

## Peer influence may play a greater role than risk perception in protective equipment use

Advances in technology combined with increasing evidence of the short- and long-term health risks of pesticide spraying and other potentially toxic farming practices have led to the development of various kinds of personal protective equipment (PPE), ranging from boots, gloves and masks to respirators and full-body suits. Educational initiatives to support the use of this equipment have been undertaken by governments, industry and agricultural associations. As effective as these educational programs may be, new research suggests that—at least in some farm sectors—they may have less influence on actual use of PPE than do context-related factors such as peer behaviour and the nature of the farm activity.

In 2003, Anne-Marie Nicol and her colleague Susan M. Kennedy, researchers at the Centre for Health and Environmental Research and the Department of Health Care and Epidemiology respectively at the University of British Columbia, undertook a telephone survey of 380 individuals living on fruit-growing farms throughout British Columbia to explore influences relating to integrated pest management (IPM) techniques and use of PPE. Respondents were asked a range of questions regarding their levels of knowledge regarding relevant pesticide health risks, the sources of that knowledge, cultural issues such as ethnicity and peer influence, their beliefs regarding their own personal levels of risk, and their opinions of the usefulness of IPM and PPE. To interpret the results, the researchers developed a theoretical framework that synthesized existing tools from the fields of health-promotions research, risk-perception research and agricultural research—creating a valuable new tool for health research that relates to farm practices.

The results of the study indicated that PPE use was more highly influenced by peer-related and farm-specific factors than by farm workers' perceptions of pesticide risk, their belief in the value of using PPE, or the amount of training they had received relating to pesticides and their use.

Nicol says, “We found that individuals who belonged to farm groups or who believed that other farms used protective equipment were more likely to wear PPE

themselves. In addition, perception of individual risk was not a significant influence when it came to use of personal protective equipment in the group we surveyed. In other words, behaviours were not based on what farmers had been told or believed. Context was much more important.”

While the researchers were surprised to find that perception of risk was not a more significant factor in PPE decisions, Nicol is enthusiastic about the implications of the findings. “The results tell us that communities can work together to influence positive behaviours. It appears that people will follow behaviours that mentors are role-modeling even when it contradicts their personal perceptions.”

The 2003 study also showed that women have an important—and often overlooked—role to play in the implementation of farm-safety measures.

For example, farm women who are not directly involved in spraying are often unaware of the risks of working on a farm where spraying occurs. Education has traditionally been targeted at those who are directly involved with potentially toxic substances on farms, who are often men.

In a new project, Nicol and her colleagues are working directly with women’s groups to increase awareness of the risks associated with laundering clothes that have been worn during spraying. Wash With Care (see [www.washwithcare.ca](http://www.washwithcare.ca)) builds on findings from the 2003 study by using peer and community support as core mechanisms for raising women’s awareness of the environmental risks of pesticides to farm families.



#### Points to Consider

- Decisions regarding the use of PPEs may be less related to beliefs and knowledge about risk management than to peer influence and other context factors.
- Recruiting key members of the community to act as positive role models can be a useful approach to facilitating behavioural change.

The Nicol and Kennedy study was published in the April 2008 issue of *Journal of Occupational and Environmental Hygiene* (Vol. 5, p. 217-226, “Assessment of Pesticide Exposure Control Practices Among Men and Women on Fruit-Growing Farms in British Columbia”).