

# **DECCO IBÉRICA Post-Cosecha, S.A.**

## **Technical Circular n° 4**

**2008/2009 Citrus season**

### **CONSERVATION OF CLEMENULES VARIETY**

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Due to market circumstances and the evolution of fruit in field, in this campaign the conservation of the Clemenules variety has been brought forward as compared to previous campaigns. For this reason this Circular is a reminder of the guidelines for harvesting and handling fruit in packing-houses in order to obtain a good end result.

#### **Degreening; before or after cooling?**

This is a query that comes up every year. In our opinion, short-term degreening can be performed (up to 72 hours) at a temperature between 20-22°C, with 1-2 ppm of ethylene, and then, either ventilate the chamber for at least 6 hours before cooling (if your cold chamber is full), or move pallets to a cold chamber but at an initial minimum temperature of 10-12°C, being then gradually reduced at a rate of 2 -3°C every 48 hours until reaching a conservation temperature of 3-4°C.

Although the exact application of the described process is not essential, it is important to bear in mind that in order to avoid damaging the peel of the fruit, it is necessary to remove the ethylene from the atmosphere surrounding the fruit before cooling it. Therefore, if you need several days to fill a cold chamber, maintain the temperature at 10-12°C until completing the cold chamber is full and then low the temperature.

Fruit harvested with enough color must be stored in a cold chamber at 10-12°C until the chamber is full before, then gradually reducing the temperature. The fruit that is most suitable for long conservation is fruit that is not completely toned.



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#### Should the humidity of the cold chamber be increased?

It is not desirable to humidify via nozzles as we might increase any decay problem. We must also bear in mind that in many chambers the nebulization is not adequate and fruit can get wet thus damaging it at the end of the conservation process.

If the carbonic level is maintained between 3,000 to 5,000 ppm the air changes will not affect the atmospheric humidity and correct values will be maintained (85 - 95% RH).

#### What to harvest and how?

- **Select fields** with **fruit that is changing colour**, with **healthy peel** (with no visible damage by rain), that is **firm, compact**, and has not been treated with growth regulators.
- **Do not store** fruit that has been exposed to rainfall of or above 200 litres in October or that has grown in fields flooded for several days due to the soil structure.
- Ensure that the maturity level is not above 9.
- Cut with **pliers**
- Pick in **clean and disinfected boxes**.
- **Do not pick** in the early hours of the morning.
- **Treat the fruit** (drencher or precalibrated) **in the first 12 hr** after being picked.
- If it is treated in a Drencher **let the fruit dry completely** before moving it to the cold chamber, whether it is to be degreened or for immediate conservation (if necessary up to 24 hours).



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#### Products recommended for conservation.

Against Penicillium sp.: Philabuster, Deccotanil, Deccoziel S-7,5 or Textar 60 T.

Against Phytophthora: Deccofofos

Against Geotrichum: Kenopel 20

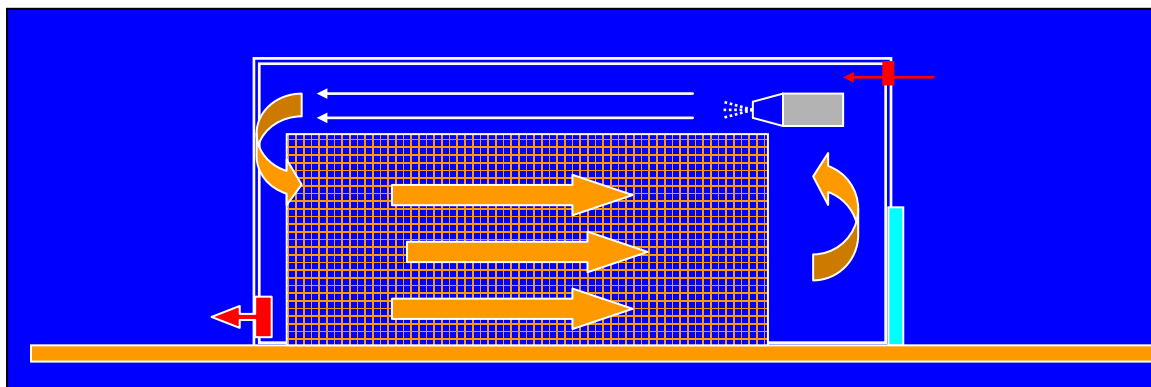
**Check with the DECCO Technician** in your area, which is the most appropriate compound and dosage for the type of conservation that you want to perform.

The **stock in the chambers** must allow for air movement between all of the boxes. Maintain a slight but constant air movement inside the cold chamber (leave, for example, some evaporator fans on), to obtain a constant temperature and to remove any volatile surrounding fruit.

**The evaporators must have free space in front of them** in order to recirculate cold air in the cold chamber.

Do not stack above the base level of the evaporators.

#### Correct stacking of fruit: Side view of the chamber



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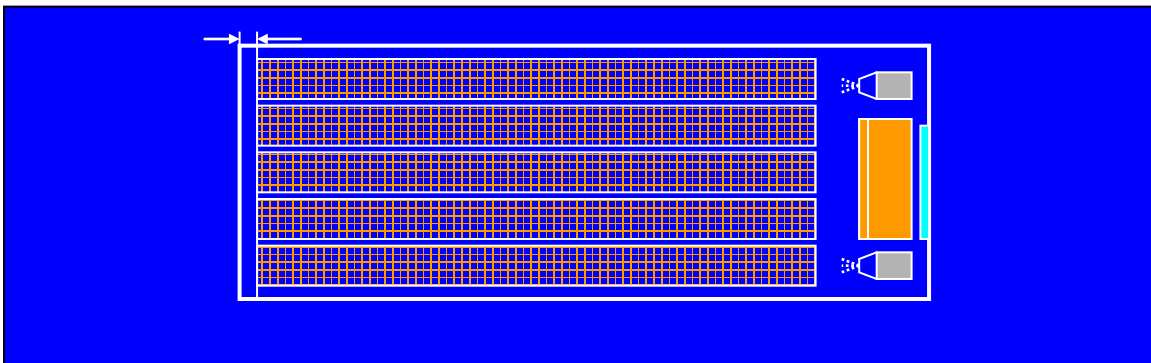
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**Correct stacking of fruit: View of the chamber from above**



If you have any enquiries regarding this subject, please contact our Technician in your area or send an e-mail to [decco@decco-web.com](mailto:decco@decco-web.com)

DECCO Technical Service

November 19th, 2008



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