

组效果次之,在贮存第6天可溶性固形物含量维持在9.5%。对照组(CK)由于呼吸作用旺盛,营养物质消耗严重,在贮存第6天可溶性固形物含量仅剩7.5%。

2.5 包装薄膜透气量对草莓果汁 pH 的影响

由图8可知,草莓果汁 pH 逐渐升高,原因是随着贮存时间的延长,果酸等营养物质逐渐被消耗。同时果实内部酸性的减弱使维生素 C 等营养物质被氧化分解的速度加快,加速了果实的衰老。FD 组高透气量薄膜包装的草莓 pH 升高幅度最小,仅由最初的 3.73 升高到第6天的 3.79,可以几乎认为无变化。FA 组和 FC 组保鲜效果次之,在贮存第6天果汁 pH 分别达到 3.88 和 3.89,升高幅度也不大。FB 组和 CK 组的变化最大,说明这2组草莓在贮存过程中酸性营养物质被大量分解和消耗,造成草莓品质的下降。

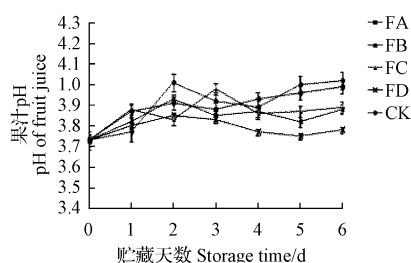


图8 包装薄膜透气量对草莓果汁 pH 的影响

Fig. 8 Effect of packaging film gas permeability on strawberry pH

3 结论

在室温(15 ± 2)℃、相对湿度 33%~35%的条件下,通过用4种透气、透湿及力学性能不同的薄膜进行草莓被动气调保鲜试验,以暴露于空气中的草莓作为对照,考察贮存过程中草莓的感官评价、失重率、硬度、可溶性固形物含量、果汁 pH 和总酸含量等保鲜品质指标,综合分析可知,在草莓6d贮存期内,PE/OPP/PE复合膜保持了草莓较高的感官评价和硬度;电晕处理 PE 膜更有利于延缓草莓可溶性固形物含量的下降及 pH 的升高。故 PE/OPP/PE 复合膜和电晕处理 PE 膜更适用于草莓保鲜。

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Influence of Different Properties of Film on the Modified Atmosphere Effect of Strawberry

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Abstract: PE/OPP/PE composite film, PE film and corona processing PE film were used as test materials. Passive air conditioning package which had an initial gas ratio of 21% O₂ + 0.9% CO₂ was adopted. The effects of different air permeability, moisture permeability of the film on preservation effect of strawberry modified atmosphere were studied. The results showed that under the condition of room temperature (15 ± 2)℃, relative humidity 33%—35%, PE/OPP/PE composite membrane maintained high sensory evaluation and hardness of strawberry, corona treatment of PE film was more conducive to delay the decline of soluble solids and the increase of pH. The effect of PE/OPP/PE composite film and corona treatment on the preservation of strawberry was better than that of PE film during the 6 days of storage.

Keywords: film; strawberry; modified atmosphere packaging; fresh-keeping