

Functional amino acid supplementation improves the performance of piglets challenged with *Salmonella*.

ASAS EDITORIAL

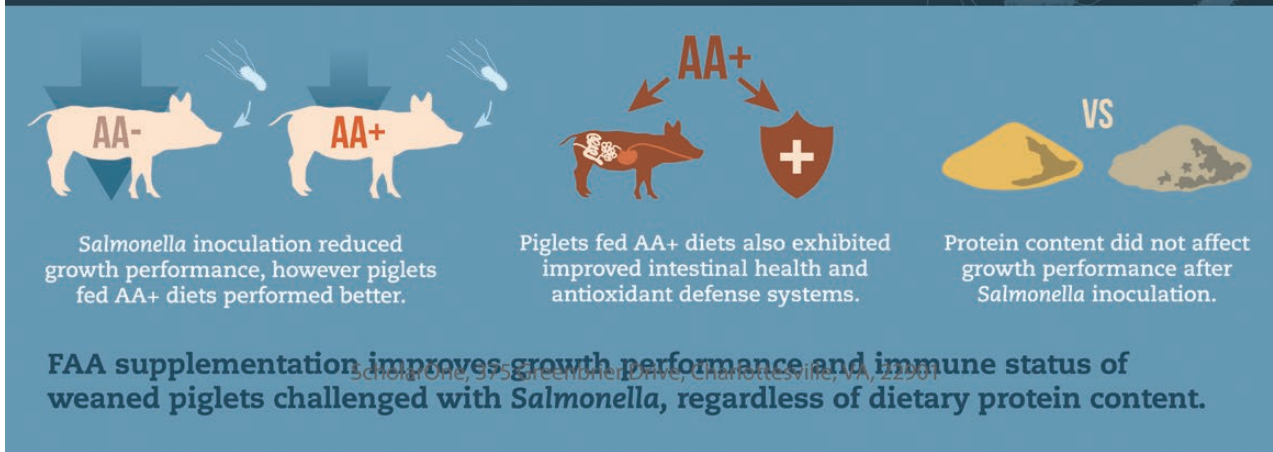
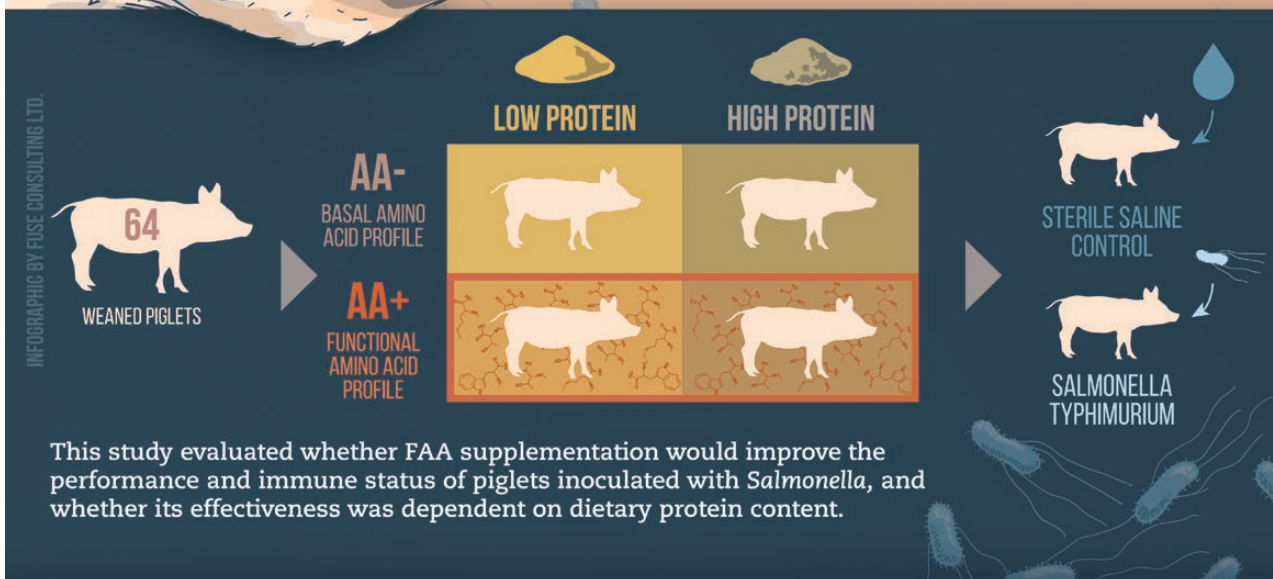


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Gut pathogens like *Salmonella* can compromise livestock performance, and weaned piglets are particularly susceptible as their bodies adapt to solid feed. High dietary protein may worsen the impacts of gut pathogens, and piglets are typically fed reduced-protein diets supplemented with essential amino acids to reduce these impacts while still supporting growth.

Certain key amino acids also play a functional role in supporting the immune response to gut pathogens. However, **it is unknown whether additional supplementation with functional amino acids (FAA) will improve the performance of weaned piglets.**



INFOGRAPHIC

Functional amino acids, growth and immunity

Functional amino acids (FAA) are those that elicit a metabolic response independent of their necessity for protein synthesis. Supplementation of FAA may offset growth deficits (Ji et al., 2019; Moreira et al., 2020), boost intestinal immunity (Ren et al., 2020) and improve blood flow to tissues and organs (Peine et al., 2020) through mechanisms that include activation of cellular signaling modules (DeBoer et al., 2018; Yan et al., 2018). The piglet often is faced with health challenges that include exposure to pathogens. A recent study reports that FAA can alleviate partially the negative impacts of *Salmonella* infection in weaned piglets (Rodrigues et al., 2020). These results provide further evidence of FAA as critical modifiers of intestinal health and antioxidant state.

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