

## Is Horticulture in New Zealand Environmentally Friendly?

**Donald McPherson**

Grace-Sierra Australia Pty Ltd, New Zealand Office, 138 Vipond Road, Stanmore Bay

My occupation has taken me to many countries and allowed me to evaluate excellence in horticulture. I am the guy next door with a family to raise and support and, like you, have suffered the confusion brought about by the missionary zeal of earth guardians.

New Zealand horticulture is not as environmentally friendly as it should be but it could become a world leader in conservation and restoration.

Most New Zealand horticulturists are responsible and concerned but we still need a watch-dog. It may not be sufficient to rely solely on the conscience of fellow growers, as our undoing may come from ignorance, complacency, and greed before irresponsibility.

This industry requires a fully integrated plan for the conservation and restoration of our environment. The sooner we assume responsibility for the stewardship of remaining world resources and acknowledge the follies of the past, the better.

Several past I.P.P.S. papers dealt with related issues such as reusing poly-tunnel covers to planning and operating water recirculation systems. In isolation they only tinker with the issue.

Maybe we see ourselves as beautifiers, part of the solution and not the problem.

We may have to change long held attitudes and instill greater empathy for environmental issues in the younger generation. Through such actions our industry is in a win-win situation.

As an international body of high repute the I.P.P.S. is uniquely placed to call for an environmental code of practice for horticulture. This is no longer a political issue but an inescapable one that will not go away. Although our industry is not likely to be called "dirty" we are not as clean and environmentally friendly as we could be. We must take the initiative before legislation is imposed upon us.

New Zealand is a temperate land of green hills, large stands of forest, fresh water lakes, and fast flowing rivers. It is still young in evolutionary terms—molded by earthquakes, eruptions, fires, and floods. New Zealand's hills are intensively farmed and the forests are mostly man-made exotic stands. It is an under-populated, highly geared agro-forestry ecosystem generating high outputs with high inputs. I do not doubt that if New Zealand bore the population density of many European countries it would be wilting under environmental degradation and abuse.

There are five major environmental concerns pertinent to horticulture worldwide. These are:

- 1) Fertiliser run-off
- 2) Chemical residues
- 3) Chemical hazards
- 4) Peat extraction
- 5) Non-degradable packaging

New Zealand has more to lose than most countries. During the post-war years New Zealand's political stability made it a popular haven for offshore investors. Environmental protection leads to bankable business opportunities. Our future fortunes lie in specialty food production and tourism.

New Zealand could be promoted as a haven for pollution fatigued refugees. It has the opportunity to relieve tropical rain forest decimation with its fast growing radiata pines.

Protecting and enhancing our image overseas is the key to the future well-being of the country. We can make or break that image and need to be mindful of the fragile nature of such gifts.

The fertiliser run-off issue and its environmental impact primarily relates to two fertiliser sources—phosphorus and nitrate nitrogen. New Zealand has had a love affair with superphosphate since the arrival of European settlers and sheep. Enthusiasm for the element is now folk legend and has spilled over into horticulture where it is often a nuisance rather than a help.

The economic recession and stock market crash was something of a silver lining. Farmers cut deep into expenditure and fertiliser usage declined. This breathing space should be capitalised on before the next round of excess.

There is the opportunity to select more modern fertiliser technologies (slow release and controlled release formulas) which offer significant reductions in leach losses and more output from less input.

Developments in soilless potting media and water management are contributing to less waste and a harmonious environment. New Zealand can benefit from the experience of other nations and avoid excesses by looking at hydroponics, recirculation, and the like.

## **THE SWING FROM EXCESS TO PROHIBITION**

European and North American growers currently carry the burden of state or federal imposed expenditure on recirculation systems. The pendulum has swung from excess to prohibition which all can be avoided if we act with responsibility and sincerity.

Chemical residues are in food through over zealous use of pest and disease suppressants, eradicants, and growth promoters. Our enthusiasm for quick chemical solutions has resulted in more virulent pest and disease strains which perpetuate the need for more toxic chemical eradicants.

Television brings us many illustrations of chemical disasters and the effect of short term, high level exposure to common agro-chemicals. I doubt that anyone is unaware of the long term consequences of even low level exposure to such materials.

The soil sterilant, methyl-bromide, is still available in New Zealand although banned long ago in Germany following the discovery of residues in lettuce. Australian growers have reported crop losses from routine fungicide applications. This raises the issue of the value of such universally utilised crop management tools.

Chemical crop enhancement can be hazardous for operators. Safe storage and responsible disposal procedures need attention to detail. Hardly a day goes by without some spill or leakage being reported. We suffer a "it will never happen to us" syndrome. The dangers are very real even if not seen.

It would be naive to assume those responsible for chemicals will simply roll-over

and let their empires die. They will not, however, stem the tide of informed public opinion.

Less chemicals and better harnessing of natural predators and bacteria has a lot of appeal. Integrated pest management systems need more encouragement even through legislation.

### **PEAT EXTRACTION**

The hot potato of overseas horticultural environmental issues is that of peat mining.

In the UK anti-peat groups focused on the loss of unique habitat for bog flora and fauna. Research and development into peat alternatives is sufficiently advanced for peat to be consigned to the annals of horticultural history in New Zealand.

We have highly sophisticated processing and composting techniques for radiata pine bark which are proven more reliable and of more consistent quality than harvested peat. We still extract significant quantities of peat, presumably through some perverse loyalty to European tradition or through ignorance.

This year saw the New Zealand Government raise a levy against extracted peat, a small proportion of which goes to the Department of Conservation to fund work. This classic trade-off defies logic. We should tackle the cause not the effect.

### **RECYCLING PLASTICS**

An issue being addressed with speed and vigour in Germany is recycling plastics, especially those used in packaging. German legislation places responsibility in the hands of the manufacturer or packaging businesses. Polystyrene, used for seed and cell trays, is coming under close scrutiny because of its impact on the ozone layer.

Horticulture uses significant amounts of plastic and virtually none is currently recycled. Dirt and soil contamination is a major obstacle. Plant pots are being made from recycled plastics, so why do we export milk containers to Australia for recycling and why do we have plastic milk containers when glass bottles are recyclable?

We need to plan in coordinated fashion and acknowledge New Zealand's inherent and unique advantages.

The horticultural industry unlike those in the U.S.A. or Netherlands, is not concentrated or long established. We may have the time and opportunity to organise effective solutions before less sympathetic or informed parties claim control.

Self regulation is likely to be a better option than imposed legislation.