



**OUR YEAR-ROUND SUPPLY OF**

**HEMP**

**CANNABIS SATIVA L.**





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# FROM FARM TO FORK



## FARM

Full traceability from farm to fork  
 Tracking and managing system throughout entire planting process  
 Fine-selected growing base  
 6000 MT raw material management



## PRODUCTION

Factory 100% dedicated to hemp - separate line for protein and oil pressing  
 High-purity dehulling with cleaning, separating and colour sorting  
 Raw materials are stored in low-temp cold store  
 Low-temperature physical oil pressing to minimize nutrition damage  
 Halal, Kosher, Not irradiated, Not ionized, Non-GMO  
 Unique patented breaking method  
 Production is BRC certified



## PRODUCT

Available in various products: seeds / flour / flakes / protein / oil  
 Available in organic or conventional  
 Product is stored in gas-filled aluminum foil bags

# SPECIFICATIONS

PRODUCT	QUALITY	ORGANIC / CONVENTIONAL	FIRST DELIVERY
Whole Hemp Seeds	Purity: $\geq 99.5\%$	Available Organic & Conventional	December
Hulled Hemp Seeds	Purity: 99.5%		
Hemp Flour	Grade: 40% protein		
Green Hemp Protein	Grade: 30% / 50%		
White Hemp Protein	Grade: 55% / 60% / 65% / 70% / 75%		
Hemp Protein Flakes	Grade: 60% protein		
Hemp Oil	Green Hemp Seed Oil / Golden Hemp Seed Oil / Hemp Seed Oil Refined		



# PRODUCTS



**SEEDS**



**FLOUR**



**FLAKES**



**GREEN PROTEIN**



**WHITE PROTEIN**



**OIL**

# SEEDS

## PRODUCT

## QUALITY ASSURANCE & CONTROL

### Whole Hemp Seeds

Purity:  $\geq 99.5\%$   
Size: 3 - 5mm  
Colour: Brownish  
Moisture:  $\leq 10\%$



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### Hulled Hemp Seeds

Purity: 99.5%  
Size broken: 15-20%, sort by  $\varnothing$  2.0 screen  
Colour: Yellowish small seeds with (no more than 30%) green skin flecks  
Moisture: max. 8%  
High-purity dehulling  
EU origin/processed on request





# FLOUR

PROCESSED FROM WHOLE HEMP

## PRODUCT

## QUALITY ASSURANCE & CONTROL

Hemp Flour

Made from 100% whole hemp seeds

Grade: 40% protein

Particle size: 60 mesh

Colour: Green

Moisture:  $\leq 8.0\%$

Protein (dry basis): 38-42%



# GREEN PROTEIN

PROCESSED FROM WHOLE HEMP

## PRODUCT

## QUALITY ASSURANCE & CONTROL

Green Hemp Protein 30%

Particle size: > 99% through 60 mesh

Colour: Green

Moisture:  $\geq 8.0\%$

Protein (dry basis):  $\geq 30$

Flavour: nutty

Allergen-free protein

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Green hemp protein 50%

Particle size: > 99% through 60 mesh

Colour: Green

Moisture:  $\leq 8.0\%$

Protein (dry basis):  $\geq 48$

Flavour: nutty

Allergen-free protein





# WHITE PROTEIN

PROCESSED FROM HULLED HEMP SEEDS

## PRODUCT

## QUALITY ASSURANCE & CONTROL

White Hemp Protein 60%

Particle size: > 95% through 80 mesh

Colour: Off-white and light yellow

Moisture:  $\leq 8.0\%$

Protein (dry basis):  $\leq 60$

Flavour: nutty

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White Hemp Protein 65%

Particle size: > 95% through 80 mesh

Colour: Pure white

Moisture:  $\leq 8.0\%$

Protein (dry basis):  $\leq 64$

Flavour: nutty



# WHITE PROTEIN

PROCESSED FROM HULLED HEMP SEEDS

## PRODUCT

## QUALITY ASSURANCE & CONTROL

White Hemp Protein 70%

Particle size: > 95% through 100 mesh

Colour: Off-white

Moisture:  $\leq 8.0\%$

Protein (dry basis):  $\leq 70$

Flavour: nutty

White Hemp Protein 75%

Particle size: > 95% through 100 mesh

Colour: Pure white

Moisture:  $\leq 8.0\%$

Protein (dry basis):  $\leq 75$



# WHITE PROTEIN

## AMINO ACID COMPOSITION GRADE 60 & 70

Alanine	2.47	g/100 g	0.015
Arginine	8.04	g/100 g	0.01
Aspartic acid	6.45	g/100 g	0.017
Glutamic acid	10.6	g/100 g	0.021
Glycine	2.55	g/100 g	0.019
Histidine	1.68	g/100 g	0.02
Hydroxyproline	<0.05	g/100 g	0.05
Isoleucine	2.35	g/100 g	0.035
Leucine	3.91	g/100 g	0.015
Lysine	2.05	g/100 g	0.014
Ornithine	<0.05	g/100 g	0.05
Phenylalanine	2.66	g/100 g	0.031
Proline	2.01	g/100 g	0.02
Serine	3.06	g/100 g	0.016
Threonine	2.05	g/100 g	0.006
Tyrosine	2.02	g/100 g	0.023
Valine	2.94	g/100 g	0.016
Cystein + Cystine	0.820	g/100 g	0.006
Methionine	1.48	g/100 g	0.024

### GRADE 60

Alanine	2.64	g/100 g	0.015
Arginine	7.54	g/100 g	0.01
Aspartic acid	6.43	g/100 g	0.017
Glutamic acid	10.8	g/100 g	0.021
Glycine	2.71	g/100 g	0.019
Histidine	1.69	g/100 g	0.02
Hydroxyproline	<0.05	g/100 g	0.05
Isoleucine	2.31	g/100 g	0.035
Leucine	4.01	g/100 g	0.015
Lysine	2.33	g/100 g	0.014
Ornithine	<0.05	g/100 g	0.05
Phenylalanine	2.77	g/100 g	0.031
Proline	2.43	g/100 g	0.02
Serine	3.04	g/100 g	0.016
Threonine	2.11	g/100 g	0.006
Tyrosine	2.13	g/100 g	0.023
Valine	2.96	g/100 g	0.016
Cystein + Cystine	0.996	g/100 g	0.006
Methionine	1.42	g/100 g	0.024

### GRADE 70

# FLAKES

PROCESSED FROM HEMP HEARTS

## PRODUCT

Hemp Flakes

## QUALITY ASSURANCE & CONTROL

Made from 100% hulled hemp seeds

Size:  $\leq 30\text{mm}$

Colour: Green

Moisture:  $\leq 8.0$

Protein (dry basis):  $\geq 60\%$

Thickness: 1.5 - 2.5mm

THC:  $\leq 2$  (LOD 0.2ppm)

Ideal for breakfast toppings





Oil

**PRODUCT**

**QUALITY ASSURANCE & CONTROL**

Hemp Seed Oil

Processed from hulled hemp seeds

Colour: Yellow

Moisture: < 0.15

Flavour: Slightly nutty

THC: Max. 5 mg/kg

Hemp Seed Oil Refined

Processed from inshell hemp seeds

Colour: Yellow, light green

Moisture: < 0.15

Flavour: Slightly nutty



# PARTNER



## FACTS & FIGURES

SUPPLIER	Liaoning Qiaopai Biotech Co., LTD.
LOCATION	China
FOUNDED IN	2013
CERTIFICATIONS	HACCP / ECOCERT / Kosher / Halal / BRC / IFS

Qiaopai Biotech is a global manufacturer and supplier of hemp food ingredients. The company specializes in dehulling using their advanced dehulling technology and patented equipment to produce purified hemp products of the highest quality. The 80,000 m<sup>2</sup> facility includes a physical, chemical and microbiological laboratory to ensure every batch of products is tested throughout the complete production process. The company's R&D team is continuously upgrading the equipment to ensure all raw materials are up to international standards.



## THC & THCA

There are two different components that make up the total THC content: THC and THCA the non-psychoactive THCA can be transformed into THC only upon heating. THCA has no psychotropic effect as long as it is not heated. The majority of foods made from hemp seeds are used in cold cuisine to protect the valuable polyunsaturated fatty acids.

## THC CALCULATION

The total THC content is calculated from the sum of THC and THCA expressed as THC. This means that the THCA content is converted considering the molar masses of THC and THCA. The calculation is as follows:

$$\text{THC}_{\text{total}} = \text{THC} + \left( \frac{M(\text{THC})}{M(\text{THCA})} \right) \text{THCA}$$

$$M(\text{THC}) = 315 \text{ g/mol}$$

$$M(\text{THCA}) = 358 \text{ g/mol}$$

Due to absence of a uniform European requirement for the total THC content in hemp seed and other hemp products, and the broad spectrum of customer applications, we have no basis for setting a limit in our product specification. Based on reports issued by the nova-Institute and European Industrial Hemp Association (EIHA), we consider our Hulled Hemp Seed to be an 'intermediate material', and not a ready-to-eat food, since our product is used for further processing or as part of a dish/meal by the final consumer. To allow the THC content of such final consumer products (using our product as ingredient) to be within EIHA advice limits, we work with a reference value of maximum 10 ppm for total THC for our Hulled Hemp Seed. For final ready-to-eat product EIHA proposes total THC limits ranging from 0.15 to 0.35.

## EIHA STATEMENT ON THC VALUES

EIHA suggests a daily total THC uptake of 500.55 µg. The first table below list EIHA proposal resulting in a daily total THC uptake of 500.55. The second table lists the new total-THC-reference values for hemp ingredients derived from EIHA proposal on ready-to-eat products, selected recipes and consumption patterns; together with guidance values and limits for listed countries. THC values are subject to change - for the most up to date information please stay in contact.

Food categories	EIHA Guidance value for total THC [µg/kg]	Average Consumption Pattern [g/day/person]	Total THC uptake/day/person (consumption * guidance value = uptake) [µg]	Current Guidance values (Germany - BfR) [µg/kg]
Edible oils	10000	2.93	29.30	5000
'High Volume' foods: Protein (e.g. tofu, hemp-based dairy alternatives)	1000	183.87	183.87	150
'High Volume' foods: Carbohydrates (bread, baked goods, pasta, breakfast cereal)	1000	230	230	150
'Low Volume' foods (protein shakes, sweets)	1000	27.01	27.01	150
		[ml/day/person]		
Alcoholic beverages (beer, wine, spirits)	20	180.61	3.61	5
Non-heated non-alcoholic beverages (soft drinks, fruit juices)	20	120.03	2.40	5
Heated Non-alcoholic beverages (tea, infusions)	80	304.47	24.36	5

Table 1.

Ingredients	EIHA proposal 2017 Total THC [µg/kg]	THC Guidelines		THC limit	
		Germany - BfR [µg/kg] 2000	Switzerland [µg/kg] 2016	Canada [µg/kg] 1998	Australia and NZ [µg/kg] 2017
Hemp Seeds Whole or Hulled	10000	-	10000	10000	5000
Hemp Seed Oil (Edible oil)	10000	5000	20000	10000	10000
Processed Press Cake (Protein powders, Flour)	10000	-	-	10000	5000

Table 2.



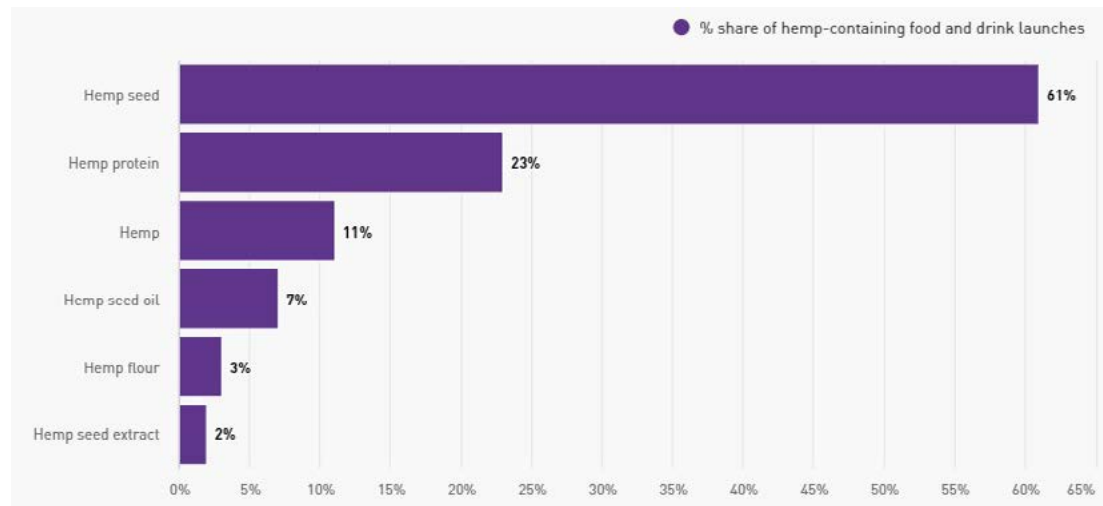
# MARKET

## HEMP MARKET TRENDS

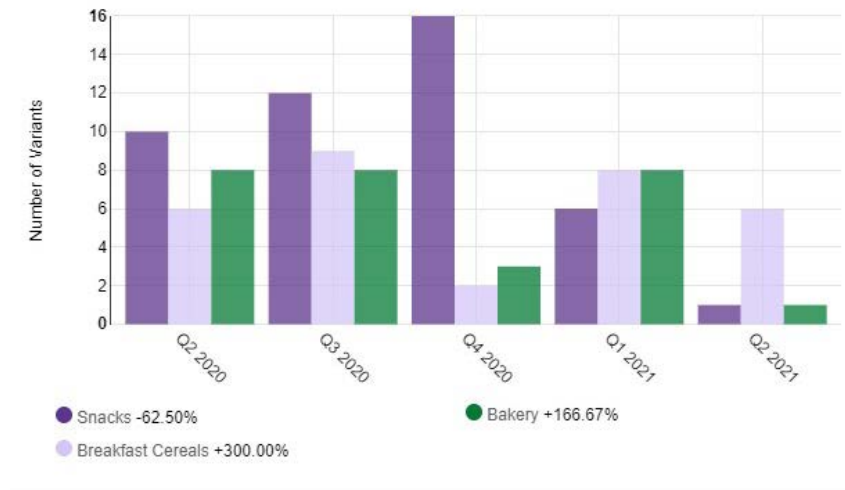
Hemp ingredients are positioned to thrive in the next generation plant-based products and can capitalize on three key food trends: **plant-based**, **nutrient-dense** and **planet-friendly**. Hemp meets the criteria for planet-saving foods: resilient, nutrient-dense and using minimal resources. As a fast-growing sustainable crop, hemp can be used to tap into a new era of sustainability with solutions to help improve strained ecosystems.

## HEMP CLAIMS

Hemp is gaining greater prominence in the snack and bakery category, offering high-protein and vegan-friendly credentials. Food and drink products that contain hemp ingredients are more likely to feature sustainable and environmentally friendly product claims compared to products overall.



Global: share of hemp-containing launches, by hemp ingredient, Aug 2015-July 2020 (Source: Mintel GNPD)



Europe: Hemp new product launches per category (Source: Mintel GNPD)

# APPLICATION

## INSPIRATION

Hemp ingredients are good for the planet and people and are positioned to thrive in the next generation of plant-based products. Industrial Hemp (also known as Cannabis sativa L.) has a non-narcotic, low THC-content. Hemp ingredients are plant-based, nutrient-dense, and can be added to a wide variety of snacks, baked goods and nutraceuticals.

### SNACKS



### BAKERY



### PACKERS



### COSMETICS/NUTRACEUTICALS



# CONTACT US



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