

GENERAL AGREEMENT ON TARIFFS AND TRADE

International Dairy Arrangement

THE CHERNOBYL NUCLEAR ACCIDENT AND DAIRY TRADE

Note by the Secretariat

Introduction

1. At the twenty-eighth session of the Committee of the Protocol Regarding Certain Milk Powders, a request was made to the secretariat to prepare a brief note indicating the impact of the Chernobyl accident on trade in dairy products and in particular the requirements of certain importers. The present note is an attempt to try to meet that request. It provides comments on the scientific background, on some effects on the milk and dairy market and information as to particular steps taken affecting trade.
2. In preparing the note, the secretariat based itself on various information obtained from ASSILEC, CERN, FAO, IAEA, IDF and the WHO. Some very useful information has also been received from national and private sources.
3. It should be noted, however, that the countries have been reluctant to notify all the measures taken and only the Philippines and the European Communities notified the measures taken under the Agreement on Technical Barriers to Trade. Together with the absence of internationally agreed standards for tolerance limits of radiation levels, the variety of measures and tolerance limits applied have caused widespread confusion and concern.
4. As far as dairy products are concerned, participants should have notified any restrictions they have introduced in order to prevent the export or import of contaminated products. Whenever such notifications are made, the secretariat will circulate them in the DPC/INV/3 series.

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The scientific background

5. Of the radioactive substances released into the atmosphere by the Chernobyl reactor accident in April 1986, the most important contaminants of foodstuffs were iodine-131, caesium-134 and caesium-137. The effects of

the iodine and caesium isotopes on milk differ in their development. Iodine-131 concentrates particularly in milk, but it has a half-life of only eight days. Therefore while it presents a domestic public health problem, affecting consumption of fresh liquid milk, its rapid rate of decay means it is not likely to be a significant contaminant of manufactured milk products in international trade. On the other hand, caesium-134 and caesium-137 have half-lives of two and thirty years respectively, during which they will be recycled in the environment in areas affected by the Chernobyl radiation and may show up in greater than usual concentrations in milk and dairy products from those areas. While noting that a clear picture of the increase in post-Chernobyl caesium levels could not yet be put together, IAEA and WHO reports to date do not find these levels to be of serious concern - with the possible exception of some localized "hot spots" where heavy rainfalls resulted in a higher concentration of caesium-137 in the grass. Some dairy products from affected areas, notably milk powder, have undoubtedly shown increased levels of caesium since Chernobyl. Radionuclide carryover into milk remained higher than usual throughout 1986, as cattle in some areas were fed on hay and silage made from affected grass.

6. In general the radiation standards imposed by European countries are considered by expert opinion to be adequate - even more than adequate - for public health protection. An FAO expert committee has recommended a maximum acceptable caesium level of 500 Bq/kg. in the first year, and 100 in subsequent years. The Community current standard is 370 Bq/kg. There are not yet any generally accepted international standards (or "derived intervention levels"); though the WHO and other bodies are working on establishing them, the barriers to rapid progress posed by regional diet variations and differing political perceptions are considerable.

7. The main manufactured milk product affected by radiation is milk powder. Dried milk, whether whole or skim, will have much the same caesium level as it did when liquid. Average levels of caesium in milk powder might however be reduced by blending milk from different areas during manufacture - in effect diluting the radiation content. On the other hand, butter and cheese will have low levels relative to the milk from which they are made, as the caesium tends to remain in the liquid component of the milk from which the solids are separated to manufacture these products.

Trade effects on the market and measures applied

8. Immediately after the accident, fresh milk consumption dropped in both Eastern and Western Europe, as a result both of government restrictions and consumer anxiety. However consumer confidence appears to have returned quite quickly in most areas. There were some additional imports of dairy products by countries most affected, e.g., Poland, and their export possibilities were seriously limited. In the Soviet Union a continuing rise in milk production (up 4-5 per cent in 1986) helped offset losses from contamination, and despite the accident, State retail sales of dairy products also increased by about 4 per cent. More generally, areas affected by the radiation may have experienced some increases in butter and skimmed milk powder production due to diversion of milk away from fresh consumption.

9. Throughout 1986, a range of measures were applied to limit nuclear contamination of milk. Cows were kept indoors longer than usual and silage and hay were cut and harvested in ways so as to minimize their content of radionuclides. Advice was given to users and consumers and frequent sampling of products and measurement of their level of radioactivity were undertaken. Certain quantities of products were reported to have been retained in stocks and not released for domestic sale nor for export and some milk powder factories were temporarily closed as the content of radionuclides in the milk supplied was considered too high. Both imports and exports of dairy products were stopped at least temporarily, in several countries. It is not, however, possible yet to suggest a product volume concerned, but it may be significant.

10. In the absence of an internationally-agreed standard for caesium levels in milk, importing countries have imposed a range of requirements, in some cases far stricter than those enforced in Europe. Some national standards for milk products are listed in the Annex. Only the Philippines and the European Communities have notified their measures to GATT in accordance with Article 10:4 of the Agreement on Technical Barriers to Trade. In a number of cases the severity of the standards applied has been such as possibly to exclude milk powder containing naturally-occurring levels of background radiation. Countries with particularly strict standards, apart from those listed, include Kuwait, Saudi Arabia, Singapore and Thailand. Singapore has a zero permitted radiation standard but allows some tolerance up to 10 Bq/kg. Thailand has a limit of 21 Bq/kg. for milk powder. In addition, some importing countries have established certification and inspection procedures which may occasionally have been unduly complex and not always clear or consistent.

11. The quantity of products blocked or withheld from export or rejected by importing countries as a result of these measures cannot be established with precision, but may have been significant. The effects have been widely felt among some exporters, and - while the direct trade impact of restrictions may now be lessening - European exporters are concerned at possible longer-term damage to the image of their product.

12. The Chernobyl nuclear accident obviously had considerable economic consequences, but their total value may never be assessed with accuracy. Furthermore, a lot of uncertainty is persisting as to how long the effects will be felt. With an increasing number of nuclear power plants coming into operation, it is imperative to increase international co-operation about early warning of accidents, protection and prevention and the establishment of agreed standards for measurement and tolerance of radioactivity. A number of international institutions are actively pursuing work on problems related to nuclear contamination and the secretariat will try to keep itself informed about the progress made, if the Council or the Committees would deem this to be appropriate.

ANNEX

Maximum levels permitted by various countries for
radionuclides in milk and dairy products
(as at December 1986)

	(Bq/kg. or Bq/l.)			
	I-131		CS-137, -134	
	Milk	Dairy products (where specified)	Milk	Dairy products (where specified)
Austria	185		370	
Brazil				370 (milk powder)
Canada	10	40	50	100
China	1,300		460	
EEC	500		370	
Finland	2,000		1,000	
Japan			370	
Norway	1,000		300	
Philippines			15	22 (milk powder) 33 (cheese)
Poland	- 1,320 total beta activity, milk powder for children -			
Sweden	2,000		300	
Switzerland	370		370	
USA	560 (for infants' food - 56)		370	

Source: WHO (Draft 5.12.86)

GATT: TBT/Notif. 86.85

TBT/Notif. 86.134