

Estimation of illegal imports and their contribution to the introduction of avian influenza virus into Switzerland

Carmen Läubli¹, Markus Zeller², Ruth Hauser¹

¹Swiss Federal Veterinary Office, Schwarzenburgstrasse 155, 3097 Bern-Liebelfeld, Switzerland

²Swiss Federal Customs Administration, Monbijoustrasse 40, 3003 Bern, Switzerland

Key words

illegal imports, avian influenza virus, risk assessment

Aim of the study

Illegal imports of animals and animal products are considered to pose a risk for the introduction of avian influenza virus into Switzerland. Little is known about illegal activities. We assume that seizures made by the customs authorities at the Swiss borders represent product type, weight and origin of goods illegally imported into Switzerland. The aims of this study are first to estimate the annual illegal flow of all animal species and animal products and second to qualitatively assess the risk for the introduction of notifiable avian influenza viruses (NAIV) through those illegal imports into Switzerland.

Material and methods

The primary data source were the penalty documents of all seizures made in the year 2006 by the border guards and the customs specialists at the Swiss borders. For each of the three main transport modes stochastic scenario tree models were developed. All models were structured in the following three steps: Estimation of the annual number of illegal importations into Switzerland. Estimation of the annual number of smuggled consignments by product type and region of origin. Estimation of the annual weight of illegal importations by product type and region of origin.

The risk assessment was performed qualitatively using the guidelines given in the World Organisation for Animal Health (OIE) *Terrestrial Animal Health Code*.

Results and significance

The median estimate of the total annual illegal flow of meat into Switzerland is 2,474 tonnes. A median estimate of 30,491 live animals was calculated, including pet animals, reptiles, amphibians and arthropods. The median flow of illegally imported eggs was 51 tonnes. The weight of smuggled milk and milk products was estimated to be 986 tonnes. Of other animal products 308 tonnes were calculated to be illegally imported.

The risk for the introduction of NAIV into any bird holding by illegal importations of live birds is considered to be low. Illegal imports of poultry meat and meat products pose a low risk for the introduction of NAIV into commercial and backyard poultry holdings whereas this risk is estimated to be negligible for other bird holdings. Illegally imported eggs and feathers are estimated to be a negligible risk for the introduction of NAI viruses into any holding type. The most important entry route is considered to be by road traffic. Illegal imports of birds and their products contribute to a possible introduction of avian influenza viruses into Switzerland. Beside border controls, information to travellers about dangers and risks linked to illegal imports of animals and animal products may help to reduce smuggling.

Publications, posters and presentations

- Läubli C. (2010) Estimation of illegal imports and their contribution to the introduction of avian influenza virus into Switzerland Dissertation. Vetsuisse-Fakultät, Universität Bern
- Carmen Läubli, Markus Zeller, Ruth Hauser, Schmuggel – ein Risiko? Poster Gemeinsame wissenschaftliche Tagung der Forschungsprogramme «Constance» und «Wildvögel und Vogelgrippe 12./13. Juni 2008 in Bregenz
- Läubli C. Illegale Importe – Hochrechnung mittels Monte Carlo Simulation Präsentation DVG Fachtagung Graz, 3.-5. September 2008
- Läubli C. Illegal Import von Tieren und tierischen Produkten: ein Risiko? 2/2007 des Forum Z
- Läubli C. Täglich 2000 illegale Importe von Tieren und tierischen Produkten, 1/2009 des Forum Z

Project 1.07.06

Project duration 1.1.2007 - 1.7.2010