

## STUDY ON THE POTENTIAL USE OF TOMATOES AND THEIR BY-PRODUCTS IN POULTRY NUTRITION

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**Abstract:** Tomato processing by-products (pomace, peels and seeds) are sustainable feed ingredients rich in nutrients and antioxidants. At moderate inclusion levels, they can improve egg and meat quality, enhance oxidative stability and support poultry health, while contribute to waste valorization and circular economy in poultry production.

**Keywords:** bioactive compounds, broiler chickens, egg quality, laying hens, meat quality.

### AIM of the work

- **Bioactive Profile:** What is in the tomato by-products?
- **Performance:** Does it improve poultry growth?
- **Quality:** How does it affect the final product?
- **Sustainability:** How does this reduce environmental impact?

### Materials & method

Systematic search of Web of Science, Scopus, PubMed, and Google Scholar studies.

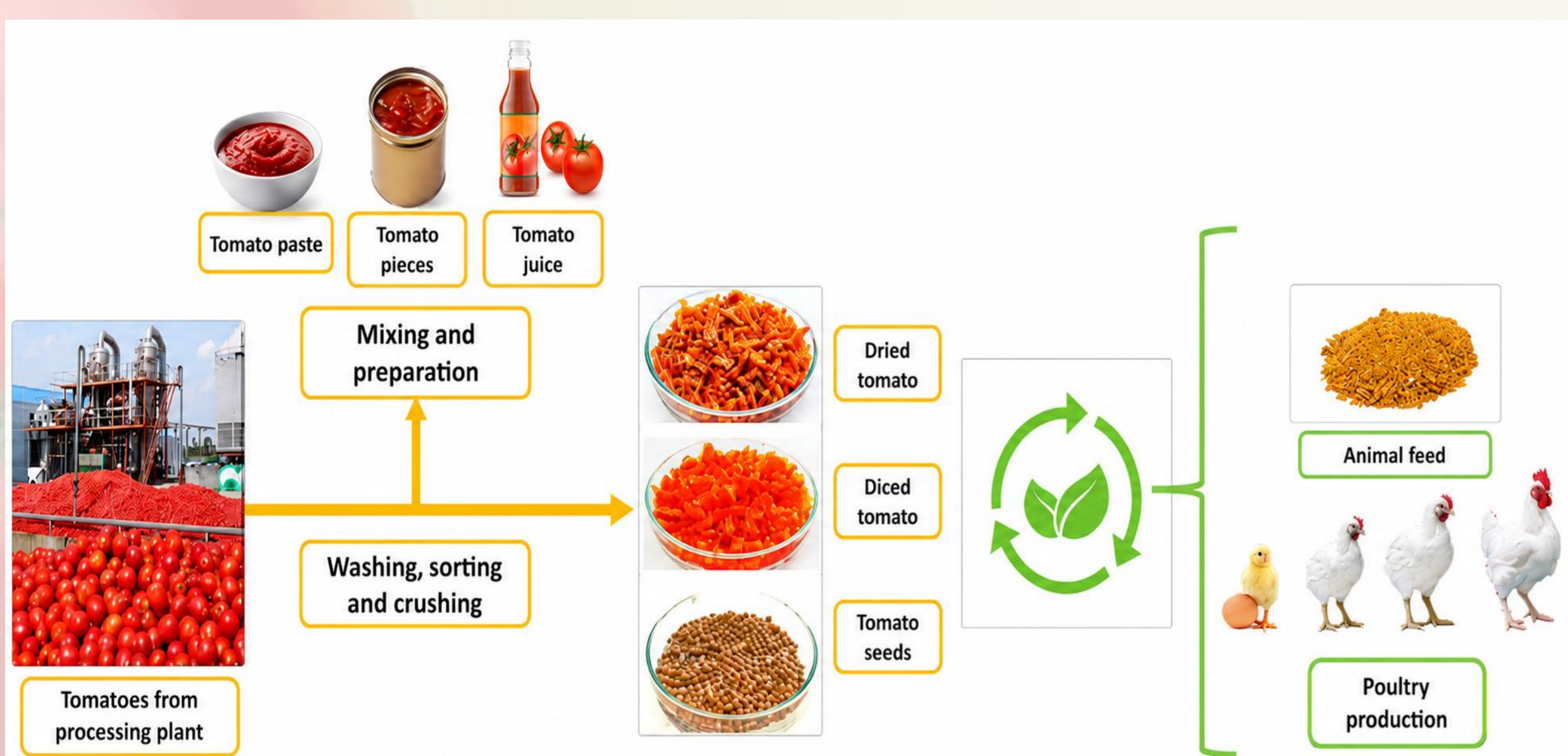


Fig. 1. Tomato processing and inclusion in poultry diets as an alternative and sustainable feed solution (Silva, 2018).

### Results & discussions

Optimal inclusion level (tomato by-products): 5–15%;  
 Overall effect: no negative impact on poultry performance;  
 Laying hens - egg production: stable / slight improvement (moderate levels)

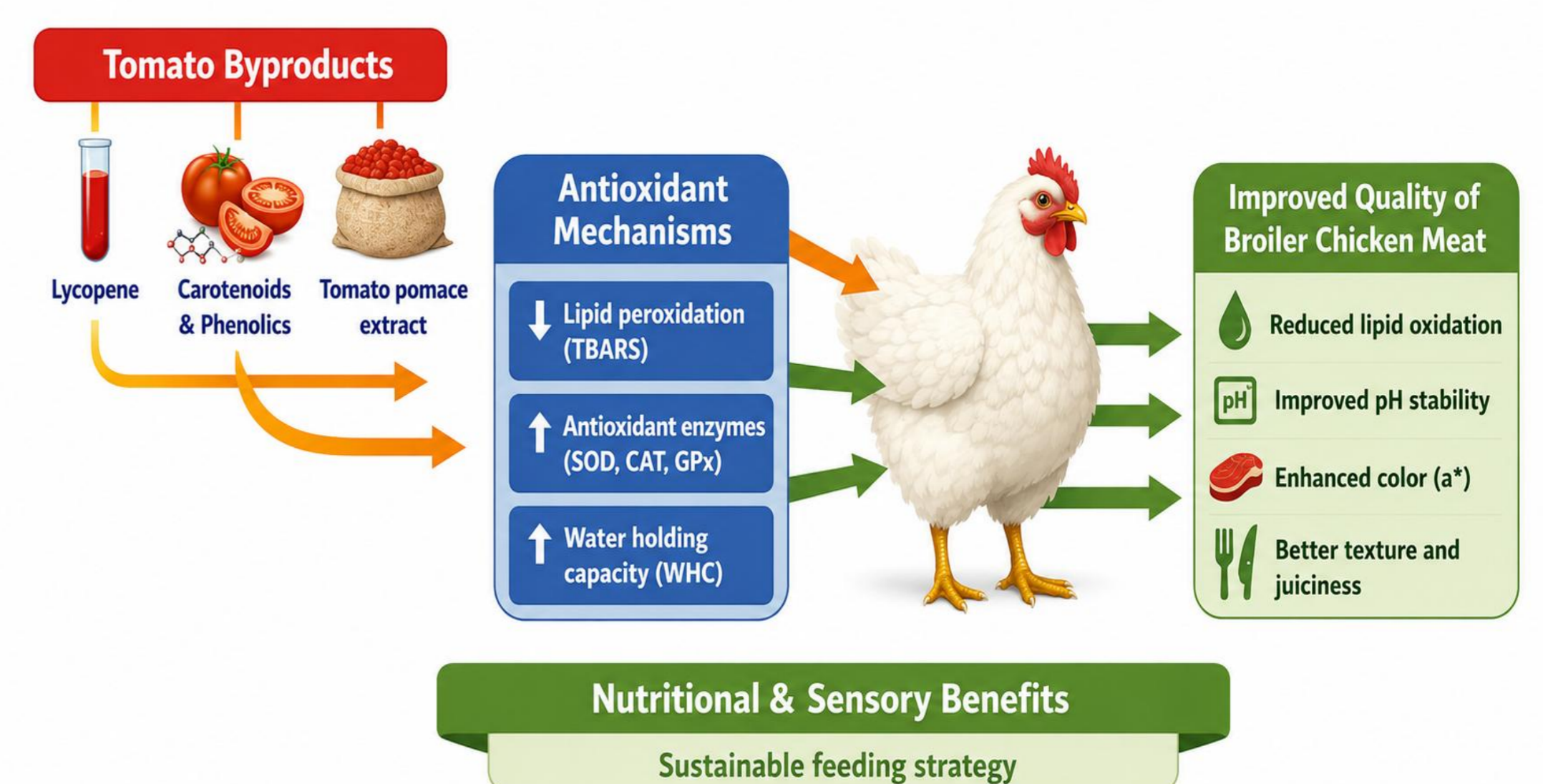


Fig. 2. Effects of tomatoes and tomato by-products on broiler meat quality.

- yolk color: improved
- carotenoids: increased
- Broilers - 5–10%: neutral or positive effects;
- high levels: negative effects possible
- Product quality: ↓ lipid oxidation (eggs, meat)
- ↑ antioxidant status; effect linked to lycopene + carotenoids
- Main limitation: high fiber content
- variability of by-product composition.

**Key takeaway:** Valorization of tomato by-products in poultry feed a promising sustainable strategy, but further optimization and standardization are needed to maximize its practical benefits.