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**MECHANICAL HARVESTING OF 400 TREES PER HECTARE OLIVE ORCHARDS BASED ON A ROLLING CANVAS PROTOTYPE**

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Towards higher densities of trees per hectare, different alternatives are required to collect olives harvested by trunk shakers. This paper puts forward a revised concept of the trailed cart with a rolling canvas system. The equipment consists of a 6m long box welded to a wheeled *chassis*, with a rolling canvas system placed over its full length. Olives are stored until full capacity of the box, and then discharged through the back by a conveyor belt placed at the bottom of the box. Steering axle and low pressure tyres increase performance. All components are hydraulic powered from the pulling tractor. Real scale tests were carried out in two 400 trees per hectare olive orchards:

- (a) a trunk shaker, and one trailed cart harvesting a single row of trees at a time;
- (b) a trunk shaker, and two trailed carts for two-row harvesting. Results show working rates of around 40 and 50 trees / hour, respectively, for a single-row and two-row harvesting. Discussion of the results reveals that higher working rates are possible.
- (c) olives / mechanical harvesting /  $\pm 400$  trees/ha.