

## SHORT COMMUNICATION

### A TECHNIQUE FOR PRESERVING LEAF SAMPLES WITH CELLOPHANE TAPE<sup>1</sup>

J. SCHREURS

Firestone Plantations Company, Harbel, Liberia

Parts of leaves can be kept fresh for several days when fixed between two layers of clear cellophane tape. This technique can be of much help for preserving in the field leaf samples collected for the purpose of isolating a pathogen from the diseased parts.

In general, special precautions have to be taken when diseased leaf samples are collected in the field for isolation of a pathogen. Usually the different samples are collected and carried to the laboratory in jars or plastic bags. The isolations have then to be made as soon as possible in order to minimize the development of contaminating organisms. Surface disinfection of the leaf is employed for killing these organisms, thus giving the pathogen a better chance to grow on the culture media. The optimum concentration and time of application of the disinfectant has first to be determined, since the pathogen may fail to develop if the disinfectant be too weak or too strong.

A technique has been developed utilizing cellophane tape<sup>2</sup> which has proved to be beneficial for the collection of large numbers of leaf samples. The method was developed for studies of Bird's Eye Leaf Spot (*Helminthosporium heveae* Petch) in *Hevea*. The equipment needed for the preservation of leaf samples in the field consists of cellophane tape in a dispenser, a pair of scissors, a pencil, paper and only one small box for the samples.

Pieces of the tape are attached on both sides of the part of the leaf to be sampled and the edges of the leaves are trimmed back to the tape. A piece of paper with details of the sample is included at one end of the tape. In that way the samples will then keep fresh for several days provided the tape has been firmly pressed on both sides of the leaves.

For isolation purposes the diseased parts can be selected with a binocular microscope. The procedure for the isolation of the pathogen is as follows: the tape containing the sample is first disinfected in 96% alcohol. Disinfection may safely be done for several minutes, as the sample is well protected by the tape. Next, a small triangular part of the diseased tissue is cut out with a disinfected pair of scissors. This part, still between the pieces of tape, is transferred to the agar plate.

<sup>1</sup> Accepted for publication 6 February, 1964.

<sup>2</sup> Scotch Cellophane Tape, made by Minnesota Mining & MFG. Co., U.S.A.

The pathogen will grow out from the cut edges of the leaves, which are the only parts of the leaf coming into contact with the agar. The fact that the upper and lower sides of the leaf portion are protected by the sterilized tape means that the development of contaminating organisms is to a certain extent prevented.

Using this method, *Helminthosporium* isolations were made with 100% success from samples kept between tape for three days at room temperature; isolations could still be made after one week, though the percentage of success decreased.

The technique here described was used for isolating a parasite from *Hevea* leaf samples, but it could very probably be used also for isolating fungi from other plants as well.