



## Manual plant sap sampling

# *Cucumber*



**PLANTPRODUCTS**

A member of Biobest Group

Please contact your Plant Products Technical Representative with any questions.



## ***Sampling and sending samples***

### **Location**

Take the following steps into account when collecting leaf samples:

- Avoid the outer rows of the greenhouse. Also avoid the first and last 10 meters of a row.
- Sample leaves with an average leaf quality. Sample abnormal plants with e.g. deficiency symptoms separately. Might a deficiency be present in the young or old leaves of the total crop, then sample these leaves regularly as a young or old leaf sample.
- Consider the sunny and shady side of the plant. Always consistently sample the same side.

### **Time of sampling**

It is strongly recommended to take the samples before 9:00 AM. The plant will then have enough leaf-tension with proper moisture conditions.

Begin with sampling the leaves one week after planting, then every week. The same applies to water samples, irrigation, slab and drain water. Until the cultivation is finished.

### **Plant parts**

For a young leaf sample, pick the **youngest, fully developed leaves**, about 50 – 100 cm from the top of the plant (depending on the growing stage of the plant). Also pick (separately) the **oldest, but still vital leaves**. This is the 1<sup>st</sup> or 2<sup>nd</sup> vital leaf from the lowest part of the plant (see pictures 1-4). Stack the leaves for each sample and remove the petioles, as they will not give a good indication and influence the sample.

It is not allowed to send in samples that have a fungal, bacterial or virus infection. The leaves must also be free from insects.





**Young, fully developed leaf**

**Old, vital leaf**

Pic. 1





Pic. 2 Young leaves from the top of the plant

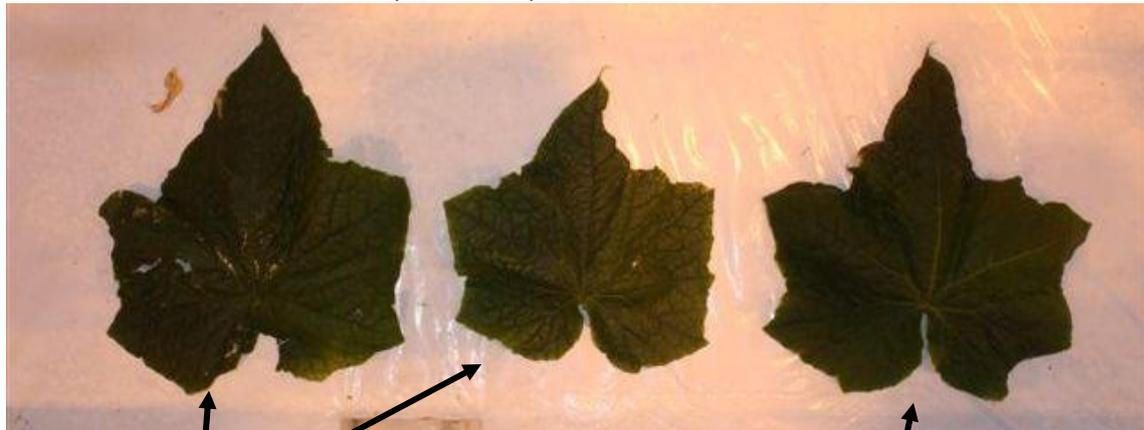


**Too young, not fully developed**

**Fully developed leaf**

**Youngest, fully developed leaf**

Pic. 3 Old leaves from the lower part of the plant



**Too old, not vital leaf**

**Oldest, vital leaf**





Pic. 4

***Youngest, fully developed leaf***

***Oldest, vital leaf***

#### **Sample size**

For an average, representative cucumber sample about 10 leaves are needed.

Of course sample size can vary, depending on leaf type (size and thickness). When you doubt about the sample size, please feel free to contact us.





### Packing the leaf samples

When leaves are wet on the outside due to dew or rain, they can be dried with a tissue. Leaves must be dry from the outside to be analyzed because water will have an influence on the results. Moreover, the leaves will spoil faster if there is water in the sample bag.

Please pack the young and old leaf samples separately, these will be two different samples. To assure fluent processing please stack the leaves, fold the leaves if needed, and put them in a plastic zip-lock bag carefully. Make sure all air is out, so any leaf evaporation is excluded. See pictures.



Fill in the labels correctly and place them on the bags (see pictures below). We prefer pre-printed labels because it saves us a lot of administration time. It also has advantages for you:

- When using Bemesting-Online program you need the same location names and crop names to make comparisons (graphs), pre-printed labels make this a lot easier;
- If our employees must read what is on the label, the chance of reading errors is very high, this is not the case with preprinted labels.
- You no longer must write the location and crop name on the label on the spot.

Let us know if you need help with this.





### Sampling water

Make sure that the bottle is completely full. The analysis may be wrong if there are air bubbles in the bottle.



Take a drip water sample at the dripper like in the picture below. A slab water sample can be taken by a syringe out of the substrate bag. Make sure you take the samples from several substrate bags, see the picture below. A drain water sample can be taken from the water return system.



The labels for a water sample need to be placed in such a way that the barcode is still readable. Tighten the cap enough so that it does not leak. Do not overtighten as this may break the cap.

