



THE MOST IMPORTANT MANAGEMENT OPTIONS FOR OLIVE ORCHARDS IN SPAIN

Spain has olive groves scattered over almost all the country (2.650.801 ha), but the largest concentration is in Andalusia, the southernmost region of Spain. In spite of the broad geographical area that the olive crop covers, the most used soil and weed management technique in olive groves continues to be tillage practices (968.265 ha), followed by the use of spontaneous cover crops (454.499 ha) or no tillage with chemical control (210.368 ha). More than one strategy can be used on farms during the growing season, since olive orchards show two very distinctive areas: soil beneath the olive trees, where it is necessary to facilitate harvesting and along the lanes (intra-row and inter-row spacing), where soil compaction and the susceptibility to greater runoff and erosion will influence the system choice.

DID YOU KNOW?

Olive groves are also called "sea of olive trees" in Andalusia due to the vast neat expanse that comprises 1.6 million olive trees, making it the biggest woody crop plantation in Europe

TILLAGE

A shallow tillage (<20 cm depth and without soil inversion) is required according to the CAP regulations (cross-compliance requirements). Mechanical traction is used in a crossed pattern to the slope direction, avoiding moldboard ploughs and disc harrows. Olive farms located on slopes >15% are tilled with chain-tractors conducted along the steepest slope direction and they are excluded when slopes are more pronounced (>45 %). This strategy can be used in the intra-row and inter-row spacing to control annual and biennial weeds but it is not advisable beneath the olive trees.



Figure 1 - Tillage management of olive groves

SPONTANEOUS COVER CROPS

Weeds growing on the farm are used as cover crops, especially grasses and crucifers. They can be established simply by applying a herbicide that is selective for these species in the intended plant cover area, which eliminates the other weeds. They are kept alive for a specific period in the inter-row spacing and they should be killed by chemical control (contact and systemic authorized herbicides) or mechanical mowing (brush cutter and shredder) in spring under Mediterranean conditions.



Figure 2 - Spontaneous cover crops in olive orchards

NO TILLAGE WITH CHEMICAL CONTROL AND PRUNING WOOD RESIDUES

A combination of no tillage methods with the application of pruning wood residues is a very common practice covering soil along intra-row spacing in Spain. Plant residue mulches can help to ensure partial weed control due to the physical barrier formed but it is completed with herbicides, such as pre-emergence herbicides (diflufenican or oxifluorfen) and glyphosate.



Figure 3 - No tillage with pruning wood residues in olive orchards

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