

## **Postharvest characterization of 14 non-astringent persimmon cultivars grown under Mediterranean conditions**

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### **INTRODUCTION**

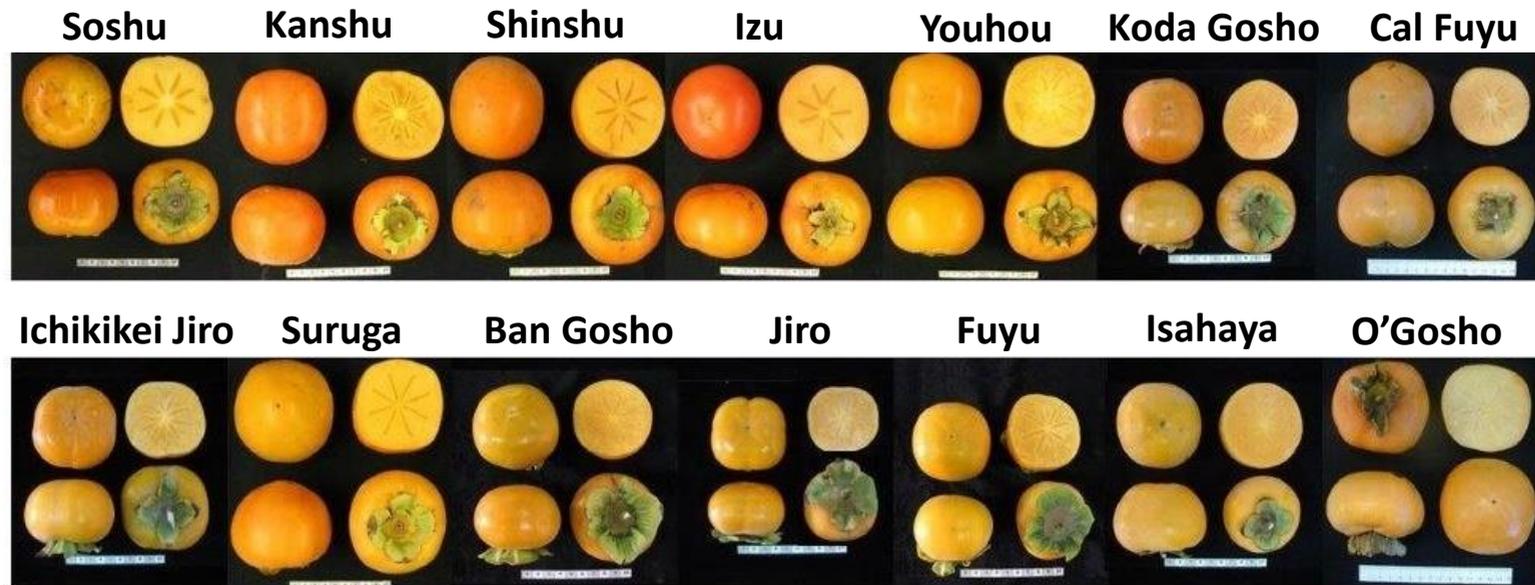
The varietal range expansion is one of the current challenges for persimmon producers in the Mediterranean area since the production is centralized in a few varieties. In this context, a persimmon breeding program has been developed at the Instituto Valenciano de Investigaciones Agrarias (IVIA) since 2002. Besides plant breeding to obtain new cultivars, a germplasm bank with cultivars from different geographical areas has been created as part of this program to evaluate their response under the Mediterranean agroclimatic conditions.

Among the persimmon cultivars under study, the introduction of non-astringent persimmon cultivars is particularly interesting because they can be commercialized immediately after harvest without applying deastringency treatments before commercialization. Nevertheless, the introduction of new varieties from other countries requires studies to evaluate not only their agronomic behavior under the new growing conditions but also the postharvest behavior to guarantee commercial quality.

**The objective of this study was to determine the harvest period and postharvest behavior of 14 non-astringent persimmon cultivars under Mediterranean agroclimatic conditions.**

## MATERIALS AND METHODS

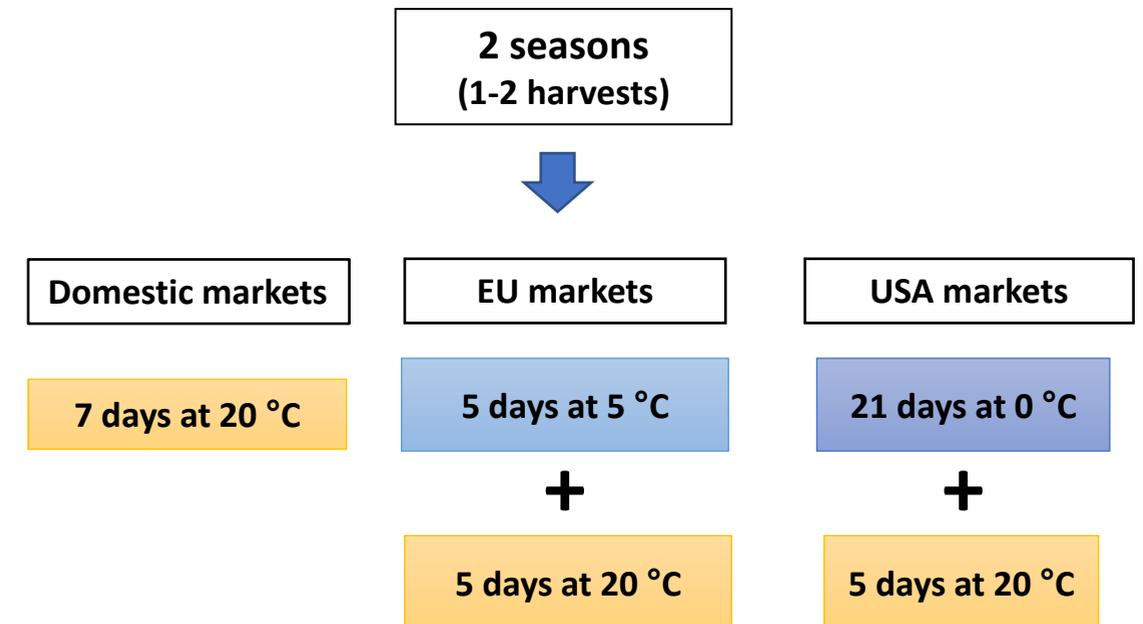
### Non-astringent persimmon varieties under study



#### Measured parameters

- ✓ Color (1000a/Lb)
- ✓ Firmness (N)
- ✓ Total soluble solids (°Brix)

### Simulation of different marketing scenarios



## RESULTS

### Optimum harvest period for studied varieties

Variety	September	October	November	December
Soshu	██████████			
Kanshu		██████████		
Shinshu		██████████		
Izu		██████████		
Youhou			██████████	
Koda Gosho			██████████	
Cal Fuyu			██████████	
Ichikikei Jiro			██████████	
Suruga			██████████	
Ban Gosho			██████████	
Jiro			██████████	
Fuyu				██████████
Isahaya				██████████
O' Gosho				██████████

### Physico-chemical parameters after the harvest and marketing scenarios

Variety	Harvest			Marketing scenarios*		
	Color (1000a/Lb)	TSS (°Brix)	Firmness (N)	Firmness (N)		
				D <sup>1</sup>	EU <sup>2</sup>	USA <sup>3</sup>
Soshu	10-20	15-16	50-40	25-10	15-5	<10
Kanshu	9-12	17-19	70-55	60-45	50-40	<10
Shinshu	7-12	18-20	65-40	40-25	30-15	<10
Izu	11-19	17-17.5	40-35	35-30	25-20	<10
Youhou	9-25	16-17.5	80-50	70-40	65-35	35-20
Koda Gosho	11-32	16-18	70-35	65-30	55-30	<10
Cal Fuyu	10-23	15-19	60-30	-	50-20	<10
Ichikikei Jiro	20-30	16-19	60-50	50-40	45-30	<10
Suruga	15-20	15-18	55-45	40-30	40-30	30-20
Ban Gosho	18-20	18-20	60-50	45-35	40-30	<10
Jiro	10-25	17-18	65-50	-	60-40	20-10
Fuyu	12-18	16-19	65-50	60-45	50-35	35-25
Isahaya	15-21	15-18	60-45	-	45-35	<10
O' Gosho	16-20	14-16	55-40	-	50-25	40-15

<sup>1</sup>D: Shipment to domestic markets

<sup>2</sup>EU: Export to European Union markets

<sup>3</sup>USA: Export to USA markets

Good quality

Quality could be compromised

Drastic softening

\*Only the firmness values are shown after marketing scenarios since the firmness is the most important parameter that compromises the quality of the persimmon during this period

## CONCLUSIONS

- The harvest period was established from the beginning of September, with 'Soshu', until mid-December with 'Fuyu', 'Isahaya' and 'O`goshu'.
- In general, all varieties were suitable to be marketed to the domestic markets and EU countries.
- The simulation of shipments to the USA, under quarantine condition, allowed us to know the sensitivity of the varieties to low temperature.
- 'Youhou', 'Suruga', 'Fuyu' and 'O`Goshu' stood out for their low sensitivity to low temperatures, showing commercial quality after marketing to the USA, while the rest of the varieties experienced a drastic softening, compromising their final quality.