

Special lectures

1. Structural Changes in Phospholipids in the Membranes of Living Organisms Arising from Freeze-thawing and Freeze-drying

Hiroshi SOUZU

2. Preservation of Biological Samples in Space

Shunji NAGAOKA, Ron USAMI, Masahiro FUKUI and Keiichi ARAKI

Articles

1. Application of "Freeze-drying" to Various Fields (N o. 2) Freeze-drying of Physiologically Active Peptide, Antibiotics, "Colistin Salt and Colistin Derivat"

Takao MOMOSE, Katsuichi MATSUO, Tomonori MATSUMOTO and Kazuyuki HARA

2. Cryopreservation of Cultured Plant Cells and Tissues at Super-Low Temperature.

I. Effect of Pretreatments

Miki TSUKADA and Yasutake SUGAWARA

3. Plasma Membrane Ultrastructural Changes by Vitrification Procedures

Seizo FUJIKAWA and Peter L. STEPONKUS

4. Salt Precipitation during Freeze-concentration

Norio MURASE, Toshihiko UJIIE and Shin-ichi KASUYA

5. An Attempt at Cryopreservation of Biological Organs Using Daphnia

Shin-ichi NAGATA and Ichiro TANASAWA

6. Autolysis of *Bacillus subtilis* Induced by Cold Shock

Tomohiko NISHINO, Ancharida SVARACHORN, R. N. R. NAPITUPULU, Atsuhiko SHINMYO and Mitsuo TAKANO

7. Heat Shock Treatment of Yeast Cells Enhances their Secondary Stress Tolerance

Kaoru OBUCHI, Sunil C. KAUL, Hitoshi IWAHASHI and Yasuhiko KOMATSU

Lectures presented at the Seminar of Japanese Society for Research of Freezing and Drying: "Application of Refrigeration to Foods"

1. Storage of Fish at Temperatures around the Freezing Point

Kinji ENDO

2. Application of Cold-CO₂-Anesthesia for the Transportation of Live Fish

Hisateru MITSUDA and Hiromasa YOSHIKAWA

3. Prolongation of Pre-rigor Period of Fish

Muneaki IWAMOTO

4. A New Technique of Super Chilling of Fish at Catch

Yutaka OGAWA

5. Fish Lipid Deterioration during Storage at Low Temperature

Toshiaki OHSHIMA and Chiaki KOIZUMI

6. Beef Meat Aging and Temperature Control

kyouhei OZUTSUMI

7. Some Physiological Aspects of Low Temperature Storage in Fruits and Vegetables

Kazuo CHACHIN

8. Bacterial Ice Nucleation Activity and its Application to Food Processing

Soichi ARAI and Satoshi WATABE

9. Freeze Denaturation of Sardine Muscle Proteins

Eiji NIWA

10. Freeze Denaturation of Sardine Muscle Proteins

Shugo WATABE

11. Differentiation between Fresh and Frozen-thawed Fish

Manabu KITAMIKADO

12. Protective Effects of Surfactants against Freezing Denaturation of Rabbit Myosin B

Takahiro WATANABE, Naofumi KITABATAKE and Etsujiro DOI

13. Recent Advancements in the Freezing and Thawing of Meats

Hiroyasu NAKAI

14. Improvement of Yeasts for Frozen Dough Methods and Mechanisms of Freeze-tolerance of Yeasts

Akihiro HINO, Hisanori ENDO and Hiroyuki TAKANO