Measuring vulnerability to exotic viral disease at poultry holdings

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The aim of the study was to investigate the structure of bio security and to compare the vulnerability of poultry holdings (broiler, turkey, layers, game, domestic animal parks and backyard poultry) to exotic viruses.

MATERIALS AND METHODS

Figure 1. Factors (circles) considered in the vulnerability of holdings (rectangles, 1-n) in a specific population A-F (in this study: broiler, turkey, layer, game, backyard and domestic animal parks).
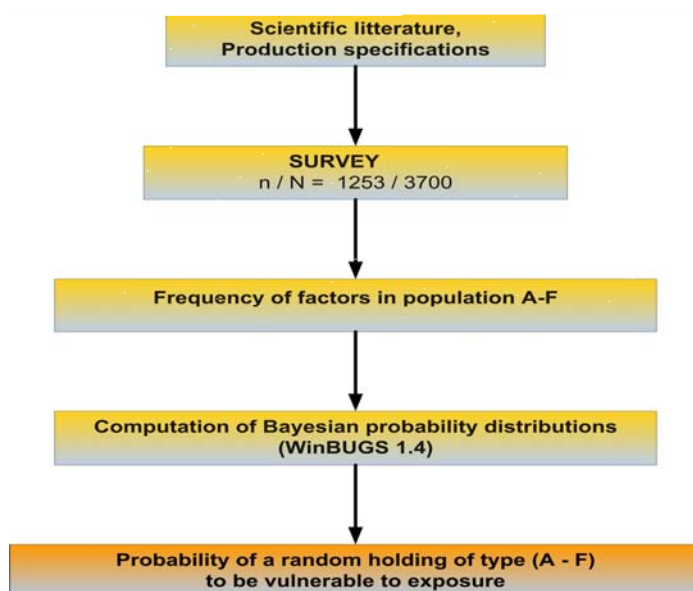
Figure 2. A schematic presentation of the method for measuring vulnerability.

RESULTS AND DISCUSSION

Type of holding	Vulnerability	
	on a scale form 1-100	95% of holdings between
All holdings	32	31 - 33
Broiler	18	17 - 20
Turkey	20	17 - 23
Layers	25	23 - 26
Game	39	35 - 43
Backyard flocks	42	40 - 43
Domestic animal parks	46	42 - 50

Table 1. Holding type specific vulnerability on a scale from 0-100 where 0 represents a perfectly sheltered population and 100 total vulnerability to exposure for the population.

The method allows for:
- identification of the most significant vulnerability factors in different types of holdings (A – F).
- comparison of the effect of strategies to reduce vulnerability
- including other relevant grouping parameters of holdings, ex. area code for spatial distribution of vulnerability.