

변화함에 따라 초록빛이 많이 사라졌으나, 무농약 처리구는 -5.47로 변화 폭이 적어 양상추의 초록 빛이 유지되고 있었다. 저장기간동안 비타민 C, 클로로필의 함량 변화는 무농약 처리구가 농약 처리구에 비하여 감소율이 적었다. 또한 저장 초기에는 무농약 처리구의 조직이 덜 단단하였지만 저장하는 동안의 조직감의 변화는 농약처리구에 비하여 크지 않았다. 갈변에 영향을 미치는 polyphenol oxidase(PPO)은 저장 초기에 농약 처리구의 경우가 무농약 처리구에 비하여 활성이 증가하였으며 저장기간동안 동일한 경향을 보였다. Acetochlor 등 48종의 잔류 농약 성분은 모든 처리구에서 검출되지 않았다. 이상의 결과에서 무농약 양상추가 농약 처리한 양상추에 비하여 초기품질과 저장기간동안 품질이 효과적으로 유지되었다. 따라서 이를 응용한다면 더욱 좋은 질의 최소가공 양상추 제품을 소비자들에게 유통시킬 수 있을 것으로 판단되어진다.

P1-11

The study of the reasons for berry drop or decay of 'Kyoho' (*Vitis vinifera* X *V. labrusca*) grape.

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The 'Kyoho' grape is a popular and profitable variety due to its large berries, crisp texture and high sugar content with moderate acidity. However, shelf life is shortened by loss of firmness, berry drop, discoloration of the stem, desiccation, and fungal rots. The 'Kyoho' grape is one of the commercially important grape cultivars but very susceptible to berry drop, which is the main consideration for a successful transport and marketing. In view of this, this study was conducted to find out what causes berry drop in 'kyoho' grapes. Having investigated the cause of 'Kyoho' grapes decrease in quality, white rot, blue mold, ripe rot, gray mold rot, and thrips occurred in storage as a result of contamination in the field during production. Berry drop and drying of 'Kyoho' berries progressed quickly as the grapes were damaged by molds and insects. Based on the present findings, the main cause of berry drop in 'Kyoho' grapes is the extant of fungal infection and insect attack in berries before they are harvested. The fungus attacks rachis and pedicel of each berries in storage. We need to select none infected fungi, and block infection before or during storage after harvest.

P1-12

Effects of 1-MCP on 'CheonHong' (*Prunus persica* L.) Nectarine Quality

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Nectarine quality declines rapidly after harvest. In most fruits deterioration may be accelerated by

ethylene but can be potentially decreased by the ethylene inhibitor 1-MCP. 'CheonHong' nectarines (*Prunus persica*) were treated with 1 μ L L⁻¹ of 1-MCP at 10°C for 24h and transferred in storage room at 0°C and 20°C. Ethylene production and respiration rates treated by 1-MCP were not significantly lower than those of control throughout the storage period. There was no significant difference in quality between Control and 1-MCP treated nectarine as to the hardness, soluble solids contents, titratable acidity and other parameters tested. Consequently 1-MCP could not increase shelf-life of 'CheonHong' nectarine.

P1-13

Effect of 1-MCP(1-Methylcyclopropene) on the quality and shelf life of 'Formosa' Plums (*Prunus salicina* L.)

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Newly harvested 'Formosa' plums were treated with 1-MCP (1 μ L L⁻¹ for 24 hours at 10°C) before storage to extend shelf life at 0°C and 20°C. Ethylene production and respiration rates of 'Formosa' plums treated with 1-MCP were significantly lower than those of 'control' throughout the storage period. Also, 1-MCP maintained firmness, titratable acidity, colour changes and softening of 'Formosa' plums. Shelf life of 'Formosa' plums could be extended 5-7 days at 20°C and two weeks at 0°C by 1-MCP treatment. 1-MCP was effective in maintaining quality and can be regarded as a useful tool in extending shelf life of 'Formosa' plums.

P1-14

포장김치의 잠열재를 이용한 택배형 아이스박스 내에서 온도 유지 및 품질특성

권기현, 정진웅, 김종훈, 김병삼, 이현석

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농산물의 유통·물류산업의 외형적인 성장과는 달리 콜드체인 시스템은 아직 도입단계에 머물고 있으며 쇼-케이스나 업소용 냉동·냉장고 등에서 차이가 있어서 선진국형의 콜드체인 시스템과는 차이가 있는 실정이다. 따라서 본 연구의 목적은 농산물 품목별 설정온도에 필요한 잠열재를 이용하여 농산물의 초기의 품질을 유지하면서 일반 아이스박스과 택배형 아이스박스에 포장된 김치를 저장하여 잠열재, 이동식 보냉고 내부, 김치포장용기내부, 외기등의 온도변화 및 품질특성을 살펴보았다.

PCM 팩 축방냉 후 일반 아이스박스과 본 연구에서 개발한 택배형 아이스박스에 PCM팩을 설치