



A friend who is on a gluten-free diet comes to stay. “I’ve brought my own bread,” she says. The next thing I know, smoke fills the kitchen. The “bread” has morphed into a stiff, gluey substance that has clamped itself to my toaster. After a week of scraping, I remove the last traces of tough, sticky residue, but an unsettling thought drops into my head: if a gluten-free loaf wreaks such havoc on the innards of my toaster, what might it do to my guts?

The ingredient lists on gluten-free products — litanies of double- and triple-barrelled substances unfathomable to anyone who isn’t a food engineer — would not normally find favour with health-conscious consumers who shop with a “don’t eat what you don’t understand” mind-set. But there’s a large dollop of reassurance in the fact that gluten-free breads, pizza bases, crackers and breakfast cereals come with an official seal of approval from the NHS: they are available on prescription, at an average annual cost to the NHS of just under £200 per person, to people with coeliac disease, an autoimmune condition triggered by contact with gluten.

Yet 82% of people in America who buy into the booming gluten-free market have no such diagnosis, according to the market analyst Mintel. Other figures from the US also suggest that one in four of those who eat gluten-free do so because they think it will help them lose weight, despite there being no evidence for this. In Britain, the free-from market, of which gluten-free is a large part, is forecast to almost double to £491m by 2017.

While the mainstream food industry has embarked on a “clean label” strategy to eliminate blatantly chemical ingredients and controversial additives, gluten-free is a haven for substances that progressive companies increasingly shun. From baguettes to pizza, the bestselling gluten-free products typically contain up to

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20 ingredients, only a few of which (salt, sugar and water) are found in domestic kitchens. Protected by the healthy halo that hangs over the gluten-free category, there’s a shoulder-shrugging resignation that this is the hi-tech price we must pay for more tummy-friendly, pharmacy-endorsed products.

To get a better feel for the ingredients in gluten-free products, I carried out my own experiment with two of the most ubiquitous. The first, hydroxypropyl methylcellulose, is a white powder that assaults the nostrils with its bleach-like smell. Half a teaspoon turned a glass of water into a clear gel with the consistency of a stress ball. The second white powder, xanthan gum, produced a beige mass with the plasticity of Play-Doh and a lingering odour reminiscent of dentist’s gas. Seeing them in the raw, the thought of eating either felt deeply counterintuitive to me, and their backstories add to the unease.

Hydroxypropyl methylcellulose, which is derived from wood pulp, props up the construction industry by retaining water in cement, plaster and adhesives. Xanthan gum, which is fermented from the bacteria that cause black spots on broccoli, was designed to soak up residue from oil drilling. Why would you put such ingredients in food? The answer is that these industrial gums provide the scaffolding for commercial gluten-free processed foods. If it’s not xanthan, then guar gum, which is eight times more effective as a thickener than cornstarch, will glue together the bulk ingredients. These typically consist of water, some flour from gluten-free grains (usually rice, sometimes maize), and a number of highly refined and therefore nutritionally depleted starches, usually from potato, tapioca and corn. These starches are delivered to gluten-free manufacturers as ready-to-mix powders and marketed in product brochures as “virtually flavourless”. Gluten-free companies prize them because they add cheap architectural bulk to their formulations. Lesser ingredients include vegetable oil, various sugars (to give a “brown” bread appearance and golden crust), dried egg white (a cheap binder), tiny quantities of wholesome-sounding seeds, a posse of chemical emulsifiers, preservatives and, often, artificial flavourings to mask unpleasant tastes and odours.

In an effort to ensure puffy bakery products that won’t disintegrate, many gluten-free manufacturers also use the enzyme transglutaminase to bond their products. It is better known in the industry as “meat glue”, because it binds cheap meat pastes with water in products such as luncheon meat. Regulators class it and other bakery enzymes as “processing aids”. Conveniently, these don’t have to be declared on the label.

On paper at least, commercial gluten-free products don’t read like a nutritious, natural recipe for health, and Andrew Whitley of Bread Matters, who runs gluten-free and other bakery courses, views them with extreme cynicism. “The gluten-free trend is a classic example of how Big Food turns problems into market opportunities. Sales of the flagship product, the additive-laced sliced loaf, are falling because many people find it indigestible. Gluten-free is a chance to exploit that failure by charging more for an even less nutritious replacement product.”

Gluten-free is certainly profitable. A basic supermarket roll costs as little as 10p, but the gluten-free equivalent commands 50p, a premium price that is hard to justify given its ingredients. For Whitley,

most commercial gluten-free brands are cashing in on gut problems that industrial bakers created, without abandoning the fast-track methods that triggered them.

In her Artisan Bread Organic bakery in Whitstable, Ingrid Eissfeldt has shown that it’s perfectly possible to produce gluten-free bread in a natural way. She bakes her award-winning breads from wholegrain, gluten-free flours (rice, quinoa, buckwheat and more) that are freshly milled each day. Instead of baker’s yeast, she raises them with her own natural leaven, made from rice and pea flour, and honey. She doesn’t use the usual arsenal of processed starch, gum, sugar, additives and enzymes. “We have been brainwashed into thinking that you can’t make gluten-free bread without glueing it together, but if you understand the time-honoured art of fermentation, which makes grains digestible, none of these industrial ingredients are needed.”

Eissfeldt’s breads, cookies and savoury bites are going down a storm, and no wonder. One happy customer writes that he is delighted to find an alternative to “a rice loaf I have on prescription, as it’s full of additives and completely inedible”. Another sums up the commercial gluten-free options in this perceptive one-liner: “Your competitors do produce some horrible stuff.” ■

Look at the label: are these in your gluten-free bread?

- **E464 hydroxypropyl methylcellulose** Treated wood pulp also used in cement and eye drops.
- **E415 xanthan gum** Gluelike substance developed to soak up oily residue from oil drilling and fracking.
- **Tapioca starch** Bulky, nutritionally depleted, chemically modified starch from tropical tuber.
- **Colouring** In the form of sugar beet/treacle/burnt sugar/fruit juice concentrate, to give an appealing golden appearance.
- **E282 calcium propionate** Preservative that keeps baked goods “fresh” for weeks.
- **Egg white powder** A heated, processed binder, usually extracted from intensively farmed eggs.
- **E472e DATEM** An emulsifier that keeps baked goods soft for weeks.
- **Enzymes** Not on food labels because they are classed as “processing aids”, but traces of these potential allergens may remain in the bread.

Strings attached

Gluten-free foods are often perceived as healthy, yet many of the mass-market products contain unpalatable industrial ingredients. **Joanna Blythman** investigates