

QUANTITATIVE ANALYSIS OF BSE RISK FACTORS IN SLOVENIA

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In Slovenia the situation concerning BSE have been closely following since 1991, and pathohistological diagnostic was introduced in 1992. In the course of the past fourteen years Slovenia imported cattle primarily from Hungary, the Czech Republic, the Republic of Slovakia and Poland. Since 1990, cattle were imported from France, Italy and from Germany. These were all breeding stock, imported under specific conditions and under veterinary control. Up to the present time scrapie has not been diagnosed in our sheep and goat herds. Slovenia has not been importing meat and bonemeal from countries with registered BSE. Since 1985, in the rendering plant all quantities of raw material for meat and bonemeal undergo sterilization for 20 minutes at 133 degrees Celsius under pressure of three bars. Prior to sterilization the raw material is ground in particles, the maximum size of which is 50 mm.

Slovenia belongs to the group of countries having well developed BSE diagnostics. From 1991 we have been closely following the situation in our country regarding bovine spongiform encephalopathy; pathohistological diagnostic has been introduced in 1992. In 1996 the control has been stepped up and pathohistological tests are carried out on brain tissue of all cattle which are manifesting clinical symptoms of damage to the central nervous system.

The following risk factors were analyzed: a) Import of cattle and meat and bonemeal; b) Import of sheep and goats; c) Processing of carcasses, parts of carcasses of ruminants for feed mixtures; d) Production and use of meat and bonemeal.

RESULTS

Slovenia, during the period 1983 to 1996, imported cattle from Switzerland and France, two countries where the disease occurred in indigenous animals. The last cattle imports from Switzerland were in 1983, while according to the data from the Swiss Federal Veterinary Office the first case of BSE was discovered on the 2nd of November 1990. In the years 1994 and 1995 Slovenia imported 201 heads of cattle from France. This is the only registered cattle import to Slovenia from countries where BSE appeared in indigenous cattle. Breeding cattle was imported for known breeders, all of which enables veterinary control of these animals.

During the last fourteen years the majority of cattle was imported from Hungary, the Czech Republic, Slovakia and Poland. These are countries where BSE has not yet been officially registered. During the last ten years 12 heads of cattle were imported from Italy and 344 from Germany. These were also imports of breeding animals. The number of imported animals is relatively small. A real possibility that among the imported cattle some were infected exists only if the animals were previously imported to Italy and Germany from a country with autochthonous BSE.

The experts' assessment is that Slovenia has approximately 30.000 sheep, the official data affirm 18.000. The size of the sheep population becomes relevant for the BSE phenomenon only in relation to the presence of scrapie, which up to now has not been diagnosed among sheep in Slovenia. With that the possibility of transmitting the disease from sheep to cattle is practically non-existent. Therefore, in view of the situation with scrapie in our country this risk factor is negligible. In the course of the last seven years we imported sheep and goats from the following countries: Germany (ten rams in 1991); Austria (sixty sheep in 1995 and 16 in 1996); Croatia (five rams) and Switzerland (two goats in 1995). According to the existing data for these countries, the disease was only registered in Switzerland and it refers only to individual cases.

According to data from the Veterinary Administration of Slovenia in the years 1992, 1993, 1994 and 1995 Slovenia did not import meat and bonemeal from the five countries with proven BSE in indigenous animals. The opinion respectively data from the Institute for Pathology of Animal Nutrition of the Veterinary Faculty indicate that also in the preceding period meat and bonemeal were not imported from these countries, and that rarely was this meal imported from other countries (dr. Zust, personal contact).

In the only plant producing protein concentrates in Slovenia, since 1985, all raw materials for meat and bonemeal are sterilized for 20 minutes at 133 degrees C., at a pressure of three bars. Prior to sterilization the raw material is ground to a maximum particle size of 50 mm. After this procedure the raw material is dried at a temperature of at least 100 degrees C, which, at the end is increased to 115 to 120 degrees C. According to official data meat and bonemeal are produced under identical conditions in Switzerland (Swiss Federal Veterinary Office, 1996). In view of the above it may be said that there is an extremely low probability of BSE developing in Slovenia.

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