

Postharvest Sample Questions

Sample Questions - Ethylene, Other Plant Hormones, & Fruit Ripening

What properties characterize a plant hormone (plant growth regulator)?

What are the five classic plant hormones and which is most important during postharvest handling?

(T/F) 0.1 ppm ethylene causes physiological responses in horticultural commodities.

During ethylene biosynthesis in plants, what is the immediate precursor to ethylene?

What are two key enzymes for the production of ethylene? (circle correct answer)

- A) ACC synthase & ACC oxidase
- B) Kinase & Phosphoglucanase
- C) Phenylalanine ammonia-lyase & Tryptophan ammonia-lyase
- D) Lipoxygenase & Chlorophyllase

How and why is ethylene used commercially to ripen climacteric fruits?

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(T/F) Carbon monoxide (CO) can mimic ethylene activity.

What are sources of ethylene in the environment (e.g. in a warehouse or loading dock)?

What are some inhibitors of ethylene biosynthesis.

What are some ways that you can make commodities insensitive to ethylene in the environment?

What inhibitor of ethylene action is a gas, active in very low concentrations, and whose effect often lasts ~12 days?

You are a grower/packer/shipper of kiwifruit. You notice that kiwifruit in your cold storage rooms (functioning properly) are softening rapidly. What would you look for as a prime candidate for causing the problem and what specific procedures/changes in your operation might you implement to eliminate the problem?

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(T/F) Ethylene is explosive at certain concentrations.

List four negative effects that ethylene can have on some commodities.

Tomatoes and citrus are both commonly treated with ethylene after harvest. Briefly describe the purpose of the ethylene treatment for each fruit and point out at least one similarity and one difference between the ethylene effects on each.