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Sowing Possibilities.

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What are drones used for in agriculture? Four uses that change a decision

A drone is not useful because it flies: it is useful when the information it brings changes a decision. Four concrete uses of drone mapping on a farm, and the limits worth knowing before hiring a service.

By **Trofoni team**

The question comes up often, and usually framed the wrong way: *should I fly my farm?* The flight is the least of it. What matters is which decision is on the table and whether an image changes it.

At Trofoni Mapping we put it this way: **the flight and the indices are inputs to the process, not the final product**. The product is a deliverable tied to a decision. These are the four uses where drone mapping really changes it.

1. Organizing what you already know

Farm information is usually scattered: old plans, spreadsheets, phone photos and the manager's memory. The first use of an aerial survey is to integrate that data into a common, traceable spatial reference.

We call it a **Productive Territorial Baseline**: units, areas, infrastructure, imagery and available production information, organized on the same map.

2. Walking less, and better

The farm is large and the walk is finite. Differences between blocks, trees or paddocks exist before anyone sees them.

A map with georeferenced priorities reduces the area that needs checking on foot. The index points to where something responds differently; the field visit confirms what it is.

3. Comparing over time

A single flight is a snapshot. A comparable history per field, block or paddock is a management tool.

Monitoring adds dates, activities and comparison over time. The sequence is always the same: initial image, anomaly, inspection, intervention and new image. That documents what was observed, what was done and how the system responded.

4. Documenting an event

After a storm or a flood there is often no organized evidence to manage the damage. An event diagnosis delimits the affected areas and delivers a rapid report with georeferenced evidence, subject to flight conditions.

What changes with the production system

- **Citrus and fruit:** block files, tree inventory, density, varieties and indices, with field verification.
- **Crops:** fields and zones, crops and rotations, RGB and NDVI, relief, and yield and soil records when available.
- **Livestock and dairy:** subdivisions, water, forage resources, sampling, NDVI and height. Aerial animal counting is not included.

What a drone does not do

Saying it upfront avoids misunderstandings later:

- It does not deliver automatic causal diagnoses from an index.
- It does not replace a legal survey or guarantee centimetre precision without a protocol and a qualified professional.
- In our case, it does not include aerial application of crop protection products.

So, is it worth it?

It is worth it when a decision is currently being made with incomplete information: where to walk, which block to compare, how many trees are missing, what area was affected. If that decision does not exist, the flight is just a nice picture.

See how Trofoni Mapping works or download the brochure.

Sources

- Trofoni Mapping. Service documentation, 2026.
- Trofoni Mapping. Citrus services catalogue, 2026.

This article states sources, date and limits. It is not advice for a particular case.

https://trofoni.com/en/insights/what-are-drones-used-for-in-agriculture