

Coping with water shortages

The example of an emerging practice: tarpaulin mulching on the Taravao plateau (Tahiti)

The island of Tahiti is made up of two parts: Tahiti nui, where Polynesia's main town, Pape'ete, is located, and Tahiti iti, the peninsula. The Taravao plateau, with its many farms, is located on the latter. Today, the market gardeners of Taravao face several difficulties in producing and making a profit from their activity:

-  **The water flow** is insufficient to irrigate crops.
-  **Water use** is a source of tension between farmers, but also with the local population;
-  **The inputs cost** is high

«Because it seemed at the time that when I pumped too much from the water supply, people looked at us somewhat unfavourably. They said we were the ones wasting water. And that the population needs water more than we do» (Tanatoa, farmer, aged 50-55, Taravao plateau, June 2024).

To overcome these difficulties, Tanatoa, a market gardener on the Taravao plateau, was one of the first to adopt tarpaulin mulching as a system for growing vegetables without irrigation. The system was subsequently adopted by many other farmers in the area.

5 steps to plastic mulching

1. **Mechanical ploughing** of the plot ;
2. Creating parallel **lines of planting** ;
3. **Cover the planting area with a black plastic sheeting**;
4. **Planting holes in the plastics, and applying a dose of input to each hole.**
5. **Planting.**

Benefits

- Limits the evaporation of water and soil erosion
- No weeds
- Simple to install
- Saves time (compared with installing natural mulch).

Disadvantages

- Problematic composition of plastics (polypropylene, which generates greenhouse gases).
- Soil pollution caused by the degradation of the plastics



Why and how did this practice take root on the Taravao plateau?

The Tanatoa market gardener is now in the process of passing on his knowledge. He strives to share his knowledge through informal exchanges with his peers, but that's not all; he also offers tours of his farm and regularly participates in training courses run by the CAPL (Lagoon Chamber of Agriculture and Fishing).

This case study highlights two important concepts to explain the development of this practice on the Taravao plateau:

- **Empiricism** (or the use of experience to adapt and anchor knowledge): in this case, Tanatoa, the market gardener, carried out tests himself, using a trial-and-error approach that he describes as scientific.
- Tanatoa or the existence of a **local expert**: this more or less formal status is apparent from the testimonials of farmers in the area, whenever they mention the market gardener. Not all of them have applied tarpaulin mulching to their fields. On the other hand, they all recognize Tanatoa's work and his efforts to pass on his knowledge.

Summary

