

(L-R) Dr. Kees de Lange and Anooshrokh Rakshandeh, Graduate Student.

MARTIN SCHWABE



by MIKE MULHERN

ing pigs," a group of University of Guelph scientists, led by Dr. Kees de Lange, is already seeing that benefits could be gained by adding methionine and cysteine to feed.

"When an animal is sick," de Lange says, "its nutrient utilization for different body functions changes. They likely need more of some specific amino acids in order to make the immune response work more effectively. It is common practice to add synthetic lysine to pig diets and now we're considering adding other synthetic amino acids, in particular the sulphur amino acids methionine and cysteine, or tryptophan."

The researchers have been studying grower-finisher pigs. To investigate the impact of immune system stimulation on protein and amino acid digestibility, they fed three different levels of sulphur amino acid to pigs. Pigs were injected with increasing amounts of an immune system stimulant. Whole body nutrient balances were then determined in individually housed pigs and digestive contents undergoing digestion were sampled from the distal ileum to measure the apparent ileal digestibility of nutrients.

The team found that immune system stimulation increases retention of sulphur from methionine and cysteine in non-protein pools in the pig's body. These findings reflect an increased need for dietary sulphur amino acids to support the immune response during immune system stimulation in growing pigs. Somewhat surprisingly, the researchers did not find an effect of immune system stimulation on amino acid digestibility.

Adding amino acids to feed supports immune response

Studies indicate that the addition of dietary sulphur amino acids results in improvements in body weight gain as the immune system is stimulated

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Bolstering the immune response by adding certain amino acids to feed may be an effective and inexpensive way to improve herd health.

Midway through a three-year study on the "impact of immune system stimulation on amino acid utilization in grow-

De Lange notes that the addition of the amino acids resulted in improvements in body weight gain in the studies at the University of Guelph. While the researchers are studying grower-finisher pigs, the results will apply to newly weaned and starter pigs as well.

He says that researchers will next "have a close look at another amino acid – tryptophan – that is involved in immune responses as well." In addition to de Lange, the University of Guelph research team from the Department of Animal and Poultry Science includes A. Rakhshandeh, N. A. Karrow, S. P. Miller and J. K. Htoo.