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## Introduction

Organic production in Trás-os-Montes, particularly almond cultivation, has been increasing. Biological control, can influence soil fauna and help to maintain orchard health by preserving natural enemies of key pests and using diverse cover crops.

## Objective

This study aims to evaluate the influence of irrigation and soil cover on the abundance and diversity of arthropods, to promote more sustainable agricultural practices.

## Results

- The pitfall traps captured 1041 and 2597 edaphic arthropods in the irrigated and non-irrigated almond groves, respectively.
- Nine major taxa were identified, with Formicidae dominating (54.56% in irrigated and 80.13% in non-irrigated groves).
- Arthropod abundance was highest in the short-cycle clover treatment, around 56.78% and 58.14% of the total individuals in irrigated and non-irrigated groves.
- Non-irrigated groves had a higher overall abundance of soil arthropods.

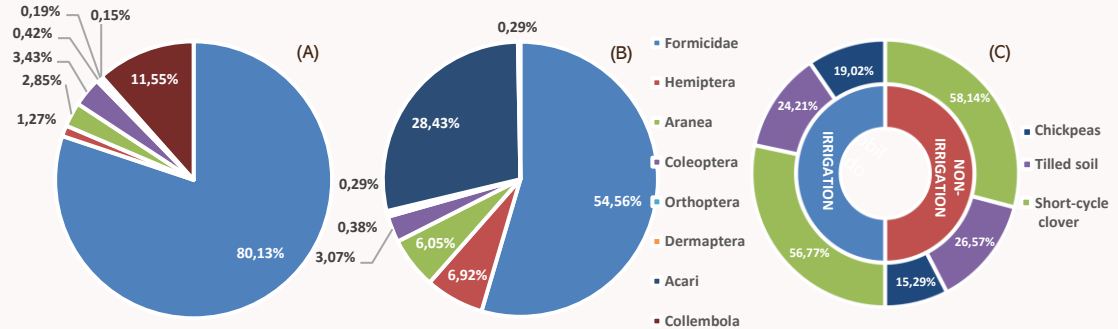


Figure 1: Percentage distribution of arthropods in the non-irrigated almond orchard (A), in the irrigated almond orchard (B), and in the different treatments in each orchard (C).

We concluded that the type of cover crop influences the abundance and diversity of arthropods in the soil, with short-cycle clover standing out as the most bio-diverse cover.

## Methodology

- The experiment was conducted in two almond groves in full production, one non-irrigated and the other irrigated, in Corujas, Portugal.
- Each trial was divided into three treatments: covered with chickpeas, short-cycle clover and tilled soil (15 trees/treatment).
- Three pitfall traps/treatment were placed 30 meters apart.
- Each trap contained a solution of ethylene glycol diluted to 50%.
- Arthropods were collected monthly and identified in the laboratory.