

Minimum tillage, permanent soil cover with vegetal residue and manure application on pomegranate tree crops in Elche, Alicante



Minimum tillage protects the soil from erosion and compaction. In semi-arid conditions, agricultural soils have low organic matter content because high temperatures promote its oxidation. Consequently, allowing any crop residues to remain on the soil and applying additional manure increases the organic matter content and protects the soil.

“Bare soils are exposed to erosion, compaction and progressive degradation”



Under semi-arid conditions it is better to avoid the occurrence of bare soil surfaces. When soil is tilled normally (for example to remove weeds), a crust layer forms on the soil surface. This crust reduces rainfall infiltration and increases surface runoff.

Results

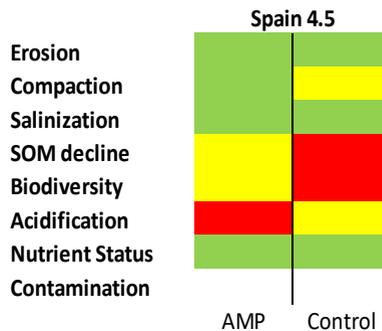
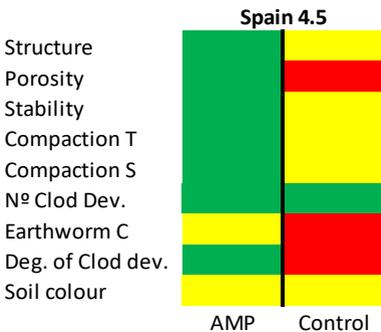
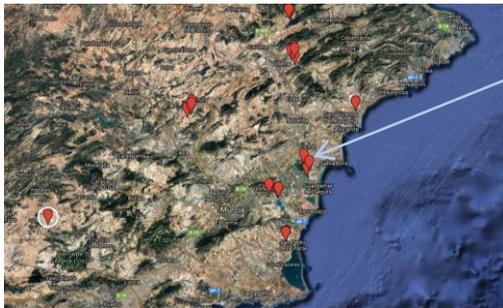


Figure 1. Comparison of visual assessments of soil quality between a site using this agricultural management practice (AMP) and a control site.

Figure 2. Comparison of levels of soil threat (as identified by SQAPP) between a site using this AMP and a control site.

Study area location



Elche, Alicante

38°09'54.9"N, 00°42'47,8"W

Farmer: Fernando Antón

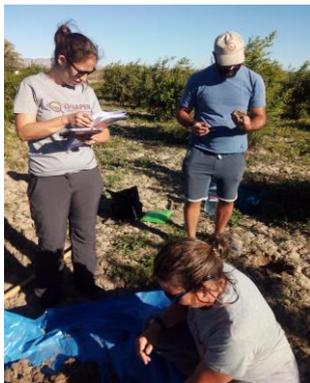
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Details about the agricultural management practice:

The soil under the pomegranate trees is kept covered throughout the year to protect it from erosion and decrease evapotranspiration.

To avoid a crust developing on the soil surface, it is ploughed just once a year because it is irrigated with saline water with a high sodium content.

Every year between 4-5 tons per Ha of manure is applied to maintain a good level of organic matter and provide nutrients for the crop.



ISQAPER
Interactive Soil Quality Assessment

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