

used in 1957 proved to be unnecessary, two low rates of each chemical were selected for this second trial. CDAA and CDEC at 4 and 6 pounds per acre and EPTC at 8 and 12 pounds all gave excellent weed control, in some cases surpassing that secured by hoeing and cultivating. With both 8 and 12 pounds of PCP, however, observed weed control, especially of grasses, was poorer than that obtained in the other treatment plots or the cultivated checks. The soybean plants tolerated all herbicide treatments used in this experiment without showing visible symptoms of chemical injury. Again, as in the first trial, yields in 1958 did not reflect any effects attributable to herbicide treatments.

Further studies with PCP are not warranted at the present time, although it performed well in several tests. Since it is not superior to CDAA and CDEC, which are already registered and available to growers, there is little justification for additional development costs for toxicity tests and needed formulation improvement. Also, there is little commercial interest in this herbicide, due to a lack of adequate patent controls.

EPTC applied as a surface spray gave excellent weed control without harming soybeans. Considering present costs for the rates required on organic soil, this chemical does not compete favorably with CDEC or CDAA. Also, difficulty has appeared at other locations where the use of EPTC has resulted in weed control failures or crop injury. Soil moisture at the time of application appears to be an influencing factor. Further studies involving lower rates of EPTC incorporated into the surface soil are planned. At present, EPTC is not registered with the U. S. Department of Agriculture for use on soybeans.

This leaves two herbicides of proven value selected among the 25 evaluated for pre-emergence control of annual weeds in soybeans on central Florida organic soils. These chemicals, CDAA and CDEC, have given excellent weed control at rates from 4 to 6 pounds per acre and were used safely on soybeans at 8 or more pounds. At the lower rates, CDAA was found to be slightly more effective against grasses than CDEC. The latter, on the other hand, gave slightly superior control of broadleaf weeds than did CDAA. Both have been approved by the Food and Drug Administration and are registered by the U. S. Department of Agriculture for grower use on soybeans. Each is available in both emulsifiable concentrate and granular formulations, under the proprietary names "Randox" and "Vegadex" for CDAA and CDEC, respectively. Confirming the experimen-