BIOLOGICAL FARMERS OF AUSTRALIA

BFA Press Release 7th February 2008

Crops and children suffer most from pesticide combinations

Recent independent findings of higher than acceptable pesticide residues in strawberries from conventional farms *(Choice* magazine, February 2008) highlight the potential for chemical abuse in all produce. 'Chemical cocktail' mixes are shown to be of particular concern for parents and growing healthy crop plants, warns Australia's largest organic representative group, *Biological Farmers of Australia (BFA)*.

Choice magazine's independent research found from conventional strawberry samples, three contained pesticide residues at levels above the acceptable MRL's (maximum residue levels), three had pesticides that regulations don't allow, two contained more fungicide than is acceptable under stringent EU regulations, and seventeen strawberries had combination residues of more than one pesticide.

Out of four organic samples tested, one contained fungicide residues at less than 1% of the MRL. Researchers state this may have come from chemical drift.

Their conclusion? *"If you want to minimise your families exposure to pesticides, organic is the way to go. Tests have repeatedly found lower levels of pesticide residues in organic produce*."

Soil health technician and BFA spokesperson, Mr Greg Paynter, says the mixed use of pesticides, insecticides, herbicides, rodenticides, and fungicides weaken crops in the long-term when applied in un-tested combinations at the discretion of farmers.

"Excessive reside levels are a problem – but what may be more concerning and is also carried through to the end consumer, are the unknown effects of blends of different types of synthetic farming inputs. The toxic permutation that occurs as a result is unidentified and untested with regards to human or eco-health, because standard practise is to test a chemical product in isolation," says Mr. Paynter.

Adverse affects on health from low doses of agricultural chemical combinations have been recorded in the past, with a particularly negative response from tested animals in the pairing of Atrazine – a herbicide widely used on maize and sorghum - with nitrate fertilizer (1).

Mr. Paynter said chemical mixes damage a crop's ability to respond naturally to growth obstacles, and often lead to changes in plant metabolism, physiology, chemical composition and nutritional patterns.

"Plants which take up one particular pesticide will then inevitably be exposed to other environmental problems with a weakened natural defence system. A farmer who began using one type of pesticide may be forced to apply an additional herbicide, and then another type of pesticide to compensate for a vulnerable crop (for example)," he says.

"Organic growers, in comparison, tend to utilise the design of ecosystem services to replace the use of synthetic inputs in their farming practice."

There are around 8,700 registered agricultural and veterinary products used in Australia, a number subject to fluctuation daily.

Children are the other party most susceptible to high toxicity levels from chemical blends, according to BFA Nutritionist Shane Heaton. "Children are more vulnerable to food toxins than adults – they have a larger intake of food per kilo of body weight than adults, and immature organs and detoxification and immune systems," he says.

According to the *20th Australian total diet survey* in 2003, dietary exposure to pesticide residues is highest for the toddler age group (2). Mr. Heaton said pesticides had proven effects on developing cognitive systems.

Adding to this he says "A study in South America showed impaired cognitive ability in children (aged four and five) from a village that routinely used farm pesticides – they had a lower capacity for things like hand-

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eye co-ordination and short term memory, and less ability for play-based learning tasks like drawing a recognisable person, or catching a ball," (3).

Mr Heaton said concerned parents could opt for organic to reduce their child's exposure to chemicals - children eating a predominantly organic diet have been proven to have less (one-sixth) the level of pesticide metabolite in their urine than those who don't. (4)

"At the end of the day it's about peace of mind in parenting – organic choices reduce transferred chemical risk from 'uncertain' to negligible," he says.

To link to *Choice* magazine's independent pesticide trial summary online go to:
http://www.choice.com.au/viewArticle.aspx?id=106157&catId=100286&tid=100008

- (1)Data: Toxicology and industrial health , *Endocrine, immune, and behavioral effects of aldicarb (carbamate), atrazine (triazine) and nitrate (fertilizer) mixtures at groundwater concentrations* http://tih.sagepub.com/cgi/content/abstract/15/1-2/133
- (2)Data: Australian total diet survey, FSANZ http://www.foodstandards.gov.au/_srcfiles/Final_20th_Total_Diet_Survey.pdf
- (3)Data: Environmental health perspectives**:** *An Anthropological Approach to the Evaluation of Preschool Children Exposed to Pesticides in Mexico* (Elizabeth Guillette) http://links.jstor.org/sici?sici=0091-6765(199806)106%3A6%3C347%3AAAATTE%3E2.0.CO%3B2-T
- (4)Data: University of Washington: *Organophosphorus pesticide exposure of urban and suburban preschool children with organic and conventional diets* http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1241395

The BFA has a vision for the organic industry in Australia - to grow organic food sales to 10 per cent of the food market in Australia by 2020. Low to no chemical residues is one good reason to buy organic and assist the organic industry to achieve its goal. More information is available at http://www.bfa.com.au

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