Collection of Practice Abstracts

P3

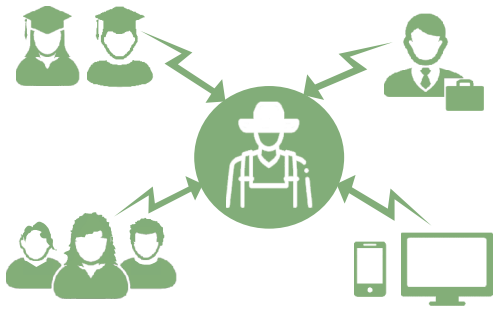
EXPERIENCE FOR YOURSELF

PRACTICAL TIPS FOR FARMERS

SUSTAINOLIVE.EU

A CHANGE OF MIND

Management decisions by olive farmers often are biased by **commercial pressures, prejudices and past trajectories**.

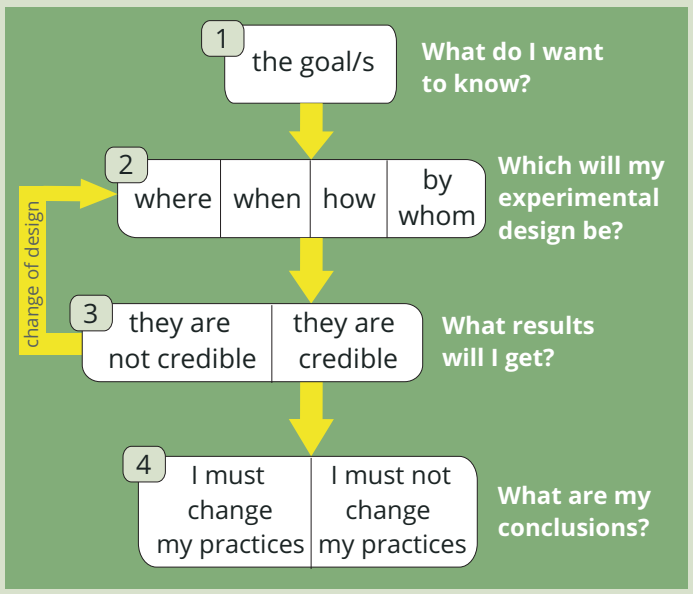


It is likely that many olive farmers have wondered more than once if the recommendations, advice and standards provided by agrochemical dealers, family, colleagues, friends or neighbors, are the ones best suited to tackle their concerns.

They may not be aware that **their crops can be used as experimental fields** where they can carry out all kinds of simple tests that will help them to make the key decisions for their businesses

EASY EXPERIMENTS

Field experiences do not have to be too complicated. It may be good enough to be clear about the question you want to answer and act with a little ingenuity to design the most efficient and cost-effective way to find an answer.



A PRACTICAL EXAMPLE

Tom suspects that he is wasting his money on nitrogen fertilizers. No matter how much fertilizer he adds to the soil of his olive grove, he cannot observe the harvest improving from one year to the next. With fertilizer prices skyrocketing, Tom has decided it's time to rethink whether he should change his farming strategy. He knows that if he asks technicians, neighbors and fertilier salesmen about options, he will receive the most diverse answers, which will probably confuse him even more. Therefore, he has decided to check for himself the extent to which his suspicions are true.

What experimental design could Tom set up to check whether his olive trees are overfertilized ?

SOME INFORMATION WE NEED TO KNOW

Tom´s olive farm is rainfed and olive trees have an average age of 30 years. The land has low or no slopes and the plantation frame is extensive (10 x 10). Last year around 3000 kg of olives per hectare were harvested.

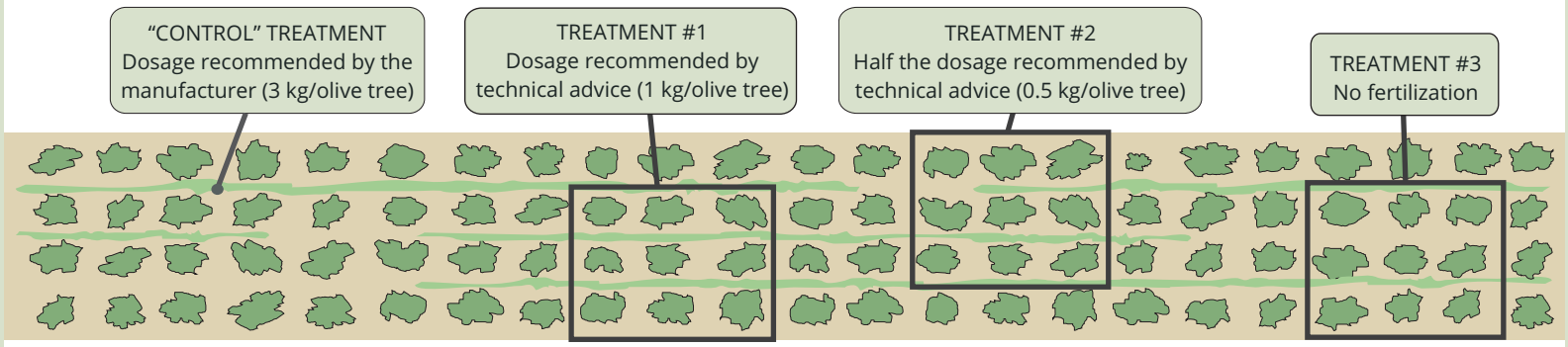
Results provided in this example have been made up; they do not correspond to any real case

1 What does he want to know ?

The manufacturer recommends Tom a dose of 3 kg of nitrogen fertilizer per olive tree.
Would the productivity of his olive grove be reduced if he applies a lower dose?

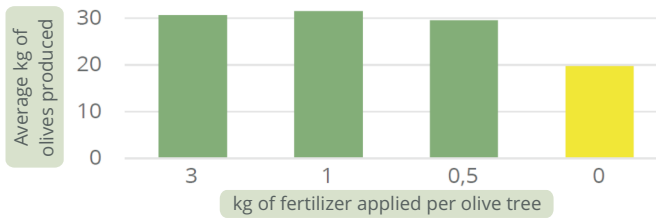
2 Which could be his experimental design ?

This year, Tom will follow the manufacturer's recommendations, but he will select 3 groups of 9 olive trees each, on which he will apply other shorter doses. He will make sure to work with homogeneous plots so that the only differential factor influencing olive production is the applied dose of nitrogen fertilizer. Once he harvests, he will weigh the olives from the 3 plots of experimental olive trees and calculate the average production of each of them, in order to compare with the areas of the farm where the manufacturer's dose was applied.



3 What results does he get ?

"Control" treatment: 30.7 kg of olive fruits per olive tree
Treatment #1: 31.2 kg of olive fruits per olive tree
Treatment #2: 29.5 kg of olive fruits per olive tree
Treatment #3: 19.7 kg of olive fruits per olive tree



4 Which conclusions can he draw ?

It might not have been necessary to weigh the olives from the experimental olive trees. Just by looking at the trees, Tom would have been able to appreciate that the olive trees corresponding to the "control", #1 and #2 treatments had a similar olive harvest. Only the olive trees that had not been added with nitrogen fertilizer showed a lower production (although higher than Tom originally expected). It then becomes obvious that Tom was applying 6 times more nitrogen fertilizer than his crop needed. A dose of half a kilogram per olive tree would have been sufficient.

ENDLESS POSSIBILITIES

Following up from the success in the fertilization experiment, Tom is already thinking about the following field trials that he is going to carry out to better understand the nutritional requeriments of his olive grove. He is now planning to apply a test to monitor the fertilizing effect of the **application of pruning wastes** on the soil of the olive grove, subsequently comparing the effects on olive production of the application, or lack thereof, of shredded pruning wastes in small areas. Another complementary idea is to check whether small patches of **cover crops** might potentially lead a decrease in olive productivity compared to olive groves with bare soils. He always was interested in verifying whether the benefits of applying **composted olive mill pomace** are as outstanding as many researchers state. **He now feels confident enough to check it out for himself.**

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