

Formulating cookies and cakes.
Gluten-free and easy, with BENEO's rice ingredients.

Consumers face a regular balancing act between healthy, wholesome nutrition and easy, quick options. Today, they expect food to be readily available, healthy and taste great – all at the same time.

Shoppers have a critical look at food content and the detailed ingredient list. **Clean label and natural** are in demand – more than ever, **quality** and origin of ingredients is important. On top, the consumer demand for gluten-free products is steadily growing (**retail value worldwide surpassing €2.3 bn in 2015***). While a part of these people is diagnosed with food allergies, an increasing number deliberately chooses a gluten-free diet simply because they consider it to be better for them (65% believe gluten-free is healthier, another 27% use it for weight loss**).

Combining the desire for tasteful, healthy food with the growing group of gluten-free eaters instantly brings the challenge back to the food industry.

About one percent of population suffer from celiac disease, an autoimmune disorder that can be severe. These people should avoid gluten (gliadin), which is present in significant amounts in wheat, rye and barley. As symptoms are often unspecific and may vary in severity, the number of undiagnosed cases of celiac disease is unknown and is probably higher (73% of consumers eating gluten-free has not been diagnosed**). In addition, about four percent of young children are allergic to wheat to some degree. This allergy tends to disappear at older age. It has further been suggested that other forms of gluten sensitivity exist, but this can not be diagnosed in so-called elimination-rechallenge tests.

BENEO's rice ingredients are gluten-free and suitable for any food application that should not contain gluten.

Sources:
* Euromonitor forecast 2015: retail value worldwide;
** Mintel, June 2013; Gluten-free foods

beneo
connecting nutrition and health

Excellent texture and clean taste.

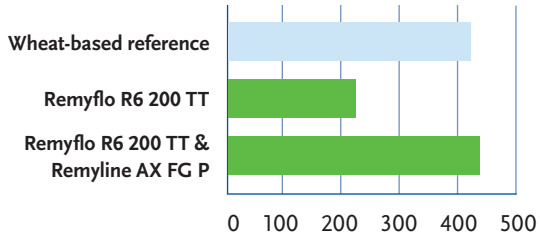
Munch-crunch with gluten-free cookies.

Next to rice flour being the backbone ingredient, rice starch is used to further fine-tune the texture with respect to hardness, crunchiness and brittleness of the gluten-free cookie. More specific, our pregelatinised native waxy rice starch Remyline AX FG P will not only improve its **crunchy bite**, but will also **reduce breakage** during packaging, significantly reducing losses.

On the other hand, a cook-up native waxy rice starch, like our Remyline XS, improves the brittle texture mostly lacking with **fat-reduced gluten-free** cookies. Additionally, our rice syrup Remylose 58 80 is most suitable in gluten-free products imparting both taste and texture to the product.



Fig. 1: Comparing cookie hardness (g).



Gluten-free cookie details.

Ingredient	%
Remyflo R6 200 TT	**48.2**
Shortening	20.6
Sucrose	14.7
Eggs	6.9
Water	4.9
Remyline AX FG P	**3.9**
Baking powder	0.5
Salt	0.2
Vanilla flavour	0.1

Clean, divine softness for gluten-free cakes.

The specially designed, BENEO wet-milled rice flour shows improved performance over standard dry-milled flours in gluten-free soft baked goods, like cakes and muffins. Our **native** rice flour eliminates the need of a complex combination of multiple starch and flour types; it keeps the ingredient list simple and clean.

Our native waxy rice starches are perfect for manufacturers to fine tune the cake texture with respect to initial **crumb softness**, whilst keeping initial freshness for longer – therefore providing an extended product shelflife. As such, both eating characteristics are improved and waste levels are reduced.





Standard milled rice flour



Remyflo R7 90 T

Gluten-free cake details.

Ingredient	%
Eggs	24.0
Sucrose	22.8
Fat	21.9
Remyflo R7 90 T	**21.0**
Water	4.9
Remyline XS	**3.0**
Baking powder	1.2
Vanilla sugar	1.2

BENEO's Technology Center has further developed **high quality gluten-free recipes for natural, clean label product innovations and reformulations** in a multitude of applications. Cookies, cakes, pasta, bread, pizza, pancakes, waffles, ... our experts are keen to share their insights upon request.

This information is presented in good faith and believed to be correct, nevertheless no responsibilities/ warranties as to the completeness of this information can be taken. This information is supplied upon the condition that the persons receiving the same will make their own determination as to its suitability for their purposes prior to use. It is strongly recommended to consult and apply all national food legislation (e.g. legislation on claims, communication towards the consumer etc.) prior to any communication to consumers. This information does not contain any warranty that the supply or the use of the products in any territory is not an infringement of the rights of third parties in industrial or intellectual property. It can also not be regarded as an encouragement to use our products in violation of existing patents or legal provisions in the matter of food stuffs.

What can we do for you?
contact@beneo.com
www.beneo.com

Follow us on:

beneo
connecting nutrition and health