

85

SP
00488



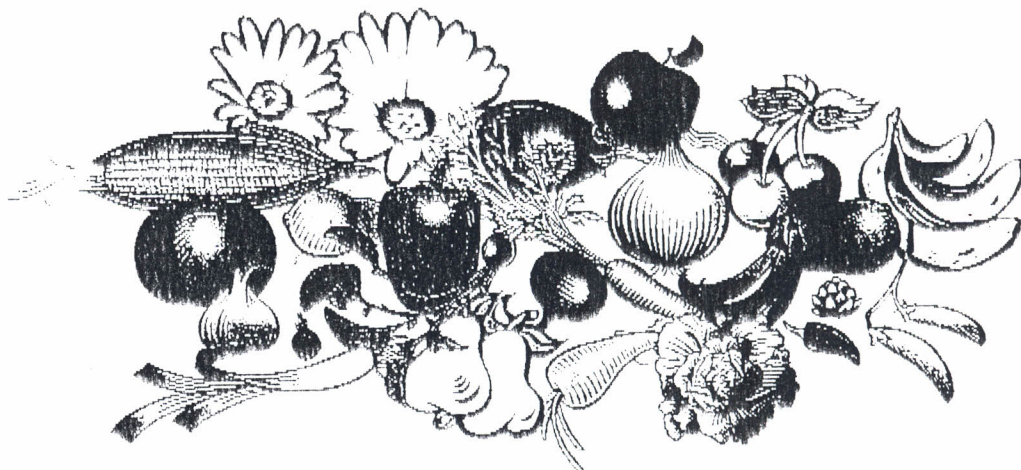
INTERNATIONAL INSTITUTE OF REFRIGERATION

IMPROVING POSTHARVEST TECHNOLOGIES OF FRUITS, VEGETABLES AND ORNAMENTALS



19 / 21 OCTOBER 2000

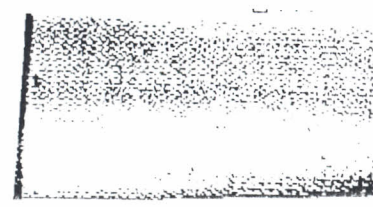
MURCIA SPAIN



Physical and mechanical changes
2000 SP-PP-00188



CPATSA-31487-1



LOCAL SCIENTIFIC AND ORGANIZING COMMITTEE

Francisco Antés Cuervo
Antonio López
Félix Romojaro Almela
M. Isabel Gil
Francisco Tomás Barberán

Assistance Staff

MP Angeles Conesa Amaldoss
Juan Antonio Pueble Fernández
Francisco Antés Hernández
Raquel Villaseca Parra
Ana Alende Prieto
Encarn Aguayo Giménez
Victor Hugo Escalona Contreras
José Gomis Marín
Mercedes Almagro

ACKNOWLEDGMENTS

The Organizing Committee wishes to express its gratitude to the following contributors for their support:

Ayuntamiento de Murcia
Consejo Superior de Investigaciones Científicas (CSIC)
Caja Murcia
Caja Rural de Almería
CYTED (proyecto XI.14)
Fundación Séneca de la Región de Murcia
Instituto Internacional del Frío
Instituto de Fomento de la Región de Murcia
Universidad de Murcia
Universidad Politécnica de Cartagena

- P30 INFLUENCE OF MECHANICAL INJURIES ON QUALITY AND RIPENING OF SWEET MELONS (*CUCUMIS MELO* VAR. *CANTALUPENSIS* AND VAR. *INODOROUS*)
G. Di Martino, R. Botondi, V. Russo, P. Carlini, F. Mancarelli
- P31 EFFECT OF PLASTIC AND EDIBLE FILMS USE ON QUALITY OF MUSKMELONS DURING REFRIGERATED STORAGE
R. Báez-Sañudo, T.E. Bringas, C.J. Ojeda, R.J.N. Mercado, E.B.A. Silva, G. González
- P32 CARBOHYDRATES AND CHILLING INJURY PATTERNS IN CARAMBOLA (*AVERRHOA CARAMBOLA* L.) AND MAMEY (*POUTERIA SAPOTA*) FRUITS STORED UNDER REFRIGERATION
G.O. Pérez-Tello, T.B.O. Briceño, I. Vargas-Arispuro, and M.A. Martínez-Tellez
- P33 HOT AIR TREATMENT (38°C FOR 360 MIN AND 40°C FOR 120 MIN) EFFECT ON THE POSTHARVEST QUALITY, CHILLING INJURY AND LIPID CONTENT IN 'HASS' AVOCADO FRUIT
A. Roman-Mares, E. M. Yahia
- P34 DEVELOPING A METHOD TO MEASURE PUNCTURE INJURY SUSCEPTIBILITY OF TOMATOES
M. Desmet, B.E. Verlinden, B.M. Nicolai
- P35 SUSCEPTIBILITY OF 'ORTANIQUE' CITRUS FRUIT HARVESTED IN VALENCIA TO CHILLING INJURY DURING COLD STORAGE
A. Salvador, J. Cuquerella, P. Navarro
- P36 CHILLING TOLERANCE AND STORAGE QUALITY OF BANANA TREATED WITH CALCIUM, HEAT AND MODIFIED ATMOSPHERE
A.L. Acedo Jr., H. Gemma, R. Dris
- P37 CHILLING INJURY DEVELOPMENT AND ETHYLENE PRODUCTION IN EGGPLANT FRUITS (*SOLANUM MELONGENA* L.)
A. Concellón, A. R. Chaves, M.C. Añón
- P38 PHYSICAL AND MECHANICAL CHANGES IN CHERIMOYA FRUIT TISSUES ASSOCIATED TO CHILLING TEMPERATURE
J. Simão, A.D. Molina-García, M.J. Escribano, C. Merodio

*HR Conference, October 2000, Murcia, Spain***P38 Physical and Mechanical Changes in Cherimoya Fruit Tissues associated to Chilling Temperature***Simão;*
J. Simão, A.D. Molina-García, M.J. Escribano, C. Merodio*Departamento de Ciencia y Tecnología de Productos Vegetales, Instituto del Frío (CSIC),
Ciudad Universitaria, 28040 Madrid, Spain. E-mail: merodio@if.csic.es*

Successful control of fruit storage at low temperature entails a recognition of the importance of the metabolic processes existing in the fruit at the time of harvest as well as of unexpected responses accompanying storage at chilling temperatures. In this study, we focused on the effect of storage at chilling temperature (6°C) on physical and mechanical changes in cherimoya fruit tissues. It is evident that the levels and activities of polymer degrading enzymes in the cell walls of fruits stored at chilling temperature are not always in accord with the rate of fruit softening. Our hypothesis of work is that new cell wall interpolymeric cross-links may be formed during chilling. In this work evidences for the synthesis of secondary cell walls during chilling storage is provided, using cryo-scanning electro microscopy. Also, texture measurements and lignin content, a complex aromatic polymer which occurs in plant cell walls in close association with cellulose and the hemicellulosic polysaccharides, were quantified in cherimoyas stored at chilling temperature.

*cherimoya; Almacenamiento; Control;
temperatura*