

Dairy National Chemical Contaminants Programme

2004/05

- provides an assurance that not less than 99% of raw milk conforms to New Zealand and international requirements at the farm gate.
- **We looked for:**
 - 231 compounds or elements including:
 - Antibiotics and other veterinary medicines
 - Pesticides
 - Herbicides
 - Fungicides
 - Compounds withdrawn or not permitted for food producing animals
 - Aflatoxins
 - Chemical elements
 - All sampling was on the basis of the milk or colostrum at the farm gate prior to any dilution.
- **We tested:**
 - 6 random raw milk rounds (309 samples) and 1 targeted colostrum round (59 samples).
 - over 86,000 individual results.

- **What we found:**

For 2004/05 all raw milk samples tested were within the New Zealand maximum residue limit. One colostrum sample was very marginally above the New Zealand MRL for DDE/DDT (total DDT 1.35 versus NZ MRL 1.25). No dairy product was affected and all product was confirmed as meeting the MRL.

Because the sampling occurs at the farm prior to consolidation these results give a very high level of confidence that dairy products meet the required limits for chemical residues and contaminants.

Where a test result indicated a result above that allowed by any overseas market investigations were undertaken. On each occasion, investigations initiated from NZFSA residue monitoring confirmed that all dairy products met the MRL of the intended markets.

Table 1: Summary of NCCP results for the period 1 July 2004 to 30 June 2005

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
Group A(6)									
	Chloramphenicol	309	309	0	0	59	59	0	0
	Dapsone	309	309	0	0	59	59	0	0
	SEM (Nitrofurazone derivative)	309	309	0	0	59	59	0	0
	AOZ (Furazolidone derivative)	309	309	0	0	59	59	0	0
	AMAZ (Furaltadone derivative)	309	309	0	0	59	59	0	0
	ADH (nitrofurantoin derivative)	309	309	0	0	59	59	0	0
Group B(1)									
Penicillins	Benzyl penicillin	309	309	0	0	59	58	1	0
	Ampicillin	309	309	0	0	59	59	0	0
	Amoxicillin	309	308	1	0	59	59	0	0
	Cloxacillin	309	309	0	0	59	59	0	0
	Dicloxacillin	309	309	0	0	59	59	0	0
	Nafcillin	309	309	0	0	59	59	0	0
	Oxacillin	309	309	0	0	59	59	0	0
Cephalosporins	Cefuroxime	309	309	0	0	59	59	0	0
	Cefacetrile	309	309	0	0	59	59	0	0
	Ceftiofur	309	309	0	0	59	59	0	0
	Cephalexin	309	309	0	0	59	59	0	0
	Cephalonium	309	309	0	0	59	54	5*	0

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
Group B(2)(a)									
Benzimidazoles	Fenbendazole	309	309	0	0	59	59	0	0
	Oxfendazole	309	309	0	0	59	59	0	0
	Albendazole	309	309	0	0	59	59	0	0
	Ricobendazole	309	309	0	0	59	59	0	0
Tetra-hydro-imidazoles	Levamisole	309	309	0	0	59	59	0	0
Milbemycins	Moxidectin	309	309	0	0	59	58	1	0
	Eprinomectin	309	309	0	0	59	58	1	0
Group B(2)(c)									
Synthetic pyrethroids	Permethrin	309	309	0	0	59	59	0	0
	Bioresmethrin	309	309	0	0	59	59	0	0
	Cyhalothrin	309	309	0	0	59	59	0	0
	Cyfluthrin	309	309	0	0	59	59	0	0
	Cypermethrin	309	309	0	0	59	59	0	0
	Deltamethrin	309	309	0	0	59	59	0	0
	Flumethrin	309	309	0	0	59	59	0	0
	Fenvalerate	309	309	0	0	59	59	0	0
	Bifenthrin	309	309	0	0	59	59	0	0
	Dichlofenthion	309	309	0	0	59	59	0	0
	Fenpropathrin	309	309	0	0	59	59	0	0
	Piperonal butoxide	309	309	0	0	59	59	0	0
	Carbamates	Bendiocarb	309	309	0	0	59	59	0

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
	Carbofuran	309	309	0	0	59	59	0	0
	Chlorpropham	309	309	0	0	59	59	0	0
	Fenoxycarb	309	309	0	0	59	59	0	0
	Furathiocarb	309	309	0	0	59	59	0	0
	Methiocarb	309	309	0	0	59	59	0	0
	Pirimicarb	309	309	0	0	59	59	0	0
	Propham	309	309	0	0	59	59	0	0
	Propoxur	309	309	0	0	59	59	0	0
Group B(2)(e)									
Non-steroidal anti-inflammatory drugs (NSAIDS)	Phenylbutazone	309	309	0	0	59	59	0	0
	Flunixin	309	309	0	0	59	59	0	0
	Ketoprofen	309	309	0	0	59	59	0	0
Group B(2)(f)									
Other	Dexamethasone	48	48	0	0	59	59	0	0
Group B(3)(a)									
Organochlorines	Aldrin	309	309	0	0	59	59	0	0
	Atrazine	309	309	0	0	59	59	0	0
	Dieldrin	309	309	0	0	59	59	0	0
	DDD (op + pp)	309	309	0	0	59	59	0	0
	DDE (op + pp)	309	243	66	0	59	33	25*	1
	DDT (op + pp)	309	309	0	0	59	59	0	0
	DDD op	309	309	0	0	59	59	0	0
	DDD pp	309	309	0	0	59	59	0	0

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
	DDE op	309	309	0	0	59	59	0	0
	DDE pp	309	243	66	0	59	33	25*	1
	DDT op	309	309	0	0	59	59	0	0
	DDT pp	309	309	0	0	59	59	0	0
	sum of DDT, DDD & DDE	309	243	66	0	59	33	25*	1
	Hexachlorobenzene	309	309	0	0	59	59	0	0
	BHC, alpha isomer	309	309	0	0	59	59	0	0
	BHC, beta isomer	309	309	0	0	59	59	0	0
	BCH, gamma isomer (lindane)	309	309	0	0	59	59	0	0
	Chlordane cis	309	309	0	0	59	59	0	0
	Chlordane trans	309	309	0	0	59	59	0	0
	Dicofol	309	309	0	0	59	59	0	0
	Endosulfan sulphate	309	309	0	0	59	58	1	0
	Endosulphane I	309	309	0	0	59	59	0	0
	Endosulphane II	309	309	0	0	59	59	0	0
	Endrin	309	309	0	0	59	59	0	0
	Heptachlor	309	309	0	0	59	59	0	0
	Heptachlor epoxide	309	309	0	0	59	59	0	0
Group B(3)(b)									
Organophosphates	Chlorpyrifos (ethyl)	309	309	0	0	59	59	0	0

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Number				number			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
	Chlorpyriphos (methyl)	309	309	0	0	59	59	0	0
	Coumaphos	309	309	0	0	59	59	0	0
	Diazinon	309	309	0	0	59	59	0	0
	Famphur	309	309	0	0	59	59	0	0
	Fenthion	309	309	0	0	59	59	0	0
	Phorate	309	309	0	0	59	59	0	0
	Phosmet	309	309	0	0	59	59	0	0
	Pirimiphos-methyl	309	309	0	0	59	59	0	0
	Propetamphos	309	309	0	0	59	59	0	0
	Temephos	309	309	0	0	59	59	0	0
	Terbufos	309	309	0	0	59	59	0	0
	Dichlorvos	309	309	0	0	59	59	0	0
	Bromophos ethyl	309	309	0	0	59	59	0	0
	Bromophos methyl	309	309	0	0	59	59	0	0
	Chlorfenvinphos	309	309	0	0	59	59	0	0
	Dimethoate	309	309	0	0	59	59	0	0
	EPN	309	309	0	0	59	59	0	0
	Ethion	309	309	0	0	59	59	0	0
	Etrimfos	309	309	0	0	59	59	0	0
	Fenchlorophos	309	309	0	0	59	59	0	0
	Fenitrothion	309	309	0	0	59	59	0	0
	Fensulfothion	309	309	0	0	59	59	0	0
	Heptenophos	309	309	0	0	59	59	0	0
	Iodofenphos	309	309	0	0	59	59	0	0
	Isazophos	309	309	0	0	59	59	0	0

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Number				number			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
Acaricides	Isofenphos	309	309	0	0	59	59	0	0
	Malathion	309	309	0	0	59	59	0	0
	Methacrifos	309	309	0	0	59	59	0	0
	Methidithion	309	309	0	0	59	59	0	0
	Mevinphos	309	309	0	0	59	59	0	0
	Parathion	309	309	0	0	59	59	0	0
	Parathion-methyl	309	309	0	0	59	59	0	0
	Phosalone	309	309	0	0	59	59	0	0
	Phosphamidon	309	309	0	0	59	59	0	0
	Pyrimiphos methyl	309	309	0	0	59	59	0	0
	Prothiophos	309	309	0	0	59	59	0	0
	Pyrazophos	309	309	0	0	59	59	0	0
	Tetrachlorvinphos	309	309	0	0	59	59	0	0
	Tolclofos-methyl	309	309	0	0	59	59	0	0
	Triazophos	309	309	0	0	59	59	0	0
	Bromopropoxylate	309	309	0	0	59	59	0	0
	Chlorobenzilate	309	309	0	0	59	59	0	0
	Propargite	309	309	0	0	59	59	0	0
	Tebufenpyrad	309	309	0	0	59	59	0	0
	Tetradifon	309	309	0	0	59	59	0	0
Buprofezin	309	309	0	0	59	59	0	0	
Cholinesterase sensitive Organophosphates	309	309	0	0	59	59	0	0	

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Number				number			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
Fungicides	Azaconazole	309	309	0	0	59	59	0	0
	Benalaxyl	309	309	0	0	59	59	0	0
	Bitertanol	309	309	0	0	59	59	0	0
	Bupirimate	309	309	0	0	59	59	0	0
	Captan	309	309	0	0	59	59	0	0
	Chlorothalonil	309	309	0	0	59	59	0	0
	Chlozolinat	309	309	0	0	59	59	0	0
	Cyproconazole	309	309	0	0	59	59	0	0
	Cyprodinil	309	309	0	0	59	59	0	0
	Dicloran	309	309	0	0	59	59	0	0
	Difenoconazole	309	309	0	0	59	59	0	0
	Dimethomorph	309	309	0	0	59	59	0	0
	Diphenylamine	309	309	0	0	59	58	1	0
	Etridiazole	309	309	0	0	59	59	0	0
	Fenarimol	309	309	0	0	59	59	0	0
	Fenpiclonil	309	309	0	0	59	59	0	0
	Fenpropomorph	309	309	0	0	59	59	0	0
	Fludioxonil	309	309	0	0	59	59	0	0
	Flusilazole	309	309	0	0	59	59	0	0
	Flutriafol	309	309	0	0	59	59	0	0
	Folpet	309	309	0	0	59	59	0	0
	Furalaxyl	309	309	0	0	59	59	0	0
	Hexaconazole	309	309	0	0	59	59	0	0
	Iprodione	309	309	0	0	59	59	0	0
Metalaxyl	309	309	0	0	59	59	0	0	

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Number				number			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
Herbicides	Nitrothal isopropyl	309	309	0	0	59	59	0	0
	Oxadixyl	309	309	0	0	59	59	0	0
	Penconazole	309	309	0	0	59	59	0	0
	Pencycuron	309	309	0	0	59	59	0	0
	Prochloraz	309	309	0	0	59	59	0	0
	Procymidone	309	309	0	0	59	59	0	0
	Propiconazole	309	309	0	0	59	59	0	0
	Pyrimethanil	309	309	0	0	59	59	0	0
	Quintozene	309	309	0	0	59	59	0	0
	Tebuconazole	309	309	0	0	59	59	0	0
	Tolyfluanid	309	309	0	0	59	59	0	0
	Triadimefon	309	309	0	0	59	59	0	0
	Triadimenol	309	309	0	0	59	59	0	0
	Vinclozolin	309	309	0	0	59	59	0	0
	Acetochlor	309	309	0	0	59	59	0	0
	Alachlor	309	309	0	0	59	59	0	0
	Chlornitrofen	309	309	0	0	59	59	0	0
	Chlorthal-dimethyl	309	309	0	0	59	59	0	0
	Clomazone	309	309	0	0	59	59	0	0
	Cyanazine	309	309	0	0	59	59	0	0
	Diflufenican	309	309	0	0	59	59	0	0
	Dimethanamid	309	309	0	0	59	59	0	0
	Diphenamid	309	309	0	0	59	59	0	0
	EPTC	309	309	0	0	59	59	0	0
Flamprop-methyl	309	309	0	0	59	59	0	0	

Group of Substances	Compounds	Raw Milk 2004/2005				Raw Colostrum 2004/2005			
		Number				number			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
	Fluazifop-p-butyl	309	309	0	0	59	59	0	0
	Fluometuron	309	309	0	0	59	59	0	0
	Haloxyfop-methyl	309	309	0	0	59	59	0	0
	Hexazinone	309	309	0	0	59	59	0	0
	Isopropufuron	309	309	0	0	59	59	0	0
	Linuron	309	309	0	0	59	59	0	0
	Metolachlor	309	309	0	0	59	59	0	0
	Metribuzin	309	309	0	0	59	59	0	0
	Napropamide	309	309	0	0	59	59	0	0
	Norfluorazon	309	309	0	0	59	59	0	0
	Oxadiazon	309	309	0	0	59	59	0	0
	Oxyfluorfen	309	309	0	0	59	59	0	0
	Pendimethalin	309	309	0	0	59	59	0	0
	Prometryn	309	309	0	0	59	59	0	0
	Propachlor	309	309	0	0	59	59	0	0
	Propazine	309	309	0	0	59	59	0	0
	Propyzamide	309	309	0	0	59	59	0	0
	Quizaolofop-ethyl	309	309	0	0	59	59	0	0
	Simazine	309	309	0	0	59	59	0	0
	Terbacil	309	309	0	0	59	59	0	0
	Terbuthylazine	309	309	0	0	59	59	0	0
	Terbutym	309	309	0	0	59	59	0	0
	Trialkoxydim	309	309	0	0	59	59	0	0
	Triallate	309	309	0	0	59	59	0	0
Other Pesticides	Benodanil	309	309	0	0	59	59	0	0

Group of Substances	Compounds	Raw Milk 2004/2005 Number				Raw Colostrum 2004/2005 number			
		Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³	Samples ¹	Not Detected	Detected ² below MRL	Non-conforming ³
	Binapacryl	309	309	0	0	59	59	0	0
	Chlorfluazuron	309	309	0	0	59	59	0	0
	Epoxyconazole	309	309	0	0	59	59	0	0
	Inoxacarb	309	309	0	0	59	59	0	0
	Kresoxim-methyl	309	309	0	0	59	59	0	0
	Nitrofen	309	309	0	0	59	59	0	0
	Paclobutrazol	309	309	0	0	59	59	0	0
	Pyriproxifen	309	309	0	0	59	59	0	0
	Trifloxystrobin	309	309	0	0	59	59	0	0
Group B(3)(c)									
Chemical elements	Arsenic	206	206	0	0	59	0	0	0
	Boron	206	206	0	0	59	0	0	0
	Cadmium	206	206	0	0	59	0	0	0
	Lead	206	206	0	0	59	0	0	0
	Mercury	206	206	0	0	59	0	0	0
	Selenium	206	206	0	0	59	0	0	0
Group 3(d)									
Mycotoxins	Aflatoxin M	150	149	1	0	59	56	3	0
Total analyses⁴		72,195	72,127 99.91%	68 0.09%	0 0.00%	13,983	13,944 99.72%	38 0.27%	1 0.01%

Notes:

1. Samples: total number of individual batches sampled in the period covered
 2. Detections: number of detections at or below the MRL. In some cases no limit applies.
 3. Non-conforming results: detection of a compound above the New Zealand MRL maximum limit for a residue or contaminant, or detection of a compound not permitted for food producing animals.
 4. Number analyses: total number of analyses completed in the period covered (ie samples x tests).
- * One or more of the farm gate results may have exceeded an importing country mrl, but the product manufactured met the market requirement.