

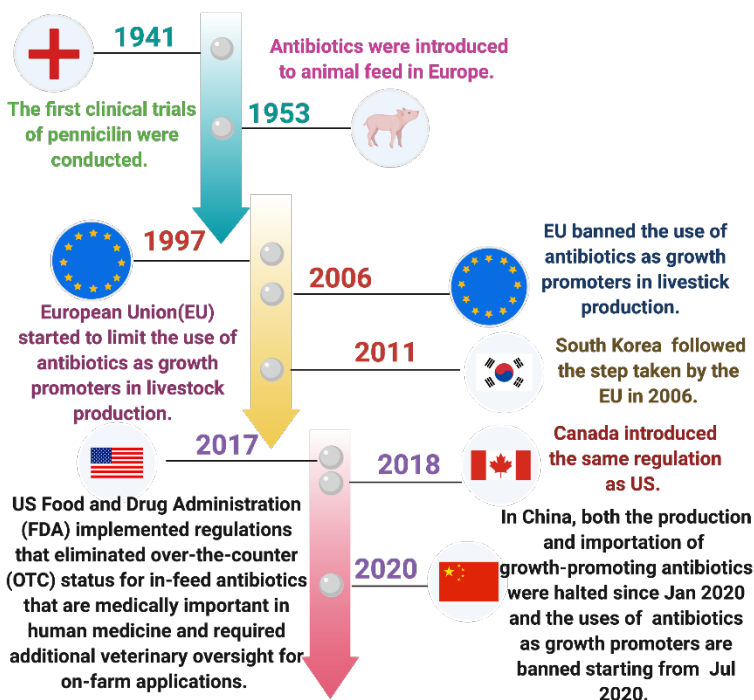
Gut Health

Gut health is a combination of effective digestion and absorption of food, the absence of disease, normal and stable intestinal microbiota, effective immune status, and a state of well-being. A healthy gut can help prevent diseases in pigs and increase pig performance.

Antibiotic Resistance

Global antimicrobial usage in pig production has increased proportionally to meet the high demand for animal protein. However, the overuse of antibiotics has led to the development of certain bacteria that are able to resist the effect of antibiotic treatments. This could potentially have negative effects on pig health (gut microbiome), farm productivity, and human health if antibiotics no longer work to treat infections.

Regulatory Changes on Antibiotic Usage in Swine Production

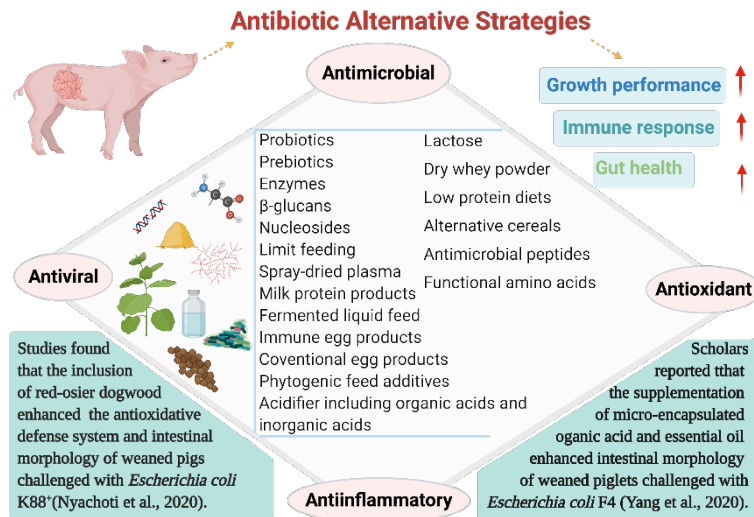


Best Practices for Optimizing Gut Health in Swine

Optimal practices stimulating gut development and health in pigs can be categorized into two groups: 1) antibiotic alternative in feed additives and 2) managing feed quality strategies.

Antibiotic Alternative Additives

Antibiotic alternative additives improve growth performance and gut mucosal immunity, and inhibit enteric pathogenic bacterial proliferation. As these alternatives rarely equal antibiotics in their effectiveness, a combinational strategy of antibiotic alternatives with multiple mechanisms should be adopted.



Managing Feed Quality Strategies

Feed quality affects pig health and in turn pig productivity. There are several ways to improve feed quality:

◆ Limit anti-nutritional factors

It is good practice to evaluate feed ingredients for anti-nutritional factors like tannins and trypsin inhibitor in order to determine an acceptable level of dietary inclusion.

◆ Use of feed processing

Feed processing like expansion, pelleting, and/or extrusion are effective strategies for reducing feed contamination with non-spore-forming bacteria and have positive effects on nutrient availability by increasing the digestibility of the diet. Feed processing also can benefit the intestinal microbiota by changing the microbiota composition.

◆ Safe feed storage

It is imperative to store feed properly to prevent it from contamination by mycotoxins. Improper storage will decrease the nutritional content of the feed as well as its shelf life.