LAND PREPARATION -A GROWERS VIEW.

BY John Pickering.

We found in 1969, that it was possible to grow 3 bales of cotton per. acre, in the Callide Valley.That year we grew 40 acres, and averaged 3 bales per. acre. Our farm, like many others in the Callide Valley, has a variety of soil types, ranging from Blue Gum flats, through the higher clay content Box tree flats,to a low broad-leaf Iron Bark ridge. All this is loosely called alluvial soil.

On many occasions, we saw some parts of our farm, produce this 3 bale yield, but not over a whole field. One corner ,or one side, or a top or bottom end, but not all over. There is not good value in growing 3 bales in one corner and 1.5 in the other. There seemed to be no distinct pattern of where these best yields would occur. We tried many different practices including chisel plowing, ripping, and jumbo-busting, but the variation still remained. By 1981 we had a five year average yield of 1.8 bales/acre.

In 1982 we bought our Tortilla Spadevator, and used it to dig our field to a depth of 14 inches, over the whole cotton area. Spadevators come in several sizes. Ours is 3 metres in width. They are also made in 3.5 M and 4 M widths. Most are being bought in 4M. with a tool-bar and listers at the back. The field is then spaded, and the beds are re-formed on the same

pass.

The spadevator is an Italian machine, and has the action of a man digging with a garden spade. It works best with ample moisture in the soil. Its' action of having only the end of the spade entering the soil, and the soil breaking back towards the open trench that has just been cut, eliminates the possibility of compaction. The soil is then torn off at the bottom and thrown back against the rake,to break up bigger lumps.

Only two spades are in the soil at any time; one right down, and the next about half way down. I think that is why it's not nearly as heavy to drive as you would expect. We have found it has become progressively easier to drive, each time a field has been worked with it.

One major benefit is the mineralization taking place from all the trash being worked through the whole profile. Our applied nitrogen, has been reduced to 40 units side dress, plus 40 units as a foliar spray. This is maximum. Even less has been used on some fields. The immediate effect was a very obvious reduction in the variability that had been our experience. Every row was uniform in height and yield, from end to end, also row to row. With fine tuning of our water management, variation in yield, from one soil type to another, has also been

minimised.

Yields have improved to average just over 3 bales an acre, over the last three years. For the first time, one field of 30 acres yielded 4 bales/ acre this year.

Our soil preparation now involves slashing, spadevator and Go-devil to bed up. The spadevator completely eliminates hard-pan,and doesn't create a new one at the lower depth. We never cross the field with tractor or implement, so no new compaction takes place. We like to have all bedding up done by late May, or early June. We incorporate treflan with a front pushed tyned implement, and a lilliston at the back. After watering, we till the beds with the front implement, and plant with a nodet planter.

We like no more than 7 to 8 plants to the metre of row. This year we will plant much of the area with 6 plants per. metre. So improved is this preparation, that if we want 6 plants, we plant 6 seeds per.metre.

As well as being better ,it is also much cheaper. In figures prepared by Jim Page, the economist from Biloela D.P.I. Research Station, we find the method we now use costs $93.87 per.HA. The old conventional way, was costing us $158.28 per HA.

In two fields, we leave 30 rows that have never been

spaded. These areas are also bedded up early in the winter, and this has improved the yield over the pre-1982 method of preparation. We have compared the yield on these areas and the rest, for cotton, sorghum and corn. The spaded area has never been less than 10% higher in yield than the non-spaded area.

I believe that more compaction is created by rippers than is eliminated. No matter what the angle of the tyne, if the soil has any moisture in it, then smear compaction on the bottom and sides occurs.