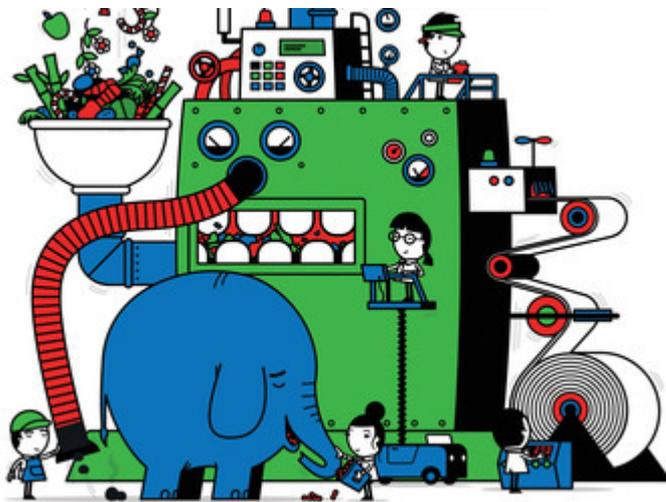


Make a real impact, put some poo in your paper

By Jon Severs, *PrintWeek*, Monday 15 September 2014



A client rings you up and asks whether you can offer them something different, a little twist that will make their latest marketing campaign stand out. You pause briefly, and then you reply: "How about some giraffe poo paper?"

This is not a bizarre fantasy, such is the innovation in the paper industry around alternatives to wood pulp, that it's not just giraffe poo that can be used to differentiate a

marketing communications job, for example, but paper made from algae, grass, elephant poo and even food waste.

"Papers like these are used for all sorts of applications – business cards, letterhead, corporate reports, wedding stationery, brochures, posters, marketing materials, kids windmills, bunting..." explains Graham Brown, owner of the Exotic Paper Company and the man behind the giraffe and elephant poo papers, among many others. "Customers range from consumers to creative agencies to SMEs."

There's clearly already a market for these oddities of the paper market, then, but how big a market – and how practical or preferable these papers are for printers in reality – is a matter of some debate.

Of course, making paper from something other than wood is not new.

"An array of non-wood fibres have always been used in papermaking to provide an interesting look, colour, texture or other desirable quality," explains Julie Tomlinson from James Cropper Speciality Papers. "The ancient Egyptians used papyrus, a reed-like plant to produce a paper-like material for writing. Also, cotton, one of the purest forms of natural cellulose and an annual renewable source with superior strength to wood fibre, has a history of permanence. For example, Shakespeare's first folio exists today because it was penned on paper made from cotton fibres."

Paper can be made entirely from these alternative sources, or it can be a hybrid of wood and other material, which is the case for Exotic Paper Company products.

“Our paper is not wood free, they are all made with 100% recycled paper – originally wood, albeit recycled – and with our special ingredients – rhino poo, grass, etc – added,” says Brown.

Those companies looking to reduce wood content, or take it out of the process altogether, do so for a number of reasons. The historical motivation, according to Justin Hobson, marketing director at Fenner Paper, is to do with costs.

“The main reason that people have been looking at non-wood fibres for papermaking is price,” he says. “The majority of timber that is commercially grown is used in construction and during periods of economic growth and boom, it pushes the price of wood up. Especially when the global consumption of paper was on the increase, this caused big price hikes and therefore alternative fibre solutions have been looked at many times over the years.”

However, there are other motivations. Tomlinson says James Cropper uses cotton in some products still to lengthen the life of archival paper.

Hobson adds that there are aesthetic reasons, too. “There are aesthetic effects that can be attributed to different materials. In the case of the Shiro Alga Carta paper, seaweed is used as a filler in the paper, which gives the paper a smoothness and a subtle ‘fleck’ that is unlike any other material.”

Going greener

Some argue that certain speciality papers offer an environmental benefit as well.

“At James Cropper we have developed papers that repurpose waste materials from other industries,” says Tomlinson. “For example, Cocoa paper incorporates 10% fibre from ground cocoa shells into the manufacturing process. The product was successfully developed with leading chocolate producer, Barry Callebaut, with a remit to upcycle a waste material from chocolate production in order to make paper that could be used for chocolate packaging.”

Hobson also cites a paper made using waste material. “In the case of Crush (paper from Italian papermaker Favini) it is using an ‘end of life’ product, which is waste, so it can only be an environmentally positive thing. It uses residues from industrial processing from food production.”

This all sounds incredibly positive. So why hasn’t every printing press got an encyclopaedia of non- and part-wood papers running through it? Well, it is because some claim there are as many downsides as positives to the papers, as well as better alternatives.

For example, Julian Long, national key accounts manager at Arjowiggins Graphic, argues that recycled paper can be just as green as some of the speciality options – or indeed greener.

“Using recycled wood-based paper has more benefits than you might think,” he explains. “As part of a business’s environmental policy it can help reduce carbon emissions, water usage, energy usage and waste to landfill. What’s more, the production process is ecologically sound with water being returned to the river as clean as when it was sourced, as no environmentally damaging chemicals are used during production and no chlorine compounds are used for whitening the paper.”

“In addition, the waste resulting from the production process can be reused as raw materials. For example, at Arjowiggins Graphic’s Greenfield de-inking plant, 65% of the de-inking sludge is used to make fertiliser for agricultural use and 35% is used in the production of cement and building bricks for the construction industry.”

Andre Oberholzer, group head of corporate affairs at Sappi, adds that a properly managed wood supply has underrated environmental properties.

“Trees are the most effective carbon sinks, they produce the oxygen we breath, house and protect biodiversity, provide refuge for myriad fauna, and provide recreational space for people escaping the urban sprawl, to name but a few benefits,” he says.

There’s also a price factor, concedes Hobson. “Generally speaking, papers made using non-tree fibres are more expensive because the processing is done on a far smaller scale than wood pulp, which means the economy of scale is completely different,” he says.

It is the problem of scale that is perhaps the biggest barrier to large-scale use of non-wood and part-wood fibres. While all manufacturers of paper accept the legitimacy of non-wood paper products, many question whether those alternative sources can provide the raw materials to meet the supply demands of an industry that uses millions of tonnes of paper per year.

“We have no particular objection to alternative sources of fibre (whether they are bamboo, hemp, sisal, kenaf or any other source), but each time we have engaged with the proponents of such feedstock, they have been unable to address any of the very real and very practical considerations we have around supply,” explains Oberholzer. “We haven’t been convinced that there is a better all-round solution, when taking all economic, social, environmental, logistical and other practical considerations into account, than sustainably managed wood fibre.”

He explains that the supply issue is not through a lack of willing on behalf of producers, more simply realities of yield from different materials.

“Wood chips or logs are very compact and high in fibre yield when compared to other sources that require much more space to be stored and much more volume to be transported to reach the same fibre volumes as wood,” he explains.

Strong performers

Where there are fewer concerns is in on-press performance. While care obviously has to be taken to follow the manufacturer guidelines properly – and adjustments may have to be made – the producers of the non-wood products stress that there should be no problems.

“Our papers have been printed upon using inkjet, litho, screen, letterpress, digital – even our handmade papers we recommend to be screen printed have been happily put through a litho press,” says Brown.

But though bringing sound on-press performance and environmental benefits, and though some of the price issues may be surmountable, the supply problem remains. It means, as Oberholzer says, that in reality these papers are likely to remain niche.

That may not be such a bad thing, though. Printers are always trying to help customers differentiate themselves and these papers can do that while providing an added value boost for the printer. A market of many producers rolling out hundreds of quirky paper products in small volumes is much better for meeting the added-value aim than a few producers making large volumes of just a few quirky papers.

Those hundreds of smaller producers need support, though. And considering the possible added-value benefits, it is in printers' interests to get clued up on the plentiful paper opportunities on offer.

Papers with a little something extra

Giraffe Poo Paper by the Exotic Paper Company

Made in the UK, this 110gsm paper is made from recycled wood stock and, as the name suggests, giraffe poo. No bleaches or detergents are used in the paper making process. It is also available in 280gsm board.

Crush by Favini

A mix of fruits and nuts are crushed to create a natural range of coloured papers with materials that would normally be added to animal food and fertilisers, or simply dumped in landfill. The whole process takes place at Favini's Rossano Veneto plant near Venice. The organic residues are processed with recycled and virgin pulp, using electricity from Favini's hydroelectric plant. It is available in a number of colours and in weights from 100-350gsm

Cocoa Paper by James Cropper Speciality Papers

This Cocoa range is to be launched at Packaging Innovations 2014 in London. Cocoa paper incorporates 10% fibre from ground cocoa shells. The product was developed with chocolate producer Barry Callebaut, to upcycle a waste material from chocolate production to make chocolate packaging. The first machine trials of the Cocoa paper were in August 2012, but the product retained too much moisture and so the manufacturer had to revise the recipe. Interest in the product has been such that the company has decided to produce a range of six papers containing cocoa shell.