

ZOOTECHNICAL IMPROVEMENT IN WEANED PIGS BY APPLICATION OF THE PHYTOGENIC FEED ADDITIVE FRESTA® F

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Introduction

Phytogetic Feed Additives are plant-derived products, consisting of herbs and spices and extracts thereof, which are increasingly used in livestock production due to their beneficial effects on digestive and immune functions and hence, animal performance. In general, within the EU feed additives have to be registered. Registration can be obtained in different sections including e.g. flavors, where most phytogetic products can be found, or zootechnical additives for which products are accurately evaluated by EU authorities.

The phytogetic feed additive FRESTA® F is a standardized mixture of essential oils of caraway and lemon, spices and herbs. The product is especially designed for weaned piglets and is the first phytogetic product registered as zootechnical feed additive under EC 1831/2003.

Materials and Methods

- Five efficacy studies where FRESTA® F at min. recommended dosage (250 g/t) was compared with control
- Two safety studies where FRESTA® F at max. recommended dosage (400 g/t) and 5- and 10-times max. recommended dosages was compared with control
- All diets without antibiotic growth promoters or AGP alternatives, feed and water *ad libitum* available
- Prestarter day 1-14 and starter day 15-42 post weaning
- 10-21 repetitions per treatment and trial, 4-10 piglets per repetition
- Body weight, feed intake and feed conversion on day 1, 14 and 42
- Data analysis with SAS as complete randomized design
- Proc mix: treatment = fixed effect; trial = random, phase = repeat for meta-analysis of efficacy studies; proc glm: treatment = fixed effect for individual safety studies

Results

- Feed intake of FRESTA® F fed piglets was increased by 1.7 and 4.5% during prestarter and starter phase, respectively (Figure 1).
- In the treatment group daily weight gain was increased by 10.6 and 4.9% during prestarter and starter phase, respectively (Figure 2)
- From day 28-42 FCR was significantly improved by 12.3% in piglets fed FRESTA® F (Figure 3)
- Safety of target animals was confirmed as there were no adverse effects in piglets fed 5-fold the max. recommended dosage of FRESTA® F
- Safety of consumers was confirmed as carvone residues could not be detected in blood and meat of piglets fed 10-fold the max. recommended dosage

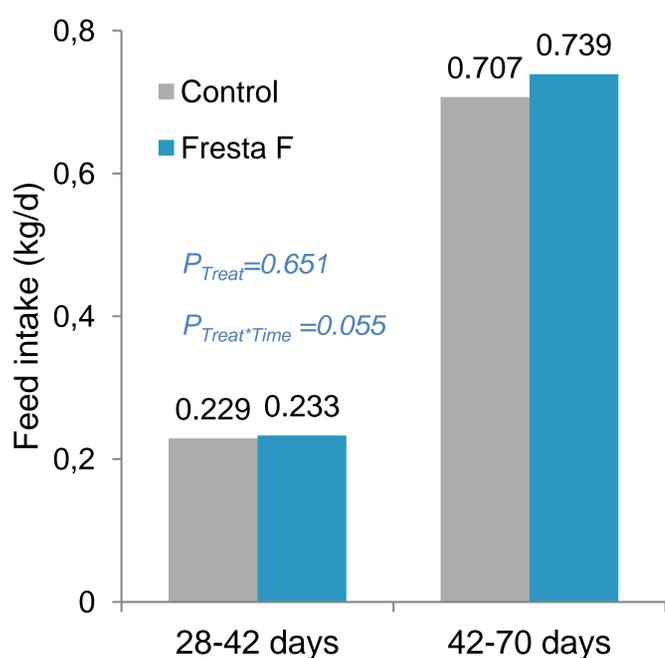


Figure 1: Effects of FRESTA® F on feed intake

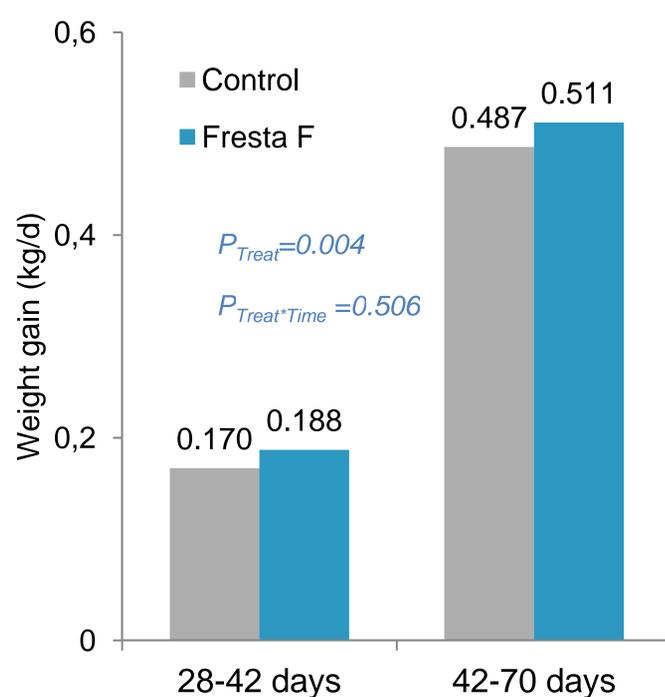


Figure 2: Effects of FRESTA® F on weight gain

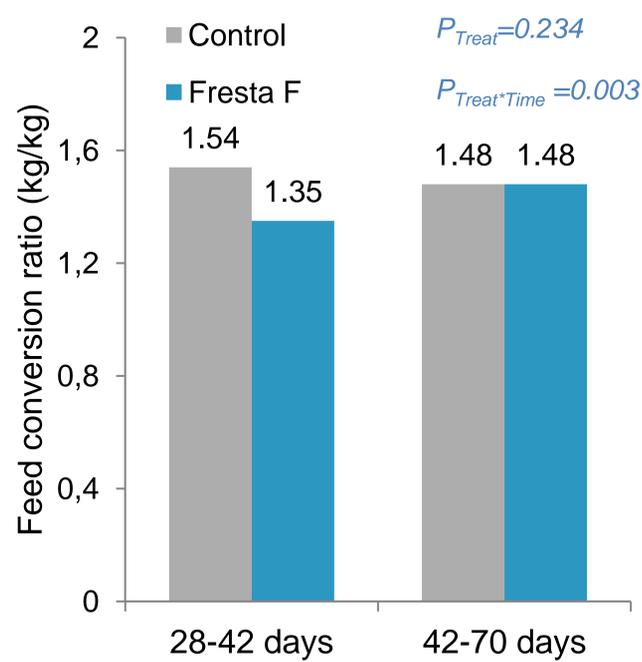


Figure 3: Effects of FRESTA® F on feed conversion

Conclusion

- Zootechnical feed additives are strictly evaluated for efficacy and safety according to EC 1831/2003
- FRESTA® F has proven efficacy and is safe for animals and consumers
- FRESTA® F is the first phytogetic product listed as performance enhancer in the class of zootechnical additives
- Due to the performance enhancing effects of products like FRESTA® F, there is potential to replace antibiotic growth promoters by phytogetic feed additives in livestock production