

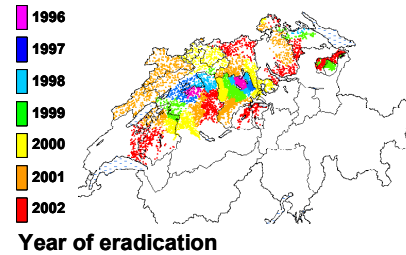
ENZOOTIC PNEUMONIA IN SWISS SWINE HERDS: AREA-WIDE ERADICATION SUCCESSFUL

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SITUATION

Region-by-region, area-wide eradication of epizootic respiratory diseases in swine was started in 1996.

In > 95% of farms, eradication was completed by the end of 2002 (Fig 1).



AIM

To carry out a comprehensive epidemiological analysis of the risk (incidence) of outbreaks of Enzootic Pneumonia (EP) in order to obtain interim results about status, progress and trends of area-wide eradication in Switzerland.

MATERIAL AND METHODS

- **Retrospective Analysis** of data of the Swiss Pig Health Service (SGD) database.
- **Population:** Pig farms with eradication completed by the end of 2002 (14'148).
- **Case definition:** Enzootic Pneumonia diagnosed on a farm situated in a region, where area-wide eradication had been completed before time of diagnosis.
- **Study period:** Cases of EP outbreaks occurring between March 1999 and September 2003 were included.
- Calculation of **annual cumulative incidences**, incidences by region and by year after eradication.
- Influence of previously identified **risk-factors** (herd size, season, type of production, pig density) on infection rates.

RESULTS: INCIDENCES

Annual cumulative incidences of EP cases were steadily decreasing (Fig 2), most probably due to **decreasing infection pressure**.

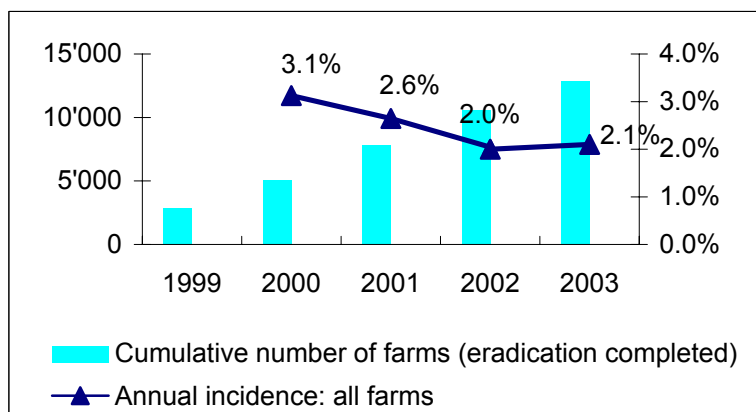


Fig 2: Annual incidence of EP cases during eradication of epizootic respiratory diseases in Switzerland (2003: increase due to stricter notification requirements coming into force in 2003 → Improved case detection.)

Further trends in EP incidence:

- The risk of infection in a region was highest in the first year after this region had entered the programme. The risk of infection in a region decreased for each year after eradication had been completed.
- The risk also decreased for annual cohorts (farms joining the programme in the same year) entering the programme at a later date.

These observations were probably also due to the decrease in infection pressure.

RISK FACTORS

The importance of known risk factors such as type of farm, farm size, and pig density was confirmed:

- **Finishing farms** were at higher risk than breeding-only farms (OR=1.9).

- **Herd size** (median) was a risk factor for EP infection.

Median herd size:

EP-case farms: 129

In general population: 29

- Farms located in **densely populated pig areas** were at a higher risk of becoming infected (Fig 3).

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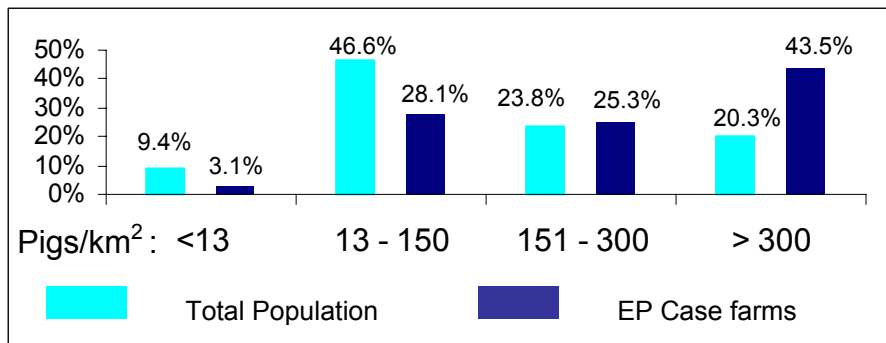


Fig 3: Pig density (categorised): Frequency of EP-case farms and in the total population

- Farms being part of **multi-site production rings** had a higher risk of infection due to high frequency of animal transportation and the related risk of disease introduction:

Frequency of multi-site production:

EP-case farms: 8.2%

Total population: 2.0%

CONCLUSION

In spite of occurrence of Enzootic Pneumonia outbreaks in eradicated areas, the current status of the programme is promising and further decline in incidence of EP infection can be expected in the future.