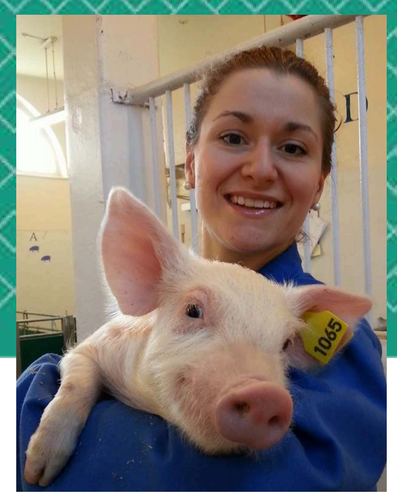
Ongoing study of acute outbreaks of APP in Norwegian fattening pigs



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Aim

The project "Grisefine lunger" aims to investigate and describe the characteristics of outbreaks of respiratory disease in Norwegian fattening pig herds, through an ongoing case-control study.

Conclusion

The morbidity and mortality during outbreaks of respiratory disease in 6 pig herds in Norway was on average **54%** (**min 6-max 100%**) and **2.3% (0.0-5.5%)** respectively**.** *Actinobacillus pleuropneumonia* (APP) was isolated from lungs of diseased pigs from all the herds.

Background

The Norwegian pig population has a favorable health status when viewed in an international perspective. The population is free from *Mycoplasma hyopneumoniae* and several viral agents [PRRSV, PRCV, SIV (except H1N1pdm09)] involved in respiratory infections in pigs (1). However, in the period from 2013 to 2016, there was an increase in reported outbreaks of acute respiratory disease in the Norwegian pig population.

Herd characteristics

- 5 had fatteners only, 1 was farrow-to finish
- 1-5 pig suppliers
- 647 (**min** 300-**max** 1170) pigs per herd
- Yearly production: 2242 (1100-3550) pigs
- No. of pigs in room: 272.5 (106-710)
- Room volume per pig: 4.1 m^3 (2.3-6.2 m^3)
- Floor space per pig: 0.94 m^2 (0.5-1.2 m^2)

Material and Methods

In the period of October 2017-February 2018, 6 herds with fattening pigs were visited by practicing veterinarians during clinical outbreaks for sampling. Epidemiological data regarding stocking, management and outbreak characteristics, including morbidity, mortality and treatment were collected. Numbers are presented as mean (min –max).

Results and outbreak characteristics

- Onset of disease: 29.2 (0-62) days after arrival
- Veterinary visit: 1.5 (1-2) days after symptoms first detected
- Resampled 21.8 (19-25) days after 1st visit
- Rectal temperature at 1st visit: 39.7 °C
- Rectal temperature at 2nd visit: 39.1 °C
- **Morbidity in room with ongoing outbreak: 54% (6-100%)**
- **Mortality in room with ongoing outbreak: 2.3% (0.0-5.5%)**
- *A. pleuropneumoniae* was cultivated from all sampled lungs in case herds

Results and Discussion

A study from 2014 (2) reviewing litterature on outbreaks of APP showed that morbidity ranged from 14-100%, and mortality from 0-40%. Our results fit within these ranges.

The measured difference in rectal temperatures (average 0.47 °C) between the two points of measuring was non-significant (p=0.09). In a similar study from Finland, the body temperature during the outbreaks was on average 39.7 °C, and on the second visit 39.3 °C (3).

Gas concentrations in case herds

Detected :	Recommondations:
NH^3 : 4.6 ppm (1-10.3)	<10 ppm
CO^2: 1329.2 ppm (400-2500)	<1500 ppm

The characteristics of clinical outbreaks of acute respiratory disease in pigs are dependent on factors related to management and environment, as well as infectious causes of disease. These preliminary results indicate that the characteristics vary greatly. Detailed diagnostics, compared to results from control herds will provide deeper insight in the disease pattern for the population and also herd characteristics for individual outbreaks.

References

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