两种高压电场处理形式对绿熟番茄贮藏品质的影响 Effect of Two Types of High Voltage Electric Field Treatments on the Storage Quality of Mature Green Tomato Fruit

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关键词： 番茄 贮藏品质 静电场 交变电场

摘 要： 以“朝研219”番茄为试材，研究了200 kV/m、2 h/d的负高压间歇静电场（简称稳恒电场）和波动场强-200～200 kV/m、频率40 kHz的交变电场预处理2 h（简称交变电场）两种不同处理对绿熟番茄果实适温（13℃）贮藏品质的影响。结果表明：两种高压电场处理均能够显著减轻番茄果实的腐烂指数（P<0.05），电场处理延缓了果实硬度和可溶性糖、果皮叶绿素含量的下降，以及可滴定酸、番茄红素含量的上升，从而延缓了果实的衰老，不同程度提高了果实的贮藏性。两种形式比较，高压静电场处理果实腐烂指数显著好于交变电场处理，其他指标则无显著差异。 In order to discuss the effect of two types of high voltage electric field treatments on the storage quality of tomato fruit, “Zhaoyan219” tomato was taken as the experimental material, and the two treatments of the negative high voltage intermittent electrostatic field (namely steady electric field) that was 200 kV/m and 2 h/d and alternative electric field pretreatment (namely alternative electric field) that was -200～200 kV/m, 40 kHz and 2 h on the effect of qualities of mature green tomato fruit during the storage quality(13℃) were studied. The results indicate that the two treatments can lower the decay incidence (P<0.05) remarkably. The decrease of firmness of tomato fruit, the content of soluble sugar and chlorophyll content of tomato peel and the increase of titratable acid and lycopene content are postponed by the effect of high voltage electric field treatments. That is how the infirmness is delayed and the qualities of tomato fruit are improved.

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