cell. This method is not applicable to the small quantities of seed ordinarily required unless the normal cross-section of the seed cells are reduced. All cells in the Texas hoppers have the same dimensions which are 23/8 by 3 by 191/2 inches. These dimensions are based on the volumes of fertilizer ordinarily required per plot length. They are the same for each cell so that any one cell can be used for any purpose. The cross-section of any cell can be reduced readily by the temporary use of appropriate size and shape blocks. Then the leveling method can be used satisfactorily for moderate size lots of seed. One type of block used at Temple is illustrated in Figs. 1B, 2A, 3A, and 3B. Other types of blocks may be used to reduce the length of the cells temporarily for planting very short rows. Blocks were used for this purpose in servicing the 5-foot barley plots previously mentioned.

Sprinkling the seed or fertilizer over the bottom of the cell can be used with reasonable success when the volumes required are too small to permit using the leveling method. This method is most satisfactory when close spacing in the soil is required and high tray speeds are used. Under such conditions, minor irregularities in distribution of fertilizer or seed in the cell are not critical. This was the method used most extensively in planting the small grain and clover nurseries at Temple. — H. E. Rea, E. N. Stiver, and J. R. Johnston, respectively, Associate Professor of Agronomy, Texas Agricultural Experiment Station, College Sta-

tion, Tex., Associate Agronomist, Substation No. 5, Temple, Tex., and Superintendent, Substation No. 5, Temple, Tex.

Literature Cited

INJURY TO SEED CORN FROM VAPORS OF TCA

Several hundred acres of corn were observed in June 1950 in Larue and Nelson counties in Kentucky which had poor stands and abnormal plants. The fields were all planted with Ky103 hybrid from one source. The seed field had been treated the year previous both pre-emergence and post-emergence with 2,4-D, and it was at first suspected that the injury resulted from this treatment. It was later learned that 50 bushels of seed used in making up a 300-bushel lot had been exposed to vapors of sodium trichloroacetic acid (TCA), a weed control chemical. The TCA container had been placed too near the furnace, became overheated, and vaporized. The owner at first feared reduction in germination of the seed but finding the germination to remain at 96% had composited the 50 bushels exposed to TCA vapors with approximately 250 bushels of the same lot stored away from the warehouse.

The fields in question ranged from 40% to 60% stands and had approximately 20% abnormal plants. Seed from the same source grown in sand and field soil in the greenhouse showed 92% germination and emergence and 30% abnormal plants. In a field test at Lexington 92% germination and 75% emergence was obtained with 30% of the emerged plants being abnormal. Twenty-seven per cent of the abnormal plants recovered to produce mature plants. The 17% of the seed which germinated but failed to emerge showed symptoms of injury which caused the seedlings to die before emerging.

Seed of Ky103 and US13 hybrids was exposed to vapors of TCA by placing the seed on a screen at the top of a glass column and blowing the vapors from heated 60% sodium TCA through the column. The seed was placed an inch deep in sand in the greenhouse and watered liberally to hasten germination. Plantings