

Unintended Consequences

When companies choose to distribute fresh produce in plastic trays rather than corrugated, they make themselves subject to the law of unintended consequences, argues Andrew Barnetson of the Confederation of Paper Industries (CPI). The result of their decision can be a negative impact on the environment in the form of higher transport costs. He explains:

There are few black and white answers when it comes to developing packaging logistics. The issues are more complicated than many people realise. However, I'm sure we are all in agreement that environmental arguments about packaging should be worked through on the basis of fact and scientific method. But the use of plastic trays to replace corrugated is in danger of becoming conventional wisdom unsupported by careful examination of all the facts.

When they are properly examined, particularly in the context of environmental impact, the facts cast doubt over current practices. Let's just take one big fact to start with: with corrugated, you have the ability to vary the height of trays instead of having 'one size fits all'. This leads to far greater efficiencies and lower costs. Why? Because corrugated trays make much better use of space on pallets. A recent study showed that standard large corrugated produce trays (600 x 400mm), for example, outperform plastic trays in terms of space efficiency -- 91-98% utilisation vs plastics at 66-81%.

For example, the transport of cucumbers in a plastic 400 x 300mm tray typically uses a fixed height of 135mm and much of this is not used. With corrugated, bespoke design allows a reduced height of 80mm, which means the full height of the tray is used. A pallet might typically have 10 trays per layer and this means, with corrugated, you can have 20 layers and 200 trays on a pallet compared with just 10 layers and 100 trays using plastic. More products per pallet lead to greater efficiencies, lower costs and fewer trucks on the roads.

It is not always understood that some produce arrives at the retailers' distribution centres packed in corrugated trays which is then decanted into plastic trays for the journey to the retailer. The corrugated is sent for recycling after the produce has been counted out into plastic trays. But the impact of decanting is that there can be as many as four times more truck journeys for the onward journey using plastic trays instead of corrugated. The retailer may have good commercial reasons for this action but it has a big impact in terms of CO₂ emissions.

Another argument often made in favour of plastic trays is that they are reusable, but reuse is not always better than recycling. Indeed, the Waste Framework Directive (2008/98/EC), which has just been published, recognises the 'reduce-reuse-recycle' waste hierarchy, but importantly identifies that there may be situations when recycling is better than reusing. We believe that, in many cases, the transport of fresh produce is one of those situations, especially as the supply of corrugated is more easily calibrated to seasonal demand.

If everyone is really signing up to reducing environmental impact, such considerations should be factored into the design of truly sustainable distribution systems.

We realise the potential complexity of calculating the full environmental impact of packaging choices, but we argue that companies need to take fully into account the transport implications of using plastic trays which may counter the benefits of returnable systems. Indeed the unintended consequence of the constant circulation of plastic trays on lorries may well be more cost and more pollution. We call for a re-examination of all the facts before any more such decisions are made.

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For further information please contact Andrew Barnetson, Corrugated Sector Manager, on 07775 771662 or email abarnetson@paper.org.uk.

Notes to Editors

- For additional information on the UK paper industry, in the first instance, please contact Catherine Waterfield, External Affairs Coordinator, on 01793 889612 or email cwaterfield@paper.org.uk. Alternatively, please visit: <http://www.paper.org.uk>.
- CPI is the voice of the paper industry in the UK, representing papermakers, tissue manufacturers, corrugated packaging producers and recovered paper merchants.
- 84% of all corrugated cardboard boxes are recycled, giving the corrugated industry the best UK recycling rate of all packaging materials.
- This impressive recycling rate saves an area of board the size of Greater London from landfill every four months.