

# PLANTED CELERY

## In Northern California

Chemical weed control methods now under development promise substantial savings in the million dollar weed bill of the growers of transplanted celery in California. The general method of weed control in the coastal counties is still cultivation and hand weeding.

During the spring and summer of 1958 and of 1959, 11 different herbicides were tested in eight experiments in commercial celery fields in San Luis Obispo, Santa Clara, and San Joaquin counties. Field rows were treated either shortly before transplanting the celery or about three weeks after transplanting. All treatments were applied directly over the beds. Plots—in randomized blocks—varied from 25' to 100' long, were one bed wide, and were replicated four times in most trials. The rate of application was on the basis of active ingredients and actual area covered.

### Pre-transplant Trials

Seven of the 11 herbicides were used in a pre-transplant experiment in San Luis Obispo County in 1958. The predominant weeds were small nettle, pigweed, and nightshade.

Weed control was 90% or higher with CDEC, CIPC, and neburon at eight pounds per acre and with simazine at one pound per acre. Weed control was not satisfactory with CDAA, EPTC, or IPC at any rate tested, up to 16 pounds per acre.

Simazine caused some injury to the celery crop, even at one pound per acre, and at two and four pounds the damage was severe. None of the other six herbicides caused any marked symptoms of damage, up to 16 pounds per acre.

The 1959 pre-transplant experiment in San Luis Obispo County tested five herbicides, four of which had given good weed control in 1958. The predominant weeds were mallow, pigweed, and lamb's-quarters.

Celery yields were significantly reduced by CDEC and CIPC at eight but not at six pounds per acre, and by simazine at one-half pound per acre—the only rate tested. Yields were not reduced at all by neburon up to six pounds or by Zytron—M-1329—up to 32 pounds per acre.

Weed control was not satisfactory with any of the five treatments. The failure to approach the 1958 weed control might be related to the critical interval of one week after application before transplanting and irrigation. In 1958, all the operations were completed the same day.

### Post-transplant Trial

Another selection of five herbicides was tested in a post-transplant experiment in San Luis Obispo County in 1959. Weed species were mallow, pigweed, and lamb's-quarters.

Weed control was greater than 90% with CIPC at six pounds per acre plus

CIPC at two-eight pounds per acre plus stoddard solvent; and CDEC at four-eight pounds per acre also with the solvent.

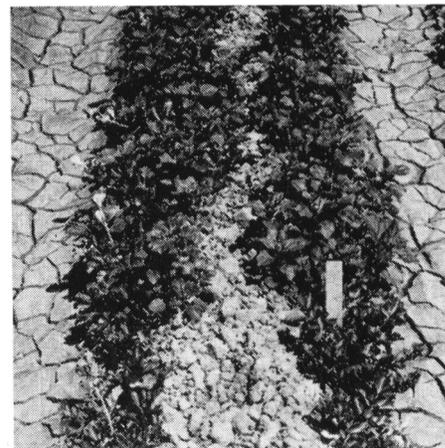
### Plant Injury

However, celery yields indicated that greater injury was caused by the post-planting than by the pre-planting treatments, except in the CDEC plots. In fact, pre-planting treatments with neburon gave higher yields than the control plots. Yields from the post-planting neburon

treatments were not significantly reduced, but tended to decrease at the higher rates of application.

### Yields

In early trials, no injury to the celery was observed following post-planting application of CIPC at rates up to six pounds, plus solvent. However, in 1959, the yield of celery from plots treated with CIPC plus stoddard solvent was significantly reduced at the 8-pound rate in the pre-planting treatments and at all



Weed control in transplanted celery in Santa Clara County, by Dicryl applied three weeks after transplanting. Treated area in foreground, untreated area in background.

20 gallons of selective oil, and with Dicryl—N-4556—and Karsil—N-4562—at 1.5 pounds per acre. These three treatments did not reduce crop yield or vigor. Weed control was only 87% with neburon at six pounds per acre—the highest rate tested—while four pounds per acre caused significant reduction of yield. Simazine at one-half pound per acre did not reduce yield but gave only 33% weed control.

The usefulness of Karsil and Dicryl for post-transplant weed control was confirmed in Santa Clara County, and promising results were obtained there with another herbicide, CP-10543.

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rates—from two to eight pounds per acre—in the post-planting treatments.

Celery yields following CDEC were not significantly different from yields in the control plots in either the pre- or the post-planting treatments.

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