Mowing was only partially effective. None of the Johnson grass plots were burned.

2. Johnson grass seeds deep in the soil were still viable after treatment.

RESIDUAL EFFECT OF THE 2,4-D

From a loam soil that was treated with 20 pounds acid equivalent per acre, soil samples were collected and beans planted to determine the presence of toxic residual 2,4-D. After 8 weeks, only a slight residual effect remained. (Fig. 2). Nearly 10 inches of rain fell in the 8 weeks.—GLENN C. KLINGMAN, Agronomy Department, N. C. State College, Raleigh, N. C. (Presently on leave of absence at Rutgers University, New Brunswick, N. J.)

PACKETING seed in extensive plant breeding and testing programs is time consuming and expensive without the use of mechanical aids.

A simple and inexpensive telescopic cup for packeting soybean seed for yield trials was developed by the U. S. Regional Soybean Laboratory and the Purdue University Agricultural Experiment Station. This device is now used by most soybean breeders in the major soybean producing states.

The cup consists of a base properly machined from a piece of brass rod and four pieces of tight-fitting telescopic brass tubing. The parts of the cup are illustrated in Fig. 1. These consist of:

- one piece brass tubing, 1 inch by 1 3/8 inches outside diameter,
- one piece brass tubing, 1 3/4 inches by 1 3/8 inches outside diameter,
- one piece brass tubing, 1 3/4 inches by 1 1/8 inches outside diameter,
- one piece brass tubing, 2 inches by 1 1/8 inches outside diameter,
- one piece brass rod, 3/4 inch by 1 1/8 inches outside diameter.

The brass tubing used in this cup has a wall thickness of 0.030 inches.

The upper part of the side wall of the brass rod is decreased sufficiently in diameter by machining to allow either piece of 1 3/8 inch brass tubing to fit tightly around it to a depth of 3/4 inch. The remainder of the side wall is knurled to permit a firm grasp when adjusting the cup or when removing the base. The inside of the bottom side of the base is hollowed to decrease its weight.

Approximately equal numbers of seed of a variety may be placed in each packet by counting the seed for the first packet with the counting board shown in Fig. 2 and adjusting the cup to proper height. The tight fit of the tubing and accumulation of dust particles keep the tubing in proper position. The several sections of the cup permit a wide range in the number of seeds to be placed in a packet.

Deviation from the desired number of seeds per packet has been found to be very small when the cup is refilled to the same fullness.

A cup of this type, with a properly selected diameter, should be useful for packeting numerous types of seed, or for other measuring purposes.

The author wishes to express his appreciation to A. I. May, instrument maker and research advisor, Purdue University Physics Department, for ideas and suggestions made by him in the construction of the original cup.—A. H. PROBST, associate agronomist, U. S. Regional Soybean Laboratory, Division of Forage Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, U. S. Department of Agriculture, and Purdue University Agricultural Experiment Station, Lafayette, Ind., cooperating.

FIG. 2.—A soybean counting board and an assembled telescopic cup. The board is made of walnut lumber which measures 5 3/4 by 5 1/4 by 7 inches. The holes were reamed out and are 3 1/4 inch in diameter across the top. They are 3/8 inch apart vertically and 3/8 inch apart horizontally. The board was developed by Claude Greenham, a former employee of the Purdue Agricultural Experiment Station.

Published December, 1949