

Health & Wellness

## Snacking for Celiacs

*The prevalence of celiac disease has dramatically increased more than four-fold in the US during the past 50 years, with similar figures for Europe. Gluten free snack demands are being met by the industry.*

by Donna Berry

An increasing number of packaged foods are claiming to be free of gluten, the protein found in all forms of wheat (including durum, semolina and spelt), rye, barley, and related grain hybrids such as triticale and kamut. Many of these products have always been gluten free, in particular savoury snacks based on corn, potatoes or rice all gluten-free grains. However, because there are many hidden sources of gluten among food ingredients, specifically flavours, seasonings and spice blends, a food manufacturer must verify that all ingredients are free of gluten in order to make such a claim. This is critical for consumers suffering from the most severe form of gluten intolerance – celiac disease.

### Lifelong Disorder

Celiac disease is a lifelong

autoimmune intestinal disorder found in individuals who are genetically susceptible. Damage to the mucosal surface of the small intestine is caused by an immunologically toxic reaction to the ingestion of gluten and interferes with the absorption of nutrients, and in some cases, water and bile salts. If left untreated, damage to the small bowel can be chronic and life threatening, causing an increased risk of associated disorders – both nutritional and immune related. The only treatment for celiac disease is the lifelong adherence to a gluten-free diet. When gluten is removed from the diet, the small intestine starts to heal and overall health improves. Celiac disease is the most common genetic disease worldwide, with an estimated one in every 250 people suffering from the disease, though the disease goes highly undiagnosed. It is often

inherited but so far its exact cause is unknown.

### Growing Problem

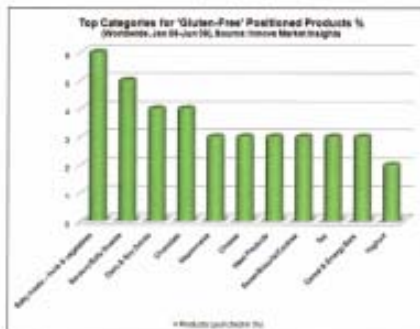
According to researchers at the Mayo Clinic in Rochester, Minnesota, celiac disease is four times more common now than it was in the 1950s. This conclusion results from a study in which researchers had access to frozen blood samples that had been drawn between 1948 and 1954 from 9,133 healthy young United States Air Force personnel.

The investigators tested these samples for the presence of celiac disease auto-antibodies and then compared the results with their findings in two other gender-matched cohorts: 5,558 present-day residents of Minnesota born in the same years as the earlier cohort, and 7,210 present-day Minnesota residents who are now the same ages as the frozen-sample donors were in 1948-1954.

The study was published in the July issue of *Gastroenterol-*

*ogy* (2009;137:88-93), where the data shows that 0.2% of the subjects who provided blood samples roughly 60 years ago had undiagnosed celiac disease. In contrast, the rate of undiagnosed celiac disease was 0.8% in the current subjects with similar years of birth and 0.9% in the current subjects with similar age at sampling. In other words, 'the prevalence of celiac disease has dramatically increased more than four-fold in the US during the past 50 years', the researchers said. Similar increases have been reported in Europe, they added.

In a press release from the Mayo Clinic, senior author Dr. Joseph Murray stated: "Some studies have suggested that for every person who has been diagnosed with celiac disease, there are likely 30 more who have it but are not diagnosed. And given the nearly quadrupled mortality risk for silent celiac disease we have shown in our study, getting more patients and health professionals to consider



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the possibility of celiac disease is important”.

#### New Groups

In addition to the growing number of diagnosed celiacs, a number of other demographic groups seek out gluten-free foods.

For example, recent medical research has shown that a gluten-free diet, when combined with a casein-free diet, can help improve the behaviour of children suffering from autism. As a result, many parents have started seeking out gluten-free foods for their children. Further, consumers suffering from irritable bowel syndrome, as well as other gastrointestinal distresses, often avoid gluten, for real and perceived benefits.

Thus, it was no surprise that at the end of 2008, JWT, one of the largest advertising agencies in the world, listed gluten free as one of the 90 things to watch in 2009. Indeed, gluten-free products are now considered chic, according to Ann Mack, director of trend spotting for JWT. “It’s perceived as healthy”, she says. “You’re seeing more celebrities talking about it in the magazines”. Stars are using gluten-free products as diet aids, she adds. Regardless of who and why, there is a growing market for all types of gluten-free foods.

#### Crunchy and Crispy

Unlike some grain-based foods such as breads, cakes and cookies, snack foods tend to be easier to formulate as gluten free, as many crackers, and especially chips, do not rely on gluten for structure development.

In leavened products (either chemical or yeast raised), gluten combines with water to produce an elastic and porous web that traps gas bubbles released by action of a leavening agent. Gluten makes the dough or batter resilient and stretchy, contributing to the products’ airy texture.

This, of course, is not an attribute of most crunchy and

crispy snack foods.

Besides the obvious use of the potato to make a chip, other gluten-free grains readily combine to make snack foods.

For example, Blue Marble Brands has launched Organic Brown Rice Chips in the US. These organic baked chips come in a plain original flavour as well as three Asian-inspired varieties: Garlic, Sweet Chili Soy and Tamari.

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Other varieties include Bar-

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becue, Caramel, Cheese, Prawn Cocktail, Salt & Vinegar and Sour Cream & Chives.

Laurel Hill, a speciality and natural food products company offers a line of all-natural, gluten-free chips in the US.

The Olive & Caper Tortilla Chips, a savoury combination of piquant capers, olives, garlic and red peppers, were a finalist for the Outstanding New Product in the soft Awards, presented at the National Association for the Specialty Food Trade’s (NASFT) annual Fancy Food Show in New York City at the end of June.

These light, crispy chips are made in a custom rectangular shape for easy snacking, with the flavours ground into the chips making them burst with taste, according to the company.

There are three other varieties in the gluten-free product line: Sea Salt & Lime has the distinctive taste of sea salt with a hint of lime; Multigrain is a wholesome mix of quinoa, brown rice, chia, oat bran and flax seed grain; and Pepita & Spice is a hearty blend of pumpkin, pepita and sweet spices.

#### Gluten Free Crackers

Mary’s Gone Crackers extended its line of gluten-free snacks to include Sticks & Twigs, which the company describes as a better-than-a-pretzel stick snack. This uniquely light and crunchy stick snack is based on exotic whole grains including brown rice, quinoa, red quinoa, amaranth and millet, as well as tasty and nutritious seeds including flax, sesame and chia seeds. Sticks & Twigs come in three flavours: Sea Salt, Curry and Chipotle Tomato.

“Mary’s Gone Crackers Sticks & Twigs deliver a one-of-a-kind crunchy texture and taste



thanks to the blend of hearty ingredients and intriguing flavor combinations”, says Mary Wadner, executive vice president of brand development for Mary’s Gone Crackers.

A number of the grains in Sticks & Twigs are part of what has been dubbed the ‘super six’ in the world of gluten-free grains. The super six – amaranth, buckwheat (no relation to wheat), millet, quinoa, sorghum and teff – possess a high vitamin and fibre content, as compared to the more standard wheat flour substitutes of corn, potato and rice.

#### Nutritional Boost

According to the June 2009 Harvard Health Letter from Harvard Business School, Boston, not only does celiac disease prevent the proper digestion and absorption of nutrients, maintaining a gluten-free diet can compromise nutrition as a result of eliminating certain foods, particularly those based on enriched wheat flour. Common nutritional deficiencies in those suffering from celiac disease relate to vitamins (especially

B vitamins, which are high in wheat flours), minerals, essential fatty acids and fibre.

Though most consumers don’t rely on savoury snacks for essential nutrients, providing some nutritional value can be a point of differentiation in the crowded marketplace.

This is one of the features of another ancient grain called salba. The salba grain comes from *Salvia hispanica*, a plant native to Mexico. It is a nutrient-dense whole food and a rich source of omega 3 fatty acids and fibre. Eaten by the Aztecs for health and endurance, salba grain is versatile, neutral tasting and naturally gluten free.

“Salba is really a superfood”, says Rally Rabston, managing partner at Salba Smart Natural Products. “Gram for gram, it has six times more calcium than whole milk, three times more iron than spinach and fifteen times more magnesium than broccoli”. “Salba seeds themselves are gluten free and therefore an excellent addition to any gluten-free recipe”, he says. “In addition, salba can be used as an egg replacement and has a very low flavour profile making it ideal to incorporate into virtually any recipe”.

The company markets a line of savoury snacks enriched with the salba grain, including organic gluten-free tortilla chips in blue, white and yellow corn varieties. “We are launching gluten free baked potato crisps in three flavours this autumn”, adds Rabston.

#### Reducing Cholesterol

Here’s another twist on adding value to snacks. Corazon Foods Inc. recently transformed the classic potato chip into a heart-healthy culinary delight with the launch of Corazon Heart-Healthy Potato Chips. Patented technology infusing plant sterols into the chips make Corazon Heart-Healthy Potato Chips the first and only potato chip clinically proven to reduce low density lipoprotein