

# **Raised Beds and No-Till**

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## **LOCATION & GENERAL OVERVIEW**

Our family farm is situated 75km north of Albany WA adjoining the SW corner of the Stirling Range National Park. The farm has no livestock and individual trees have been removed along with most fences.

We crop 2800 hectares comprising of wheat, canola, barley, lupins and a few peas. Summer crops are also grown at times. There is no set crop rotation as this changes with weed situations and soil types. Our soil varies dramatically from deep sand, gravel, to almost pottery clay along with our share of rocks (soapstone, ironstone and granite). The topography is slightly undulating to flat. The soil is naturally very poor and tending acidic. This sounds pretty awful but the climate is good, mild with a mainly winter rainfall of 450-500mm.

### **No-Till**

This started about 10 years ago direct from conventional tillage. In that time we have travelled extensively (America, Canada, South Africa, Brazil, Argentina and Paraguay) to study no-till cropping. Disc seeders are used because of rocks and also to minimise soil disturbance. All residue is retained with no burning.

## **RAISED BEDS**

As water logging occurs to some degree most years, raised beds seemed a good option. The conventional machine, a double sided mouldboard type with marker arms and 1.80 metre spacings, was trailed but dislodged copious amounts of rock.

## **PREPARATION, TECHNOLOGY AND DRAINS**

Forward planning is paramount and the first step is to level your ground as best that you can. Fortunately to determine where to construct our main drains D.G.P.S. Topographical survey mapping was available. This proved invaluable especially on very flat country. These drains were then constructed with a laser controlled (for depth and slope) scraper. A flat bottomed drain is best to minimise erosion and allow smoother travel for machinery. All new drains are either parallel to or at right angles to the proposed raised beds.

## **MACHINERY AND AUTO STEER**

To reduce the amount of rock brought to the surface we convinced Gessners to manufacture a disc machine, 3 and 2 halves beds per pass, this machine can be used in tilled, non tilled and renovating beds. At present we have about 600 Hectares under raised beds and that will probably double. The learning curve has been great with a lot of trial and error. The raised beds are now at 2 metre centres, with the introduction of auto steer (beeline) all sowing and raised beds are up and back reducing overlapping. An added bonus with auto steer that we can and do stop and start our raised beds anywhere

In a paddock.

## **SOILS AND SLOPES**

Soils adapt to climate especially rainfall. Our soil is not self mulching soil therefore renovation of beds is minimal. Compaction is also minimal. The raised beds run up and down our slopes without any undue erosion. On the flat country the problem we have is depressions that fill with water. The furrows in our beds alleviate this problem to a large degree.

### **INNOVATION AND SOWING**

A bed leveller has been made using logs and harrows, with the use of Walker Gessner Disc seeder modules including residue managers the shape of the beds is not critical. These modules absorb most of the machines weight when working allowing us to have the wheels of the air seeder on top of the beds. This enabling us to go in and out of beds at anytime.

### **TRIALS AND TRIBULATIONS**

Our search and research is constant, for new ideas to improve our farm with the K.I.S.S.

Principle (Keep it simple Stupid ) foremost in our mind .

Unfortunately our beds and soils were not able to cope with the continuous amount of rain that we have had this year. From 30th March till 30th June 470mm including 125mm in 5 hrs on the 2nd of April.