



# Massey University News Release

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## **Workers exposed to dioxin have higher cancer rates**

Workers exposed to dioxin during the manufacture of phenoxy herbicides at the Ivon Watkins-Dow (IWD) plant in New Plymouth are more likely to die from cancer, according to a Massey University research study.

The study was conducted as part of an international study organized by the World Health Organisation. The updated New Zealand findings have just been presented at an International Symposium on Occupational Health held in Melbourne.

In the study, 1025 phenoxy herbicide production workers at the IWD plant, and 703 phenoxy herbicide sprayers were followed up over a thirty year period. A comparison of their mortality with that of the general population showed that there was no increased cancer risk in the sprayers, but there were higher rates of death from cancer among the production workers, particularly those in jobs with likely dioxin exposure.

The study was headed by Professor Neil Pearce at Massey's Centre for Public Health Research. "This is a small study" said Professor Pearce, "but the findings are consistent with those of the overall WHO study, which is the biggest and best study that has ever been conducted on this issue. It involves 22,000 workers in 36 plants in 12 countries. The WHO study found that production workers exposed to dioxin had a 29% increased risk of cancer. In New Plymouth we found a 24% increased risk, which is very similar, particularly when we take into account the small numbers involved."

"Also, this risk was higher for people who had worked in departments which probably involved the highest dioxin exposure: cancer mortality was 24% higher overall, but was 69% higher in synthesis workers, 64% higher in formulation and laboratory workers, and 46% higher in maintenance and waste workers".

Professor Pearce stressed that the number of deaths involved was small. "Of the 1025 production workers, 813 had significant exposure to dioxin, and 122 of these

have died. However, it is only for cancer that the death rate is higher than the national average. There were 43 deaths from cancer, where we would have expected about 34 or 35 on the basis of national cancer death rates. These 8 or 9 extra cancer deaths among 813 workers, mean that about 1% of the people who worked at the plant have died from cancer because of their dioxin exposure.”

“However, the concern is that if this excess risk continues as the former workers get older, and more susceptible to cancer, then the number of excess cancer deaths due to dioxin exposure will continue to grow. If this 24% excess risk of cancer continues, then in the worst case scenario about 10% of the most exposed members of the former workforce will eventually die from cancer because of their dioxin exposure. These are deaths over and above those that you would see in people in the general population who have not been exposed to dioxin at the same levels”.

Chlorophenoxy herbicides were produced and used extensively in New Zealand from the late 1950s until 1987. During production, 2,4,5-T and its intermediates are contaminated with the highly toxic 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD). Recent tests conducted by ESR, on behalf of the Ministry of Health, have shown high levels of dioxin exposure in residents living near the plant, but OSH has not tested levels in the former workers at the plant.

Professor Pearce said that although blood tests have not been done on the former workers, their levels of dioxin exposure were probably much higher than those in the community, so any cancer risk in the community would be much lower than that in the former workers.

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