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KOKUBUDOU

Making raw meat and seafood bigger, more tender, and more delicious

KOKUBUDOU is extremely effective in preventing loss of volume, hardening, and drying of frozen and microwavable foods that are susceptible to such problems.

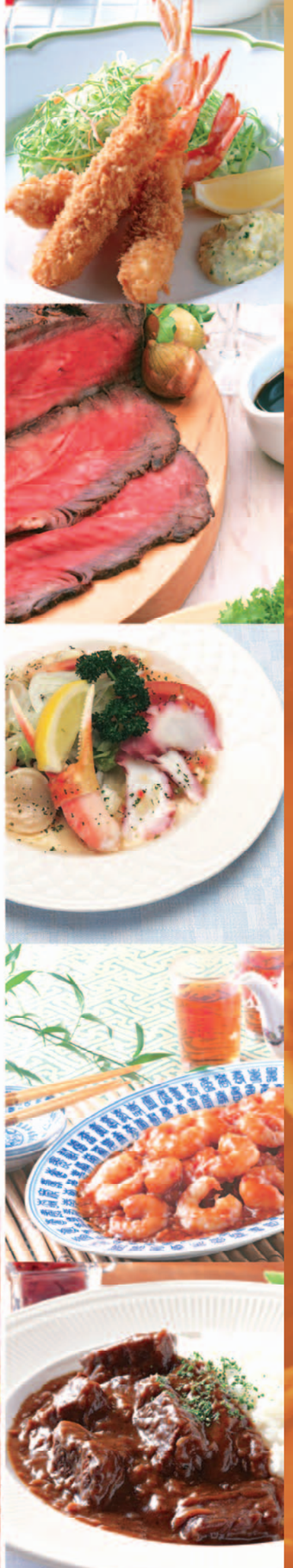
KITII Corporation

KITII Corporation Is Pursuing an Even Higher Level of Safety, Health, and Good Taste.

KITII Corporation is constantly studying the mechanisms of the body, as we rise to the challenge of developing "food technology" that tastes good, is safe, and promotes good health.

"KOKUBUDOU," which we introduce here, was also born of this philosophy. KOKUBUDOU is a unique new flavor enhancer based on grapes as the primary ingredient.

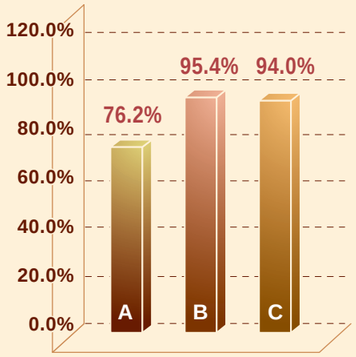
Rather than seasoning food from the outside, KOKUBUDOU draws out the "umami," or savouriness, of the raw meat and seafood itself. Also, by treating raw meat and seafood with KOKUBUDOU, it is possible to solve the problems of reduced weight, hardening of raw material, and dry parts that always occur during food preparation.



Contents

The Benefits of KOKUBUDOU

1. A water retention effect softens the raw meat or seafood, even expanding the food's volume.



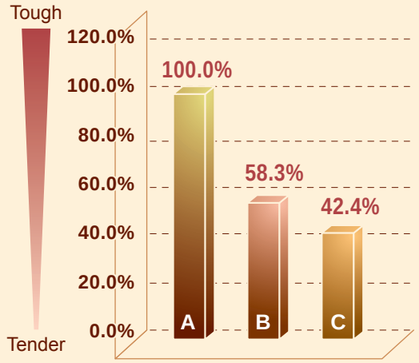
KOKUBUDOU reduces both drip loss and cooking loss, thereby increasing the yield of the raw material and improving your return in the process.

Comparison of Yield

- A) Untreated chicken breast
- B) Chicken breast treated with 4% KOKUBUDOU solution
- C) Chicken breast treated with 0.5% phosphate (+ 1.6% salt) solution

Chicken breast A), B) and C) were processed for 30 min in a tumbler (RTN-150 manufactured by Ohmichi Industrial Co., Ltd). For both B) and C), a solution equivalent to half the weight of the chicken was used. The chicken breasts were then covered with flour and starch, and fried in 170 C-degree salad oil for three minutes. The breasts were then left to cool at room temperature for 30 minutes before being weighed.

2. Even when a dish cools, the ingredients will not harden.



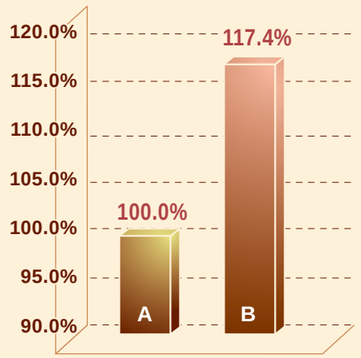
KOKUBUDOU is perfect for use in the raw material of frozen food and food products to be prepared in the microwave, and is also recommended for food that is meant to be enjoyed slowly over time, such as dishes at receptions and banquets.

Comparison of Meat Tenderness

- A) Untreated chicken breast
- B) Chicken breast treated with 4% KOKUBUDOU solution
- C) Chicken breast treated with 0.5% phosphate (+ 1.6% salt) solution

Chicken breast A), B) and C) were processed for 30 min in a tumbler (RTN-150 manufactured by Ohmichi Industrial Co., Ltd). For both B) and C), a solution equivalent to half the weight of the chicken was used. The chicken breasts were then covered with flour and starch, and fried in 170 C-degree salad oil for three minutes. The breasts were then left to cool at room temperature for 30 minutes before being testing in a texture analyzer (TA-XT2i manufactured by Stable Micro System).

3. KOKUBUDOU draws out and locks in the savory components within the structure of raw meat and seafood.



Unlike "umami" or savory seasonings, KOKUBUDOU draws out the natural deliciousness of food.

Comparison of Free Amino Acid in Meat

- A) Untreated chicken breast
- B) Chicken breast treated with 4% KOKUBUDOU solution

Chicken breast A) and B) were processed for 30 min in a tumbler (MW-1 manufactured by Ikemoto Scientific Technology Co., Ltd). For B), a solution equivalent to half the weight of the chicken was used. The chicken breasts were then analyzed for free amino acids using an amino acid analyzer (Hitachi L-8500).

4. KOKUBUDOU eliminates unnatural texture and flavor that are problematic in phosphate treatment.

Juiciness	4.0	5.1	4.8
Tenderness	4.0	5.5	5.6
Texture	4.0	5.2	4.6
Flavor	4.0	5.6	4.0
Overall acceptability	4.0	5.6	4.2

Comparison of Sensory Evaluations

- A) Untreated chicken breast
- B) Chicken breast treated with 4% KOKUBUDOU solution
- C) Chicken breast treated with 0.5% phosphate (+ 1.6% salt) solution

Raw material processed with low-cost phosphates will bind with calcium and turn it into calcium phosphate inside the body. This calcium phosphate is not absorbed, and is excreted from the body. Since KOKUBUDOU does not contain phosphates, it does not reduce calcium in the body. We are able to provide you with raw material that is both healthy as well as delicious.

Chicken breast A), B) and C) were processed for 30 min in a tumbler (RTN-150 manufactured by Ohmichi Industrial Co., Ltd). For both B) and C), a solution equivalent to half the weight of the chicken was used. The chicken breasts were then covered with flour and starch, and fried in 170 C-degree salad oil for three minutes. The breasts were then left to cool at room temperature for 30 minutes, before a panel of five people evaluated the meat for juiciness, tenderness, texture, flavor and overall acceptability.

Tips for Using KOKUBUDOU Well

- Use KOKUBUDOU to prepare raw materials before cooking.
- The most effective way to use KOKUBUDOU is to dissolve it in water without mixing it with other seasonings, and to process raw materials with this water solution alone.
- KOKUBUDOU shows alkaline properties when dissolved in water. When using KOKUBUDOU simultaneously with other seasoning agents, please verify that the resulting pH is 6.5 or higher.
- Since KOKUBUDOU contains a small amount of salt, when flavoring food, be sure to adjust amounts of salt accordingly.
- In order to improve the effectiveness of KOKUBUDOU, we recommend that you extend processing time.
- When KOKUBUDOU is used in heated raw material, or in raw material processed with either exogenous enzymes or phosphates, or in raw material processed with acidic pH adjustment liquid, the effectiveness will be reduced.
- Be sure to test results in advance when changing raw materials or usage conditions, as this can alter effectiveness. If you contact us, we can also consider the optimal usage conditions, and propose solutions.

Usage Notes

- Use a clean spoon when using KOKUBUDOU, and make sure it is not contaminated with any foreign substances. Also, take care that there is no moisture absorption during measurement.
- Since KOKUBUDOU is highly susceptible to moisture, be sure to store it tightly sealed after usage.
- Water absorption can cause hardening, so be sure that water and other such liquids do not mix with KOKUBUDOU inside the product.
- Please use KOKUBUDOU soon after the container is opened.
- After the container is opened, brown material may be apparent in certain rare cases. This is due to the product's disinfection and disintegration processes, which result in part of the product burning. Please do not be concerned about this material, as it is completely harmless.
- Since using KOKUBUDOU together with other acidic seasoning agents can result in the formation of carbon dioxide gas foam, please be sure to gradually add small amounts of KOKUBUDOU and other acidic seasoning agents.
- When soaking with a liquid solution of KOKUBUDOU, please do not reuse for reasons of hygiene.

Try KOKUBUDOU with basic ingredients. It will help you prepare high-quality foods that are one step above the rest.

Fried chicken thigh

Untreated

KOKUBUDOU

STPP

KOKUBUDOU improves juiciness compared to untreated chicken. STPP makes holes in the tissues which may lead to gummy texture.

Boiled shrimp

KOKUBUDOU improves yield compared to untreated chicken and shrimp. STPP had the same result as KOKUBUDOU.

Untreated KOKUBUDOU STPP

Untreated KOKUBUDOU STPP

KOKUBUDOU keeps same color as the untreated shrimp. STPP makes color unnatural as shrimp becomes transparent.

Untreated

STPP

KOKUBUDOU

For experiment detail, refer to below (Meat Version).

For experiment detail, refer to below (Seafood Version).

▼Examples of foods that can be treated with KOKUBUDOU

Breaded pork cutlet

Yakitori

Beef steak

Beef curry

Hamburger steak

Fried shrimp

Fried fish

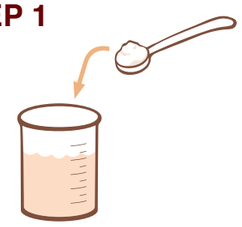
Sushi shrimp

Squid rings

Shrimp in chili sauce

Using KOKUBUDOU (Meat Version)

STEP 1

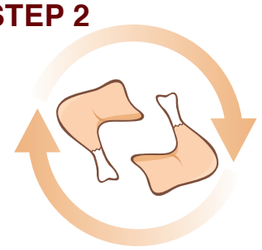


Dissolve KOKUBUDOU in water.

Prepare a water solution of 4% KOKUBUDOU, equivalent to 15% of the meat's weight.

Example: For 1 kg of meat
KOKUBUDOU: 6 g
Water: 144 g

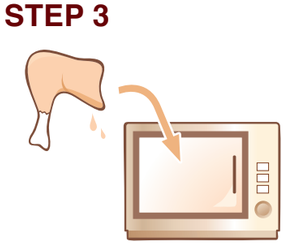
STEP 2



Add the KOKUBUDOU and water solution from step 1 to the meat and then tumble the mixture.

The tumbling time should be roughly between 30 and 60 minutes.
The thicker the meat, the longer the tumbling time should be.

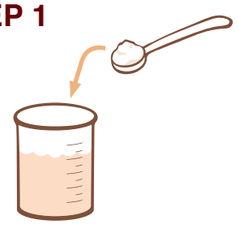
STEP 3



Prepare the meat.

Using KOKUBUDOU (Seafood Version)

STEP 1

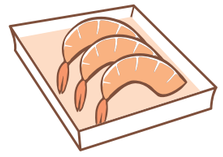


Dissolve KOKUBUDOU in water.

Prepare a water solution of 4% KOKUBUDOU, equivalent to approximately 30% of the seafood's weight, such that the seafood is completely immersed.

Example: For 1 kg of seafood
KOKUBUDOU: 12 g
Water: 288 g

STEP 2



Add the KOKUBUDOU and water solution from step 1 to the seafood and then soak the mixture.

The soaking time should be roughly two hours.
Soak overnight to improve the yield.
The soaking time will vary depending on the size of the seafood.
Be sure to remove the seafood from the shell before using KOKUBUDOU.

STEP 3

Prepare the seafood.