containers or laid on the ground, were examined and compared with ease. Examination of road banks or auger samples cannot compare in effectiveness with this technique.

Time consumed in preparing the cores can be remarkably short. For example, two experienced operators drove one mile from the campus, pulled five 6-foot cores from three soil series within a catena, and returned to the building in less than 1½ hours. One of the three locations was on a 30% slope, where the pickup truck and machine had to be held in position with blocks. The machine worked normally while removing cores from this steep slope.


PLANT MOUNTING IN PLASTIC

Considerable interest has been engendered in recent years in the mounting of agricultural plant specimens in plastic. This type of mounting has many advantages over other types more commonly used. Plastic mounts can be handled or stored for relatively long periods without perceptible damage to the plant specimen embedded. The natural color of the specimen can be retained satisfactorily for long periods. This is especially true for mounts displaying plant deficiency symptoms that occur on some soils or under certain environmental conditions.

Mounts of plant materials are a valuable aid to research workers, to teachers in agronomy and vocational agriculture, and to Soil Conservation technicians and county agricultural agents. This presentation is made as an aid in the preparation of plastic mounts for these special uses. These uses may be for teaching, display, or cataloging of material as a hobby.

Material

Most specimens to be mounted should be selected at maturity or slightly before, preferably when the natural color still remains in the plant part to be mounted. It is recognized that there are occasions when the time of maturity may be of minor importance. Deficiency symptoms, rusts, or smuts should be selected at the stage when the symptoms are most evident.

The normal precautions in the curing and preserving of sheaf samples, etc., should be observed. The author has had the most satisfactory success in curing and drying specimens in a dark, well-ventilated room. Many curing procedures specify the placing of plant parts in dry sand, but air-dried material for head samples of grasses has proven entirely satisfactory. Quite often the state experiment station has sufficient material in observational nurseries to meet the needs of agricultural workers in that area who are interested in securing such specimens. These specimens must be secured at the correct season, however, since no attempt is made to save extra specimens.

Equipment

1. A well-ventilated place in which to work is of prime importance to avoid irritating fumes released in the curing process.
2. A hot water bath with temperature control at between 65° and 68° C (149°-153° F).
3. An oven for final curing of the specimen is desirable, but not absolutely essential. A harder finished product when a curing temperature of 160° to 200°F for 5 to 30 minutes is used.
4. Suitable molds for containing the specimen are necessary. Ash trays, ice box dishes, and butter molds are all satisfactory.
5. Liquid castolite (or equivalent) with catalyst (organic hydroperoxide catalyst) are the basic needs, but mold release, coloring compounds, cleaner, etc., are all helpful additions to the development of more refined techniques.

Castolite was the plastic used in preparing the specimens mentioned above, but other polyester resins on the market are probably equally good.

Procedure

A small amount of mixed plastic and catalyst (not over two drops per tablespoonful of plastic is recommended) is poured into the mold as a base layer for the mount. A light coat of mold release compound coated on the mold before pouring the base layer will facilitate removal of the completed mount. Material for this paper has been secured from various sources. The more important contributors were: The Castolite Company, “Preserving Specimens in Castolite.” The Soil Conservation Service Nursery Division at Pullman. The Washington State Agronomy and Chemistry Departments. Dr. C. S. Holton of the U.S.D.A., Plant Pathologist, who gave encouragement and the loan of his material “Preservation of Agricultural Specimens in Plastic.”

Published December, 1951