

LAMMA 2020 preview:

# Weed, germinate, repeat

Faced with mounting pressure to reduce their reliance on sprays, conventional farmers are going to have to reach into the organic grower's toolbox. Or, at least, this is the hymn sheet from which several machinery manufacturers are currently singing. With this in mind OPICO is now adding the rest of the Hatzenbichler weeding solutions to its range, and they'll be on show at LAMMA

**W**ith the future of glyphosate looking doubtful and food retailers dictating a reduction in chemical applications, we are certain to see a resurgence in the practice of mechanical weeding, be it with conventional tractor-mounted machines or smaller scale autonomous vehicles. Backing this up, a number of arable kit makers, such as Amazone and Lemken, have looked to buy in the technology, while Horsch has quickly devised its own range.

Not surprisingly, there were a large number of mechanical weeding options on show at Agritechnica, and we can expect to see this reflected closer to home at LAMMA. For starters, OPICO will be casting a spotlight on the Hatzenbichler range. For 25 years OPICO has distributed the Austrian equipment under its own name, but the main focus has been on the grass harrow range of which it has sold over 7,000 units in the UK.

Hatzenbichler has been making comb harrows since 1952; indeed it claims to be the creator of this type of cultivator. Today the family-owned firm builds around 2,400 of them per year, with the widest working machine currently a 27m unit.

In its grass harrow role OPICO opts to go with the heavier-duty 8.0mm tines. But these are deemed too stubborn for a weeding operation, so the preference is to use a 6.0mm tine

for vegetables and 7.0mm for cereals so as to not root out the cash crop. Two sales pitch points on a Hatzenbichler are that each of the beds (usually 1.5m in width) can flex or twist

front-to-back so tine pressure stays constant over the full working area. The second point is the way in which the coil springs are mounted in the channel of the 'U', this preventing the tip of the main shoot from getting pinched in the coil as the tine flexes.

You can generally keep going through winter wheat and barley up until growth stage 31 and at a speed of 10km/hr. Interestingly the system is not suited to no-till crops. There needs to be some form of cultivation; otherwise the tine can snag on the previous crop residue and pull out the seedling. As an aside, comb harrowing can also be used to create a stale seedbed with the correct setting. Unlike inter-row cultivators or hoes, the comb harrow does not need to match the drill width as the tines should 'skip' around the cash crop, exploiting the differences between weeds and the stronger rooted crop. A number of 12m



Both of these are mechanical weeding tools, but they do a different job. In the foreground is the hoe, which is designed to work between the crop rows so it needs to be the same width as the drill. The other unit is classed as a comb harrow, with its lighter tines plucking out the younger weed plants, not the crop.



Pneumatic tapper makes removing and refitting the roll-pins a speedier operation. Various point/share options are offered for different row widths and crops.

Hatzenbichler comb harrows have been sold in the UK for this task, and, from this experience, James Woolway of OPICO says you need to be brave with the settings as cereal crops are a tough plant and the tine has to work hard to pull out the weeds. The action of the tines will also break any crust, allowing water to infiltrate, improving air to the roots, stimulating tillering and mineralising nitrogen. It's not solely about removing weeds in the Nov-March period for winter cereals.

**The other big news from OPICO is that it will now be pushing the Hatzenbichler inter-row cultivators.** So for those of us who escaped the days of mechanical weeding sugar beet and other root crops, how do they work?

The parallelogram linkages mounted to the toolbar can be fitted with soil-engaging tools to work the rows between the plants. For instance, do you want to just rip out weeds or are you also looking to cover the base of the growing crop with soil from between the rows such as in maize? If the cultivator is fitted

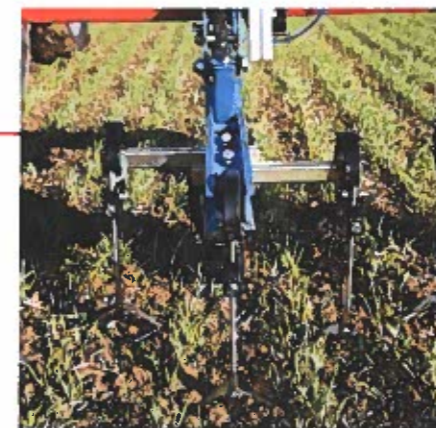


Camera technology not only allows the hoe to be steered left or right so it stays on target, but also to lift out the units for section-controlled ins and outs. OPICO is sourcing the cameras from Tillett and Hague.

with a seeder you can look at adding a companion crop at a later stage to prevent soil run-off and create a root structure to support machines during harvest.

In a cereal set-up each row unit can carry up to three duck-foot points so effectively weeding between three rows of crop. Overall working widths can span 3.0m to 18.0m with a one-, three- or five-section toolbar that can have a side shift headstock with manual or automatic control via a camera. Another option is hydraulic lift-out of the row units for section control on angled headlands.

For maize and sugar beet, bar widths go up to 12m on which you can mount appropriate



The duck-foot shares should clear the non-cropped area between the cereal rows, but the metal is not going to take any prisoners so you need to choose the correct width of point. A coulter spacing of 166mm or more is preferable. Each parallelogram linkage can be fitted with three points, as shown.

numbers of row units. These can then be fitted with a single or multiple points for weeding between the rows. You can also add plant protection discs that run either side of the row, shielding the crop from soil throw. Alternatively, you can also add the Dutch Kress finger weeder – a mix of plastic and metal wheels that work in the crop-growing row to pluck out weeds. A seed or applicator can also be fitted for sowing companion crops or adding micro-fertilisers.

Mervyn Bailey

## Prices to digest

Hatzenbichler inter-row cultivators for cereals and pulses have a typical organic cereal row spacing of 250mm, so a 24-row unit over 6.0m carries a list price of £20,251. For a more conventional row spacing of 166mm the 6.0m cultivator would be 36 rows and has a tag of £24,375. The Muller hydraulic row lift, to give a form of section control for 13 rows, is £10,756. For row crops such as sugar beet the 6.0m, 12-row (500mm spacing) is £19,851, while a more typical maize spec machine with eight rows at 750mm spacing is £21,458. Options for this type of work include a seeder with loading platform at £8,674. As for comb harrows and seeders, a 12m mounted unit with 7.0mm tines is £10,738, while the Air 16 seeder and platform is £10,322. The 24m harrow retails at £40,512.



At LAMMA, Claydon will have the 20-tine, 6.0m version of its TerraBlade mechanical weeder. This is an additional heavy-duty model of which there is also an 8.15m, 26-tine version. These join the standard 3.0, 4.0, 4.8m and 6.0m models. All are front-mounted to keep the unit simple and low-cost.