AGRONOMY JOURNAL

and estate agriculture have been analysed by the cards. It is possible to enter almost all the information collected about the operation of one farm on one card and to clip some 25 efficiency factors and other characteristics. Information that was not entered on these holding cards concerned individual field results and, in the case of sugar estates, factory working. There was, however, no difficulty in splitting the data into more than one set of cards and factors common to both could be transferred with little labour. The surveys provide a good example of handling numerous simultaneous observations.

(iii) Farm Accounts. — A system of accounting on these cards has been developed. The object of the system is to eliminate posting and other rather technical processes of double entry accounting without sacrificing the inherent principles of that system. The card accounts result in a single, visible and sortable card index of every transaction with all notes, comments, and summaries that have been made.

Experience of the clip-cards has effectively proved their value and disproved some of their supposed disadvantages. The most commonly assumed disadvantage is the apparently technical nature of the process. Experience has proved that the most junior assistant can quickly master the simple technique. Except that tabulation is not mechanical, the cards share the advantage with punch cards of allowing the data to be analysed in every conceivable combination. Actually the manual process of analysis is an advantage in some agricultural research particularly in the economic field. Much economic research consists of probing the data rather than proceeding along any set lines of analysis. The best results are obtained if the research officer in charge of the project can carry out the initial investigations himself and therefrom formulate the most suitable forms of final analysis. These preliminary investigations may be hampered by lack of continuity if the project director has to rely on punch card technicians to produce the tabulations. — A. L. Jolly, Imperial College of Tropical Agriculture, Trinidad, B. W. I.

SOIL MONOLITH DISPLAYS

PROPERLY mounted soil monoliths make an invaluable contribution for classroom use, extension work, and educational exhibits as well as for soil classification. Their use, however, is usually hampered by their awkwardness in handling and the difficulty encountered in mounting and dismounting for display purposes.

The soil monoliths used at this station are prepared essentially according to Smith and Moodie except that the profile dimensions are 8 by 48 inches. Screen hangers such as those commonly used for removable storm windows and window screens do much to increase the ease with which these are handled and mounted for display. These screen hangers are attached, 4 inches apart, to the 5/8-inch plywood backboard of all monoliths. The hooks for the hangers are attached to the racks with this same uniform spacing. This allows a free interchange on the racks of all monoliths collected so that any desired arrangement may be easily attained. Profiles prepared in this manner are easily incorporated into educational exhibits. The hanger hooks are quickly attached to any type of framework or exhibit backboard, allowing rapid and easy installation of the profiles. This also provides a sturdy support for the monoliths. Once the hooks are installed, profiles may be freely interchanged to illustrate such relationships of soil development as drainage, parent material, vegetative cover, and topography.

The use of the screen hangers with a portable rack (Fig. 1) has proven to be a convenient method for transporting soil profiles and offers an excellent method for displaying them during classroom lectures. This rack is constructed of finished white pine 2 by 4 inches. It is 76 inches long and 60 inches high. The leg bases are 24 inches long with two casters for each base. The diagonal brace wires with turnbuckles give added support to the rack. Three-eighths inch carriage bolts with wing nuts are used throughout for ease in disassembling when necessary. Six profiles may be placed on each side, giving a total of 12 monoliths that can be used on the rack at one time.

A wall rack is installed in one of the student laboratories for keeping the soil monoliths on permanent display when they are not in use elsewhere. Metal holders 2 inches wide and 8 inches long are attached to both types of racks to hold the identifying name card for each profile.

The use of screen hangers has done much to increase the utilization of soil monoliths in the classroom and in extension work. — J. Q. Lynd, Michigan State College, East Lansing, Mich.

EFFECTS OF AN AZOBENZENE PRODUCT ON SORGHUMS

AZOBENZENE products have been shown to be very efficient in red spider control in the greenhouse. However, use of one form of the chemical in experimental work at Kansas State College suggests that in addition to red spider control it has other effects that are deleterious to certain plants.

The effect of the azobenzene on the true sorghums was particularly striking. A water soaked appearance of almost all the leaves appeared the next day. The effects of the chemical thus started in just a few hours, and the leaves dried up and were almost completely dead in a few days. Few plants were killed, as only the older leaves were completely killed, while the younger, partially uncurled leaves were affected less