



PhytoGEM Crusher Tool Instructions

Instructions

The PhytoGEM crusher tool is designed to obtain a sample of leaf and non-woody plant tissue. This can be done directly in the field or glass-house. Samples are crushed onto ZyGEM PhytoCards and these can be processed immediately or placed in storage. This same method of sampling can also be used for leaf-borne pathogens and small insects.

The purpose of the card is to provide cellular material without needing to freeze and grind the samples, or use aggressive chemicals.



The jaws of the crusher tool can lock for easy packing. To unlock them, squeeze the handles fully and release. The jaws will then open.



Remove a PhytoCard from its sterile pack and lift the flap covering the absorbant card. Slide the card fold-first into the groove of the jaws.



Place the area of the leaf that you wish to sample over the absorbant card and close the jaws firmly until they release.

And that's all. Simple! Your leaf sample will be crushed onto the card and is now ready for extraction or storage.

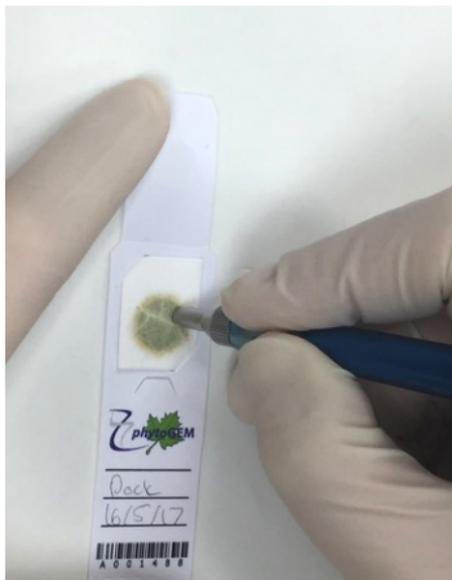
STORING YOUR CARDS

Cards should be allowed to dry and then sealed in a plastic bag. If the cards are kept cool and dry, they will last for many years. However, different sample types have different storage qualities and so for longer term storage, we recommend that you keep them at 4°C or below.

TAKING SAMPLES FROM THE CARD



Samples are taken using a standard Harris punch with a 3 mm hole cutter. To take a sample with the punch tool, gently press down onto the card with the metal cutting tip until the punch is taken. A twisting motion will help.



The plastic backing stops the punch from making holes right through the card and so should reduce contamination.

However, you should be careful with your punch. The cutting edge will last longer if you work out how much force you need and try to avoid being too heavy-handed.

Expel the punch(es) into a PDQeX cartridge using the plunger.

For DNA extraction, one to four 3 mm punches can be used.



CLEANING THE TOOL

The PhytoCards are designed to keep the sample away from the jaws, but it is inevitable the crusher tool will come into contact with plant material. For many tests, this may not matter but where contamination is an issue (for example testing for pathogens) the jaws should be swabbed with 1% hypochlorite bleach and then the bleach removed with 70% ethanol.

Make sure the tool is put away clean and dry.

ADJUSTING THE TOOL

The tool jaws should close fully when there is no card in place but they should not be so tight that they are difficult to use. You can adjust the pressure on card by removing (and not losing) the small phillips screw on the side of the tool and turning the knurled wheel.

Don't forget to replace the screw!

If you have any questions, contact us on:

www.zygem.com

