

UNIVERSITY OF KWAZULU-NATAL

SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES
DISCIPLINE OF HORTICULTURAL SCIENCE
EXAMINATION: NOVEMBER 2014
SUBJECT, COURSE & CODE: POSTHARVEST TECHNOLOGY (AGPS 732)

DURATION: 3 HOURS

TOTAL MARKS: 100

External Examiner: Dr. Mduduzi Ngcobo
Internal Examiners: Dr. Samson Tesfay/ Dr. Lembe Magwaza

NOTE: THIS PAPER CONSISTS OF THREE (3) PAGES, PLEASE SEE THAT YOU HAVE THEM ALL.

1. South African citrus fruit export to Europe is raising a serious fruit quality concern due to the Citrus Black Spot (CBS). As an expert, how do you approach the problem and make recommendation to prevent this problem? Provide reason for your answer.

[20]

2. Good agricultural practices (GAP), such as in fruit production and orchard management are vital to fruit quality and optimum yield. This also impacts the postharvest fruit quality. In contrast, discuss the consequences in fruit quality if exposed to inappropriate postharvest handling.

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3. Discuss the usefulness of fruit maturity, maturity indices before harvesting. And discuss the advantages during postharvest fruit quality and storage life.

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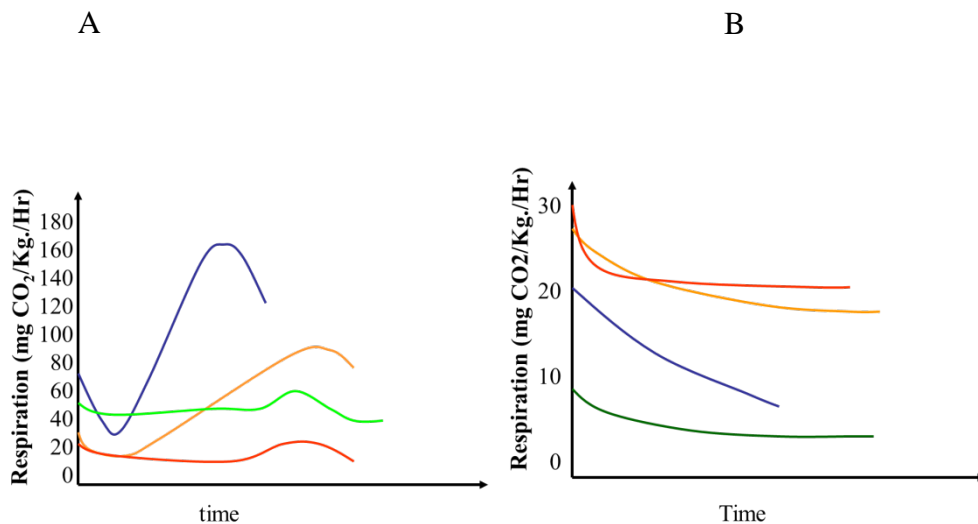
[20]

4. Briefly elaborate the key physiological processes of fruit after harvest.

And also give highlights of incorporating these processes with postharvest technology in reference to controlled atmosphere (CA) and modified atmospheric packaging (MAP).

[20]

5. There are two types of fruit that ripen differently in their postharvest life (demonstrated below). Label and define the types of fruit.



[10]

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6. Calculate the relative postharvest fruit storage characteristics (Table 1).

Fill in the missed values (Q₁₀, deterioration velocity, postharvest life, % life).

Temperature (°C)	Respiration mg CO ₂ /kg/h	Assumed Q ₁₀ *	velocity of deterioration	post-harvest life	% Loss
0	10		1	100	
10	20				
20	30				
30	40				
40	50				

[10]