AN ECONOMICAL "GO-CART" FOR A NEUTRON PROBE AND SCALER

One of the operational shortcomings of the neutron scattering technique for soil moisture measurement is the weight of the equipment required for this technique. Commercially available equipment consists of a neutron probe and a portable scaler, each weighing approximately 30 pounds, and interconnected by means of a cable 15 to 25 feet long. Although it is possible for one person to transport and operate the equipment, two or more persons are required in order to most efficiently execute a modest program of soil moisture measurements involving several sites within a given general area. This note describes an economically constructed cart designed so that the probe and scaler may be transported and operated without difficulty by one person.

The basic framework of the cart, as illustrated in figure 1, is a commercially available outboard motor carrier (approximate cost, $15). A shelf, constructed of 1/8-inch sheet steel was bolted to the motor mounting board, B, to support the probe. A slot, C, 2 inches wide and 4 inches deep, was cut into this shelf to permit the tube guide of the probe to be inserted. During field transport, the probe is held in place by means of a web strap, D, attached to the supporting members of the shelf. To the base of the carrier were bolted two pieces of 1/4-inch angle iron, E, to support the scaler. The scaler is held rigid by means of web straps, F, passing through the scale support handles, and around the carrier base. The cart comes equipped with 9-inch diameter, rubber-tire wheels spaced 18 inches apart. To facilitate the use of the cart on walks which are generally less than 18 inches wide, supplementary wheels, G, 6 inches in diameter, spaced 6 inches apart were installed.

The use of this cart eliminates the necessity of disconnecting the probe from the scaler at any time. The cable is wound around the handles of the scale and shield counts may be taken on the cart either at the sampling site, or while moving from one site to another.

The total cost of the complete go-cart was less than $25.—M. AMEMIYA and L. N. NAMKEN, Soil Scientists, ARS, USDA, Ames, Iowa, and Weslaco, Tex., respectively.