

Post-Chernobyl monitoring and controls survey reports

Area of research interest: [Chemical hazards in food and feed](#)

Following the Chernobyl nuclear accident in 1986, controls were placed on sheep farmed in certain upland areas of the UK in order to protect food safety. Following a review of the evidence and a 12-week public consultation, the Board of the Food Standards Agency agreed the lifting of the last of these controls with effect on 1 June 2012.

Background to the Chernobyl accident

In 1986, an accident at the Chernobyl nuclear power plant in the former USSR (now Ukraine) released large quantities of radioactivity into the atmosphere. Some of this radioactivity, predominantly radiocaesium, was deposited on certain upland areas of the UK, where sheep farming is the primary land-use.

Due to the particular chemical and physical properties of the peaty soils present in these upland areas, the radiocaesium was able to pass easily from soil to grass and hence accumulated in sheep.

Widespread monitoring following the Chernobyl nuclear accident in 1986 identified potential food safety concerns due to levels of radiocaesium in the meat of sheep grazing these upland areas of the UK. In order to protect food safety, restrictions were placed on around 9,800 UK holdings with more than four million sheep.

Historic food safety controls

Between 1986 and 2012, the FSA has monitored the levels in sheep from the affected areas, managed controls on the movement of sheep to protect consumers and gradually removed controls where they were no longer required to protect food safety.

A maximum limit of 1,000 becquerels per kilogram (Bq/kg) of radiocaesium was applied to sheep meat affected by the accident to protect consumers. This limit was introduced in the UK in 1986, based on advice from the EURATOM Article 31 group of experts.

Under powers provided by the Food and Environment Protection Act 1985 (FEPA) (see the link on the top right of this page), emergency orders were used to impose restrictions on the movement and sale of sheep exceeding the limit, in certain parts of Cumbria in north-west England, North Wales, Scotland and Northern Ireland.

The emergency orders defined geographical areas, often termed 'restricted areas', within which the controls must be followed. Under the FEPA orders, sheep with levels of contamination above the limit were not allowed to enter the food chain.

A management system known as the 'mark and release' scheme operated in restricted areas. Under this scheme, a farmer wishing to move sheep out of a restricted area could have them monitored to determine the level of radiocaesium. A live monitoring technique was used, where a radiation monitor was held against the sheep. Any sheep that exceeded the monitoring pass mark were marked with a dye and not released from restrictions for three months. Those that passed were allowed to enter the food chain.

Lifting of controls

The Agency's primary concern was to ensure food safety by maintaining these controls, but also to remove controls where the evidence showed they were no longer necessary. All 'mark and release' controls were lifted in Northern Ireland in 2000 and in Scotland in 2010.

During the summers of 2010 and 2011, the FSA carried out a monitoring survey in the restricted areas of Cumbria and North Wales. These surveys were carried out during the summer months when radiocaesium concentrations in sheep meat are expected to be at their highest.

The results of the summer surveys were used to assess the risk to consumers of the sheep meat from any radiocaesium present. This was done by assessing the radiological exposure for someone who eats a large quantity of lamb. The full assessment report 'Radiocaesium concentrations in sheep in post-Chernobyl restricted areas' is available via the link below.

Taking the risk assessment into account, the conclusion of the review was that the current controls in England and Wales were no longer proportionate to the very low risk. They were also ineffective in further minimising the already low doses and removing controls would not compromise consumer safety. Furthermore, the very low risk showed that intervention was no longer required to comply with Council Directive 96/29/Euratom requirements for cases of lasting exposure.

In 2012, consents were issued to lift controls from all farms remaining under restriction in England and Wales. These consents permit farmers to move sheep without the need for monitoring from 1 June 2012.

The remaining FEPA Orders that restricted the movement of sheep in designated areas of the UK were revoked in November 2012. This removed the legislation made redundant by the issuing of consents.

Research report

England, Northern Ireland and Wales

PDF

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