Ministry for Primary Industries
Manatū Ahu Matua

27 January 2013

TO WHOM IT MAY CONCERN

Withdrawal of DCD in New Zealand

A wide range of information is emerging since the Ministry for Primary Industries (MPI) issued a press release on 24 January 2013 in support of New Zealand companies withdrawing fertiliser containing dicyandiamide (DCD, also known as 2-cyanoguanadine) from distribution in New Zealand. MPI sees value in explaining why it was considered necessary to make the release, when there is no food safety issue in the products derived from animals that might have grazed in pasture where DCD had been applied last (New Zealand) spring. A major reason was because the environmental benefits of the product were such that its absence from the market would have attracted public attention.

New Zealand takes the stance that any findings should be made known that suggest there are new or unexpected results connected with agricultural practices, so that regulators in other jurisdictions can check their own use and any implications.

The withdrawal of the DCD product ensures that there is no source of DCD that could enter the milk supply in New Zealand or its exports of milk products.

DCD use in NZ

The 24 January MPI media statement supported the New Zealand fertiliser companies Ravensdown and Ballance Agri-Nutrients in suspending sales and use of dicyandiamide (DCD) treatment on farm land until further notice. This withdrawal was a response to a detection of very low levels of DCD residues in some milk products. It is internationally accepted that DCD does not present a food safety issue, but as the findings in milk were unexpected it was decided that this voluntary withdrawal of the fertiliser was appropriate while more research is undertaken.

DCD has been used commercially in New Zealand for direct application to pasture since 2004. MPI has supported its development to address key environmental issues. Its application directly on to farm land is one of the more promising ways of reducing nitrate leaching to waterways and greenhouse gas emissions from farming, particularly dairying, as well as promoting pasture growth. DCD use is concentrated in the central and southern areas of New Zealand as it is effective in areas which have cold winters. Papers at the following links provide more detailed information:
http://www.maf.govt.nz/news-resources/publications/Default.aspx?TabId=126&id=1222 ,
http://www.maf.govt.nz/news-resources/publications/Default.aspx?TabId=126&id=1220

DCD has been used by less than 5% of New Zealand dairy farmers and it is applied to pasture only two to three times a year, in autumn and spring. Residues disperse in the environment very quickly. Research findings indicate that where cows are fed pasture treated with DCD, residues are not found in dairy products one month after application so any presence of the compound will be very limited.

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Routine monitoring by the New Zealand dairy company, Fonterra, found low levels of dicyandiamide (DCD) residues in New Zealand milk products following the 2012 spring application of DCD. Although the levels were extremely low and it is internationally accepted that DCD does not present a food safety concern, the findings of any detectable level in milk were unexpected. Fonterra advised the Ministry for Primary Industries (MPI) of the results in November 2012 which resulted in the formation of an MPI working group with representatives from New Zealand dairy companies and the companies supplying DCD.

MPI testing

The working group immediately initiated testing to validate Fonterra's findings. MPI testing at the AsureQuality laboratory used a technique based on that of McMahon et. al. (2012)[1]. AsureQuality have completed their analysis of 27 raw liquid colostrum samples and 36 raw milk samples, all samples being taken at the farm vat. DCD has been detected at quantifiable levels in one raw milk sample and one raw colostrum sample, with a further raw colostrum sample being flagged as having a trace level below the reporting threshold of 0.05 mg/kg. The samples submitted for testing were randomly selected and not targeted to possible background DCD use.

53 further product samples of various types from across the country have been confirmed as received by the laboratory and analysis is underway at present. No results have been reported to date. Approximately 30 additional samples are expected to be submitted for testing.

Fonterra has also undertaken some follow up testing to determine if any product lines were affected. Detectable levels of DCD have only been found in buttermilk powder, whole milk powder and skim milk powder – not in butter, cheese or protein products.

Risk assessment to confirm food safety

Quite independently of each other, MPI and Ravensdown commissioned health risk assessments of DCD. The MPI assessment (carried out by a member of the roster of scientific experts for the Joint Expert Committee on Food Additives) formed the basis of the MPI regulatory decision-making.

The assessments published by the OECD and the European Food Safety Authority along with several of the published scientific papers on DCD toxicity were used to inform the MPI assessment. Both acute and longer term toxicity has been reported (including 2-year feeding studies), as well as testing for the ability of DCD to interfere with genetic material, and also epidemiology studies in workers handling DCD over many years.

When the Ravensdown assessment[2] (carried out by Dr Francesca Kelly of Environmental Medicine Limited) was made available to MPI, it was compared with the MPI assessment and found to have reached the same conclusions. The Ravensdown assessment had been peer reviewed by Dr Wayne Temple of Otago University, Dunedin, a leading toxicologist.

All of the risk assessments considered by MPI – its own assessment, that of Dr Kelly, the OECD and European Food Safety Authority concluded that DCD was of very low toxicity and likely residues in foods posed no threat to the health of humans of any age.

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[1] MacMahon S, Begley TH, Diachenko GW, Stromgren SA. A liquid chromatography–tandem mass spectrometry method for the detection of economically motivated adulteration in protein-containing foods.Journal of Chromatography A. 1220:101-7.

[2] Kelly f> 2012. Health Risk Assessment for Ravensdown: N-inhibitor and milk, Final Report.

No product has been withdrawn

It is internationally accepted that DCD does not present a food safety issue so there is no reason or intention on MPI's part to withdraw any milk product from any use in any market including New Zealand and no recall has been undertaken. However, as the New Zealand findings in milk were unexpected the working group recommended a precautionary approach.

MPI has the ability to regulate the use of DCD and residues under the Agricultural Compounds and Veterinary Medicines Act 1997 or the Food Act 1981. These acts would allow MPI to impose a range of controls on the use of DCD to prevent residues in food, but may require amendments to the regulations first to facilitate some of these controls. The working group agreed the preference was for parties to work collaboratively and for any action to be voluntary.

The next application of DCD was due in April/May 2013. The setting of an international Codex limit for DCD residues in milk was considered the best solution. This could take five years of more for research and consideration by the Codex Alimentarius Commission.

DCD working group concluded that the only option that would guarantee no detectable residues in milk products at this stage is to stop all sales of DCD products for use on New Zealand farms. The fertiliser companies selling DCD have agreed to voluntarily suspend sales of DCD fertiliser products until options can be found to prevent residues of DCD occurring in dairy products or until acceptable levels are agreed internationally.

This withdrawal was announced on 24 January 2013 by the fertiliser companies. MPI provided a statement in support of the companies' action to add regulatory support.

A further press release by the head of the Ministry for Primary Industries, Director-General Wayne McNee, updating the situation, and emphasising the safety of New Zealand milk and milk products was issued on 26 January 2013. A copy is attached.

Carol Barnao
Deputy Director-General, Standards
Ministry for Primary Industries
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26 January 2013

New Zealand Government assures safety of country's dairy products

The New Zealand Government is today assuring all consumers that all New Zealand dairy products are safe.

Ministry for Primary Industries Director-General Wayne McNee says there has been some confusion about the suspension of a pasture treatment, DCD, in New Zealand and what this means for the safety of New Zealand milk products.

"Use of DCD was suspended by its manufacturers because very small traces of residue were unexpectedly detected in New Zealand milk. DCD residues have been only found in some milk powder products and not in other dairy products such as butter and cheese.

"The detection of these small DCD residues poses no food safety risk. DCD itself is not poisonous," Mr McNee says.

"DCD is not used directly in or on food in New Zealand and never has been. It is a product used on pastures to reduce greenhouse gas emissions and the leaching of nitrogen into waterways.

"DCD manufacturers have voluntarily suspended DCD because New Zealand's international dairy customers expect New Zealand products to be residue-free, where there is no internationally accepted standard for residues for particular compounds. An international standard has yet to be agreed for DCD.

Mr McNee says the European Commission has set an acceptable daily intake for DCD, and based on the highest DCD residue that was detected in New Zealand milk products, a 60 kg person would have to drink more than 130 litres of liquid milk or consume some 60 kg of milk powder to reach the Commission's limit for an acceptable daily intake, and considerably more to have any health effects.

The Ministry says there is only a small amount of dairy product potentially involved in this issue. DCD has been used by less than five percent of the country's dairy farmers who applied it only twice a year. Each application leaves only traces of residue on the grass for no more than a few days. This means only very small numbers of New Zealand cows could have come into contact with DCD in very limited time frames.

"The chance of any residues of DCD being present in milk products processed now is minimal," Mr McNee assures.

"There has been no use of DCD on New Zealand pastures since September 2012, and now that its use has been suspended, it is not possible that any New Zealand dairy produce currently in production will have DCD residues in it."

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There has been absolutely no restriction on dairy sales in New Zealand because of this suspension of DCD use on pasture.

DCD is not melamine. It is a different chemical and has none of the toxicity that melamine has.

For further information, call the MPI Media Phone: +64 29 8940328