



DEPARTMENT OF AGRICULTURE

DUNDONALD HOUSE,

UPPER NEWTOWNARDS ROAD,

BELFAST,

BT4 3SB.

18th May 1988

Dear Mrs Attridge

HOC AGRICULTURE COMMITTEE: CHERNOBYL

You are no doubt aware that this Department has been asked to provide a memorandum to assist the Committee in its enquiries into the Government's response to the Chernobyl accident. I attach the Department's proposed response.

We have been requested to deal specifically with the circumstances that led to restrictions being introduced in Northern Ireland more than a year after the accident took place. With this in mind and in recognition that it must be for this Department to present and as necessary defend its actions I would be grateful for any comments you may have. The Committee require the memorandum by May 25th and I must ask therefore for comments no later than midday on Monday, 23rd.

I am copying this letter and the memorandum to John Davies in WOAD and David Essery in DAFS with a similar request for comments.

Yours sincerely

D M Carson

D M CARNSON

DANI Response

Mrs E J Attridge
Ministry of Agriculture, Fisheries and Food
Whitehall Place East
LONDON
SW1A 2HH

LPG-DJG15/88 (PO-MAY2)

HOUSE OF COMMONS AGRICULTURE COMMITTEE

CHERNOBYL: THE GOVERNMENT'S RESPONSE

MEMORANDUM BY THE DEPARTMENT OF AGRICULTURE FOR NORTHERN IRELAND

Introduction

1. This memorandum describes the response of the Department of Agriculture for Northern Ireland (DANI) to the accident which occurred on 26 April 1986 at Chernobyl in the USSR. It deals with measures which are the direct responsibility of DANI and should be read as complementary to the memorandum submitted by the Ministry of Agriculture, Fisheries and Food (MAFF). The highest level observed anywhere in Northern Ireland was 165 Bq/litre (which is less than 10% of the National Radiological
2. Where a nuclear or other emergency results in contamination of food supplies DANI has powers under Part I of the Food and Environment Protection Act 1985 to make emergency Orders prohibiting the movement or supply of produce which has or may become unsuitable for human consumption.

DANI Response

3. The radioactive cloud passed over Northern Ireland on Saturday and Sunday the 3rd and 4th May 1986. The Ministry of Agriculture, Fisheries and Food had alerted DANI to the potential problem just before the weekend and indicated on 3rd May that they were stepping up their monitoring. An action team was set up on Sunday 4th and DANI immediately arranged for the collection and analysis of pasteurised milk samples from all

pasturising plants in NI on 5th May and of leafy vegetables. The Department's objective in this and subsequent sampling and analysis was to ensure that unacceptable levels of radioactivity were not reaching the food chain. Following analysis and collation of data, every opportunity was taken to reassure the public in Northern Ireland of the safety of food coming forward for human consumption.

4. DANI consulted those other Government Departments in Northern Ireland with an interest, principally the Departments of the Environment and Health and Social Services. The same criteria for determining safety levels were adopted in Northern Ireland as were agreed by Departments throughout the UK.

5. Of immediate concern in Northern Ireland was the level of Iodine 131 in cows' milk. The highest level observed anywhere in Northern Ireland was 166 Bq/Litre (which is less than 10% of the National Radiological Protection Board's Derived Emergency Reference Level). Further monitoring of milk, milk products, meat, fish, fruit and vegetables which included measurement of radiocaesium showed that radioactivity levels were well below those at which precautionary measures to protect the safety of the food chain were needed.

6. DANI also instituted in May testing of meat from slaughterhouses across the Province to determine the safety of beef and lamb at the point of entry to the food chain. This showed levels of radioactivity below 1000 Bq/Kg, the level above which UK Government had decided lamb should be prevented from entering the food chain. This sampling of marketable lamb, which has been continued, has never shown readings above 1000 Bq/Kg.

10. This survey identified three small hill areas in Co Londonderry and Co Antrim where some unmarketable lambs were found to have readings above 1000

7. Following notification of high levels being observed in small young and unmarketable lambs in England DANI instituted farm monitoring of similar animals. This was on a Province-wide basis and was designed to alert the Department to potential problems in the market place. More intensive sampling was carried out in areas where the highest readings were found in unmarketable lambs. During this 1986 farm monitoring only 3 observations above 1000 Bq/Kg were detected and extensive further testing within and on neighbouring flocks showed these to be isolated cases and not representative of either the flocks or the geographic areas. The young lambs involved were not ready for slaughter for at least another 6 weeks and therefore constituted no risk to the food chain. The highest observation (at 1580 Bq/Kg) was made in a flock owned by the Department and maintained at Glenwherry in Co Antrim. The Department directly controlled movement from this flock and intensive sampling of that flock provided a valuable indicator to DANI on changes in radioactivity over time.
8. Testing of foodstuffs including marketable lamb at slaughterhouses continued during 1987. This showed that the levels of radioactivity were either non-detectable or very low and confirmed that there was no risk to the food chain.
9. Continued testing of the Department's flock at Glenwherry in 1987 gave early indication that radioactivity in young non-marketable lambs was higher than in 1986. This alerted the Department to the need for a further Province-wide on-farm survey designed to identify any potential location where young lambs could be a source of meat with high readings entering the food chain. The nature of the survey is given at Annex A.
10. This survey identified three small hill areas in Co Londonderry and Co Antrim where some unmarketable lambs were found to have readings above 1000

10. Bq/Kg. The Department's hill farm was included in the latter area. To ensure that sheep exceeding this level did not enter the food chain the Department, using powers under Part I of the Food and Environment Protection Act 1985, made Emergency Orders to control the movement and slaughter of all sheep from these three areas. These controls came into operation on 14 September 1987. A list of all Emergency Prohibition Orders made by DANI is attached at Annex B.

11. DANI evidence suggests that there was a clear difference in uptake of radiocaesium between 1986 and 1987 in grazing animals. This would indicate why higher readings were detected in 1987. A rationale is presented in Annex C.

Controls

12. The system of controls introduced in NI in September 1987 was identical to the "mark and release" Scheme then in place in England and described in paragraphs 19 and 20 of the MAFF memorandum. DANI has maintained close liaison with MAFF and has continued to operate the Scheme in parallel. The controls apply to 123 farms with a total of about 35,000 sheep.

Compensation

13. Compensation corresponding to Leg II (Market Loss Compensation on marked sheep) and Leg IV (Headage payments for animals moved under consent) of the Sheep Compensation Scheme operating in England (Paragraph 25 and 27 of MAFF memorandum) was made available.

14. Payments totalling £12,866 have been made to Northern Ireland farmers of which £952 relates to market loss compensation paid to 3 farmers and £11,908 relates to headage payments to 84 farmers.

Present Position

15. Because of the diminution in readings found in other food products DANI is now concentrating on monitoring lamb at slaughterhouses and in and around the restricted areas. The results are published regularly under cover of DANI Press Releases. Compensation continues to be paid to farmers affected by the controls on movement and slaughter.

Intermediate Stage

DANI recognised that the flocks with levels above 500 bq/kg provided some indication of potential problem areas and a more intensive survey was instituted over approximately 230,000 hectares. This was based on a 2 km grid in 2 regions of the Province where such flocks were found. This survey identified a number of flocks with animals with radioactivity levels in excess of 1000 bq/kg.

Final Stage

All flocks within a 2 km radius of the flocks with animals where levels in excess of 1000 bq/kg had been identified at the intermediate stage were monitored. Where further flocks with levels in excess of 1000 bq/kg were found resting within a new 2 km radius was carried out, and as necessary this process repeated, to enable delineation of extent of affected areas. As a result of these surveys 3 areas (totalling some 8750 hectares) at Glenties and Beltraugh in Co Londonderry and Glagherry in Co Antrim were identified and the movement and slaughter of sheep from these areas was controlled.

DEPARTMENT OF AGRICULTURE ON-FARM SURVEY 1987 OF YOUNG UNMARKETABLE LAMB

This particular survey was undertaken in the following 3 stages:-

Initial Stage

The initial Province-wide survey sampled flocks on the basis of one flock per 10 km Grid Square. No flocks containing animals with radioactivity levels above 1000 bq/kg were observed. However some flocks were found to have animals with levels above 500 bq/kg.

Intermediate Stage

DANI recognised that the flocks with levels above 500 bq/kg provided some indication of potential problem areas and a more intensive survey was instituted over approximately 230,000 hectares. This was based on a 3 km grid in 2 regions of the Province where such flocks were found. This survey identified a number of flocks with animals with radioactivity levels in excess of 1000 bq/kg.

Final Stage

All flocks within a 2 km radius of the flocks with animals where levels in excess of 1000 bq/kg had been identified at the intermediate stage were monitored. Where further flocks with levels in excess of 1000 bq/kg were found testing within a new 2 km radius was carried out, and as necessary this process repeated, to enable delineation of extent of affected areas. As a result of these surveys 3 areas (totalling some 8750 hectares) at Glenshane and Belraugh in Co Londonderry and Glenwherry in Co Antrim were identified and the movement and slaughter of sheep from these areas was controlled.

ORDERS MADE UNDER THE FOOD AND ENVIRONMENT PROTECTION ACT 1985

Food Protection (Emergency Prohibitions) Order (Northern Ireland) 1987 (SR 1987 No 367)

Food Protection (Emergency Prohibitions) (Amendment) Order (Northern Ireland) 1987 (SR 1987 No 395)

Food Protection (Emergency Prohibitions) (Amendment) Order (Northern Ireland) 1988 (SR 1988 No 3)

2. In 1986 it appears that the initial contamination of milk and milk products were due to radionuclides adhering to vegetation - an effect which could be measured through to the early summer of 1986. Winter forage also contained some radionuclides by virtue of the fact that radionuclides adhered to grass when cut. As a result of this radionuclide level in milk products did not fall below 2 bq/litre until May of 1987.

3. In the spring of 1987 there was no resurgence of radionuclides in dairy products as it was bound to the soil surface and hence not available for plant uptake and subsequent consumption by grazing animals. However on peaty upland soils the radionuclides remained in a form available for uptake by plants which were subsequently grazed by sheep. Forage plants on the hills tend to have long life times which combined with low grazing

BEHAVIOUR OF RADIOCAESIUM IN THE AGRICULTURE ENVIRONMENT

1. In 1986 following deposition of radiocaesium particles there was probably differential capture of caesium by the standing herbage with unretained caesium finding its way initially into debris on the soil surface and then through the soil to the root zone of the vegetation. Upland peaty soils which are mineral deficient and of high organic matter content have a poor ability to chemically bind in radiocaesium compared to the higher mineral content lowland soils. Radiocaesium in peaty upland soils is therefore more easily available for plant uptake. However the variety of forage plants on upland soils combined with the diverse forage preferences of sheep indicates that substantial and wide variations in uptake of radiocaesium by sheep will occur.
2. In 1986 it appears that the initial contamination of milk and milk products were due to radiocaesium adhering to vegetation - an effect which could be measured through to the early summer of 1986. Winter forage also contained some radiocaesium by virtue of the fact that radiocaesium adhered to grass when cut. As a result of this radiocaesium levels in milk products did not fall below 2 bq/litre until May of 1987.
3. In the spring of 1987 there was no resurgence of radiocaesium in dairy products as it was bound to the soil minerals and hence not available for plant uptake and subsequent consumption by grazing animals. However on peaty upland soils the radiocaesium remained in a form available for uptake by plants which were subsequently grazed by sheep. Forage plants on the hills tend to have long life times which combined with low grazing

pressures results in plants containing radiocaesium being available for consumption throughout the grazing season.

4. In addition with the 1986 crop of lambs the ewes and the lambs were exposed simultaneously to the contaminated herbage but only from the beginning of May. However for the 1987 crop the ewes would often have been feeding on such herbage before lambing with resultant transmission in utero and via lactation to the lamb. As well as this lambs would have been exposed to contamination from the time they started grazing in these areas.