Module 16
Drenching

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Reference

For more information on drenching, please consult the CRI Production Guidelines volume IV.

Introduction

When fruit arrives at the packhouse and before it goes into the degreening room, it is put through the drench.

Fungicides are mixed into the drench water to assist with disease control. The second reason for drenching fruit is to remove the field heat from the fruit, to prevent moisture loss from the fruit rind.

Drenching Chemicals

First of all, we got to treat the fruit after harvest before it goes into degreening to protect the fruit against a number of postharvest pathogens like the penicillium species, sour rot and some latent pathogens like Diplodia and anthracnose.

When we start drenching we got to make sure which chemicals need to be applied. Make sure that the chemicals is mixed adequately and also that these chemicals stay in suspension in the tank of the drencher.

It is also important to take care of which market the fruit will be sent to, in order to prevent the application of certain chemicals which is not allowed for certain markets, for instance Japan or USA.
Coverage

Very important about drenching is, first of all, you must make sure that you get proper coverage of the chemical mixture applied to the fruit and that you have an adequate contact time of at least one minute onto the fruit.

Secondly you must make sure that you apply enough volume of the mixture onto the fruit, otherwise you won’t get the proper coverage of the fruit.

Fruit Drying

Another important factor with regards to drenching is that one should allow the fruit to dry off properly after drenching.

If the fruit is wet when entering degreening, the ethylene gas will be applied spottily onto the fruit and degreening will not take place properly.

We therefore, after drenching, stack the fruit aside and let it stand for approximately one day before it goes into degreening.

summary

Drenching Dos and Don’ts

- Check that chemicals are acceptable to target markets.
- Mix chemicals properly and continue to agitate to keep them in suspension.
- Check volume and exposure time (at least 1 minute) to ensure adequate coverage.
- Allow fruit to dry for at least one day before degreening.

active learning

Watch the DVD clips, read through the learning material and do workplace research to gather the knowledge and information to complete the assignments below.

Activity 16.1 – Group Activity

Discuss in your groups why fruit should be drenched before degreening, taking into account the sanitizing agent or fungicides that can be used.
Activity 16.2 – Workplace Research

Do workplace research to determine how drenching is done in your packhouse. Draw a poster or flowchart, explaining all the details of the process. Make sure that your poster communicates the following information:

- At what stage of the packhouse process flow or in the packline is fruit drenched?
- What equipment is used to drench the fruit?
- What are the standard operating procedures for drenching in your packhouse?
- Are there any potential hazards or cautions that workers involved in drenching should be aware of, in terms of food safety and residues, and personal health and safety?
Activity 16.1 – Group Activity

Discuss in your groups why fruit should be drenched before degreening, taking into account the sanitizing agent or fungicides that can be used.

Make keynotes below on your discussions and conclusions.
Activity 16.2 – Workplace Research

Do workplace research to determine how drenching is done in your packhouse. Draw a poster or flowchart, explaining all the details of the process. Make sure that your poster communicates the following information:

✓ At what stage of the packhouse process flow or in the packline is fruit drenched?
✓ What equipment is used to drench the fruit?
✓ What are the standard operating procedures for drenching in your packhouse?
✓ Are there any potential hazards or cautions that workers involved in drenching should be aware of, in terms of food safety and residues, and personal health and safety?