

Press Release

DEPARTMENT OF AGRICULTURE FOR NORTHERN IRELAND

Press Office, Dundonald House, Belfast BT4 3SB. Tel. Belfast (0232) 650111 Ext. 796. Telex No. 74578

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RADIATION MONITORING IN NORTHERN IRELAND

The Department of Agriculture for Northern Ireland today confirmed that experimental work by the Department's Science Service has conclusively established that there is no risk to human or animal health on account of radioactivity levels in silage and hay. Continual monitoring by the Department has confirmed that levels of radionuclides in agricultural products in Northern Ireland are well below the internationally agreed levels at which any action might be considered necessary.

In addition to this monitoring, DANI instigated a programme of work to establish what affects the feeding to animals of grass conserved as silage in the aftermath of Chernobyl might have on milk and milk products.

As part of the work, conserved forages such as silage and hay were sampled for radionuclides and an experiment under controlled conditions has been established to determine what the effects of feeding this silage would be on milk with particular reference to any implications for human health. In addition, the experiment has examined the possibilities for reducing the effects of any radionuclides in the silage on the end product. This programme of work is sufficiently advanced to establish conclusively that milk produced from this winter's feed will present no health problem.

Data has already been released on levels of radiocaesium in forage samples obtained from some 160 farms from all over Northern Ireland. The highest levels are found in first cut silage obtained from pastures which have been ungrazed before cutting. Levels in second cut silages are much lower than the first cut ungrazed material.

The feeding experiments have established that the process of transferring these small amounts of radionuclides in silage is quite inefficient and as a result there is no health risk from milk or milk products.

NOTES FOR EDITORS

1. Details of the experimentation carried out at the Agriculture and Food Chemistry Research Division, Newforge Lane and the Agricultural Research Institute, Hillsborough on silage containing radioactive Caesium are outlined below. In total some 40 dairy cows have been used. There have been 2 experiments which have run continuously for 6 weeks.
2. In the first experiments balanced techniques have been used to define the distribution of ingested Caesium between faeces, urine and milk. An estimate has also been obtained of the proportion retained by the animal.
3. Over the range of forage to concentrate ratios tested, the efficiency of transfer of Caesium from feed to milk is on average 0.3 per cent per litre per day. This data is obtained from three independent experiments using either four or six animals per treatment.
4. The efficiency of transfer ranges from 0.25 per cent to 0.45 per cent per litre per day on an individual animal basis.
5. The amount of concentrate fed varied from zero to 8 kg per day.
6. The second experiment, using six animals per treatment, measured the transfer of Caesium under the following conditions:-
 - (a) feeding first cut silage, containing an elevated level of Caesium plus a normal concentrate allocation in line with the level of milk being produced;
 - (b) as (a) but alternatively feeding the first cut silage with a second cut silage containing a lower level of radioactive Caesium, on a four day cycle;
 - (c) as (a) but incorporating Bentonite (an approved clay mineral) into the concentrates. Bentonite was included to give a level of 2 per cent in the total dry matter intake;
 - (d) similar to (c) but with 4 per cent Bentonite;
 - (e) similar to (c) but with 6 per cent Bentonite.

7. Feeding the first cut and second cut silage reduced the Caesium content of milk by 34 per cent of that found in milk from animals fed first cut silage.
8. The response to Bentonite feeding was as follows:

2 per cent Bentonite reduced the level by 50 per cent
4 per cent Bentonite reduced the level by 80 per cent
while 6 per cent Bentonite reduced the level by more than 90 per cent.
9. No adverse effects of Bentonite feeding have been observed over the six week feeding period.
10. Various aspects continue to be investigated such as the applicability of other materials on blocking the absorption of Caesium from the cows intestine. The long term consequences, if any, of Bentonite feeding are also being investigated.