

면에 위치하는 김치에서 이미와 이취가 있었으나 polyethylene film을 부착한 경우는 이미와 이취가 전혀 나타나지 않았다.

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### Calcium Lactate Affects Shelf-life and Firmness of Kimchi

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Calcium lactate has been known extending shelf-life of several lactic acid fermented foods through buffer action with lactic acid and binding of calcium and pectic polysaccharides in the tissue. But, the effects in kimchi during storage and distribution has not been observed. Calcium lactate is tasteless, nontoxic compounds commonly used in a number of food products. Recent observations have indicated the potential usefulness of calcium lactate as food additive which has anticariogenic-, antimicrobial-, anticalculus, anti- carcinogenic effects and enhancement of bone mineral density.

In this work we determined the effects of calcium lactate(CaL)-treatment(0, 1, 2 and 3% against salted Chinese cabbage) on the pH, acidity, microbial counts, content of alcohol insoluble substance and calcium, texture, color, scanning electron microscopic observation of kimchi tissue and sensory test during storage.

pH of CaL treated kimchi were higher(3.78~3.92) than that of control products(3.58). Total microbe(TM) of CaL treated kimchis were lower but ratio of lactic acid bacteria against TM was higher than those of control products, respectively. Calcium content of treated products were 3-5 times higher than control products. The hardness and crispy taste of treated products were remarkably higher than those of control products evaluated by SEM observation, AIS analysis, sensory and textural analysis. Moreover, evaluation on the pH, acidity and sensory test showed the shelf-life of treated kimchi(CaL 2%) to be 25-30 days, which was 13-15 days longer than that of control products.