

## WINTER WEED CONTROL IN THE SACRAMENTO VALLEY

Walter Hart  
Newhall Land and Farming  
Dixon California

Supplying and purchasing clean alfalfa for processing in the dehydrator at Dixon can be both rewarding and challenging. One of the best tools for accomplishing the goal of clean alfalfa is a "Winter Weed Control Program." Even though we no longer grow alfalfa at the Dixon operation, winter weed control is an integral part of our program.

Since most of the growers in the Woodland/Dixon area use the same contact weed-killer method, I shall speak mostly about the program conducted by Newhall Land and Farming Company.

Is being involved in a large scale winter weed program with our growers worth both the time and effort? The answer is "yes." Here are some of the reasons both from the processor's (buyer) and the grower's (seller) standpoint.

Years before the rest of the industry recognized the need for shorter cutting schedules and clean fields to maintain quality, dehydrators in California were practicing these methods in order to supply the high level of protein, carotene and xanthophyll demanded by the poultry industry.

In recent years a completely new factor has come along to join quality as a factor in demanding clean hay for our dehydrators. Air pollution requirements must now be met. Smoke level can be complied with if quality, weed-free alfalfa is processed. Steam plume can be maintained and smoke and particulate levels reduced with good clean alfalfa. Without a winter weed program it would be impossible to comply with government standards on air pollution.

Newhall has been fortunate to work with excellent, progressive growers. These growers have been quick to recognize the advantages of a winter weed control program. These growers have accepted the disadvantages of compaction and additional cost in favor of these advantages

- |                   |                                       |
|-------------------|---------------------------------------|
| Additional yields | 3. Additional stand life              |
| 2 Higher quality  | 4. Reduction of weeds in future crops |

Additional Yields: One would only have to check skips, corners, or other areas that have been missed to see a difference between treated and untreated areas. Our records show an average yield increase of one-half to three-quarters of a ton per acre for the season. Newhall has also worked with Dr. Norris of the University of California at Davis on several large size, replicated plots on different weed control methods. The results of these tests have been given at an earlier alfalfa symposium.\* One must add a word of caution when evaluating yield data. The whole season must be taken into account, not just the first cutting. The untreated area of the first cutting will almost always out-yield the treated area because of the additional weeds present. As the season progresses the tide will turn in favor of the treated areas. Weed competition will soon take its toll on the untreated areas, and show a marked reduction in yields. It has been my personal observation that the forcing of the alfalfa into a complete dormancy by the weed oil, makes the alfalfa much more vigorous in the early spring. It takes several weeks before untreated alfalfa will catch up with the treated areas.

Quality: We have an extensive testing program in all our dehydrating plants. Each cutting of each field is tested for proteins and xanthophyll in our own labs. With hundreds of tests that we have run, one can guarantee that as the weeds increase, and as the weeds mature, the quality will decrease.

Stand Life: Many a time an extra year of production has been possible from a particular stand by controlling the competition from weeds through our winter weed control program.

Reduction of Weeds in Future Crops: It has been our experience that the germinating of many weeds such as mustard, wild oats, pig weed, lambs quarter and many others, and the consequential killing of these weeds before maturity, has been very instrumental in reducing the number of weeds the grower has had to fight in later crops.

\* See the 1971 and 1972 California Alfalfa Symposium Proceedings.

### Disadvantages

Additional Costs: It is true that a winter weed control program does increase the cost to the grower. Our weed control program costs about \$18.53 per acre. If an additional half ton of yield can be expected, the additional costs are more than offset by the additional tonnage.

Compaction: Because of the necessity of performing this weed control after the winter rains have set in, the extra traffic over the wet ground does cause extra compaction. The use of wide floatation does much to offset this damage to the fields.

### Winter Weed Control Program

Our winter weed control program consists of first inspecting the fields to see what weeds have been germinated by the first winter rains. The kinds of weeds present, the size of the weeds, and the relative number of each kind of weed present are all factors that must be noted in order to decide what rates of material should be used.

Our spray program consists of weed oil, water and dinitro. We have found that the following rates per acre will give an adequate coverage, if the proper nozzles, spacing and boom heights are used:

30 to 40 gallons weed oil  
30 gallons water  
1 quart dinitro

The spray program is done between January 1 and February 10, as the weather permits. Since our cutting schedule starts about the 15th of March, we don't like to go beyond the 10th of February with our spray program. We use two or three A type sprayers with wide floatation tires. One machine is for nursing the other two machines. With this program we can spray from 200 to 750 acres in a 24-hour period.

With this type of spray program an excellent control of most broadleaf weeds present is accomplished. If an adequate coverage of grasses is accomplished then these weeds are usually controlled. Some new germination of grasses can be expected with later spring rains. The increase in vigor and shading from the alfalfa will usually be enough to control these grasses.