



verdelab

SAMPLING SYMPTOMATIC PLANTS FOR DIAGNOSTIC ANALYSIS

Proper diagnosis begins with a good sample. Submitting good samples is essential to ensure a correct diagnosis.

Collect whole plants, if possible, also with roots (don't pull the plants from the soil but dig them up).

Collect several plants (5 are enough) that are representative of the problem and show different stages of the symptom. Don't send dead or completely rotten plants.

Package the plants in plastic bags, appropriately labelled.

Keep collected plants fresh: if possible, ship the samples immediately; if not, keep the plants cool (when possible, in a refrigerator) for a couple of days. Don't expose the sample to heat or freezing, minimize crushing.

Fill in our application form: in addition to the sample, it is important to provide background information about the plants; the diagnosis process often involves piecing together many different aspects, so we ask you to give us information about:

- the plants (name, variety, age)
- description of the symptoms (unusual plant size, color or shape, severity of the disease)
- the environment (growing area)
- management factors (previous crops, fertilizers and pesticides that you have used)

Pictures of the problem can be sent by email to info@verdelab.it; they will help us to better understand the problem in the field, greenhouse or landscape.

For fruit trees, you can collect only branches or fruits or roots, if these parts are clearly symptomatic.

If you are not sure how to take a sample, call us for advice (+39 0541 747028, mon-fri h 9-18).

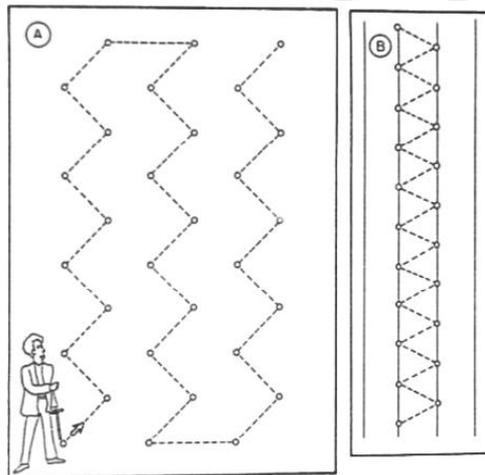


SAMPLING SYMPTOMLESS PLANTS

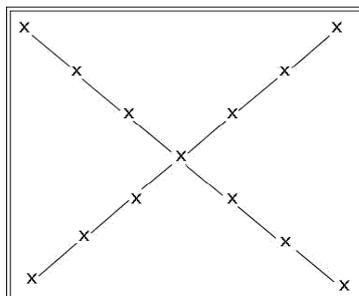
If a phytosanitary control is needed even if plants don't show symptoms, in order to control the spread of a disease, it is necessary to follow a randomized scheme.

Sampling is done at regular intervals following a scheme, that depends on the field size and the crops. It is recommended to sample from more plants; the type of sample (leaves, roots, stems, ...) depends on the pathogen.

W RANDOMIZED SCHEME: proceed throughout the field following a zig-zag pattern, and pick a sample at each change of direction:



X RANDOMIZED SCHEME: proceed along the diagonals of the field; the number of samples to take along each line depends on the field size; this scheme can be used also for seedlings in trays.





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Prepare the samples as described above.

SAMPLING LEAVES FOR GENETIC ANALYSIS

Collecting in plates (recommended if you want to connect the results and the the plants): take with a nipper a small leaf portion (about 0,5 cm) from each plant to be analyzed and put the leaf portion in a well of a pcr plate (we can supply the plates if needed).

Plates have 96 wells, but it is necessary to leave the last 2 wells (G12 and H12) empty, because we will put the control DNA into them.

Close the plates with plastic film and sign them with a code.

Collecting without plates: sample a whole young leaf from each plant and put it in a plastic bag; use different bags for different varieties.

IMPORTANT: as the quality of the leaf samples is a critical point for a successful result, we can not guarantee that the analysis will work well from all the markers and all the samples.

In order to reduce this problem, we recommend the following tips:

1. Sample young leaves from young plants;
2. Sample from not stressed and not treated plants (as less as possible)
3. Send the plates to the lab soon (stock in fridge if needed)
4. Put only one leaf in each well (don't mix leaves from different plants)

