

The Four Wheel Hoe

A revolutionary pedestrian hoe for the smaller scale grower and farmer

The Four Wheel Hoe addresses a crucial gap among weeding machines. While there is a burgeoning choice of tractor-mounted weeding machinery for larger scale growers, smaller scale growers and farmers have only had a choice between modern one-wheel, or antique two-wheel, wheel-hoes. While brand-new one-wheel hoes are quite flexible, this is at the sacrifice of usability and effectiveness. In comparison, two-wheel hoes are a considerably superior design, however, the lack of current manufacturers means they can be difficult to locate and often considerable 'TLC' is required in their use and maintenance. The Four Wheel Hoe is a revolutionary new concept that solves



this problem. It has been designed from first-principles of physical weed control, engineering efficiency, and usability by international physical weed management and machinery scientist Dr Charles 'Merf' Merfield. It is designed to fulfil the in-crop weeding needs of growers producing crops on beds, i.e., not on ridges, with fields too large to practically weed with hand hoes, yet too small to justify the expense of tractor mounted weeding machinery.

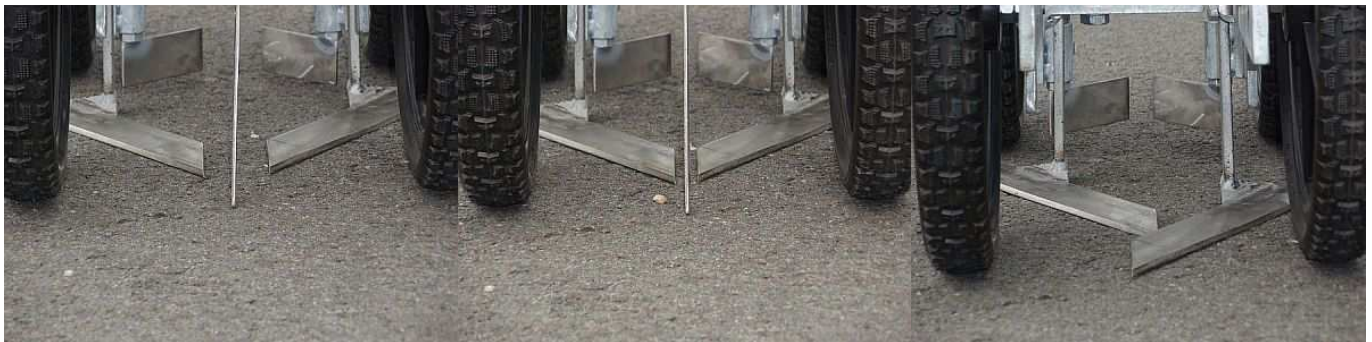
The Four Wheel Hoe Design Concept

- Mounting tools between four wheels gives the most stable and precise depth control possible. The same principle underlies mid-mounted toolcarrier tractors and road graders.
- The first-rate stability and precise depth control means that the user no longer needs to control the hoe's depth - all they have to do is push the hoe forwards, which requires less skill. This, coupled with the ergonomic design, results in much greater work rates and superior weed control, all for less physical effort.
- The standardised toolbars, clamps and tool-legs allow a very wide range of weeding and other tools to be attached to the weeder, including user-designed equipment, making it exceptionally flexible.



- The central width adjustment system means it is quick and easy to adjust the size of the crop gap for all tools simultaneously, regardless of how many there are. This makes it much quicker and simpler to change between different sized crops.
- Having the Four Wheel Hoe straddle the crop, rather than pass up the interrow (as one wheel hoes do), coupled with the 'sight guide' permits highly accurate placement meaning more weeds are killed while causing less crop damage.

- The 'T' hoes also make it possible to hoe very close to the crop, and maintain such small crop gaps even as plants grow to full size. This minimises the need to adjust the hoe for different crops.
- The T hoes have the optimum rake (15°) and sweep (60°) angles required to maximise weed kill while minimising the resistance of the blades cutting through the soil, reducing user effort.
- The 'mini-ridgers' place precisely controlled amounts of soil around the base of the crop to create a small ridge of soil. This can kill small (up to two true leaves) intrarow (within the crop row) weeds as effectively as interrow weeds giving potentially 100% kill of small weeds offering potentially enormous time and cost savings. Two sizes of ridgers are supplied, 20 and 40 mm high, allowing a wide range of ridge sizes to be created, suitable for crops from seedling stage to maturity, e.g., earthing up leeks and carrots.



Normal

Narrow

Overlapping



- All in-field adjustments, from minute changes in blade depth to complete reconfiguration of width, blade, handle and wheel positions, can all be achieved with a single 19 mm (½") spanner. As this easily fits in a pocket or hung from the hoe there is no need to return to the shed to make adjustments or take a load of tools to the field.
- The Four Wheel Hoe is also designed and manufactured for exceptional strength and durability. This is exemplified by the extensive use of stainless steel and wheels with non-pneumatic (puncture proof) tyres.
- The Four Wheel Hoe is designed to last long enough to pass down to your grandchildren and so effective they will be grateful to have inherited it!

For more information including pricing please visit www.physicalweeding.com or contact Merf at charles@merfield.com, Skype [charlesmerfield](#) or Paul or John at Ballinadee Engineering Ltd. on +353 (0)21 4778176



Before

During

After