

Summary of: A questionnaire survey of the illegal importation of pork products by air travelers into Japan from China and exploration of causal factors

Zhihao Lei, Takeshi Haga, Hiroko Obara, Hiroki Sekiyama, Satoshi Sekiguchi, Amy Hombu, Miho Fujihara, Lisha Lei, Shin Hsu, Xiyang Zhang, Iori Ishitsuka, Yamato Atagi, Takeshi Sato, and Katsuaki Sugiura (Corresponding author aksugiur@mail.ecc.u-tokyo.ac.jp)

Key Points:

- Importation of infected pork and contaminated pork products is a known source of disease introduction into naive countries.
- A study was conducted to assess the risk of disease introduction through illegal pork imports and to identify factors affecting perception and behavior regarding illegal imports.
- A significant association between perception of difficulty of importing a pork product in their luggage, knowledge of illegality, and actual illegal importation was found.
- Compared to an earlier survey, the results from this suggest that government education and enforcement measures have made a measurable impact

Transboundary animal diseases (TADs) are diseases of economic, trade and food safety/security importance with a high potential for spread between countries and regions. Disease-free countries have developed surveillance programs to prevent and reduce the probability of disease introduction. Nevertheless, many countries have reported outbreaks of exotic animal diseases in the past few years, and illegal importation of meat products has often been shown to be or suspected of being the source of introduction. African swine fever (ASF) is another example of a TAD which has repeatedly been introduced into ASF free countries via illegal disposal of waste from ships or planes originating from ASF infected countries.

Despite the fact that the probability of introducing disease is recognized as being associated with illegal importation of meat and meat products, very few studies have evaluated the probability of disease introduction through illegal importation. The main constrain to researching this connection is the difficulty of quantifying illegal movements of animal products. With the aim of obtaining information to establish an import risk assessment on ASF and other transboundary animal diseases into Japan, an 8 question questionnaire survey was conducted between August first and September twentieth 2019 on air travelers arriving into Japan from China. If a traveler was bringing in pork products, additional questions were asked. This study also attempted to identify the factors that might affect the travelers' behavior or perception regarding the illegal importation of pork products into Japan.

There were 248 responses with 7 (2.8%) of respondents illegally importing pork products (e.g. ham, sausage and pork jelly). The quantity imported per traveler varied between 250g of Jerky and a 2kg ham, which all were for personal consumption during their visit. Concerning the travelers' perception in regard to the difficulty of importing a pork product in their luggage, 32 respondents (12.9%) considered it very easy or rather easy and 216 (87.1%) very difficult or rather difficult. Seven respondents (2.8%) did not consider this practice to be illegal whilst 241 (97.2%) had some idea of the illegal nature of this behavior. The multivariable regression analysis revealed that the practice of illegal importation of pork products was significantly affected by the level of difficulty perception held by the traveler ($P < 0.001$) and that the difficulty perception is significantly affected by the level of recognition of illegality by the traveler ($P < 0.001$). This indicates that the more aware the travelers are of the illegality of bringing in pork products in their luggage, the more challenging they consider it to be, which perception is reflected in the actual behavior of illegal importation.

A previous questionnaire survey conducted by the Japan Agri News from mid-May to early June 2019 revealed that 8% of air travelers from China had brought in pork products illegally, while our study resulted in 2.8% indicating an apparent decline of illegal importation in three months. This is most likely due to the introduction of a number of measures by the Japanese government since 22 April 2019. These included a) tightening the measures against illegal importation of meat and meat products by air passengers, b) raising the awareness by the use of posters and in-flight announcements, c) stringent application of penalty to travelers who attempt to illegally import meat and meat products, and d) increasing the number of detector dogs at the airports. The reduced economic advantage of bringing in pig products to Japan may also play a part in this reduction. Between the two studies there is a significant proportion of travelers who find bringing in pig products challenging (up from 69% to 87%) and an increase in the awareness of import illegality (from 93% to 97%), suggesting that the awareness raising campaign is effective.

Considering the number of air travelers from China visiting Japan (almost 6 million in 2018) and the proportion of illegal importation revealed in this study (2.8%) and assuming that the travelers sampled in this study represent the general population of travelers from China, around 170,000 travelers from China might be bringing in meat and meat products illegally annually. This is 3.8 times the number of cases of illegally imported pork products detected by detector dogs and/or by interrogation by customs officers at the airports (42,280 cases in 2018). Clearly, detected cases at airports are the tip of the iceberg and there is indeed significant risk that ASF and other TADs can be introduced into Japan through illegal importation of meat and meat products by air travelers, followed by exposure to domestic pigs. Further studies are needed with additional data to identify the pathways that lead to the exposure of domestic pigs in order to quantify this risk.

The result of this study not only provides useful data in developing a model to assess the probability of introduction of ASF and other TADs into Japan and other countries, but also in monitoring the effect of measures taken by the government to reduce the illegal importation of meat and meat products.

Full paper can be found at: <https://www.sciencedirect.com/science/article/pii/S0167587719308311?via%3Dihub>