

## GROWING ALFALFA ON HEAVY CLAY SOIL WITH BEDS

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### INTRODUCTION

Growing alfalfa on beds of heavier clay soils has been taking place in the Imperial Valley for several years longer than my father or I have been growing it. The first farm we saw to go to hay on beds, was the Taylor's in the North-End of the valley. We watched as their yields and stand life increased on heavier ground with higher than desirable EC. They grew their alfalfa on 40-inch beds with one line on each side of the bed. Sometime later, when we started our farm in the Palo Verde Valley, we used this method because the majority of the ground had been leveled flat. The idea of putting the new hay on beds came up to help prevent scald, aid in weed control and hopes of higher yields. We went to growing alfalfa on six line beds which I favor today. I will now explain our method of planting and harvesting bedded alfalfa.

If you are going to achieve your maximum yield of alfalfa on beds you must first prepare your ground for the best growing conditions possible. Start by making sure the ground is leveled by having it lazed. Then I chisel it twice and flood, making sure that there is plenty of water to settle the ground and completely refill the profile. After allowing enough time for the soil to dry so there will be no compaction, I spread 400-500 lbs of 0-45-0, which I then disc, apply my preplant herbicide and disc again. then float and list the ground.

Planting at a rate of 12-16 lbs of seed on a 40-inch bed, I usually sprinkle up the stand, apply any herbicides as needed and when the crop is mature enough, I proceed to my cutting schedule. I would now like to explain the way the planter is set up and how my harvest equipment has been modified.

My planter is an International Harvest grain drill modified to set on a four row sled planter with shapers. The grain drill has a 6-inch spacing that we move into approximately 4-inch spacing. This allows for four lines to be placed on top of the bed with one line on each side approximately 1 1/2 inch down the side of the shoulder. The lines on the side help hold the hay up out of the furrow which allows air to flow under the windrow and aids in curing and allows a cleaner harvest with less rerakes in following cuttings. The lines in the furrows also help in weed control with added competition. Yet there is still plenty of room between the seed lines on the shoulder so not to restrict the water flow.

I have had good results in running furrow water for germination but it is very important to blacken the beds completely. In blackening the beds, I will push most of the salt to the center of the beds where I may not get the center two lines to germinate; but, I will still achieve a good stand with the remaining four lines. Whenever possible I sprinkle up the hay and very seldom have a stand problem due to salts. This added cost of sprinkling I feel is justifiable with getting a better yield, longer stand life and better weed control.

### HARVEST

I have modified most of my equipment with the exception of the windrows to run in the furrows. What this entailed was as easy as setting my rake tractor on 80-inch wheel spacing and using a wheel rake mounted on a three-point hitch. The baler tractor is also set on 80 inches and straddles the windrow. To do this, the baler tongue was changed so the baler follows behind the tractor. The baler can either have its tires set on 80 inches or 120 inches. I recommend 120 inches in that the cost is greatly reduced in the modification. The bale chute also has to be moved over to drop the bale on top of the bed. The harrowbed is relatively easy to change by moving the rear tires out 2 inches on each side and having the driver run the opposite direction that the baler ran, this will put the harrowbed in the same furrows as the baler tractor ran in while picking up the bales.

#### ADVANTAGES

1. You can keep the alfalfa crowns out of the water, which helps prevent scald and crown disease.
2. You can apply more water through the summer season which helps achieve better and quicker regrowth.
3. In fields with high water table problems, it allows for better draining and reduces chance of scald.
4. Higher stand population on saltier fields which returns greater yields, longer stand life and better weed control.
5. Allows you to grow alfalfa on fields with steep side fall without the use of side fall borders.

#### DISADVANTAGES

1. More cost in preparing and planting hay on beds.
2. Higher equipment cost because of modifications.
3. Higher harvest cost with the need to take down the ends of the fields before harvest and replace them before watering back.
4. Higher weed control cost if cultivation is needed.
5. Higher insect control cost.

In conclusion, I feel the added yield and stand life more than off-sets the disadvantages I have mentioned, especially on ground that is on the heavier or saltier side.