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House # 13 (4 Floor) Road # 10A, Sector # 09, Uttara, Dhaka-1230



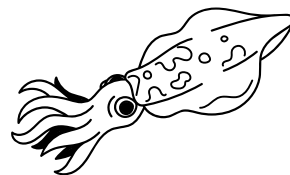
THX SPRING COMMODITIES



ENZYSQUID

Product: Squid Liver Paste (Enzymatic)

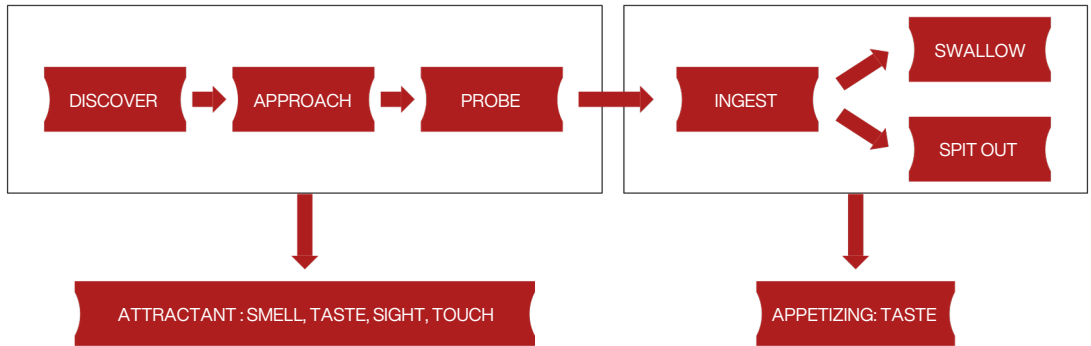
Excellent attractant, superbly appetizing.



Among various aqua feed attractants, enzymatic squid liver paste is universally recognized as the most outstanding one.

APPETIZING MATTERS THE SAME AS ATTRACTING

Feeding Process of Aquatic Animals:



Attracting : The olfactory system determines whether to eat or not.

Appetizing : The taste system decides to swallow or spit.

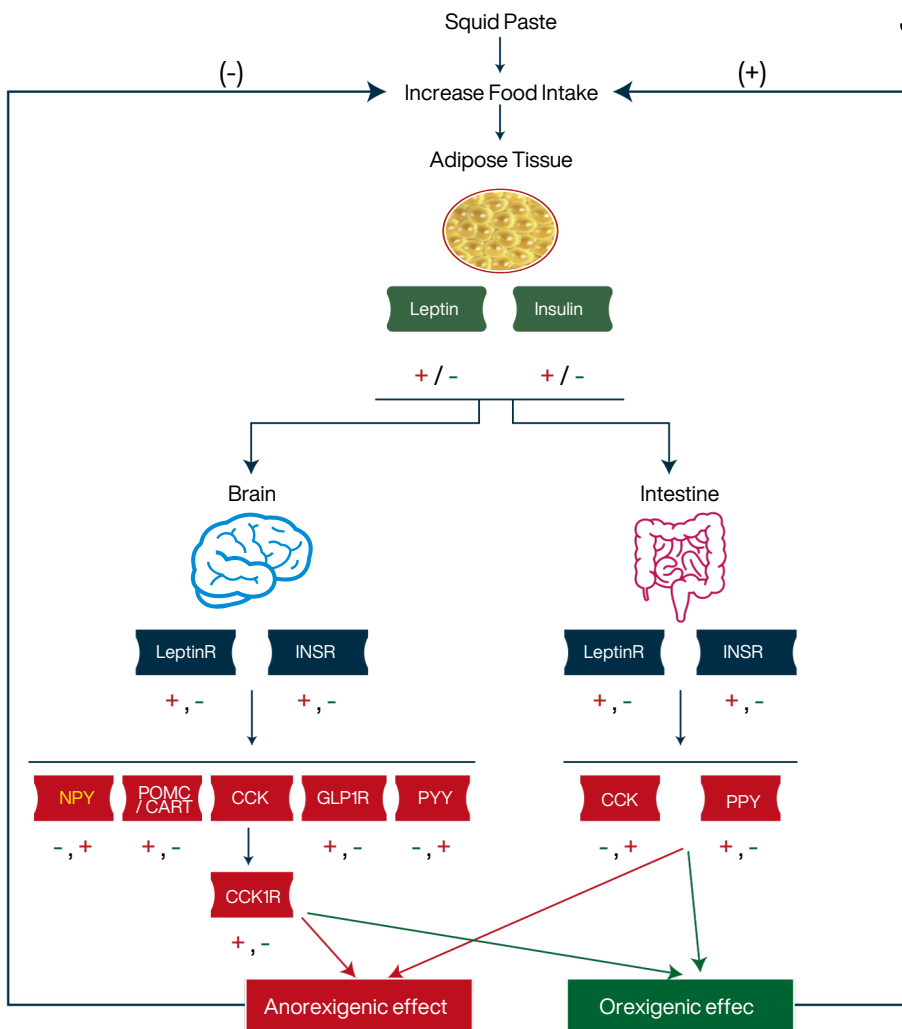
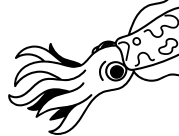
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+ / -: the expression increase/decrease at 3h after feeding →: the effect at 3h after feeding
+ / -: the expression increase/decrease at 12h after feeding →: the effect at 12h after feeding

Therefore, attracting is just the first step, appetizing is the real key to promote feed intake.

Figure 1: Brain-gut dynamic response to squid liver paste during fasting.

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WHAT IS ENZYSQUID

Enzymatic squid liver paste is a semi-fluid paste product made of fresh squid and viscera through advanced enzymatic hydrolysis process. It possesses unique aroma of squid liver. Compared to normal squid liver paste or other attractants, it has smaller molecular weight, stronger smell, and is more appetizing, more fluid, and easier to use, making it an excellent appetizing and nutritional supplement for animal feed.

Raw Materials: Fresh squid and viscera

Highlights:

1. Strong and natural attractant for aquatic animals, for its strong and long-lasting fishy smell;
2. Substantial improvement of feed palatability, and thus animals' feed intake.

Specifications:

Crude Protein	≥24%
Crude Fat	≥6%
Moisture	≤55%
Ash	≤10%

Appearance:

Dark brown, semi-fluid paste, easily soluble in water with no layer.



Easy to Use:

- Can be conveyed through a pump because it is fully soluble in water.
- Can be directly added to second mixing process.
- Can be sprayed into the mixer (for which we can provide special automatic equipment).

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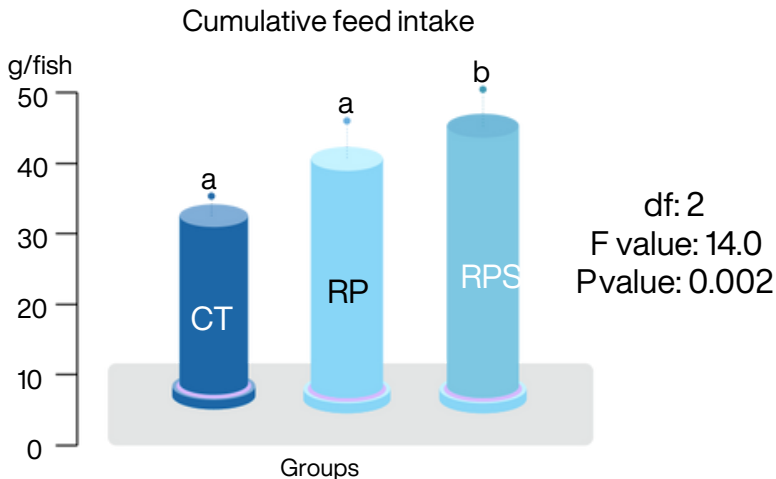
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Key Features:

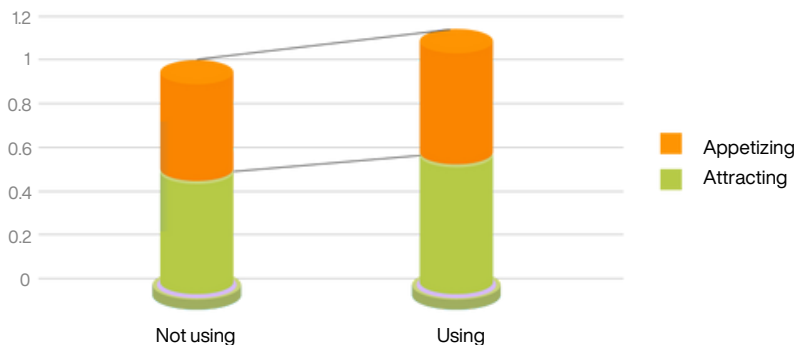
1. Outstanding appetizing effect and feed intake stimulation, thanks to its natural material with strong and lasting fishy smell, which is not to be weakened by high-temperature feed production process.
 2. High quality protein source, rich in essential amino acids (lysine, methionine, threonine, etc.) with a balanced profile.
 3. Nearly doubled small peptides compared to normal squid liver paste, rich in active peptides and functional PUFA fatty acid.
 4. Effectively promote the molting of crustaceans, rich in cholesterol molting stimulants.
 5. Efficiency: 2% ENZYSQUID = 3% normal squid liver paste.
- ◆ Umami substances mainly come from hydrolysis of various animal proteins.
 - ◆ Effective components are various amino acids, small proteins and nucleotides.
 - ◆ Among various feed intake stimulants, squid liver paste is universally recognized as the most outstanding one:



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Figure 2: Feed intake experiments with different diets.
*Data provided by 3rd party.

Demonstration on Attractant and Appetizing Effects of EnzySquid



Upto 30% increase on attracting | 5% increase on feed intake

Figure 3: Demonstration on Attractant and Appetizing Effects of EnzySquid

Production Process:

Fresh squid and viscera - Grinding and pulping - Enzymatic hydrolysis by specific enzymes - Filtration to remove impurities - High temperature sterilization - Low temperature concentration - Clean packaging.

After sterilization and concentration, EnzySquid gets salty and low moisture, which plays a key role in preventing microbial reproduction, and hence guarantees a stable quality during shelf life.

Recommended Dosage:

For spraying: 0.5%-0.7%

For mixing: 3%-5%

Packing: 1100KG/Barrel net

Shelf Life: 12 months at room temperature

Application: Fish, Shrimp, Poultry

PARTNERS:



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WHY ENZYSQUID

ENZYSQUID VS Normal Squid Liver Paste

Advantages of ENZYSQUID:

- 1 Soluble in water, nearly doubled small peptides, and a 30% increase in feed intake stimulation.
- 2 Enzymatic hydrolysis greatly increases small molecules, making its attractant smell sustained and penetrating in water.
- 3 Liquefied protein passes 40-80 mesh screen with good fluidity, naturally excluding non-enzymatic waste.
- 4 Premixing of 3-4 workers can be saved, and making ultra-fine grinders more efficient.



Disadvantages of Normal Squid Liver Paste:

- 1 Ineffective waste exclusion, resulting in plastics, fish hooks, gloves, squid bones and other debris being pulverized and included in finished product.
- 2 High-temperature processes of steaming and concentration destroy some of the amino acids, and some flavor substances would volatilize.
- 3 Quite viscous and can only be used by premixing with raw materials like SBM



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WHY ENZYSQUID

ENZYSQUID VS Hydrolyzed Shrimp Paste

- ENZYSQUID possesses stronger fishy smell, and thus better appetizing and attractant effect.
- Hydrolyzed shrimp paste is high in moisture and low in protein.
- Hydrolysis process destroys certain amino acids, and excessive residual acid causes low PH, damaging shrimps' intestines, not as good as enzymatic hydrolysis process:

	ENZYSQUID	HYDROLYZED SHRIMP PASTE	NOTE
Process Temperature	Mild temperature around 50°, does not destroy nutrients.	High temperature, intense Maillard reaction, some nutrients destroyed.	
PH	Nearly neutral, mild.	Strongly acidic, irritating to intestines, which can be harmed by long time use.	Intestinal PH of aquatic animals is 7-7.5
Amino Acid Form	Mostly exists in the form of small peptides, more functional.	Mostly exists as free amino acids.	
Amino Acid Reservation	Does not destroy the structure of amino acids.	Strong acid causes some amino acids to have deamination, decarboxylation. Moreover, high temperature may cause amino acids to denature, degrade, etc. This leads to changes in the structure of amino acids, thereby affecting their biological activity.	
Highly specific	Different enzymes have specific action sites, which can hydrolyze proteins specifically, allowing the product to have higher biological activity and nutritional value.	Not specific. Peptide bonds are cut randomly, hence the products are acquired randomly, resulting in mediocre functions.	