

## EXPERIMENTAL PROCEDURE

### Primary Evaluation Trials

During the summers of 1956, 1957, and 1958, soybeans were grown in five primary evaluation or screening trials for the purpose of selecting the more promising herbicides among the several being offered by the chemical industry. These experiments are listed in Table 1 along with planting and treatment dates and the total numbers of chemicals and individual treatments included in each test.

TABLE 1.—PRIMARY EVALUATION TRIALS USED TO SCREEN HERBICIDES APPLIED PRE-EMERGENT TO SOYBEANS ON ORGANIC SOIL.

Experiment No.	Date Planted	Date Treated	No. of Chemicals	No. of Treatments*
56-1	June 19, 1956	June 22	15	30
56-2	July 13, 1956	July 13	15	41
56-3	Sept. 26, 1956	Sept. 27-28	17	34
57-1	May 7, 1957	May 8-9	15	34
58-1	May 22, 1958	May 22-23	23	50

\* Number of treatments excludes the untreated check plots which were interspersed repeatedly among the treatment plots of these trials.

For each of these trials, the beans were planted in single unreplicated rows, usually adjacent to other agronomic or vegetable crops. The plots were defined by crossing the crop rows at right angles with the herbicide strips. In all cases, the chemicals were dissolved, emulsified, or suspended in water and sprayed over the soil surface after planting and before emergence of both the soybeans and the weeds. During 1956, the 5-foot wide plots were treated using a three-nozzle hand sprayer. A tractor-mounted herbicide sprayer was used subsequently. The tractor wheels, 6 feet apart, marked the plot boundaries. In all cases, the sprays were applied broadcast, using flat-fan weed control nozzles spaced 10 inches apart. Generally, untreated check plots were located after every second chemical plot. Since this placed each treatment either adjacent to or near a weedy check, accurate comparisons were feasible. This also made it possible to readily ascertain variations in the natural weed populations of the experimental fields.

Eleven different varieties were planted and treated in the first two tests in 1956, but due to poor seed quality, data were