

# Choosing laundry detergents suitable for water recycling

Sending pollutants to your garden, or into the sewer for that matter, can be avoided through better product choice. Stuart McQuire explains

**Y**ou are much better using liquid laundry detergents than powders if you are recycling laundry water to the garden. Research by Dr Robert Patterson of Lanfax Laboratories in Armidale, New South Wales, shows clearly that the levels of sodium salts found in powder laundry detergents are typically 10 to 20 times those found in liquid laundry detergents.

While your garden may benefit from the presence of phosphorous in detergents, sodium salts can damage the soil and plants.

Robert Patterson tested 40 laundry powders and 20 laundry liquids in typical wash situations according to manufacturers' instructions. The graph shows the results for sodium salts (Na) and phosphorous (P). Laundry liquids can have less than one gram of sodium per wash (and no phosphorous), while powders commonly have between 20 to 40 grams of sodium per wash, with some brands exceeding 80 grams.

Unfortunately, product labelling on detergent containers ignores sodium concentrations. The issue is relevant to households living in areas serviced by centralised sewage treatment systems that discharge effluent to land or inland waterways, as well as to households with on-site treatment or recycling systems. Better product labelling, similar to food labelling, would allow more informed consumer choice.



Patterson also raises concerns about pH levels of the wash water. According to his results only 11 of the detergents he tested had a pH less than 9, which is the permitted maximum for trade waste discharge (that is, from businesses) to the sewer in Armidale. If you are recycling water to the garden, it is worth monitoring the pH of the soil periodically to check that it is stable (it should be around 7). Plant health is also a key indicator of whether things are working.

To read more of Robert Patterson's research you can visit the Lanfax Laboratories website at [www.lanfaxlabs.com.au/publications.html](http://www.lanfaxlabs.com.au/publications.html) ✧

## References

Patterson, R A, *Laundry Products Research*, summary paper on website <http://www.lanfaxlabs.com.au/>

Patterson, R A (2000) *Water Quality Relationships with Reuse Options*. In 3<sup>rd</sup> International Symposium on Waste Water Reclamation, Recycling and reuse. 3-5 July 2000. Paris France. International water Association. Preprint Book 8, pp 205-212.

Patterson, R A (1999) *Reuse Initiatives Start in the Supermarket*. NSW Country Convention. Institute of Engineers Australia. 6-8 August 1999. Northern Group, Institute of Engineers Australia, Armidale.

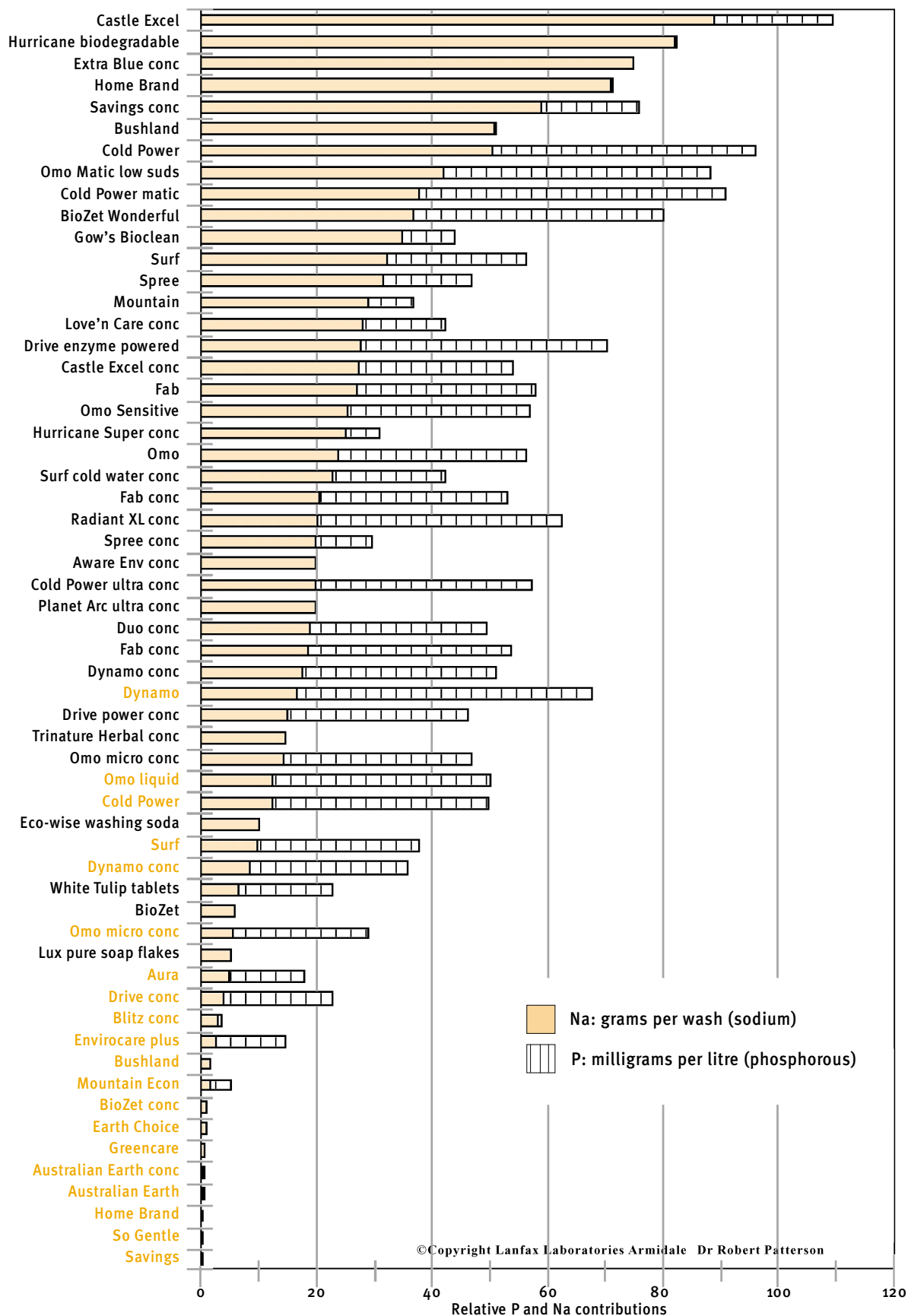


Figure 1. Ranking of laundry products according to sodium concentration (shown as orange bar) with the phosphorous concentration (shown as the striped 'tail'). Ideal choice for on-site systems is one with low sodium and a low phosphorus concentration. NB. Powders are shown in black text, the liquid laundry detergents are in orange text. Note also that the units of Na and P on this graph are different and therefore the bars are not proportional.