

Changes in Quality of Astringent Persimmons During Ripening by Using Ethylene producing Tablet at Different concentration and Temperature

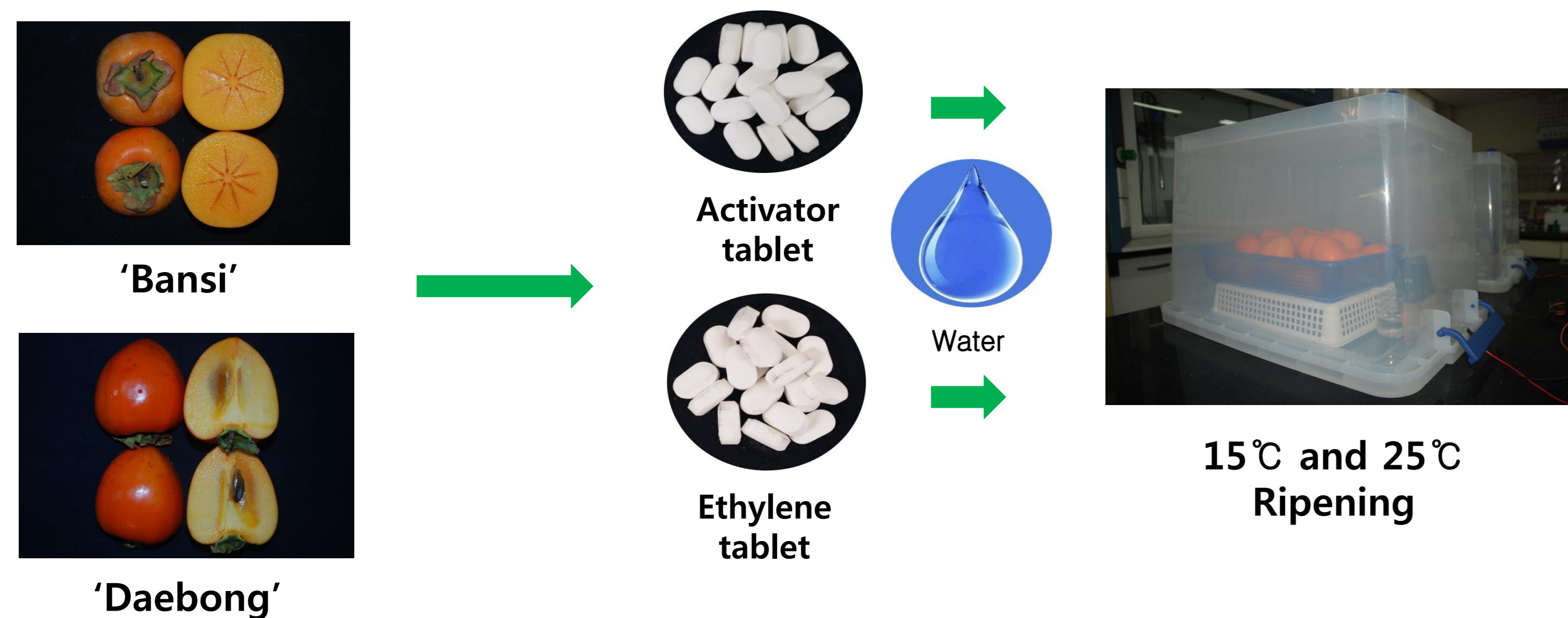
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Introduction

- The major persimmon producing countries are **China, Korea, Japan** which contributed for about **95% of world persimmon production**.
- Persimmon can be classified as pollination constant non astringent (PCNA) and **astringent (PCA)**, pollination variant non astringent (PVNA) and astringent (PVA).
- Astringent persimmon is one of the most important fruit due to its high economic value in major producing countries.
- Astringency removal is accompanied by conversion of soluble tannins to insoluble tannins, and successful treatments include CO₂ and ethylene.

Material and Methods



- Ripening** was done at **15 °C** and **25 °C**, with 90 ± 5% RH conditions using ethylene producing tablet for six days at **50µL.L⁻¹** and **100µL.L⁻¹** concentration.
- The quality was examined in every 2 days interval.
- The observed parameters were firmness, soluble solids content, color change and water soluble tannin.

Results



Fig. 1. Changes in visual quality of 'Bansi' and 'Daebong' persimmons during ripening at 25 °C

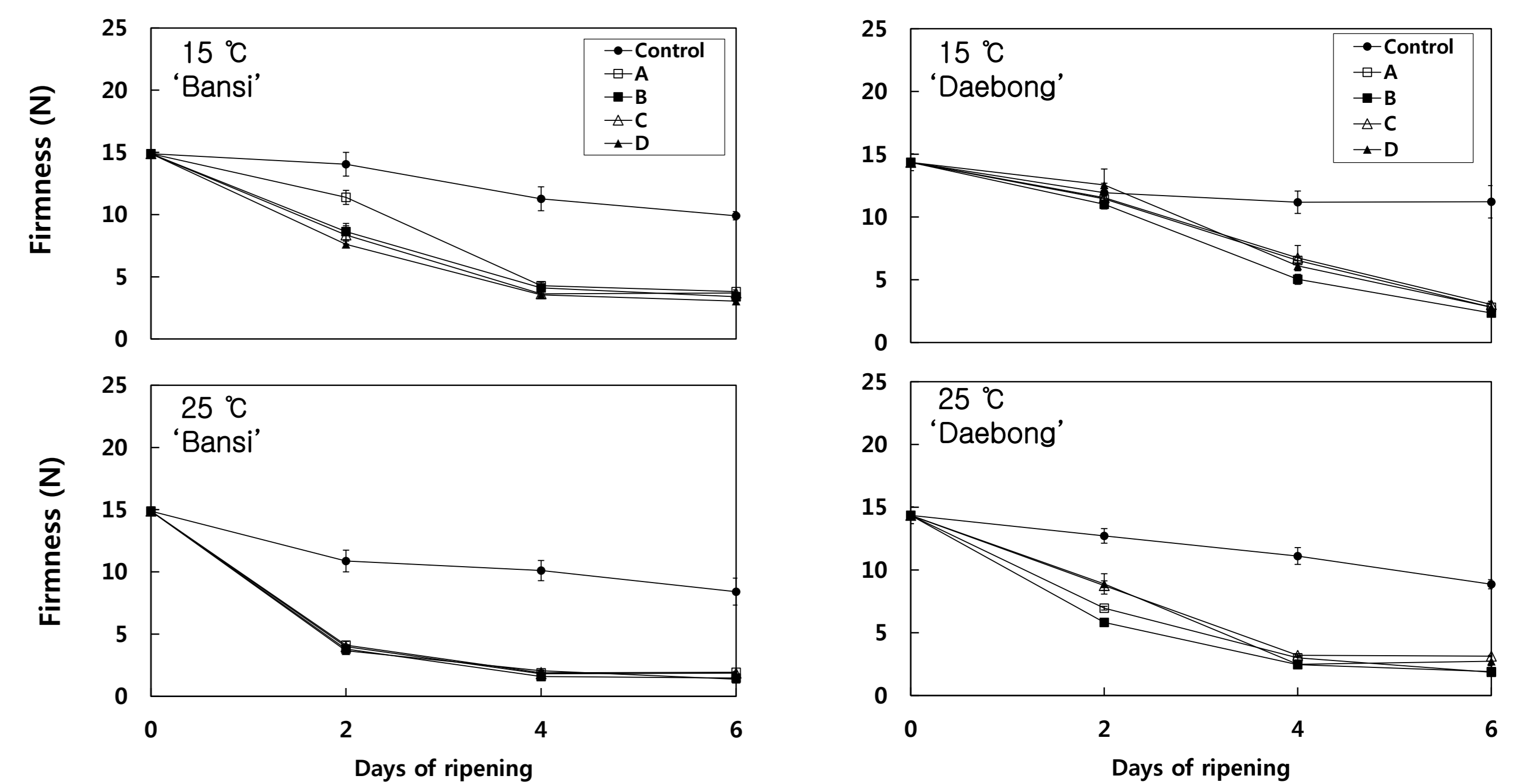


Fig. 2. Changes in firmness of persimmons as affected by Tablet and Ethylene treatments during ripening. Vertical bars represent the means ± SE (n=3).

(A, tablet 50µL.L⁻¹; B, tablet 100µL.L⁻¹; C, ethylene 50µL.L⁻¹; D ethylene 100µL.L⁻¹)

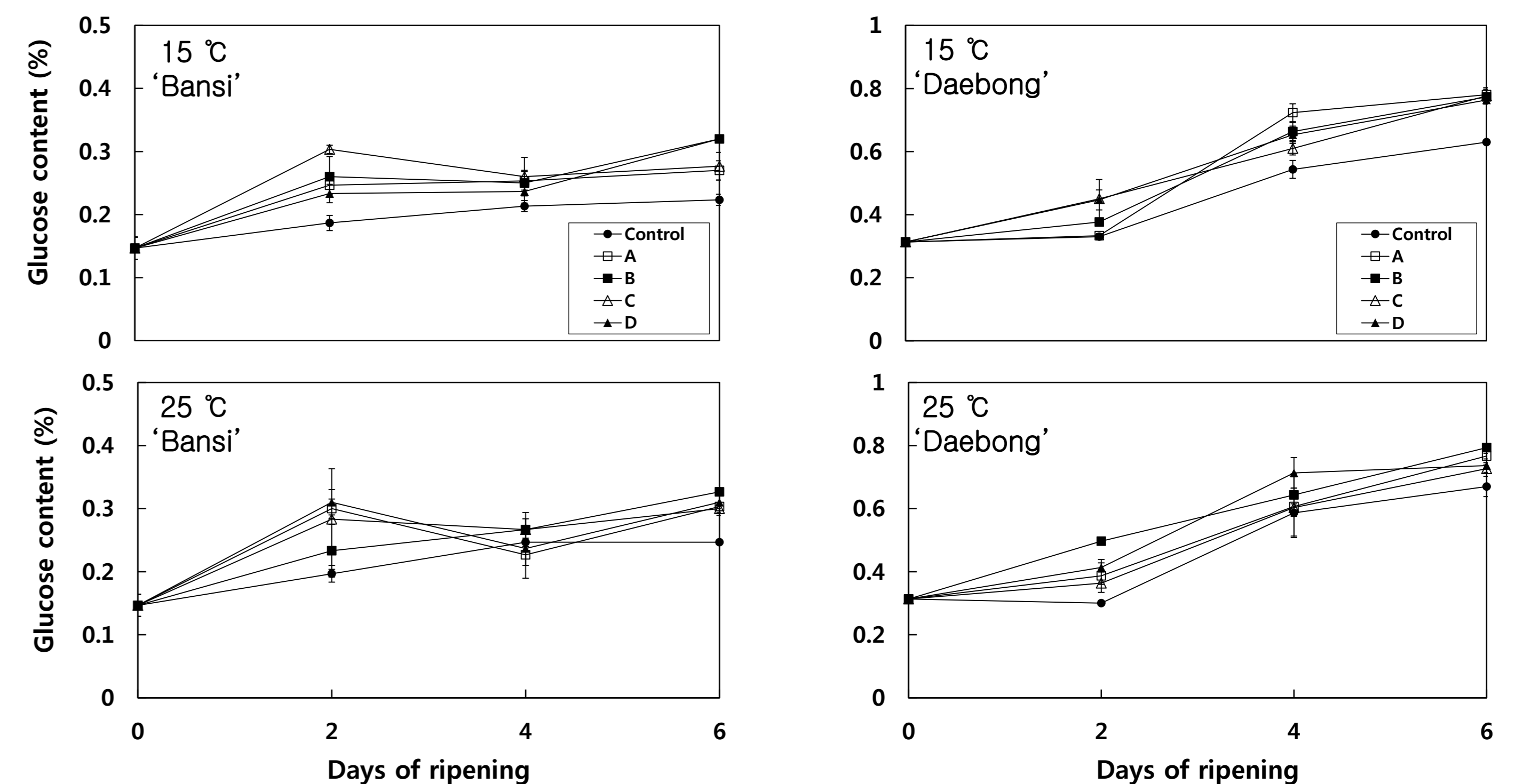


Fig. 3. Changes in glucose content of persimmons as affected by Tablet and Ethylene treatments during ripening. Vertical bars represent the means ± SE (n=3).

(A, tablet 50µL.L⁻¹; B, tablet 100µL.L⁻¹; C, ethylene 50µL.L⁻¹; D ethylene 100µL.L⁻¹)

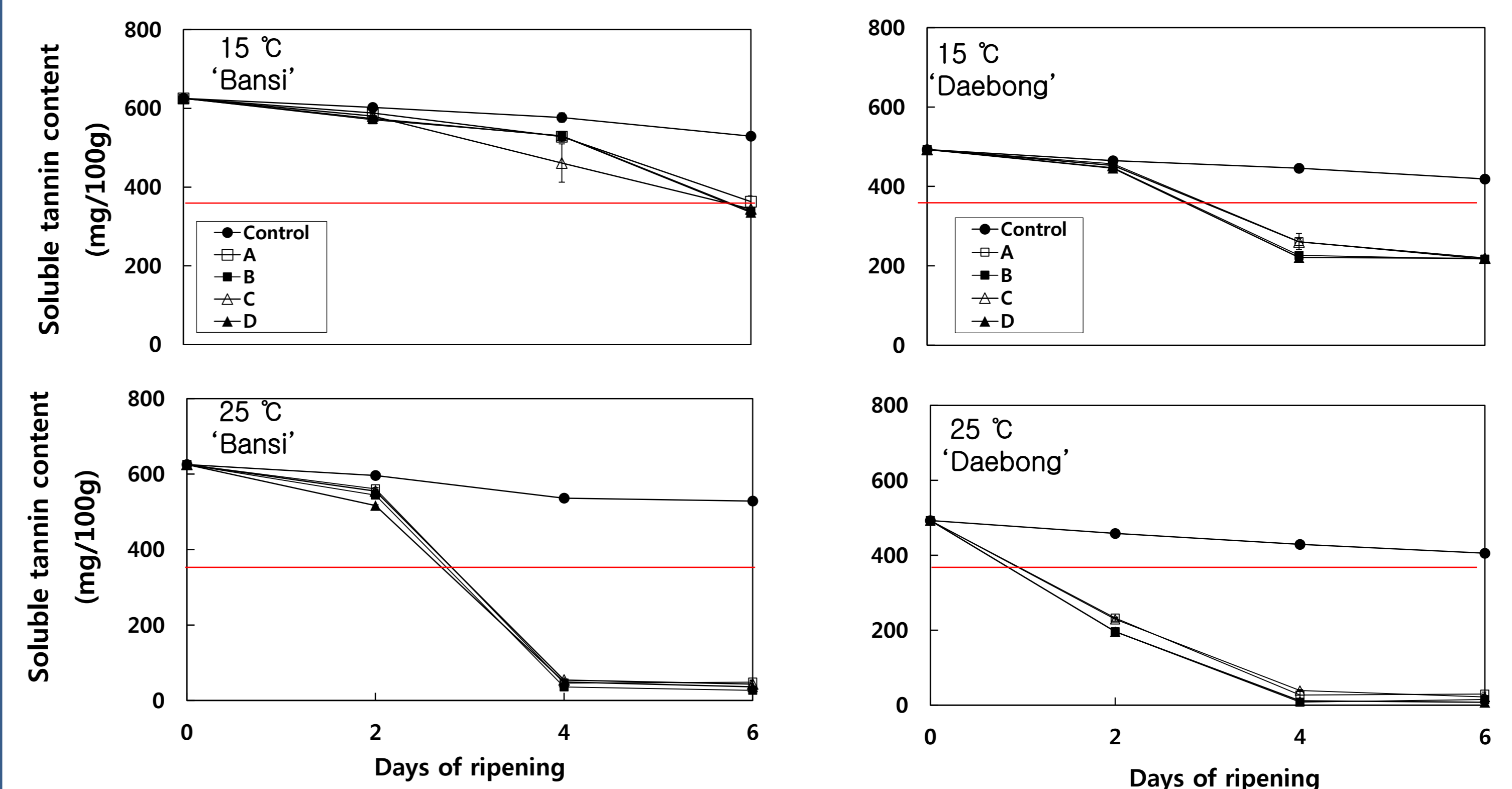


Fig. 4. Changes in soluble tannin content of persimmons as affected by Tablet and Ethylene treatments during ripening. Vertical bars represent the means ± SE (n=3).

(A, tablet 50µL.L⁻¹; B, tablet 100µL.L⁻¹; C, ethylene 50µL.L⁻¹; D ethylene 100µL.L⁻¹)

Conclusions

- Firmness** was **decreased** as ripening period proceeds on both varieties. (Fig 2).
- Glucose** content was **increased** as ripening period proceeds on both varieties. (Fig 3).
- The **higher temperature** the **higher was reduction of soluble tannin** and the **red line shows** the point at which astringent persimmon has almost **no more astringent taste**. (Fig 4).
- Ripening **temperature has higher effect** on treatment groups than ethylene concentration.