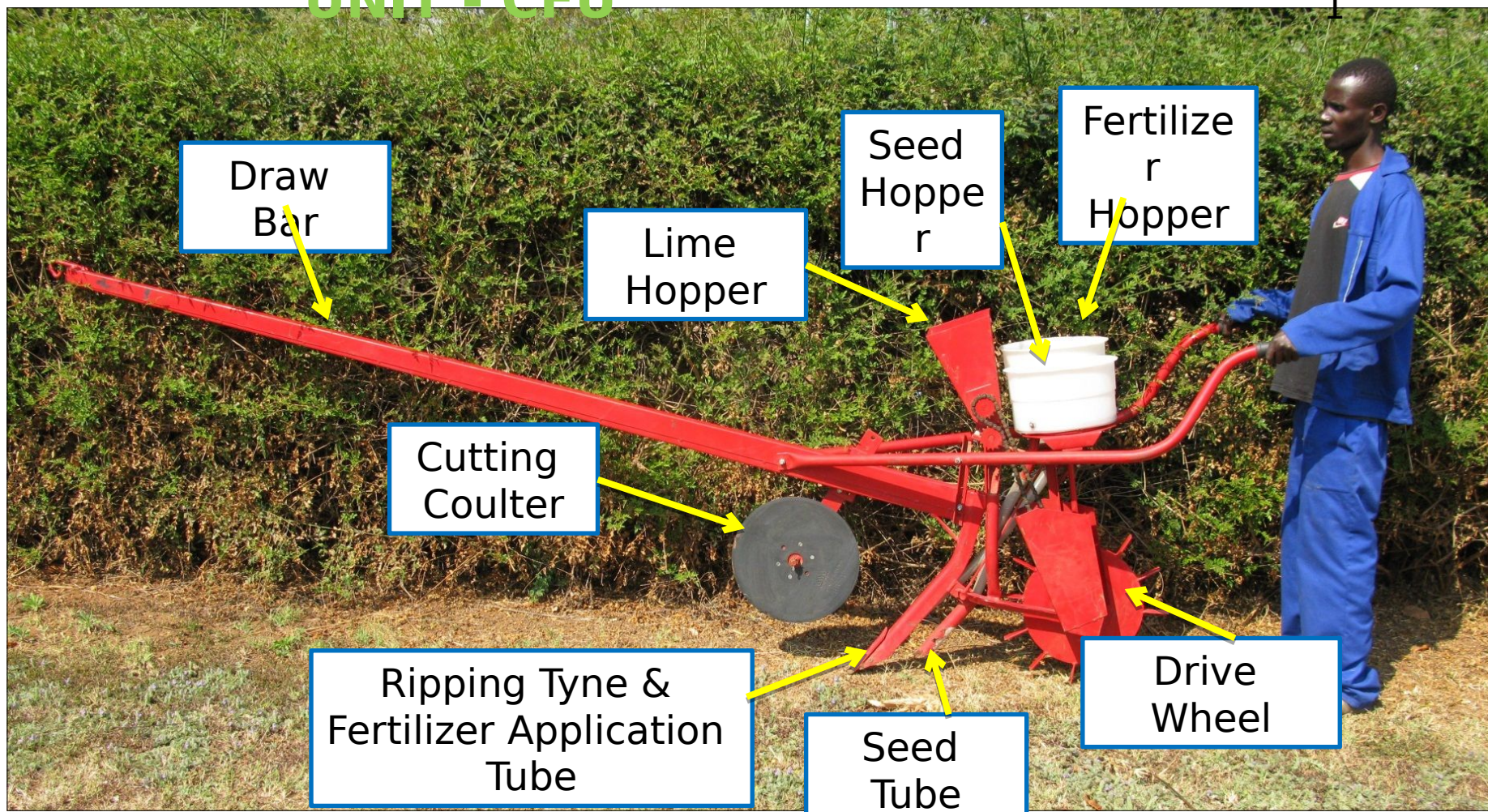


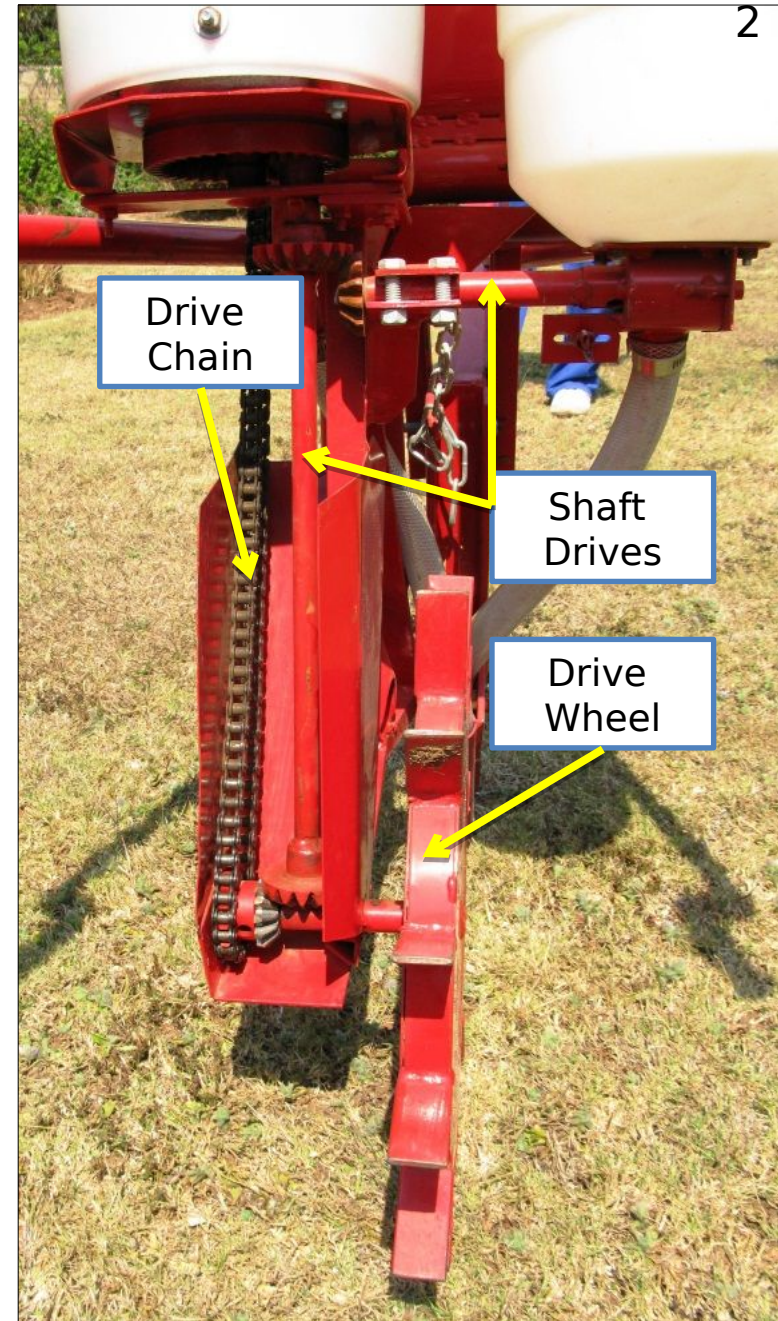
CONSERVATION FARMING UNIT - CFU



The **Werner** Zero Tillage Planter: Guidelines For Use.

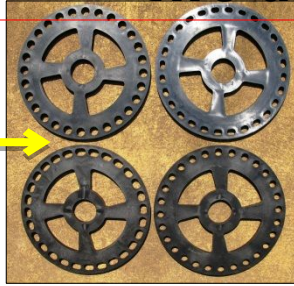
The Werner ox-drawn planter does not require the land to be tilled pre-planting. It does require the use of **glyphosate herbicide** to kill weeds before planting and possibly **a selective herbicide** later in the season. If the soil has a hard pan at the previous ploughing depth, the land should be **ripped with a tractor** to break this. Yields will benefit from ripping every four or five seasons.

The planter will make the seed furrow, place the basal fertilizer and cover, drop the seed, add lime and cover in one operation. All of these actions are driven by the drive wheel which turns the drive chain and the shaft drive when the planter is pulled by the oxen.

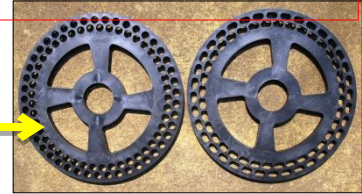


The Werner Planter is supplied with four single seed plates and two double seed plates.

The single seed plates are for the planting of larger seeds of **maize, sugar beans, cotton and sunflower**. **They also have two back plates** supplied with the planter.



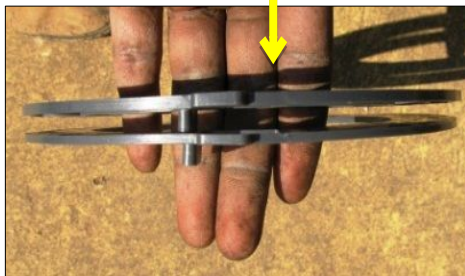
The double seed plates are for the planting of **soya beans, smaller sugar bean and cowpeas.**



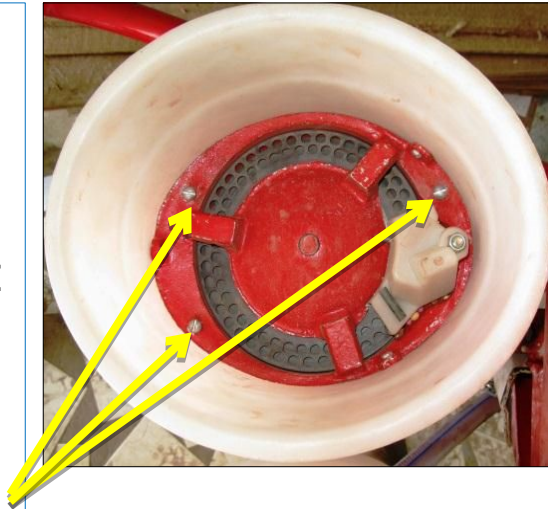
Always use the **3mm** plate for the double row seed plate and the **4mm plate** for the single row seed plate.



The back plates must be fitted with the **flat side up**. The seed plates must also be fitted with **the flat side up**.

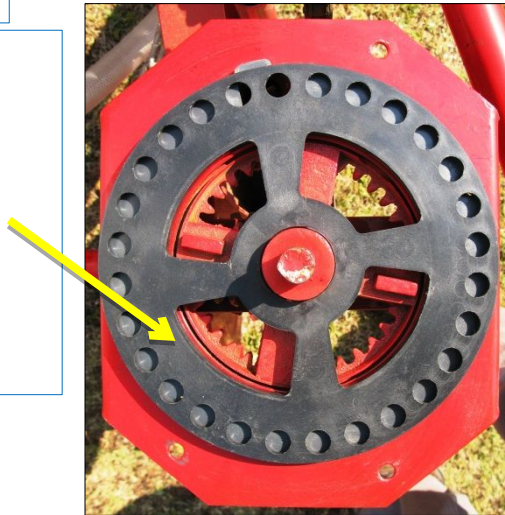


To fit the correct seed plate; first select the seed plate for the type of seed that you are planting, take off the seed hopper by **removing the three retaining screws and bolts.**



Place the **correct back plate for the seed plate you have chosen** on top of the steel base plate, **with the flat side up.**

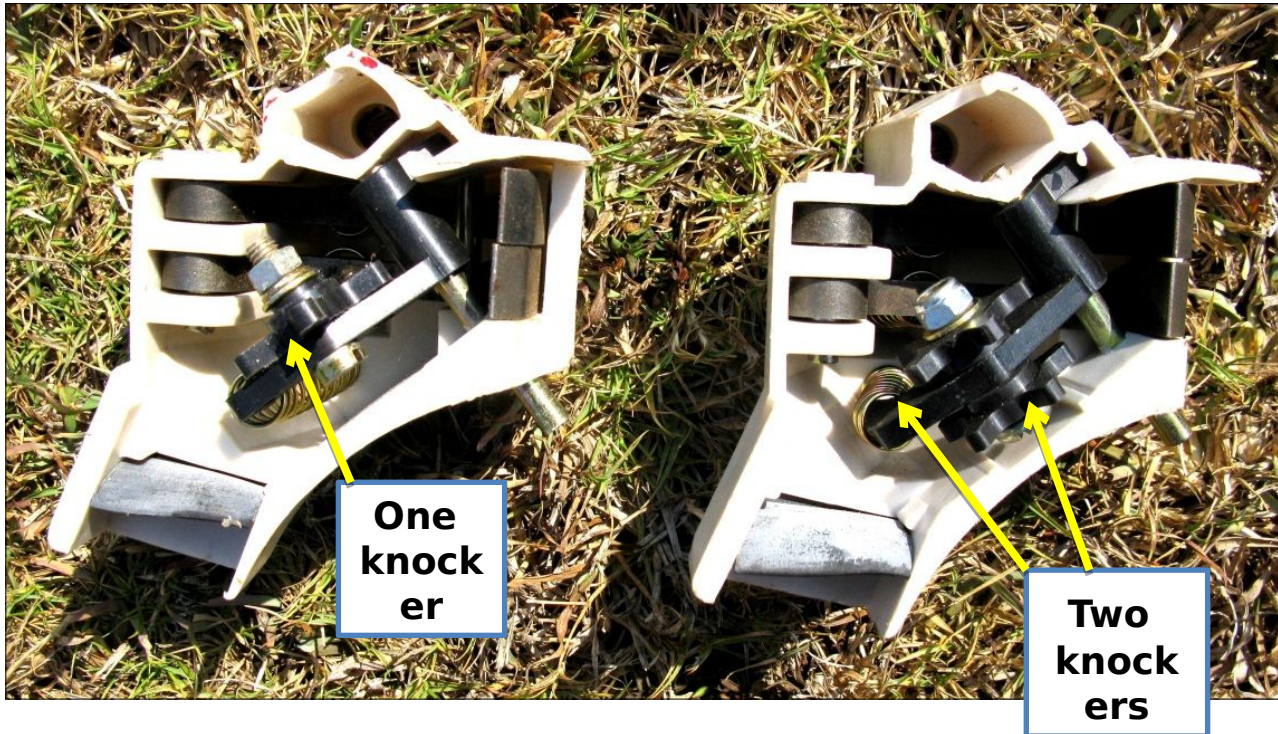
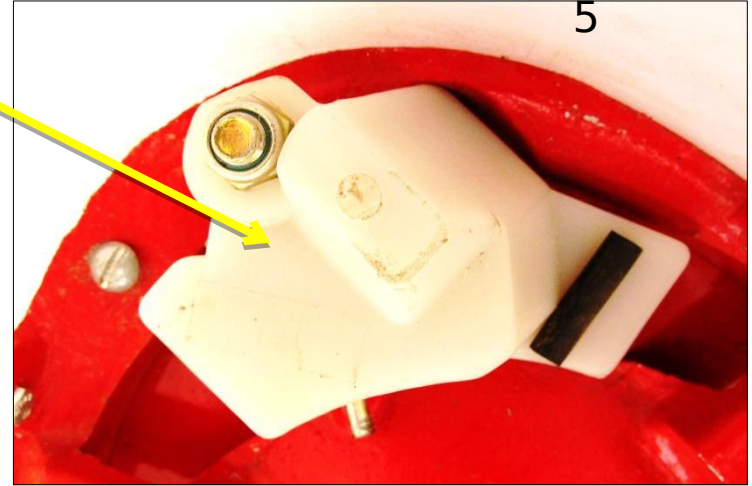
Fit the seed plate **on top of the back plate with the flat side up.**



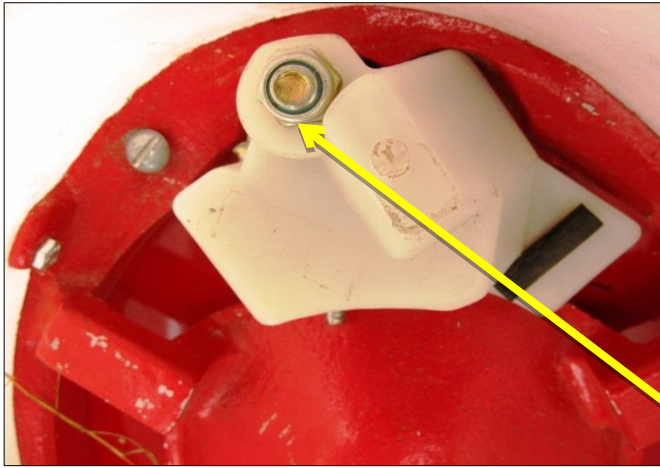
Align the square holes in the back and base plates.



Each Werner planter is supplied with **two** “**knocker boxes**”. This device knocks the seed out of the seed plate into the seed tube.

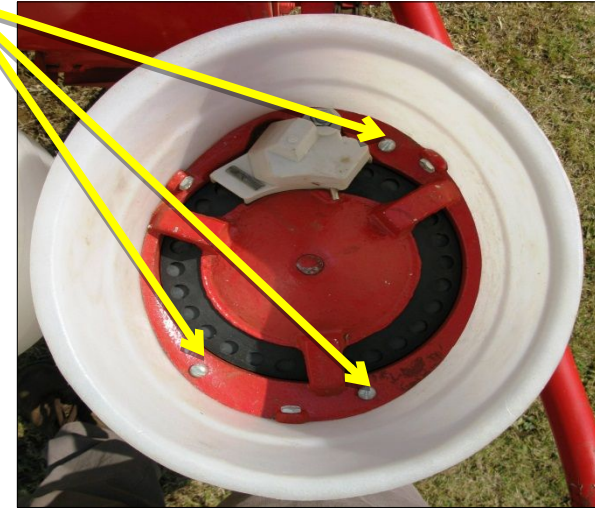


These knocker boxes have either one or two knockers fitted. **One knocker is used for the single row seed plate, two knockers for the two row seed plate.**

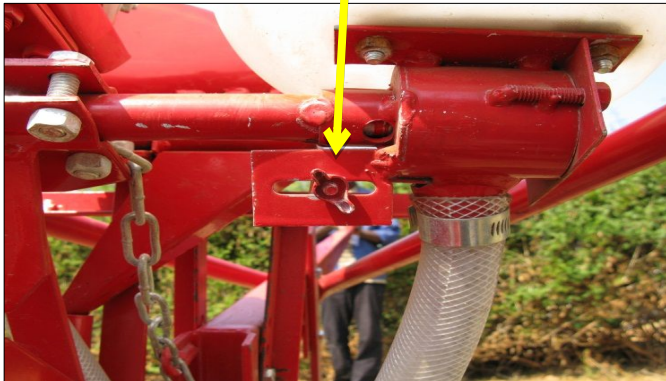


Attach the correct knocker box for the seed plate you are using onto the hopper with this

Replace and tighten the three nuts and bolts to fix the seed hopper to the



You must now calibrate the lime and fertilizer output, we will set this to 200kgs of D compound and 200kgs of lime per hectare
Wing nut adjuster for fertilizer output gate



Wing nut adjuster for lime output.



Use dry, lump – free, D compound.
Like this, **NOT** like this!

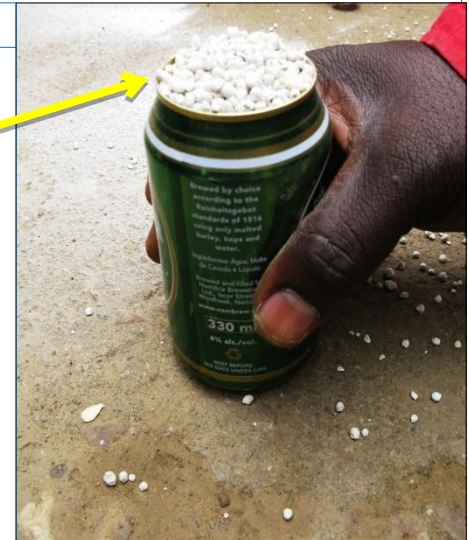


To calibrate the fertilizer output of your machine, first fill the fertilizer hopper with D compound; find an **empty 330ml can (Coke, Sprite, Fanta)** and remove the top from the can. Raise the drive wheel of the planter off the ground remove the fertilizer output tube, hold the can under the fertilizer output tube and turn the wheel until the fertilizer starts to run into the can. Empty the can back into the hopper and you are ready to begin the calibration.



Mark the drive wheel with a marker pen, turn the wheel 15 times with the 330ml can under the

If after 15 turns of the wheel the can is full like this, your planter is calibrated, if not; open or close the output gate and recalibrate



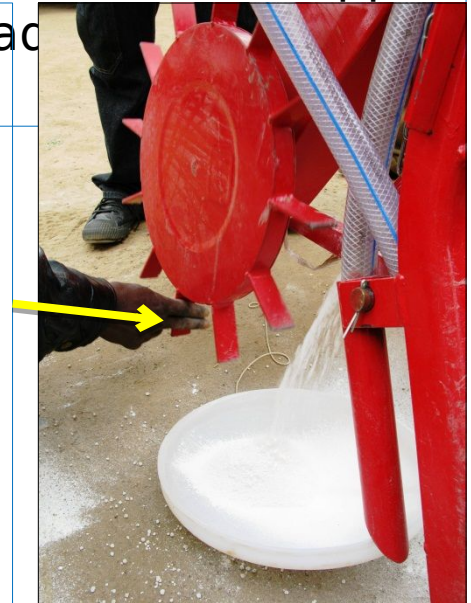


The lime hopper has a built-in sieve at the mouth, despite this you should **use dry and lump-free**

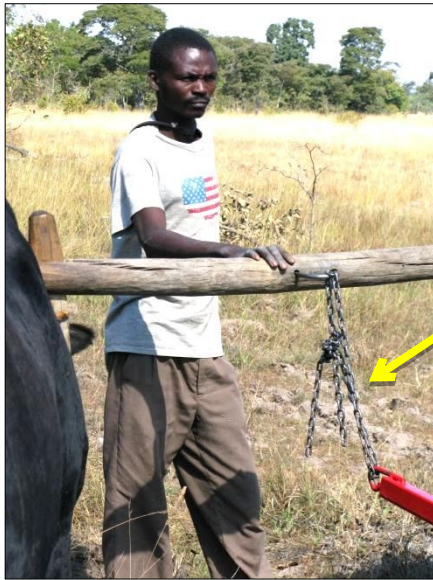
To calibrate the lime output, use the same 330ml can as you used for the fertilizer. **Lift the planter drive wheel off the ground** and place the fertilizer hopper cover under the lime outlet. Turn the wheel until the lime starts to flow, empty the contents of the hopper cover back into the lime hopper



Using **the same mark** on the drive wheel, **turn the wheel 15 times**, collect the lime in the hopper lid. Using a spoon, transfer the lime into the 330ml can. **If the can is about $\frac{3}{4}$ full after this, your lime output is correct.** If not, open or



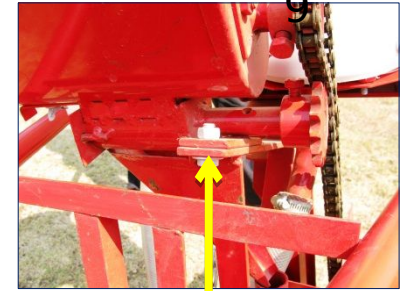
Your planter is now calibrated for fertilizer and lime output, you will have the correct seed plate fitted for the crop you want to plant. There are now some adjustments you should make before commencing planting.



Adjust the length of the trek chain, **0.5 – 1 metre is about right**, test this for yourself.



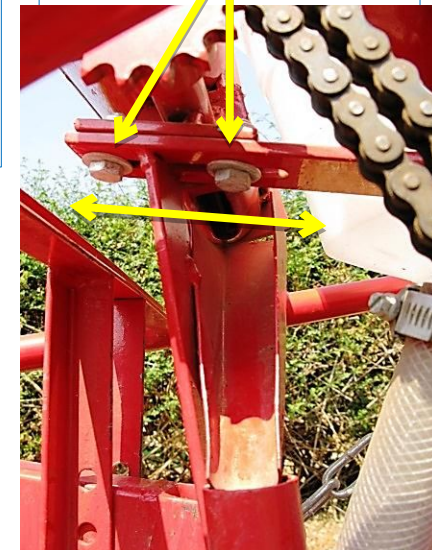
Adjust the handles up or down to suit your height.



Adjust the lime drive chain tension by moving the lime hopper



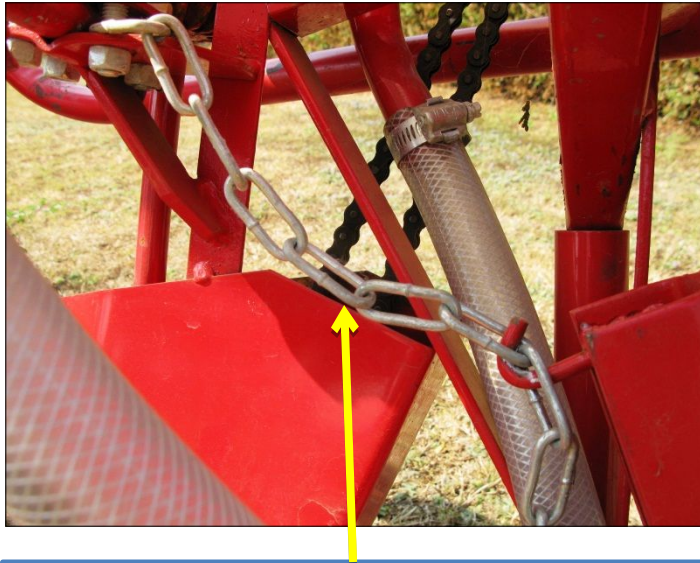
Adjust the **cutting coulter up or down until it cuts the crop residue as cleanly as possible** without a build up of residue in front of the ripping tine.



You are now ready to plant with your Werner Zero Tillage



When turning, at the end of each row, **lift the planter out of the ground** to turn. **Do not allow the oxen to drag the planter around or you**



Adjust the check chain to allow you to lift or transport the planter more easily, neither too long nor too short.

At the start of a new row, lower the planter carefully into the soil otherwise the seed or fertilizer delivery tubes may block with soil.

