

THE IMPACT OF HARVESTING TIME ACCOUNTED ANTHESIS, ON PROLONGING THE STORAGE TIME OF ISFAHAN QUINCE FRUIT

E. Latifikhah*, L. Mosharaf , A.Ghasemi

**Author for correspondence: Agricultural and Natural Resources Research Center of Isfahan. Isfahan, Iran. P.O.Box. 81785- 199, email: elatifikhah@gmail.com
Researchers of Agricultural and Natural Resources Research Center of Isfahan. Iran*

ABSTRACT:In this study the effects of four quince harvesting times (every 10days a harvesting was done), in 2 years on fruit quality during cold storage of 5 months at 0°C and 85% Relative Humidity were investigated. Fruits were picked from a homogeneous orchard in Falavargan region of Isfahan. Every month, pH, sugar content, acidity, TSS and tissue firmness of fruits were determined. Variance analysis shows that the effect of year on TSS, sugar content, and pectin was significant ($p/\text{value}=1\%$) as well as on tissue firmness ($p/\text{value}=5\%$). Harvesting time effect was only significant on sugar content while storage time showed a significant effect on TSS, Sugar content and acidity of fruits. Meanwhile average analysis by Duncan test showed that different harvesting time had no significant effect on measured parameters except on fruit sugar content. Acidity, pH and TSS values were changing significantly during storage. Sugar content of 4th and 5th month of storage was maximum. Pectin content, acidity and tissue firmness showed the maximum level at the first harvesting time while pH was maximum at 2nd harvesting time.

As the result of research, it was concluded that 4th harvesting time (181 days after flowering period) and 5 months of cold storage are the optimum condition to keep the quality of quince.

MATERIALS AND METHODS:In this study for selection the best harvesting time to increasing the storage time and improving the quality of Isfahan quince, the effects of four quince harvesting times in 2 years and the cold storage of 5 months at 0°C and 85% Relative Humidity, were investigated. Fruits were picked from a homogeneous orchard in Falavargan region of Isfahan. The first harvest time was done ten days before common harvesting time in Falavargan region of Isfahan and the early picked fruits moved to fridge. Every ten days a harvesting was done. Picked quinces were large, firm, and yellow. The fruits were storage for 5 months. Every month, pH, acidity, TSS, pectin content and tissue firmness of fruits were determined. PH was calculated by a Metrohm pH-meter. Titratable acidity values were determined by acid–base potentiometer. Total soluble solids (TSS) were measured at 20 °C with a hand refractometer. The firmness of fruits was definitively assessed by a fruit pressure tester. Pectin content was measured base on AOAC official method No.924.09.

RESULTS AND DISSCUTION: In this study the effects of four quince harvesting times (every 10days a harvesting was done), in 2 years on fruit quality during cold storage of 5 months at 0°C and 85% Relative Humidity were investigated. Fruits were picked from a homogeneous orchard in Flavargan region of Esfahan. Every month, pH, sugar content, acidity, TSS and tissue firmness of fruits were determined. Variance analysis shows that the effect of year on TSS, sugar content, and pectin was significant ($\alpha=1\%$) as well as on tissue firmness ($\alpha=5\%$). Harvesting time effect was only significant on sugar content while storage time showed a significant effect on TSS, Sugar content and acidity of fruits. Meanwhile average analysis by Duncan test showed that different harvesting time had no significant effect on measured parameters except on fruit sugar content. Acidity, pH and TSS values were changing significantly during storage. Sugar content of 4th and 5th month of storage was maximum. Pectin content, acidity and tissue firmness showed the maximum level at the first harvesting time while pH was maximum at 2nd harvesting time. As the result of research, it was concluded that 4th harvesting time (181 days after flowering period) and 5 months of cold storage are the optimum condition to keep the quality of quince.

Key words: quince, harvesting time, storage, flowering.



The 1st International Conference on New Ideas in Agriculture
Islamic Azad University Khorasgan Branch
26-27 Jan. 2014, Isfahan, Iran

