

NEWS FROM AROUND

# MORE PESTICIDE USE; MORE BIRTH DEFECTS

Extensive scientific research has indicated that some of the ingredients in widely-used commercial pesticides contribute to the development of a frightening array of health problems: leukemia, breast and testicular cancers, and lowered sperm counts. The relationship of pesticide exposure to yet another problem, birth defects, is the subject of a recent study conducted by researchers from the U.S. Environmental Protection Agency and the University of Minnesota. The study concluded that human birth defect rates are high in children whose fathers are exposed to pesticides.

The study surveyed Minnesota's entire birth registry between 1989 and 1992 and compared birth defect rates among the children of people certified to apply restricted use pesticides on their own land (called pesticide applicators in this study) with rates among the state's population as a whole. The results were frighteningly clear: "Pesticide applicators had significantly more children with an anomaly [a defect] than did nonapplicators."

The researchers then went on to see if a similar effect could be attributed to pesticide exposure among Minnesota's general population. Birth defect data were first divided by geography into one of three crop regions of Minnesota. They were then compared with pesticide use data from a statewide survey by the Minnesota Department of Agriculture. Again, a correlation was identified between birth defect frequencies and pesticides; areas with elevated levels of pesticide use registered higher birth defect rates than those reporting less use. The major crop-growing areas of the state, in which the majority of its pesticide use occurs, registered higher defect rates than urban and non-agricultural regions. In

practical terms this means that "families residing in predominantly agricultural regions of Minnesota are more likely to have children with birth anomalies."

Lastly, the study examined local uses of particular pesticides and compared data on pesticide use within each county of Minnesota with variations in the birth defect rates. The researchers' findings further specified the role played by pesticides in increasing birth defect risks. Specific chemicals were correlated with specific types of disorders. For example, high-use areas for herbicides of the chlorophenoxy family (2,4-D and MCPA) persistently displayed above average rates of skeletal and muscular defects, and of defects in the nervous, circulatory, and respiratory systems. The link between chlorophenoxy exposure and these disorders was also confirmed by seasonal variations in the latter's occurrence. In regions where chlorophenoxyes are most frequently used, the birth defects connected with them were found to occur most com-

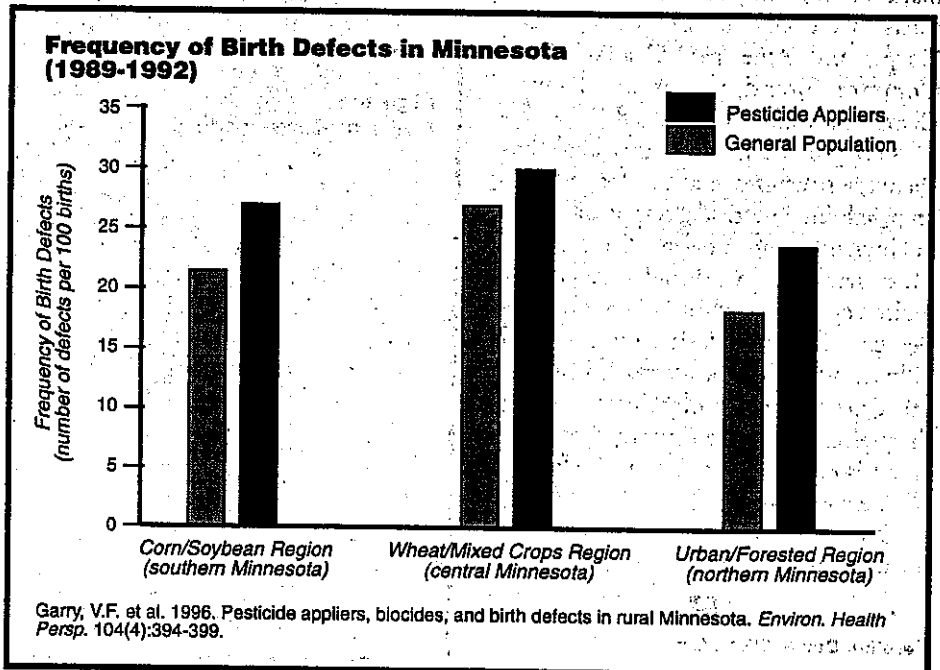
monly among infants conceived in spring—the season in which chlorophenoxyes are routinely applied.

Evidence unearthed by the Minnesota study thus speaks decisively about a connection between pesticides and birth defects.

One final remark made by the researchers helps to tie their findings into this larger context of negative pesticide repercussions: "the frequency of births among applicators (ages 15-44) in the five counties with the highest 2,4-D herbicide/fungicide use was approximately half that of the general population (males ages 15-44) living in the same five-county area." So a chemical associated with birth defects was also, incidentally, noticed to promote an additional disorder of major significance. This observation reminds us that the plethora of pesticide-related health threats are just many facets of a single underlying problem - continued production and utilization of unnecessary chemical poisons. Hopefully, this problem will not have to grow much larger before the pesticide alternatives ready at hand receive the popular recognition they have long deserved.

—Chris S. Brown

Garry, V.F. et al. 1996. Pesticide applicators, biocides, and birth defects in rural Minnesota. *Environ. Health Persp.* 104(4):394-399.



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