Sensor variability between farms.
[10]	Edge Computing, WSN, IoT Sensors	Experimental development	Real-time environmental monitoring system with autonomous control capability	Limited to single implementation case
[5]	IoT/Environmental monitoring	Implementation of IoT system with sensors, LoRaWAN gateway and cloud platform. Collection for 1 week/30min.	Effective control of parameters (temp 29-34°C, humidity ~70%, CO2 max 1100 ppm). SMS alert system.	Limited period (1 week). Study in a single farm. Without automatic control. Interferences from building structure.
[30]	IoT/Environmental control	Development and validation of monitoring/control system with prototype	Successful monitoring with DHT22 vs traditional thermometer. Automatic fan	Validation in small prototype. Only temperature/humidity.

Author	Technology	Research	Key Results	Limitations
		and threshold implementation	control. Functional Blynk interface.	Dependence on internet.
[31]	Poultry monitoring/ML/IoT	Systematic literature analysis on CV and ML for disease detection	Identification of technologies for automatic monitoring. Analysis of AI/IoT for poultry health control.	Lack of literature on trajectory/movement of chickens. Without experimental validation.
[32]	IoT/Precision agriculture	Implementation of 4-layer IoT platform during 500 days with analysis and visualization	Data integrity >94.5%. Validity >99% for temperature/humidity/CO2. Robust system against interruptions.	No wireless nodes. Problems with CO2 sensors due to high humidity. Deficiencies in anomaly detection.
[33]	IoT/ML/Prediction	Predictive modeling for poultry growth	90% accuracy in growth predictions	Requires large amount of data
[34]	ML/Monitoring	Implementation of hybrid LSTM-RF model for monitoring	95% accuracy in disease detection	Limited to a specific type of farm
[35]	Precision agriculture	Development of algorithm for processing limited data with fusion and ML	Generalized algorithm for limited data management. Evaluation of ML models (LSTM, CNN, XGBoost, RF) for prediction.	Limited infrastructure. Insufficient data for optimal training.
[36]	IoT/ML	Implementation and evaluation of integrated system with ML algorithms	Decision Tree obtained better performance with 95% accuracy	Validated only in pilot farm
[37]	Cybersecurity in IoT	Implementation of hybrid deep learning model using RT-IoT2022	>99.6% precision/recall/F1-score in threat detection (MQTT Publish, DOS SYN Hping). Superior to traditional methods.	Need for optimization for large-scale environments. High computational requirements.