

## How do you analyze the captured particulates on the stub?

The choice of analyses depends upon several factors. If primers and probes are available for the organism of interest, then qPCR protocols may be used. We have recovered single spores of *Phakopsora pachyrhizi* with this protocol, and it is highly quantitative. In addition, if the investigator has an antiserum to his/her organism of interest, then a very simple and inexpensive protocol can be employed to quickly and quantitatively assess airborne populations of the organism by immunofluorescent microscopy. Antisera can be produced commercially; there is no longer a need for an investigator to inject rabbits and then purify a polyclonal antiserum. Details will be provided upon request. Standard light microscopy also may be used. In addition, the collection stubs can be easily processed for scanning electron microscopy (SEM).

## Can you develop a diurnal spore release curve with the *Ionic Spore Trap*?

The *Investigator Multi-Sampler* has seven independently programmable collection stubs. Each stub can be programmed to collect for specified hours of the day, and this would allow the investigator to construct a spore release curve. The *Investigator Solo Sampler* could be sampled every 3 hours for a few days, and this would provide sufficient samples to construct a spore release curve. However, there is a large body of literature regarding diurnal spore release patterns for a wide variety of fungi, so it probably is not necessary in most cases to repeat this work. In addition, once this information is available, spore trapping is generally employed as an early warning alert for issuing spray advisories or to report the presence of certain allergenic mold spores in the air. The *Ionic Spore Trap* was designed for this purpose.

## How do you program the Investigator Solo and Multi-Sampler?

Programming the IST sampler is easily accomplished on a laptop or desktop computer with an intuitive graphical user interface. No programming skills are required. The program is then downloaded to the IST. The program is retained in the device even when it is turned off and disconnected from the power source. Programming and data logging functions have been thoroughly tested, and the integral microprocessor, which includes a 10-year battery, has been subjected to rigorous testing. New versions of the program will be provided to customers at no additional charge.

## How long will the IST run on a 12 volt battery?

There are many variables to be considered in answering this question. First, we recommend a deep cycle marine battery. These batteries can be purchased with relatively high amp-hour capacities, and they can be discharged many times as compared to a standard automobile starting battery. Secondly, it depends upon the duty cycle programmed by the user. If the program calls for 100% power 24 hours per day, the battery would have to be recharged more often than a unit that operates at 20% power for a few hours per day. We recommend operation at 50% power on alternating hours until the user gains some experience with the IST. Also, a solar charger is recommended for longer unattended service. In addition, all models of the *Ionic Spore Trap* can operate indefinitely from a 120 volt source with the included power supply.