



upgrain

Through the power of circularity, we re-introduce barley as a sustainable and healthy ingredient.

www.upgrain.ch

About us

With a world population of almost 10 billion people in 2050, we desperately need to find new solutions to fulfill the upcoming food demands. This requires us to develop new food sources while using our existing resources as efficiently as possible.

At Upgrain, we are committed to healthy and circular food ecosystems by producing the most sustainable plant-based protein and fiber ingredients from brewers' spent grain (BSG). BSG is the food industry's largest side stream and by leveraging the power of circularity we valorize this residual, thus reducing resource consumption while ensuring environmental health, and a well-functioning food ecosystem.

Our powders are produced among the rolling green hills of historic Appenzell, and we place great importance on maintaining our quality and safety standards. In addition, our gentle and minimal mechanical process guarantees that valuable nutrients are preserved.



Our Rationale

Upcycling is the key to natural resource efficiency. We want to pioneer the valorization of residuals in the food industry to supply sustainable, healthy, and easily integrated ingredients. We supply all the benefits of barley – just better.



Sustainability

Using upcycling to re-integrate barley into the food ecosystem, we produce our ingredients with 60% lower environmental impact than traditional methods as we do not use any additional land or water. By replacing our current protein and flour sources with dried BSG, we contribute to land, water, and net GHG emissions reductions in food production. Every 1kg of wholewheat flour that is replaced with 1kg of dried BSG saves 2m² of farmland.



Health

Our powders are packed with healthy proteins and fibers while being free of unnecessary amounts of carbohydrates or sugars. Additionally, the highly concentrated barley gives our ingredients a great number of amino acids, antioxidants, vitamins, and minerals. The integration of our powders in foods will in most cases improve the Nutri-Score of the final products and creates the basis for a healthy lifestyle.



Easy integration

Our powders' versatility and neutral taste mean they can be incorporated into various end products, from meat substitutes to baked goods. Our ingredients can to a certain degree directly replace soy, pea, or wheat.



Upgrain Protein

With a protein content of at least 45%, the powder is rich in vitamins, minerals, and healthy antioxidants. Our Upgrain Protein powder also contains a well-balanced amino acid profile and high bioavailability, making it an ideal protein source for an array of applications and products as the nutrients are easily digestible and absorbable.

Declaration:	Barley protein
Ingredients:	Barley protein
Appearance:	Beige powder
Taste:	Typical, cereal
Moisture:	8%-9.5%
pH-Value:	3.8-5.2
Protein Content:	Min. 45%
Particle size:	(d90) 50-200µm
GMO:	No. No genetically modified organisms.
Country of origin:	Switzerland (CH)
Country of production:	Switzerland (CH)
Range of integration:	Baked goods: <25%, Sweet baked goods: <75%
Datasheet:	https://qrco.de/beNmas

Examples of use:

Meat substitute:



Brownies:



Cornflakes:



Datasheets:





Nutritional value Upgrain Protein per 100 g

Energy	1'576 kJ 379 kcal	/100 g /100 g
Protein	45 g	/100 g
Carbohydrates	4.70 g	/100 g
of which sugars	<0.10 g	/100 g
Fat	14.90 g	/100 g
of which saturated fatty acids	4.55 g	/100 g
Dietary fiber	25.40 g	/100 g
Common Salt (NaCl)	0.001 g	/100 g

Upgrain Classic

The versatile mix of protein and fibers, along with low carbohydrates and sugars means this powder can be used as a direct flour substitute. The Upgrain Classic can provide a natural nutritional boost to a variety of products as it allows vitamins, minerals, antioxidants, and healthy fibers to be added to your product. Additionally, the low sugar contents make it great for dietary foods.

Declaration:	Barley spent grain
Ingredients:	Barley protein and fiber
Appearance:	Beige powder
Taste:	Typical, cereal
Moisture:	8%-9.5%
pH-Value:	3.8-5.2
Protein Content:	Min. 21%
Particle size:	(d90) 50-250µm
GMO:	No. No genetically modified organisms.
Country of origin:	Switzerland (CH)
Country of production:	Switzerland (CH)
Range of integration:	Pasta: <15%, Baked goods: <25%
Datasheet:	https://qrco.de/be01he

Examples of use:

Pasta:



Pizza:



Baked Goods:



Datasheets:





Nutritional value Upgrain Classic per 100 g

Energy	1'293 kJ	/100 g
	309 kcal	/100 g
Protein	21 g	/100 g
Carbohydrates	3.50 g	/100 g
of which sugars	<0.10 g	/100 g
Fat	12.80 g	/100 g
of which saturated fatty acids	3.71 g	/100 g
Dietary fiber	47.80 g	/100 g
Common Salt (NaCl)	0.001 g	/100 g

Upgrain Fiber

The 70% fiber content makes the ingredient highly functional and gives it great water-binding capacities. Enriched with valuable proteins, this combination offers a unique nutritional profile for integration into a wide range of products. The powder contains insoluble fibers such as cellulose, hemicellulose, and lignin, which have a significantly higher swelling capacity compared to regular soluble fibers. Therefore, our Upgrain Fibers are extremely versatile and well-suited for changing or maintaining the texture of foods. Our fibers are available in powder and coarse form.

Declaration:	Barley fiber
Ingredients:	Barley fiber
Appearance:	Beige powder
Taste:	Typical, cereal
Moisture:	8%-9.5%
pH-Value:	3.8-5.2
Protein Content:	Min. 10%
Particle size:	(d90) 80-150µm or (d90) 350-450µm.
GMO:	No. No genetically modified organisms.
Country of origin:	Switzerland (CH)
Country of production:	Switzerland (CH)
Range of integration:	Baked goods: <15%
Datasheet:	https://qrco.de/beNuBZ

Examples of use:

Crackers:



Cookies:



Yogurt:



Datasheets:





Nutritional value Upgrain Fiber per 100 g

Energy	1'010 kJ 248 kcal	/100 g /100 g
Protein	10.40 g	/100 g
Carbohydrates	1.50 g	/100 g
of which sugars	<0.10 g	/100 g
Fat	6.90 g	/100 g
of which saturated fatty acids	1.93 g	/100 g
Dietary fiber	69.20 g	/100 g
Common Salt (NaCl)	0.001 g	/100 g

Protein **Texturate**

Our meat substitute, produced and sold by our subsidiary grainmade, is ideal to replace classic dishes where minced meat is used, or only part of it. Optimally suited for flexitarian as well as vegetarian and vegan lifestyles.

With the extremely high protein content of almost 65%, a nutritious meal is guaranteed. The easy preparation rounds out the product.

Product name:	grainmade Texturat
Ingredients:	Barley Protein & Fiber, Wheat Protein, Soy Protein
Country of production:	Germany (D)
Best before date:	10 months
Bulk weight:	400 g/L
Portion size:	30 g
Moisture:	8%
Storage conditions:	Cool and dry, protected from light
Material description:	Texturized Barley Protein
Datasheet:	https://qrco.de/beOrmu

Other Application fields of extrusion:

Cutlets:



Flips:



Chips:



Datasheets:





Nutritional value per 100 g of TVP

Energy	1'613 kJ	/100 g
	384 kcal	/100 g
Protein	63.80 g	/100 g
Carbohydrates	7.05 g	/100 g
of which sugars	1.82 g	/100 g
Fat	7.22 g	/100 g
of which saturated fatty acids	1.88 g	/100 g
Dietary fiber	15.36 g	/100 g
Common Salt (NaCl)	0.04 g	/100 g

Further Product Applications

Recipes Baked Goods

Crispbread:

Ingredient	Part (%)
Different seeds	26
<i>Barley Fiber</i>	9
Whole meal flour	10
Spelt flakes	15
Water	38
Others	2

Benefits:

- Higher in protein (+1%) & fiber (+89%)
- Lower in energy and carbohydrates (-23%)
- Improved crispness

Limitations:

- Longer baking time
- Higher water addition necessary

Bread with Sourdough:

Ingredient	Part (%)
White flour	35
<i>Barley spent grain</i>	15
Gluten	3
Water	40
Sourdough	10
Yeast	2

Benefits:

- Higher in protein (+30%) & fiber (+232%)
- Lower in energy and carbohydrate

Limitations:

- Optical changes (darker)
- Higher water addition necessary

Brownies:

Ingredient	Part (%)
White flour	1
<i>Barley spent grain</i>	9
Chocolate powder & chips	20
Milk	20
Whole egg	10
Walnut	15
Sugar	20
Butter	5

Benefits:

- Higher in protein (+5%) & fiber (+50%)
- Lower in energy and carbohydrate
- Up to 90% of flour can get substituted by Upgrain products

Limitations:

- Optical changes (darker)
- Higher water addition necessary

Recipes Extruded Goods

Grainmade Flakes/TVP/Chips:

Ingredient	Part (%)
Protein Concentrate/ Isolate	65
<i>Barley Protein</i>	25
Water	9
Calcium carbonate	1

Benefits:

- Higher bulk weight
- Better texture and bite

Limitations:

- Optical changes (darker)

Pasta:

Ingredient	Part (%)
Durum wheat	48
<i>Barley spent grain</i>	12
Whole egg	40

Benefits:

- Higher in protein (+14%) & fiber(+279%)
- Firmer to the bite

Limitations:

- Longer cooking time necessary

Your Contact Person



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upgrain

Our upcycled barley allows you to produce sustainable and healthy products without compromising quality or taste.

More information: www.upgrain.ch