III. MAINTENANCE OF EQUIPMENT

Most seed testing equipment will last for many years if properly handled and maintained. One person in the laboratory might be given the additional responsibility of checking the equipment periodically, lubricating the necessary parts and assuring that any minor repairs are made when they are needed.

The laboratory should keep the operating instructions received with the equipment in one file easily accessible to the laboratory staff. Specific suggestions for some of the major pieces of equipment are as follows :

Seed Divider

Laboratory technicians should take care to assure that the divider being used is thoroughly cleaned between different seeds lots. A small hand operated or power blower can be very useful in keeping the equipment clean.

South Dakota Blower

A special solution is provided with the machine for cleaning the plastic columns and removing the electrostatic charge that builds up on them. Wax is also available for use on the joints to make it easier to separate the different sections.

Balances

It is highly important that all of the balances be kept properly levelled, clean and free from excessive vibrations. Oil should not be used on them. Do not turn Torsion balance on its side or upside down to prevent the oil inside the dash pan from spilling.

Germination Cabinets and Rooms

It is recommended that a reliable air-conditioning or refrigerator service organization be given the yearly responsibility of keeping the equipment in good operating order, such as arrangements made for typewriter maintenence. The major emphasis in maintenance should be on the electrical aspect of the equipment. Such a maintenance contract can and will assure the constant operation of the equipment and avoid delays that might result from unexpected breakdowns and needed sanctions to have such equipment repaired. A seed testing laboratory cannot afford to run the risk of having such equipment out of order for a long period of time.

The seed testing staff should keep a regular watch of the temperature in the germination units to assure that the equipment is operating properly. The staff also should clean the inside of the germinators periodically and use a disinfectant such as potassium permanganate.

Moisture Testers

The Universal and Steinlite Moisture Testers are ruggedly built so that little special maintenance is required. Care should be exercised to avoid sudden jolts and rough handling. The seed container should be kept clean and dry. Seed should not be left in the machines when they are not in use.

If the accuracy of the machines is questioned, duplicate samples should be tested by the oven-dry method or in the Brown-Duval moisture tester to check their performance. If repairs become necessary, the work should only be undertaken by a scientific instrument firm which deals with electrical apparatus.

General Do's and Dont's :

Do

1. Handle the equipment carefully.
2. Keep equipment clean.
3. Keep a file of operating and maintenance instructions.
4. Instruct all staff members on the proper operation of the equipment.
5. Have some staff member primarily responsible for checking the equipment periodically.
6. Keep approximately one inch of water in the bottom of the Minnesota germination cabinet.
7. Keep a regular check on the germination temperatures.
8. Be sure balances are in proper balance.
9. Keep a set of tools available for minor repairs and adjustments such as : large, medium and small screw drivers, large and small Phillips screw-driver, a set of Allen wrenches, electrician's pliers, needle nose pliers, a set of wrenches, a crescent wrench, a claw hammer and an assortment of nails, screws, bolts and nuts.

Don't

1. Locate equipment on flimsy, wobbly tables.
2. Allow seeds and drit to accumulate in and on the equipment.
3. Permit the equipment to get wet except for the interior germinators.
4. Drop equipment.