fungicides use on NHL risk, overall and for multiple myeloma (MM), Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma (CLL-SLL) and Diffuse Large B-cell Lymphoma (DLBCL).

**Methods**

Nearly 1,820 participants affiliated in a health assurance system reported in the enrollment questionnaire (2005–2007) lifetime pesticide use with start and end year on 13 crops and were followed until 2013. Using the crop-exposure matrix PESTIMAT, associations between NHLs and benzimidazole fungicides exposure (overall and for fenbuconazole, carbendazim, fenzaflore, thiabendazole and thiophanate methyl) were estimated using Cox models.

**Results**

After exclusion of prevalent cases, individuals with incomplete agricultural profession history data or a zero tracking period, 1,133 NHL incident cases were identified from cancer registries (269 MM, 244 CLL-SLL, 190 DLBCL). Nearly 20% of participants were considered exposed (median duration from 7 to 20 years according to active ingredient). Increased NHL risk was observed with exposure to benzimidazole, overall, on any crops (NHL: HR = 1.13, 95% CI = 0.94–1.37, 150 cases, no duration relationship). Moreover, borderline positive associations were reported on specific crops: wheat/barley (NHL: HR = 1.23, CLL-SLL: HR = 1.42), beets (DLBCL, HR = 2.19) and rape (DLBCL, 2.32). Significant increased risks were reported with MM for use of thiophanate-methyl on wheat/barley (HR = 3.46, 23 exposed cases, no duration relationship) and with DLBCL for all 4 benzimidazole used on beets (HR from 2.34 to 2.57) and for the 2 used on rape (HR = 2.39 and 2.46), although based on respectively 7 and 6 cases.

**Conclusion**

These findings suggest positive associations between incidence of specific NHL subtypes, and exposure to benzimidazoles as a chemical family or specific ingredients in this family.

**References**

Conclusion Pesticide exposure is considerable among the farmers. The occupational health conditions presented by the farmers can be linked with their pesticide investigation. Although this study has presented some risk factors associated with general health symptoms, further investigation should look into specific pesticide-health correlation.

Methods For each of the pesticide active ingredients most commonly used in New Zealand, the carcinogenicity classification of three regulatory agencies (The New Zealand Environmental Protection Authority [NZ-EPA], the US Environmental Protection Agency [US-EPA], and the European Chemicals Agency [EU]) were extracted, as well as the classification of the International Agency for Research on Cancer (IARC) Monograph Programme. Total tonnes of active ingredients that are known or suspected human carcinogens was calculated for each classification.

Results None of the pesticides used in New Zealand are classified as known human carcinogens by any of the three regulatory agencies or IARC. Annually New Zealand uses 148–736 tonnes of active pesticide ingredients that are classified as suspected human carcinogens by the three regulatory agencies. If also including the pesticides classified by IARC as possible or probable human carcinogens, the upper estimate doubles to 1475 tonnes, representing half of the total volume of pesticide active ingredients used in New Zealand agriculture. The percentage and volume of active ingredients classified as suspected carcinogens by the three regulatory agencies was highest for the fungicides (8%–60%); 72–540 tonnes), followed by herbicides (3%–10%; 60–200 tonnes), and insecticides (8%, 16 tonnes).

Conclusion Although no known human carcinogens are used as pesticides, New Zealand’s high use of pesticides that are suspected carcinogens requires a greater awareness of the presence of potential carcinogens in the agricultural sector and the development of an intervention strategy to reduce cancer risk.

Reproductive Effects

MODELING INFERTILITY IN A COHORT OF CANADIAN TRADESWOMEN

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Introduction With few female occupational cohorts, little is known about the contribution of work exposures to female infertility.

Methods A cohort of 888 tradeswomen across Canada was established (450 welders and 438 in the electrical trades) to examine effects on the fetus, with investigation of infertility a secondary objective. Women completed an extensive questionnaire at recruitment and follow-up questionnaires every six months for up to 5 years. At each contact she was asked about attempts to get pregnant and barriers to conception. Fertility issues were identified both by self-report of failure to conceive for ≥12 months and as the likelihood of conceiving in any month at risk. Determinants of infertility were examined in a Cox regression with time dependent covariates. Employment factors examined in each month were paid work, trade work and cumulative months in trade. Maternal age, prior conceptions, smoking, use of alcohol and BMI were examined as confounders.

Results 96 periods of infertility ≥12 months were reported among 38 women from welding and 52 from electrical trades giving the risk of infertility for welders relative to...