

## PROGRESS IN BED PLANTING

James L. Farley  
Farm Advisor  
U.C. Cooperative Extension  
Merced, California

The acreage of alfalfa being grown on beds (also referred to as corrugations) is steadily increasing in certain areas of the Central Valley. As the benefits of this production method are recognized, more growers are willing to plant a field on beds to see how it works for them. We have all seen fields where the plants growing on the borders are vigorous and healthy, while the plants in between the borders are dying or unthrifty. Bed planting is a method of having a field where the entire field is borders!

SOIL PREPARATION -- The key to a successful alfalfa planting on beds is proper preparation of the seedbed. The soil should be well pulverized for ease of bedmaking and to put the alfalfa seed in close contact with the soil.

Several methods to make beds have been tried by growers in this area. The most common method is to use a tool bar with shovels spaced at the desired distance. Most fields in the Merced area have used a 38-inch spacing between shovels. Wider spacings have been used in other areas of the state. However, the narrower spacing seems very suited to this area.

Most growers are following the "furrowing-out" operation with a ring roller to smooth off the tops of the bed. I would suggest that channel iron be mounted between the shovels so that the top of the bed is leveled at the same time as the bed is made, eliminating one trip across the field.

Another method is to use bed shapers. At least one grower has found that a set of otherwise "wornout" bed shapers did an excellent job of making the desired bed -- one which is level across the top, with a furrow which is 4-6 inches deep and about 8 inches across the top.

An absolute must for bed-planted alfalfa is to provide a smooth area at both the head-land and the tail-land in order that the swather can cut the usual two passes at the top and bottom of the field. There also needs to be an area for baling equipment to turn. To not leave a smooth area, results in a teeth-jarring experience for equipment operators, not to mention the wear and tear on machinery.

Short borders at the head end of the field guide the water to the shallow furrows. These borders need to be at least two swather widths wide. A word of caution, one must be careful when pulling the borders up so as to not create a low spot between the borders. Low spots mean standing water and a quick loss of stand in that area.

See Figure 1 for details for laying out the head-lands and tail-lands in bedded fields.

SEEDING -- Seeding is done best by airplane, followed by ring rolling. A Brillion<sup>®</sup> seeder has been used, however, broadcast seeding is more suited to bed plantings.

HARVEST -- Bedded alfalfa offers a big advantage at harvest. The swather can be started in a different location at each harvest. This means that the windrow will not lay in the same spot cutting after cutting, reducing growth in that area.

## ADVANTAGES AND DISADVANTAGES OF BEDPLANTED ALFALFA, AS REPORTED BY GROWERS

### Advantages

- Drainage  
Bedding improves drainage. The raised bed provides an area from which water can drain.
- Irrigation.  
Fall or spring plantings can be "irrigated up" with fewer problems of crusting
- Fertilization.  
Allows injection of fertilizer in the furrow without severe destruction of the stand.  
Faster Curing.  
Air movement through the furrow allows faster curing.  
Reduced Compaction and Crown Damage.  
Adjustment of the swather path reduces repeated travel in the same area. If all wheels can be run in the furrows, crown damage can be reduced.

### Disadvantages or Possible Problems

- Loss of Effective Producing Area.  
It is possible that there may be a reduction of plant population in the furrow area  
However, reduction of yield has not been noted.  
Loss of Water Control.  
Proper land leveling and adequate furrows reduce this problem. Fields with enough side fall to cause problems with lateral water movement may need a full border through the field at the necessary interval for water control.  
Cleaning out the furrow with a sweep may be necessary for water movement down the field
- Weed Control.  
Weed control problems in the furrow are a potential hazard, especially when the soil is disturbed when furrows are cleaned. Water runs of Eptam<sup>®</sup> during the summer help to alleviate this problem and keep the entire field clean.
- Bed Width Decision.  
The width of the bed is critical. If the bed is too wide, the center will not be adequately wetted. If too narrow, weed control and other problems can be increased. Bed width must be determined by trial and error. However, widths of 30 to 40 inches have worked very well in Merced County.
- Harvest Problems.  
Equipment must move parallel to the furrows during harvest. This poses the greatest problem for bale pickup machines, since it is not possible to move diagonally across the field to pick up stray bales. Growers report few, if any, problems with bales tipping over due to the furrows.

Figure 1a

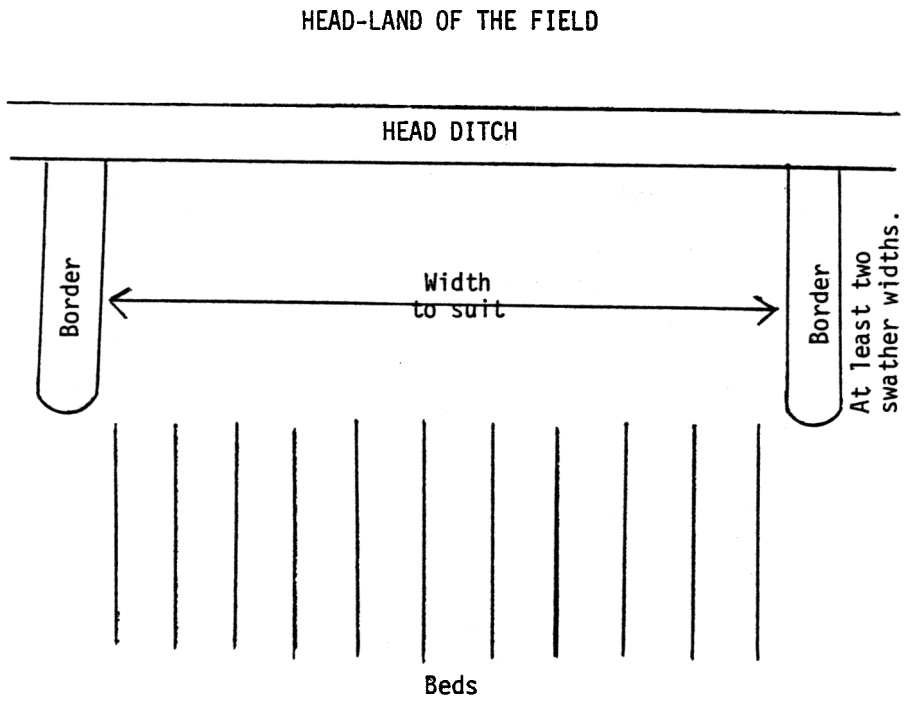


Figure 1b

