Cross-sectional survey of goat breeding farms in Poland: Overview of dairy goat production patterns

Justyna Rogalska,[1] Włodzimierz Gut,[2] Jarosław Kaba,[3] Mariusz Nowicki,[3] Paweł Stefanoff,[1]

1) Department of Epidemiology, National Institute of Hygiene, Warsaw, Poland.
2) Department of Virology, National Institute of Hygiene, Warsaw, Poland.
3) Faculty of Veterinary Medicine, Warsaw Agricultural University, Warsaw, Poland

Introduction

- Currently we are carrying out an assessment of risk of milk-borne transmission of tick-borne encephalitis virus (TBEV) in Poland
- We are missing information on:
  1. the prevalence of TBE infections in goats in different regions
  2. the quantity of milk produced
  3. patterns of dairy production
  4. distribution of dairy products on the market
- The aim of the present study was to address the questions number 2 and 3

Material and Methods

Cross-sectional survey of goat farms in summer 2007 in Poland

- A convenience sample of farms accredited for dairy production
- An interview collected from farm owners:
  - » size and characteristics of the farms
  - » health status of goats
  - » dairy production patterns
  - » dairy products distribution
- Blood and milk samples collected from a random sample of goats bred on the farm
- Collected questionnaires were analysed in terms of food production and distribution patterns

Results

- Out of 49 farms investigated, 44 were producing dairy products

Table 1. *Goat-breeding farms characteristics, Poland, 2007*

Characteristic	N (farms)	Mean	Std deviation	Range
Number of goats	47	90.2	92.6	10-450
Dairy production:				
milk (hcl)	39	102.1	141.3	3.6 – 648
cheese (kg)	7	204.0	234.2	14 – 624
meat (kg)	7	852.9	604.9	120 – 1 600
skins (pcs)	5	10.2	3.4	7 – 15

35 farms were delivering the majority of their products to contracted wholesalers

8 farms were mostly distributing products to individual customers

4 farms were only producing for their own needs

In 39 farms its inhabitants were consuming self-produced dairy products

In 27 farms inhabitants were consuming products from fresh milk at least once per week

Table 2. *Goat breed characteristics according to farmer's attitude towards dairy consumption*

	HOUSEHOLD MEMBERS CONSUME DAIRY			
	only pasteurized (n=22)		unpasturized (n=27)	
	N	%	N	%
Farm size (number of goats)				
<50	6	27,3%	12	44,4%
50-100	10	45,5%	9	33,3%
>100	6	27,3%	6	22,2%
Farm type				
Agrotourism/hobby	0	0,0%	5	18,5%
Dairy production	22	100,0%	22	81,5%
Goat herding (spend >1 hour daily in tick habitats)				
in woods	2	9,1%	7	25,9%
in grasslands	5	22,7%	11	40,7%
in wooden paths	2	9,1%	1	3,7%
Ticks attached to goats	8	36,4%	12	44,4%
Frequency of dairy consumption				
daily	5	22,7%	23	85,2%
> 1 per week	3	13,6%	4	14,8%
less frequently	4	18,2%	0	0,0%

Conclusions

- Consumption of uncooked milk may pose increased risk for TBE.
- Due to local dairy products consumption and local distribution by farmers, contaminated products may potentially cause food-borne infections.
- This needs to be further validated by detailed risk analysis and obtaining more precise information on food distribution.