

## SUGAR BEET WEED CONTROL IN CENTRAL ARIZONA

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Many sugar beet growers use few if any herbicides for weed control. Their program may be 10 cultivations, 2 hand weedings and precision stalk chopping. This is an expensive weed control program.

### Row Spacing

Weeds can be controlled in single row beets more consistently than they can in double row beets. Cultivation, herbicide applications, and control of salt are usually more easily managed.

### Combinations

In most beet fields more than one herbicide will be required to control weeds season long. The selection of the proper herbicide will be dependent upon individual field situations. There is no single all-purpose program suitable for use on every field.

### PREPLANT APPLICATIONS

#### Ro-Neet 1 or 2 lb/A

Use only where stand establishment is not expected to be a problem. Ro-Neet plus excessive salt or poor water control will result in a poor stand. Over the bed incorporation has been most effective, but good equipment has not been available. Ro-Neet can also be disced in prior to bedding. Apply crossways to the rows. Ro-Neet has been used with the most consistent results in single row beets. This treatment is for the control of annual summer weeds. Ro-Neet is most effective for beets planted in August or September when summer annual weeds emerge with the crop. Ro-Neet preplant will help increase the effectiveness of early postemergence applications of

Betanal, (Betanex) or Pyramin. It will reduce the rate of growth of annual weeds emerging with the stand. Ro-Neet may also decrease the tolerance of beets to subsequent applications of Betanal or any other postemergence herbicide.

#### Chem Hoe 3 to 6 lb/A

Chem Hoe will control annual winter grass weeds including small grains (wheat, barley, and oats). It works best on small grains if applied pre-emergence to the weeds. It has a short residual life, particularly when temperatures are hot (September). Propham can replace Ro-Neet for late season plantings. Some questions remain concerning the most practical way to apply Chem Hoe preemergence to the weeds during this time. There are two proposed methods:

##### 1. Preplant Incorporated

- A. On flat disc in, bed up. 3 to 4 lb/A. There may be a delay between applications of the herbicide and the germination irrigation. Much of the Chem Hoe can be lost.
- B. Over bed incorporated, prior to planting. This may give only partial control of small grain, particularly wheat. Not many farmers are equipped to apply this way.

##### 2. In Furrow Treatment

Applied prior to germination irrigation or first postemergence irrigation. Apply 4 to 6 lb/A in furrow up to water level. The herbicide will be lost rapidly if irrigation does not follow immediately. The herbicide might be stabilized for a short time by using a shovel to cover herbicide following application.

Chem Hoe has also been effectively used as an in-furrow treatment shortly after or before emergence of canarygrass. It is less effective used in this manner for control of small grain. The principal problem here can be timing. Wet fields, due to irrigation or rainfall may delay applications.

## POSTEMERGENCE APPLICATIONS

### Betanal - .5 to 1.5 lb/A

Betanal is very effective for control of most annual broadleaf weeds and less effective for control of pigweed and knotweed. Apply when weeds are small. Sugar beets should have at least two true leaves. Vary application rate with temperature (before, during, and after application), size of weeds, vigor of beets and weeds, and effect of any preplant treatment. Use lower rates when temperatures are high (90<sup>0</sup> F), beets and weeds are small, or if a preplant herbicide has been used. Reports indicate there will be less phytotoxicity to the beets if Betanal is applied after 4 p.m. during the months of September and October.

### Betanex - .75 to 1.4 lb/A

Betanex will control pigweed and knotweed more effectively than Betanal. Betanex may also be more effective for control of sowthistle and prickly lettuce. This herbicide is very similar in performance in all other respects to Betanal and is used in the same manner.

### Pyramin - 3 to 4 lb/A

Pyramin should be applied to the soil after thinning and before new weeds emerge. Pyramin will control many winter annual broadleaf weeds. It is not effective for grass control. Pyramin should not be used preplant or preemergence to the beets. Pyramin is most effectively used when applied to soil after weeds are controlled to prevent new infestations. A combination of Betanal plus Pyramin will control emerged weeds and give residual control. Rainfall following treatment is helpful to increase the activity of Pyramin. Pyramin will give several months control of weeds.

Treflan - .5 lb/A

Treflan is applied to the soil and incorporated by cultivation. It will not control emerged weeds. Treflan is not effective for control of mustard, sowthistle or small grains. It will control canarygrass and many summer annual weeds late in the season. Treflan may persist and effect subsequent susceptible crops. Treflan is most effectively used in spring planted sugar beets.