it with a short nipple. In field operation the nipple slips over the end of the 3/8-inch piezometer which extends above the surface of the ground. This holds the probe in an upright position allowing the operator freedom of both hands.

Fig. 2 illustrates the electrical circuit on the lower side of the plywood square. A 33-volt hearing-aid battery a is connected to the milliammeter c and to the bolt e which holds the reel on the board. The other side of the milliammeter is connected through a limiting resistor b to the collar which holds the pipe to the board.

In practice the equipment is set on a 3/8-inch piezometer, and the wire is lowered either by the reel or by hand until the milliammeter registers. The distance to the water table is then read from the graduated wire. The probe cost less than $10.00 for materials and took about three hours to make.—James N. Luthin, formerly Iowa State College, Ames, Iowa, now University of California, Davis, Calif.

References


Natural Re seeding of Bahia Grass After a Sod is Plowed

Several observations on the reseeding of Bahia grass, *Paspalum notatum* Flugge, following the plowing and disk ing of well-established sods have been made on Soil Conservation Service nurseries in the Southeastern United States.

At Americus, Ga., in two instances, a full stand of Pensacola Bahia seedlings appeared when an old sod was plowed in winter, disked well, and sowed to other sod crops in early spring.

At Americus, Ga., and Rock Hill, S. C., in two instances about 20% full stand of seedlings appeared after fall plowing, disk ing, and production of a cultivated row crop the following summer.

At the same two locations and also at Thorsby, Ala., in four instances, about 5% full stand of seedlings appeared after fall or winter plowing and disk ing followed by cultivated row crops for two successive summers.

Results were similar with the three narrow leaf Bahias, Pensacola, Wilmington, and Texas.

Apparently most the viable seed of narrowleaf Bahia grass germinate after exposure to moisture and cold of one winter in the central part of the Southeastern United States, but a few remain ungerminated after an exposure of two winters.—Paul Tabor, U. S. Soil Conservation Service, Spartanburg, S. C.

Depth of Ladino Roots, Trifolium Repens Latum

Ladino roots three years of age reached a depth of 5 feet on the University of Illinois Agronomy Farm at Urbana, July 11, 1949. Both the tap roots and the fibrous roots usually attained a depth of at least four feet. In a few instances dead tap roots were found. There were very few lateral roots over 2 inches in length below the upper 8 to 12 inches of soil. Nodulation occurred throughout the length of the roots. The level of the water table was also at a depth of 5 feet.

The soil type in which the bisected study was made is known as Brenton silt loam. It is a black soil and very permeable.—Gausman, H. W., and Fuelleman, R. F., University of Illinois, Urbana, Ill.

Injury and Shattering of Winter Wheat Treated with 2,4-D

The first reports that 2,4-D, when sprayed on growing cereal grains, caused any perceptible injury were presented during the second annual meeting of the Central State Weed Conference at St. Paul in 1945. The reports varied from no apparent injury to large decreases in yield.

Klingman in 1947 treated weed-free spring wheat with various concentrations of 2,4-D at different stages of growth. In all comparative cases 2,4-D depressed the yield, and growth abnormalities were evident in the plots that were treated in the early jointing stage.

Other workers have also observed that 2,4-D may have many serious effects on cereal grains. McNeal tells of a decrease in both height and yield in Federation wheat. Erickson, Seely, and Klages indicate that growth regulating substances might alter the wheat plant physiochemically as indicated by the high protein content in wheat treated with 2,4-D.

A recent publication by Schlehuber on the occurrence of supernumerary spikelets and abnormal heads of common wheat, indicates that 2,4-D is not entirely responsible for abnormalities in wheat heads. In Oklahoma, when foundation wheat seed plots were rogued, heads with double spikelets at the nodes were found in