



Veterinary surveillance on holdings in Slovenia (2006 - 2010)

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Introduction

In 2006, the Veterinary Administration of the Republic of Slovenia (VARS) started implementing additional annual surveillance performed by contract veterinarians.

- While visiting all farms with animals in their region veterinarians along with farm owners were required to complete a questionnaire
- The questionnaire required the information about the farm, category and number of animals at the farm, identification and registration of animals as well as principles of animal health and animal welfare

Objectives:

- Analyse the existing data and summarise statistics for an average Slovenian holding
- Identify the trends in development of holdings through a five year period
- Use data for Risk Assessments

Materials and Methods

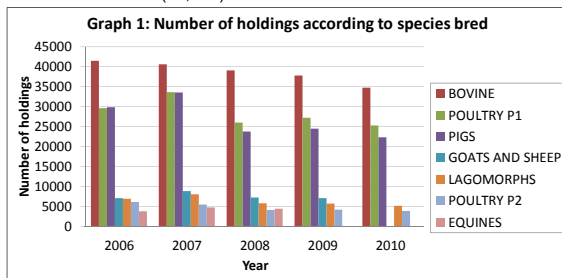
Data was obtained via Oracle SQL - Plus from the Central register of animals. STATA 11 was used for the statistical analysis.

- Holdings were categorized according to the number of breeding animals into 7 categories for each species.
- Rates per year were used for identifying trends

Table 1: Number of surveys per year decreased, compared to an increase in the number of variables in the questionnaire

Year	Number of holdings visited	Variables
2006	54,014	45
2007	65,436	68
2008	48,772	65
2009	49,386	102
2010	44,737	126

All together **66,619** different holdings were checked in 5 years, majority of them on more than one occasion. In 2007 the largest numbers of holdings were checked (65,436).



Comparison of trends according to the size of a bovine farm can be seen in the graph below. A drop in the rate of farms with one (green line) and 2-5 animals can be observed (purple line), compared to a slight increase in the rate of large holdings (>50 cattle).

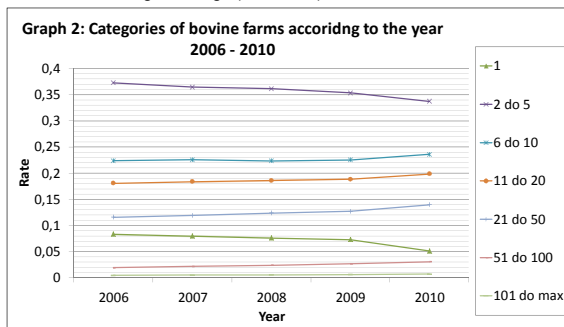
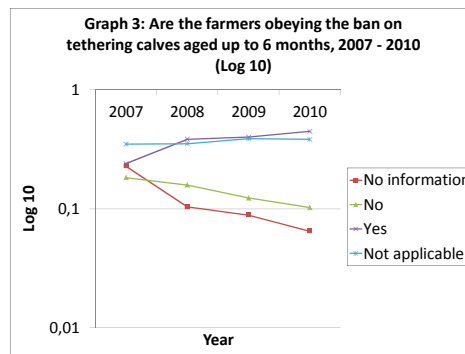


Table 2: Descriptive statistics of livestock values for Slovenia

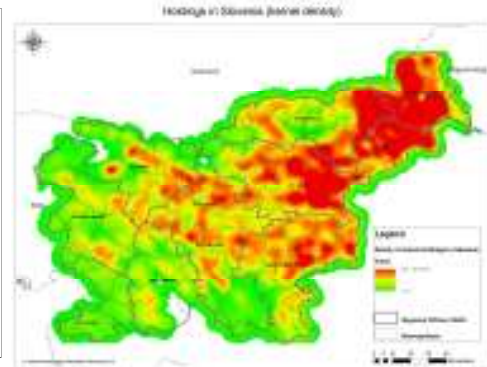
Statistics	Bovine	Goats and sheep	Pigs	Poultry
Number holdings inspected	43755	10835	40718	41792
% of total	65.7 %	16.3 %	61.1 %	62.7 %
Mean	10.71	12.46	11.26	141.66
SD	18.76	25.22	280.01	2413.59
50 % - median	5.6	5	1.8	6.4

Results

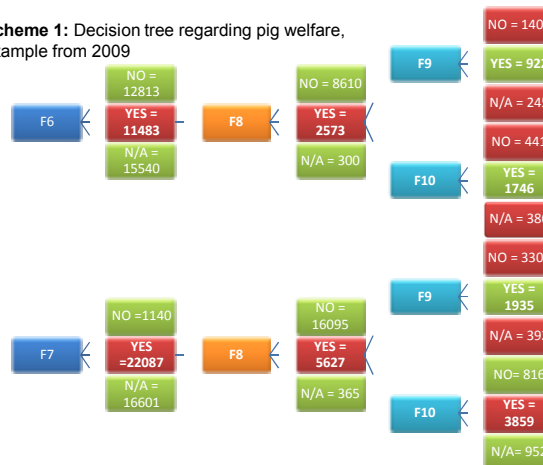
Questions about principles of animal welfare legislative provisions of welfare of cattle and pigs. In the graph below the development of a positive trend in the rate of holdings, which don't tether calves can be observed.



Map 1: Kernel density map showing the distribution of holdings in Slovenia. Most of the pig holdings are located in the North East region, while the bovine holdings are spread across the Central Region of Slovenia.



Scheme 1: Decision tree regarding pig welfare, example from 2009



In 2009, new questions regarding animal welfare of pigs were added which were organized in a decision tree.

Decision tree legend:

- **F6** – shorten tails
- **F7** – castrated pigs
- **F8** – have pigs been born on the farm
- **F9** – recorded veterinary intervention
- **F10** – anaesthesia used

Holdings with end results »NO« and »N/A« represent farms which don't comply with welfare issues and as such represent farms of higher risk.

Conclusions

- Vast amount of data, which needs to be further analysed.
- Number of small holdings is decreasing
- It is important that questions remain the same throughout the years. This makes information more valid and can be better analysed to identify trends.
- Important future work for QRA used by VARS

Acknowledgments

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