

RURAL NEWS

Indoor plants are important for our health

WE'VE all walked into a freshly painted room and been confronted by an overwhelming 'chemical' smell.

Similarly, when new carpet is laid and new furniture brought into the house or office there is a 'new' smell that comes with it. If you love that 'new car smell' have you ever wondered what you were actually smelling and is it bad for us?

Adjunct Professor Margaret Burchett and professional horticulturalist Ron Wood, in collaboration with their colleagues Dr Ralph Orwell, Dr Jane Tarran and Dr Fraser Torpy in the University of Technology, Faculty of Science' Plants and Environmental Quality Group, have been researching these compounds, their effects on humans and what we can do about it

In what Professor Burchett terms a 'dungeon' (basement) or window-tight situation, there is a toxic mixture of volatile organic compounds (VOCs) found in indoor air. Although these compounds are present indoors in low individual concentrations, they are capable of producing toxic symptoms in humans — and the cocktail can be addictive, or even synergistic in its effects.

New paint, carpets, furniture and fittings radiate these VOCs, and Professor Burchett and her colleagues caution that "if you smell that new office smell, you are scenting the toxic VOCs".

Dominant VOC toxicity symptoms are sore eyes, nose and throat; a feeling of dizziness; loss of concentration; headaches; mild nausea; faint disorientation; and mildly depersonalised feelings. These are the same symptoms present in 'sick building syndrome' or 'building-related illness'.

We know that plants make indoor areas more inviting and 'friendly'. Professor Burchett's research group has shown that a mixture of plant species also work to take these compounds out of the air. They found that common indoor plants including *Spathiphyllum* (Peace Lily), *Howea forsteriana* (Kentia Palm), *Dracaena marginata* (Marginata), *Dracaena deremensis* (Janet Craig), *Epipremnum aureum* (Devil's Ivy) can achieve a complete removal of VOCs in 24 hours in a closed chamber with no ventilation, and a 10 to 20 per cent reduction in flow-through conditions.

Professor Burchett emphasises that one does not need a 'rain forest' to detoxify basement or sealed office areas, and states that plants strategically placed in the workplace can achieve significant results.

Several large, shoulder-high plants from the recommended species could be placed on the floor, and smaller plants could be sited near computers and on desk surfaces.

DOWN TO EARTH



LIVERPOOL PLAINS
LAND MANAGEMENT
BY MARK KESBY
REGIONAL LANDCARE
FACILITATOR



In a British experiment, scientists claim that rats died after being released into small tanks with edge-to-edge new carpets. And in a study conducted for the housing department in the United Kingdom, it was found that pot plants reduced by one third the build-up of nitrogen oxides in houses with gas fires and stoves, which produce these compounds.

A Swedish study to improve the indoor environment in an x-ray unit situated in a hospital 'dungeon', demonstrated conclusively that pot plants not only achieved a substantial reduction in total VOCs in the indoor air but also reduced worker absenteeism by 60 per cent.

According to Professor Burchett, UTS research has confirmed the potential of potted plants as a portable, mass-marketable, integrated biofiltration system to improve indoor air quality.

"Urban dwellers often spend more than 80 per cent of their time indoors, so indoor air quality is a major health consideration. Potted plants will be increasingly used as a flexible indoor biofiltration system, as well as for beautifying indoor spaces."

For further information go to http://www.aih.org.au/mburchett_transcript_040305.pdf for a transcript of a talk Prof Burchett gave to the Australian Institute of Horticulture.

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