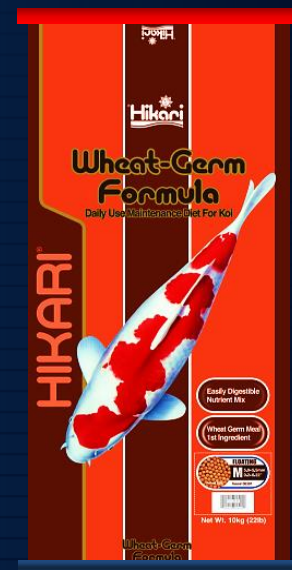


Supported over the decades  
Daily Use Maintenance Diet

# Wheat-Germ Formula

Product Information



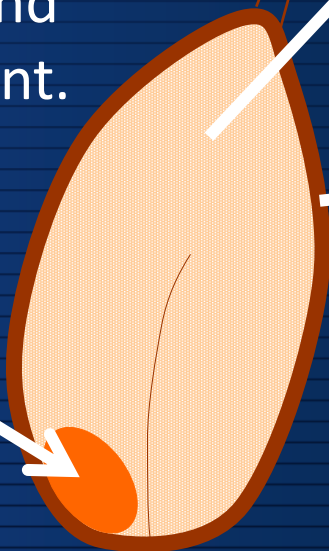
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# What is "Wheat Germ"?

## Wheat germ (2%)

The original part of the malt and the juvenile root. By-product of flour milling and is used as a feed ingredient. A treasure trove of nutrients!

A treasure trove of nutrients!



## albumen (83%)

Become wheat flour for human consumption

## bran (15%)

Not for human consumption, mainly used as feed ingredient

Only a Spoonful of **Wheat germ** can be obtained from about 10,000 wheat grain!!

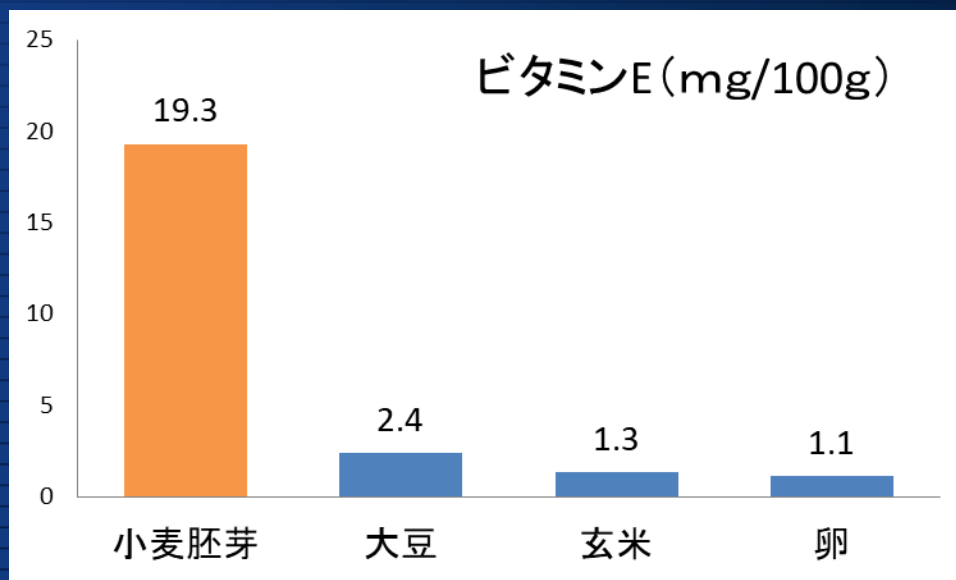
## Wheat germ concentrates Protein, Lipid and Fiber

Nutritional Composition in 100g wheat-germ		
Energy	Kcal	426
Moisture	g	3.60
Protein	g	32.00
Fat	g	11.60
Carbohydrate	g	48.30
Ash	g	4.50
Soluble Dietary Fibre	g	0.70
Insoluble Dietary Fiber	g	13.60
⇒ Helps Intestinal Peristalsis		

## Wheat germ concentrates Vitamins and Minerals

Vitamins			Minerals		
β-carotene	μg	61.00	Na	mg	3.00
β-cryptoxanthin	μg	4.00	Ka	mg	1100.00
α-tocopherol	mg	28.30	Ca	mg	42.00
β-tocopherol	mg	10.80	Mg	mg	310.00
⇒ Vitamin E			Phosphorus	mg	1100.00
Vitamin K	μg	2.00	Iron	mg	9.40
Vitamin B1	mg	1.82	Zink	mg	15.90
Vitamin B2	mg	0.71	⇒ Antioxidant action		
Niacin	mg	4.20	Copper	mg	0.89
Vitamin B6	mg	1.24			
Foric Acid	μg	390.00			
⇒ Antioxidant action					
Pantothenic Acid	mg	1.34			

## Wheat germ - high in Vitamin E



Wheat germ contains **high in Anti Oxidants** such as Vitamin E, in order to maintain power to seed's germinate

## How Vitamin E works

① Strong antioxidant capacity to slow down cell deterioration and maintains cell health.

When **reactive oxygen** are generated in the body due to stress, they oxidize fatty acids ( $\alpha$ -linoleic acid and linolenic acid), which are components of cell membranes.

② Improved **blood flow** improves metabolism.

In humans, it improves skin moisture retention and elasticity. In Nishikigoi, it can be expected to prevent yellowing and provide a healthy shine.

# Wheat germ - rich in Vitamin B Complex

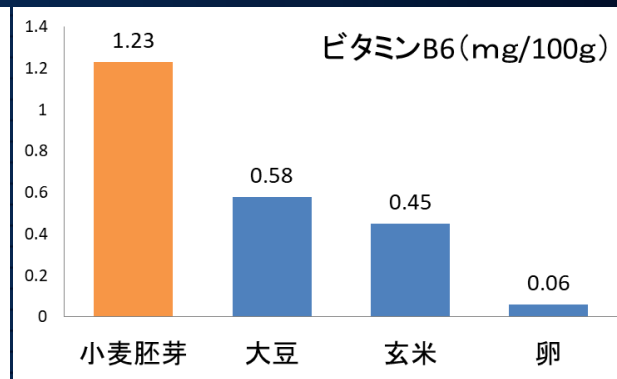
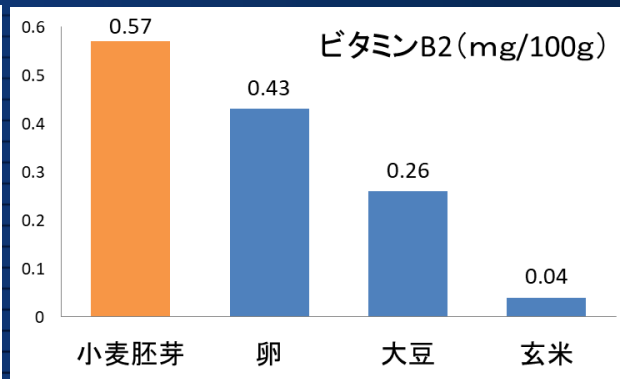
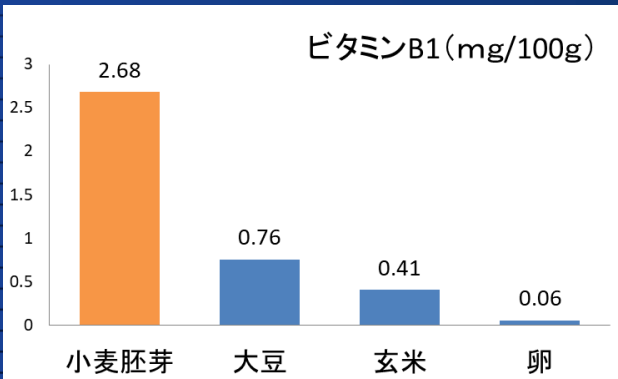
Triggers for seed's germination

Vitamin B1: Burning of carbohydrates

Vitamin B2: Burning of Lipids

Vitamin B6: Amino acid breakdown and re-synthesis

⇒ wheat germ contains all 9 essential amino acids that cannot be synthesized in fish 's body



## Wheat germ – Amino Acids and Fatty Acids

⇒ wheat germ contains all x 9 essential amino acids that cannot be synthesized in fish 's body, out of 18 amino acids contained in wheat germ

Isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine, histidine

⇒ wheat germ contains all x 2 essential amino acids that cannot be synthesized in fish's body.

Two fatty acids are components of cell membranes

Linoleic acid: 5700 mg,  $\alpha$ -linolenic acid: 750 mg.





# Hikari® Wheat Germ Formula

Only Hikari® Wheat-Germ Formula is an authentic “wheat germ” foods, because of its contents.

## Individual Ingredient Declaration

**Hikari® Wheat-Germ Formula:** **Wheat germ meal**, fish meal, dried bakery product, corn gluten meal, wheat flour, wheat bran, wheat starch, potato starch, brewers dried yeast, wheat gluten meal, dried seaweed meal, garlic, rice bran, vitamins and minerals

Competition A: Wheat flour, fish meal, cuttlefish meal, soybean meal, corn gluten meal, rice bran, **wheat germ meal**, fish oil, ...

Competition B: White fish meal, Krill, **wheat germ meal**, brewers dried yeast, soybean meal, wheat flour, ...

Hikari® Wheat-Germ Formula is **true Wheat germ meal base diet**, Wheat germ first in ingredients, whereas competitors just contains wheat germ as a part of all ingredients

# Hikari® Wheat-Germ Formula / Guaranteed Analysis

## Wheat-Germ Formula

	Crude Protein	Crude Fat	Crude Fiber	Moisture	Ash	Phosphorus
Floating	min. 32%	min. 4.0%	min. 4.0%	max. 10%	max. 12%	min. 0.7%
Sinking	min. 30%	min. 4.0%	min. 4.0%	max. 10%	max. 13%	min. 0.6%

## Saki-Hikari® Growth as an example

Crude Protein	Crude Fat	Crude Fiber	Moisture	Ash	Phosphorus
min. 40%	min. 9%	max. 2.0%	max. 10%	max. 17%	min. 1.7%

Low protein and low lipid content, which helps reducing burden on fish body. Also high in fiber.

It's a great all year-round food!

Did you know?

Hikari® Wheat-Germ Formula is suitable for Nishikigoi / Koi Carp

1. The carp family is an omnivorous fish species with a strong phytophagous diet. They are able to digest and absorb plant matter very well compared to other fish species.
2. Wheat germ, which is a plant-based raw material and rich in protein and lipid, is one of the best raw material for Nishikigoi.

## Did you know??

### Hikari® Wheat-Germ Formula is suitable under lower temperature

Wheat germ is high in dietary fiber (insoluble fiber).

It absorbs water and swells up in the intestines, stimulating the bowels to increase peristalsis and promote bowel movements.

When the water temperature is low, bowel movements are particularly weak, so it is important not to allow food to remain in the bowel. This is why Hikari® Wheat-germ Formula is suitable for low water temperatures.

## Did you know?

**Winter fasting thins the Koi's intestinal tract.**

Actually identified in our Hikari® Aquatics Laboratory

When dissecting Nishikigoï that have not been fed for a long time, the intestinal wall is very thin and can tear with the slightest force.

In case of prolonged fasting, e.g. during winter, the intestinal wall is thinner in early spring. This means that their digestive capacity is low, so we recommend the highly digestible Hikari® Wheat-Germ Formula for feeding in early spring.

We recommend feeding Hikari® Wheat-Germ Formula with sufficient feeding intervals during the winter months as well. Feeding with smaller pellet is recommended.

## Did you know?

**Hikari® Wheat-germ Formula is also good when water temperature warm as well as cold!**

The combination of various ingredients results in a formula that is highly palatable to Nishikigoi and is known from experience to be eaten even at high water temperatures when feeding habits are normally low.

In fact, in South East Asian countries where the water temperature is high all year round, Wheat-Germ Formula sell better than Staple as an everyday food, and there are no bad reviews of the product at all.

## Did you know?

Hikari® Wheat-Germ Formula is used by Japanese breeders all year round

**May:** release Tategoi to outside mud pond – water temperature is low and is not stable

**June and after:** settlement of Oyagoi after spawning – feed Floating Wheat-Germ Formula at indoor pond

**Summer:** mix with growth/color foods to let Nishikigoï keep eating to body's build-up even the water temperature is high

**October:** before Ikeage (harvest) – water temperature is not stable

# 4. Hikari® Wheat-Germ Formula

## Product Variety

	Pellet Size	Net Weight				
		500g	2kg	5kg	-	-
Floating	S	500g	2kg	5kg	-	-
	M	500g	2kg	5kg	10kg	-
	L	-	2kg	5kg	10kg	-
Sinking	M	500g	-	5kg	-	15kg
	L	-	-	-	-	20kg

### Floating Pellets



S: 3.5–4.0mm M: 5.0–5.5mm L: 8.0–9.0mm

### Sinking Pellets



M: 4.0–4.3mm L: 7.5–8.5mm







# Hikari® Wheat-Germ Formula

## Sales Focus

**Change the mindset of all**

⇒ it is not a winter dedicated food, actually very good for all seasons

**Let hobbyists have more feeding experiences with it**

⇒ dealers should display Hikari® Wheat-Germ Formula from the start of the season

**Let dealers have it earlier**

⇒ Pedigree will add Hikari® Wheat-Germ Formula 10kg to the Preseason deals, on top of Staple 10kg and Gold 10kg