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**JUNTA DE ANDALUCÍA**  
*Consejería de Agricultura y Pesca*

# Direct workforce in the Andalusian citrus industry value chain. Crop year 2009/2010



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## Objective

In the current context of high competitiveness in the agri-food sector, the Regional Ministry of agriculture and fisheries of Andalusia has decided to carry out this study on the analysis of costs throughout the supply chain of the Andalusian citrus industry in the 2009/10 crop year. To this end, the direct workforce and activities carried out in every link of the two main distribution channels, traditional and modern, are analysed.

## Direct workforce costs in the traditional distribution channel

Produce	Direct workforce costs (€/Kg)	% of total costs	% of retail price excluding VAT
Orange	0,32	39	35
Mandarin	0,39	40	31
Lemon	0,39	41	30

➤ Direct workforce costs in the citrus farm represent between 18% of the total costs for mandarins and 28% for lemons. They are costs of the product on the tree, not including harvesting costs.

➤ Costs of harvesting, transport to the wholesale market and workforce for handling and packaging in the horticultural centre, represent between 32% and 44% of the direct workforce in the distribution through the traditional channel.

➤ The workforce in wholesale markets, including the transport from the horticultural centre to the wholesale market, represents between 7% and 8% of the workforce in this channel.

➤ Greengrocer's occupy first place in the importance of direct workforce concerning oranges. The citrus workforce ranges from 31% in mandarins and lemons to 38% in oranges.

## Time spent by direct workforce in the traditional distribution channel

The time taken by direct workforce in the traditional distribution channel is obtained from the salary costs per hour in each link.

Hourly costs represent the basic salary, calculated from the salary tables for each professional category in the crop year 2010. These costs are included in the corresponding collective agreement and are increased by the cost of social security paid by the employer.

### Traditional distribution channel

	Farmer	Horticultural centre	Wholesale market	Greengrocer's
<b>Time taken by direct workforce (hours/tonne)</b>				
Orange	10.14	15.87	3.92	16.48
Mandarin	10.14	26.76	3.95	16.48
Lemon	15.94	20.85	4.06	16.48

## Time spent by direct workforce in the traditional distribution channel

The time spent by direct workforce in the traditional marketing channel is 2.78 minutes/Kg for oranges and 3.44 minutes/Kg for mandarins and lemons. The production link represents 22% of the total time of the chain for oranges, 18% for mandarins and 28% for lemon.

### Local Traditional Channel

There is an additional structure in the traditional distribution channel, which is significant in citrus production areas and areas of influence, for the most consumed citrus: oranges and mandarins. In this case, the marketer in origin supplies the greengrocer or local traditional trade directly.

	Farmer	Horticultural centre	Greengrocer's
<b>Time taken by direct workforce (hours/tonne)</b>			
Orange	10.14	15.87	16.93
Mandarin	10.14	26.76	16.93

The time of direct workforce generated in the local traditional distribution channel is 2.58 minutes/Kg for oranges and 3.23 minutes/Kg for mandarins. Production represents 24% of the total time in the case of oranges and 19% in mandarins.

## Direct workforce costs in the modern distribution channel

Produce	Direct workforce costs (€/Kg)	% of total costs	% of retail price excluding VAT
Orange	0,31	33	31
Mandarin	0,38	34	29
Lemon	0,38	34	27

☞ Workforce costs at the farm are between 18% for mandarins and 29% for lemons. Harvesting costs are not included as they are borne by the horticultural centre.

☞ Workforce in the horticultural centre represents between 32% and 45% of the total direct workforce of the modern distribution channel. Concerning mandarins, high harvesting costs mean that the increased costs of the modern distribution channel are borne by the horticultural centre in origin.

☞ Workforce in the distribution platform brings together the activities carried out in the platform as well as the transport from it to the store. It represents between 6% and 7% of the total workforce.

☞ With regard to the distribution of oranges through the modern distribution channel distribution, higher costs are borne by the retailer. Costs in the supermarket and hypermarket represent from 31% to 39%.

## Time taken by direct workforce in the modern distribution channel

	Farmer	Horticultural centre	Distribution platform	Supermarket Hypermarket
<b>Time taken by direct workforce (hours/tonne)</b>				
Orange	10.14	15.87	2.59	12.86
Mandarin	10.14	26.76	2.60	12.95
Lemon	15.94	20.85	2.66	12.92

The time of direct workforce generated in the modern distribution channel is 2.49 minutes/Kg for oranges, 3.15 minutes/Kg for mandarins and 3.14 minutes/Kg for lemons.

Production represents 25% of the total time for oranges, 19% for mandarins and 30% for lemons.

## Conclusions

1. The marketing of citrus in the traditional distribution channel generates a greater volume of wages than in the modern distribution channel due to higher costs in the traditional retailer.
2. Direct workforce generated along the traditional distribution channel of the citrus analysed ranges between 46 and 57 hours per tonne, while in the modern distribution channel this interval ranges from 41 to 52 hours per tonne.
3. In producing areas, greengrocers are directly supplied in the horticultural centre, decreasing the direct workforce generated to between 43 and 54 hours per tonne in oranges and mandarins, respectively.
4. The time spent by direct workforce in each of the analysed channels of the citrus industry is higher in mandarin and lemon, which have similar results.
5. With regard to the direct workforce required by the links involved in marketing, the horticultural centre, which manages the harvest, the transport to the distribution platform and the retailer (greengrocers and supermarkets) highlights.
6. Direct workforce in the farm is 100% direct and the time spent in it ranges between 17% and 30% of the total time depending on the product and channel. These figures represent a range of 10 to 16 hours of workforce per tonne of product.