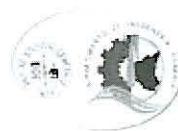




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[info@ragusashwa.it](mailto:info@ragusashwa.it)



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## **Work Safety and Risk Prevention in Mechanical Harvesting of Olives**

Almeida A.

*Escola Superior Agrária de Bragança - Centro de Investigação de Montanha*

*Apartado 1172 – 5301-855 Bragança - PORTUGAL*

*E-mail: [acfa@ipb.pt](mailto:acfa@ipb.pt)*

**Keywords: mechanical harvesting, olives, slopes**

### **Objectives**

In Portugal one of the most interesting zones for olive production is located in the Northeast of the country (Trás-os-Montes region).

The olive oil has excellent quality and assumes a high economic and social importance.

The mechanization of harvesting is adopted by significant number of olive producers.

The region is mountainous. The majority of olives orchards are placed in soils with significant slopes, sometimes with more than 15%.

This factor increases dramatically the risk of accidents with the equipment for mechanical harvesting, jeopardizing the work safety.

The objective is to reveal some solutions adopted for a safe work and evaluate the consequences in work rates.

### **Methods**

Field tests carried out to compare three different systems to mechanize olive harvesting: System I, System II and System III. In all of them a trunk shaker detaches olives. The difference is in the collecting procedure. In System I olives are collected by canvas placed under the trees and moved by labourers. In System II a mechanical rolling canvas was used to collect olives. In System III olives detached are collected on an inverted umbrella.

### **Results**

System III revealed to be the most advantageous when not enough labourers are available for System I.

All of the systems need special attention when working in slopes, with emphasis on System III.

In slopes superior to 15% alternative trajectories are necessary for a safe work, with consequences in work rates.