



Air Mail from Setouchi

瀬戸内からのエアメール

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“Gulfood 2009” holds in Dubai,

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Boiled Flounder with Broth

We deliver seasonal seafoods from the bounty of the sea all over Japan



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Sea water cooling disinfection system

(otherwise called "the chiller system")

It seems that recent soaring oil prices and electric power price hikes have dealt a severe blow to the business management of many companies. Our firm also faces an urgent need to curtail costs and streamline operation on many fronts.

Our company has been witnessing increasing volume of processing annually as a result of acquisition of HACCP, and along with it, costs for electric power has increased considerably. In order to face this situation, we racked our brains to develop the chiller system, as in the title, in the hope to find ways to cut those costs.



Ozone cooled sea water supply system

It is temperature that is most closely related to the quality of yellowtail. HACCP requires that the temperatures be retained 10 degrees centigrade or below from the stage of killing fish alive to the stage of products.



In what follows we will explain how much ice is needed from the stages of killing of fish alive to the product. The number of fish to be processed is assumed at 1,000.

Before the chiller system was introduced

After the introduction of the chiller system

Fish Processing

About 500 kg of ice on a lorry is needed during winter, and 750 kg is needed during summer. First, sea water is loaded onto one third of lorry especially for small piece of ice, and then the aforementioned



Fish Processing

Cooled water at optimum temperature to produce freshness



Selection

Ice is put in. About 50 kg of ice is loaded in a 500-liter tank in winter, and 70 kg in summer, and the sea water is poured to make water ice. In the case of 1,000 fish, it is necessary to have about 22 tanks.



Selection

Ozone processing + cooled water at optimum temperature to produce freshness



Head Removal, Washing

We prepared the number of tanks of water ice to match the sorting process. In this process, the raw materials are rendered into the dress state, with the meat being exposed. So they are covered with sanitary bags before the water ice is poured in. Eighteen tanks are needed for 1,000 fish.



Head Removal, Washing

Sterilization and cleaning processing of ozone water which was ozone processed after dress processing



The amount of ice to be produced is 2.5 tons in winter and 3.5 tons in summer. The calorie need to produce one kilogram of ice is 80 kilocalories. Roughly calculated, and taking into account of the temperature of the water for making ice, 240,000 kilocalories will be needed.

The above amount of energy was needed before the chiller system was introduced. After the introduction of the system, the amount required was reduced to 170,000 tons on a rough calculation, which represented a **30% reduction of energy**.

Besides, **the operation process was expanded substantially** by the cool sea water supply system that supplies the sea water cooled by the chiller to each tank by one push of a button.

Furthermore, the cooled sea water is stored while ozone sterilization processing is made in the storage tank having 35 tons of capacity. By means of ozone sterilization, **the standards for freshness and bacillus requirement under HACCP can be fully satisfied without using chemicals in the processes from the stage of killing of fish alive to packaging.**

The amount of ice to be produced
2.5 tons in winter
3.5 tons in summer

Total energy
240,000 kilocalories

What is the color fixative used for food?



There was a TV program under the theme of "Has traditional Japanese food for New Year changed recently?" It said that fish-meat hams are included in the food boxes for festive occasions (at times, western or Chinese foods...).

Color fixatives are often used for processed meat products. This is the topic for this month.

What is the color fixative, anyway?

Making some research, I learned that pigment of red blood corpuscle and pigment of muscle cell are combined with fixatives and make out stable red color even when heated.

However, it is prohibited to use it for fresh meat and seafood for eating raw.

There are two kinds of color fixative approved in Japan. One of them is Sodium Nitrite. In many cases, it is used together with vitamin C (as explained about oxidation preventive agents) and has excellent effects to restrain spread of the botulinum bacteria. It is used for livestock meat ham and sausage, fish-meat ham and sausage, salmon roe (ikura), salmon roe in skin (sujiko), and pollock roe.

Dimethylnitrosamine is formed when nitrous acid reacts to the substance made as a result of dissolution of animal protein. For this reason, it has been said once that there is a risk of contracting cancer when one eats food having nitrous acid as additive. Later, the Ministry of Health, Labor and Welfare set standards for the use of the color fixative, and the amount of its use for food was regulated rigorously.

It has been also reported that vitamin C, which is often used concurrently, has the effect of hindering creation of cancer-causing substance. When this is dissolved into water and given to a mouse at the density of 0.02mg per kg of body weight, the cases of inducing stillbirth and death of newly-born babies.

Others are elements called potassium nitrate (nitric acid K) and sodium nitrate (nitric acid Na). They are colorless or white powder and generate effects by turning into nitrous acid in food. (In other words, it is the same case as above.) It is used as fermentation adjustment agent for cheese and sake.

These chemical compounds are included in so many kinds of food products. You should check foods out in your frig as using news letter of HACCP, you may find out some risk factors of contracting cancer.



One of the largest exhibition in middle east “Gulfood 2009” holds in Dubai, United Arab Emirate for four days beginning on February 23rd. Last year, 1059 companies participated as exhibitors, and this year, more than 3000 companies exhibit. We, Morimatsu Suisan Reito Co., Ltd, was chosen from numerous competing companies and got the position to exhibit in Japan Pavilion hosted by JETRO. Although we exhibited in Saudi Arabia last year and this is the second time we exhibit in middle east, we think that it is a wonderful opportunity to introduce our company products to many people. We welcome you to visit us at our booth taking place in Japan Pavilion. We will post on our achievement of “Gulfood 2009”. Please look forward to next news letter.

Fish of calendar

February 6th , The day of Laver

This is based on the historical fact that on this day of 702 A.D., the famous Taiho Legal Code (Taiho Ritsuryo) was promulgated and the laver was designated as one of the tax commodities.

February 7th, The day of Crucian Carp

It comes from the word play in Japanese. The crucian carp dish in this cold season is a perfect accompaniment to sake. The fish, guts removed, is boiled in a pot with bones for about six hours, and seasoned with miso (fermented soya beans) and sake.

February 9th, The day of Blowfish

This is a commemorative day for blowfish (fuku in Japanese, generally called “Fugu”) instituted by the Shimonoseki Blowfish Association in 1980 based on the word play in the Japanese language. FU corresponds phonetically to the figure 2 and KU to 9. This is the prime fishing season of blowfish, when we can enjoy delicious dishes.

February 24th, The day of Bonito Flake (Katsuo Fushi, generally called “Katsuo Bushi”)

Panning for FU and SHI in Japanese, with FU corresponding to the figure 2 and SHI to 4. That is why 24th of every month is the day of Katsuo Fushi.

Cooking Tips

Boiled Flounder with Broth

Ingredients:

Shungiku (garland chrysanthemum), White of Egg, Flounder (80g~100g), Starch, Bonito or Seaweed broth (400cc), light soy sauce (50cc), Mirin (sweet cooking rice wine) (50cc), sugar (10g)

How to prepare

- 1 Powder some starch slightly on the both sides of flounder.
- 2 Fry the flounder in 180°C oil.
- 3 Make broth soup; Mix some water, light soy sauce, Mirin, and sugar.
- 4 Pick flounder up from oil and put into the boiling broth soup.
- 5 Keep boiling the flounder in the soup for three minutes.
- 6 Pour and stir white of an egg.
- 7 Finish with lightly boiled garland chrysanthemum or any boiled vegetables.



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