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DEVELOPING A HERBAL ALTERNATIVE TO SOLVE THE PROBLEM OF ANTIMICROBIAL RESISTANCE IN BROILERS DURING WET SEASON IN SOUTHWEST NIGERIA

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GOAL

To evaluate a herbal antibiotic mixture as an alternative to synthetic antibiotics in broiler production during the wet season.

BACKGROUND



Antibiotic ban and antimicrobial resistance threaten poultry health, consumer safety and the environment.



Herbal medicine offers a natural, sustainable and residue-free alternative.

WHY HERBAL?



Boosts immunity and disease resistance



Improves growth and feed efficiency



Safe, natural and environmentally friendly



Helps reduce antimicrobial resistance



MATERIALS & METHODS



96 day-old Abiar Acres broilers (7 days old) Randomized Completely Randomized Design)



Pseudomonas aeruginosa (PA) isolated from infected poultry and used to induce infection



Herbal mixture: Ginger, Cayenne pepper, Turmeric, Aloe vera, Pawpaw leaves, Black pepper + Molasses (fermented 7 days)



Oral infection with PA (2 ml daily for 5 days)



Data collected for 5 weeks: Performance, Haematology, Serum parameters

EXPERIMENTAL TREATMENTS

G1 CONTROL



Not infected with PA
No antibiotics

G2 SYNTHETIC ANTIBIOTIC



Infected with PA
+ 1 g/L synthetic antibiotic

G3 HERBAL 10 mL/L



Infected with PA
+ 10 mL/L herbal antibiotic

G4 HERBAL 20 mL/L



Infected with PA
+ 20 mL/L herbal antibiotic



Duration: 5 weeks



4 replicates
6 birds/replicate



Wet season (July–September)
Temperature & Humidity monitored

KEY RESULTS

HIGHEST FINAL BODY WEIGHT



1,977.44 g
G4 (Herbal 20 mL/L)
Lowest: G1 (1,692.63 g)

HIGHEST BODY WEIGHT GAIN



1,731.19 g
G4 (Herbal 20 mL/L)
Lowest: G1 (1,448.99 g)

LOWEST FEED INTAKE



2,165.39 g
G3 (Herbal 10 mL/L)
Highest: G1 (2,259.84 g)

BEST FEED CONVERSION RATIO



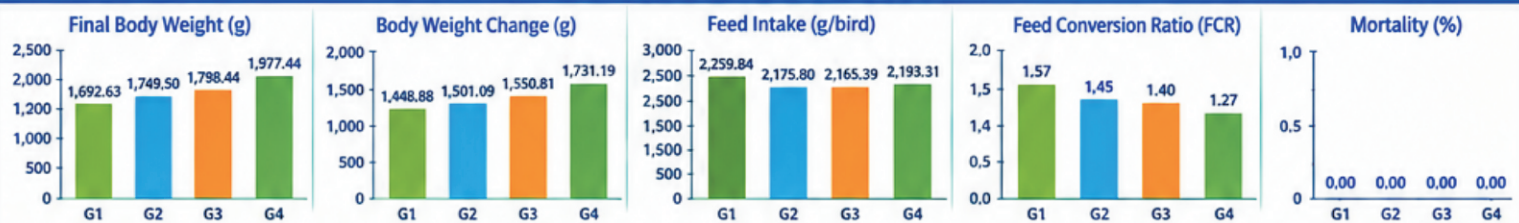
1.27
G4 (Herbal 20 mL/L)
Highest (poorest): G1 (1.57)

MORTALITY



0%
Across all groups

PERFORMANCE OF BROILERS



a,b,c,d Means on the same parameter with different superscripts are significantly different (P<0.05).

G1 = Control (Not infected, No antibiotic) | G2 = Infected + 1g/L Synthetic Antibiotic | G3 = Infected + 10 mL/L Herbal | G4 = Infected + 20 mL/L Herbal

CONCLUSION



Herbal antibiotic treatment at 20 mL/L significantly improved growth performance and can effectively replace synthetic antibiotics in broiler production.

POWER OF NATURE: KEY HERBAL INGREDIENTS & BENEFITS



GINGER

Improves digestion and gut health; supports growth and immunity



CAYENNE PEPPER

Stimulates appetite, boosts immunity, reduces heat stress, improves FCR



TURMERIC

Natural antibiotic and anti-inflammatory; enhances growth and immune response



ALOE VERA

Supports gut health; improves growth, and blood biochemical profile



PAWPAW LEAVES & BLACK PEPPER

Source of nutrients and bioactive compounds that support health

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