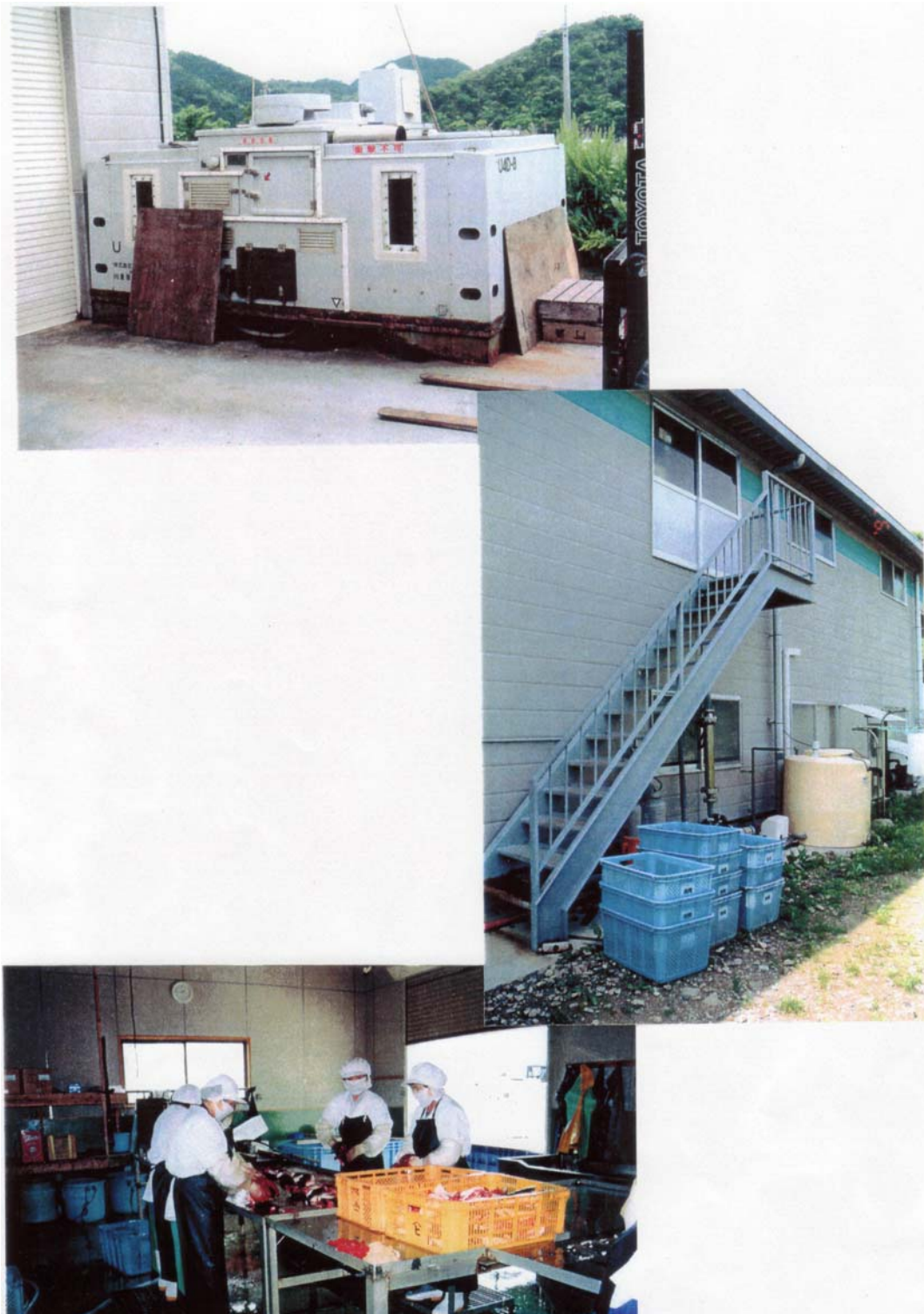


The application of Pursanova water in the Fish processing Industry





Suggestions on freshness preservation

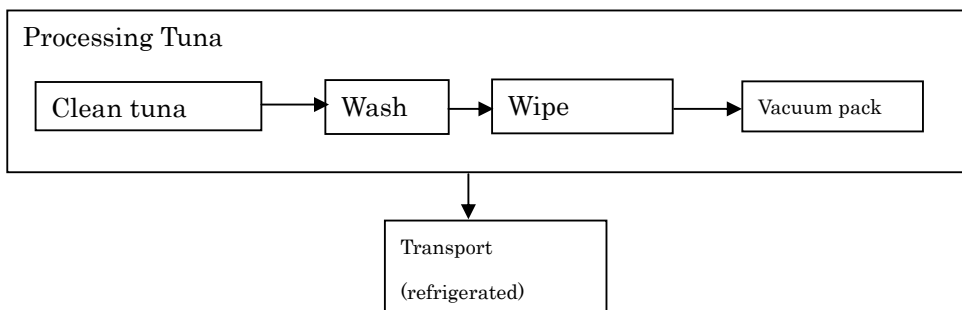
Preserving freshness in seafood

The substance that affects freshness the most is “oxygen.” There is no accurate definition of what

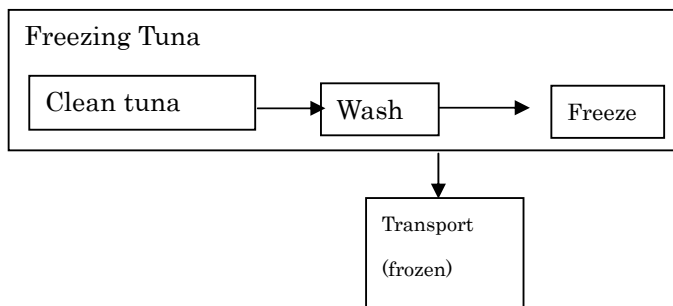
constitutes freshness is. But it is generally recognized that freshness depends on the presence of no oxidation and the preservation of moisture. However, with fresh fish, the moisture is not considered a part of freshness because the water is already in a deoxidized state. It is recommended that oxidized water be removed as much as possible. But a small amount of reduction water should remain in the fish. Intra-cellular moisture is considered as an element of freshness but extra-cellular water is not. Intra-cellular water must be reduced during the growth of the fish. In order to preserve freshness avoid contact with oxygen as much as possible.

Shipping style after processing

1) Refrigerate Tuna Processing



2) Frozen Tuna Processing



Reduction processing

Fishery processing involves a wide range of waters. As explained earlier, there is “oxidized water” and “reduced water.” Water that has been exposed to oxygen is “oxidized water”. Hot spring water just before it emerges is reduced water. The color is clear. When exposed to air, oxidation starts showing the colors of metals included in water. Once the hot spring water flows out, it becomes oxidized. (The best hot spring water is the water that has just emerged before it changes color. But this is very difficult to capture).

The most important factor for fishery processing is to preserve freshness for an extended period of time prior to consumption.

When fish are washed with reduced water, the fish body surface also becomes reduced. Then the

moisture in the meat is reduced as well. When vacuumed packed immediately, it is protected from oxidation. Washing with reduction water extends the oxidation process.

Conclusion

Both fresh water and ocean water naturally contain a reduction state that preserves freshness. Long ago, when fisherman went on lengthy fishing trips, they carried with them spring water in vases made from “sintered” soil (volcanic ash soil). The water in the vases was known for preserving freshness because of its ability in maintaining a reduction state.

Fishery processing produces fish gut and blood that are substances that easily decompose. This decomposition creates odor and gas build-up. Reduction water eliminates these odors and prevents the accumulation of sewage sludge. This is because of the presence of reduced water from processing to elimination.

1. The many benefits of the Pursanova reduction water device

Reduces the water used in fisheries and fishery processing factories as well as purifying the environment of the factories and improves fishery processed product’s freshness to deliver good quality seafood in the market.

A. Reduced water circulates throughout the factory; cleans dirty substance, garbage, and sludge, leaving the whole factory clean and odorless.

B. When washed and processed with reduced water, dry-preserved fish like mackerel and sardines last longer and preserve their original freshness.

C. When boiled with reduced water shell-fish meat cooks fluffier and has less shrinkage when exposed to cold water. Its taste and freshness is also preserved.

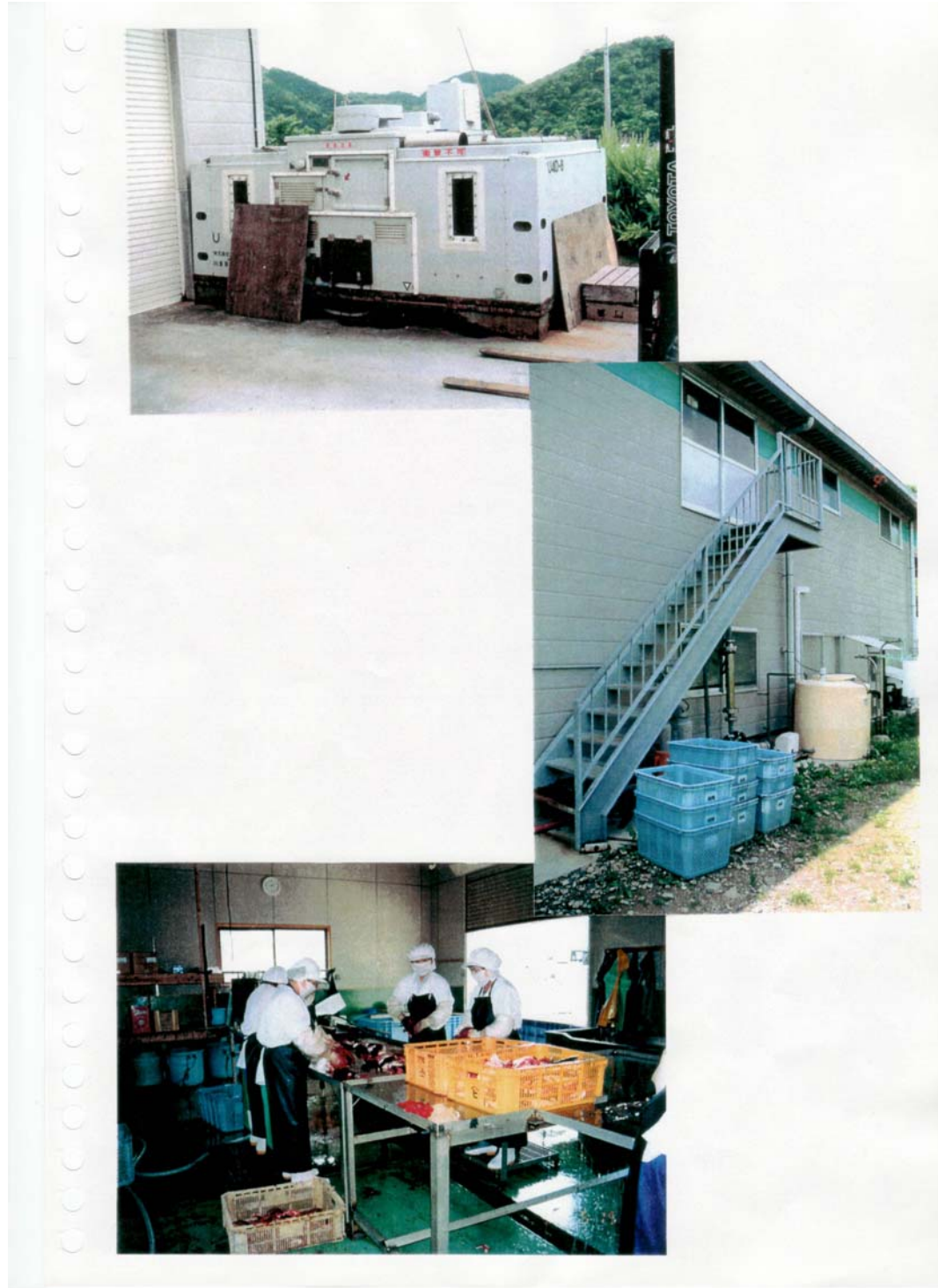
D. reduction water prevents rust accumulation in the water pipes.

E. When used in the boiler, reduction water eliminates the slime and scale in the water tank making the water softer and insuring better heat radiation.

F. when reduction water flows into the drainage channel of the factory, dirt attached to the drainage channel wall and sludge gradually dissolves. Also fish oil around the septic tank slowly softens and less odor is detected.

2. Outline of Pursanova system

The water provided to the processing factory was set at 25 ton per day and maximum water flow at 30 ton per day. The KMB-40 system pipe used for this type of processing factory was installed in an up right position next to the flow meter outside so that the water would enter from the bottom.



Environment of the factory

I have installed the device to eliminate odor inside the factory. After 2 weeks the mold and sludge decreased. We have noticed no more fish oils on the floor, and no more odor both inside and outside of the factory.

Drainage channel

Sludge attachment is removed and the odor is not disturbing at all when cleaning. Even putting the face directly into the trap I could hardly detect the odor.

It's been 4 wks since the installation but the cleansing

Power of reduction water has not diminished. I am completely amazed with The absents of odor in the cleansing tanks and drainage channels.

Improved Product Freshness (Averaging more than 36 hour):

Better taste (smooth and deeper flavor).

Increased sales and profit

Customer satisfaction

Total evaluation:

Overall improvements seen inside and outside the factory. In particular, the odor elimination was amazing. Installing the water pipe gave us better product quality, flavor and freshness that also provided us with overwhelming economic effects.

CEO Seikan Fishery Processing Company