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LAUNDRY PRODUCTS RESEARCH

The data, from which the graph on the reverse of this page was produced, were from research financed and undertaken by Lanfax Laboratories in July 1999, independent of any other organisation.

A range of laundry products was purchased from the local supermarkets comprising 20 liquid and 40 powder products. The selection covered the major brands, as determined from previous research, but included some lesser known brands, and five dishwashing detergents.

For each of the detergents, the mass of a 40 mL freshly poured sample was determined. Using the manufacturers' recommended loading rates for an average wash in a top loading automatic washing machine, an equivalent weight of each product was mixed with water from a rainwater system to represent the recommended dose of product with the full water load, that is, 160 litres of wash, rinse, deep rinse and spin cycle.

The samples were shaken for 1 hour at room temperature and the concentration of each of the elements of interest determined at the University of New England using an Inductively Coupled Plasma (ICP). Other chemical properties were measured by Lanfax Labs.

Only the sodium and phosphorus results are reported here. Other information from the research is available at our web site:

www.lanfaxlabs.com.au/publications.html

PATTERSON, R.A. (2000). *Water Quality Relationships with Reuse Options*. in 3rd International Symposium on Waste Water Reclamation, Recycling and Reuse. 3-5 July 2000. Paris France. International Water Association .Preprint Book 8, pp 205-212.

and

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

How to read this graph:

For all on-site systems that apply the effluent by surface or subsurface application, the levels of sodium are critical. Choose the product with the lowest sodium. Levels over 20 g/wash are likely to be detrimental to plants and the soil.

The levels of phosphorus will depend upon the soil type and the use of the effluent. In some soils, phosphorus is not a real concern because it is immobile. In other soils it is likely to build up to high levels. It is preferable to choose the lower phosphorus values as well as the low sodium.

The detergents with long sodium bars (greater than 20 g/wash) should not be thrown out on your favourite garden as the sodium may be detrimental to the plants. High pH is also detrimental to plants and soils.



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Figure 1. Ranking of laundry products according to sodium concentration with phosphorus concentration shown as tail. Ideal choice for on-site systems is one with a low sodium and a low phosphorus concentration.

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