Allium sativum L. for prophylaxis of diarrhea in weaned piglets
How to find the right dosage

Background
Postweaning infection with enterotoxigenic Escherichia coli strains leads to high morbidity and mortality in piglets. [1]
Garlic (Allium sativum L.) exhibits antibacterial, antidiarrheal, anti-inflammatory and immunomodulatory effects. [2]
Garlic could be an alternative or complementary prophylaxis and therapy, but established dose regimens are missing. [2]

Material and Methods
• Based on a systematic review [2], 16 peer-reviewed references, 2 textbooks on veterinary phytotherapy, ESCOP and Commission E monographs were screened for scientific proven or recommended daily dosages of garlic.
• The aim was, to determine the amount of used dry plant drug equivalent (DEV) in mg.
• To include data from studies with different mammalian species, a conversion via metabolic body weight (MBW) was conducted.
• Due to a lack of given data, for only 3 peer-reviewed references (pigs: 1; cattle: 1; poultry: 1) a dosage calculation was possible.

Results
Daily dosages range from a minimum of 30 mg to a maximum of 1052 mg DEV garlic/kg MBW (mean: 520.8 mg; median: 557 mg) (see graph 1).

Graph 1: Daily dosages for garlic in screened references

Conclusion
• For studies of pharmacodynamic and clinical trials we propose to use dosages of 300 mg garlic/day/kg (500 mg/kg MBW) in pharmaceutical quality and with known phytochemical composition for a duration of 7–14 days.
• A following clinical trial with piglets has been conducted to investigate the effects of garlic on postweaning diarrhea and performance – analysis of data is under way.

Acknowledgements and References