

Problems and agricultural solutions in olive groves

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The most important and extensive crops in the Mediterranean area are olive groves. Within the last 50 years, the surface occupied by olive groves has progressively increased in Spain including more complex topographies, poorer soils and worse climatic conditions. This situation has caused serious problems based on the losses of soil, nutrients and soil quality among others (Lozano-García and Parras-Alcántara, 2014). Therefore, alternative practices that avoid soil erosion and soil degradation must be considered.

As a consequence, farmers together with scientist are innovating by the development of different practices in olive groves in order to avoid these problems and to improve soil conditions. There is a huge range of new practices. Some of them are:

- i. alternative management techniques such as organic farming, no tillage and minimum tillage. These techniques have a positive impact in soils (Parras-Alcántara and Lozano-García, 2014; Fernández-Romero et al., 2016).
- ii. the addition of different substances on the soil. For example, oil mill by-products that are thus potentially useful as soil amendments since they are effective sources of organic matter and nitrogen, improve soil quality and alleviate the environmental and agronomic limitations of Mediterranean agricultural soils, even those under using conventional tillage (Lozano-García et al., 2011; Lozano-García and Parras-Alcántara, 2013).
- iii. the use of covers as secondary crops inside the olive grove. These offer secondary benefits derived from alternative crops and soil protection due to fact that in olive groves the main problem is the high quantity of bare surface.

With this contribution we want to show the current situation in olive groves and how better results could be obtained when both trustworthy information is available and farmers and scientist work together.

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