BUSINESS FACTS
Ralph Castle at Home Farm,
Charlton Estates near Wantage

FARMED AREA
188ha of winter and spring cereals

STAFF
Ralph Castle

RALPH CASTLE

"Tackling weed control with a hoe."

Mechanical hoes are gaining in popularity for use in cereals as farming businesses reassess their approach to weed control.

Ralph Castle

This was the dilemma for Ralph Castle at Home Farm Charlton Estates near Wantage, who is now seeing positive results with a Carré Econet inter-row weeder from KRM. The 188ha family farm grows winter and spring cereals on a mixture of soils from chalk and greensands to medium-heavy clay loams.

"We were seeing poor control of black-grass with herbicides, and it had come to that time of year when you are deciding if a crop is worth harvesting or should be sprayed off," recalls Ralph. "My agronomist suggested we consider hoeing, but as I was wary of the high level of investment required, we started with a basic front-mounted hoe."

The venture showed the potential of the technique, but the implement struggled to penetrate hard ground as the season progressed.

OLIVERS were able to offer a more precise solution in the form of a hoe from French manufacturer Carré, supplied by KRM. Based in the Vendee, Carré has a long history in developing and manufacturing innovative cultivators and has been at the forefront of a trend towards mechanical weeders, first for vegetable and organic arable crops and now for conventional cereal growing systems. Camera guidance on the latest generations increases accuracy and allows improved workrates.

The company offers a wide range of Econet hoe systems, and Chris Whear from KRM worked closely with Ralph to specify the right machine to meet his needs. "Inter-row hoes match up with drill row spacing via RTK," he explains. "We have a 6m Virkar direct drill which works on rows that are approximately 19cm wide."

Each 'element', as the individual toolbars on the hoe are known, is fitted with tines to suit the drill, crop and conditions. The 6m Econet has 11 elements each of which carries three tines, fitted with shares to match the narrower row width for cereals.

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Tines are mounted on an adjustable frame (some units on Ralph's hoe have been shifted sideways slightly to match up with the irregular spacings in some positions on the Virkar) and then to a parallelogram which offers ground contour following.

Depth control wheels allow the working depth of the tine to be precisely adjusted and the angle of the tines can also be adjusted, for example when more ground penetration is needed.

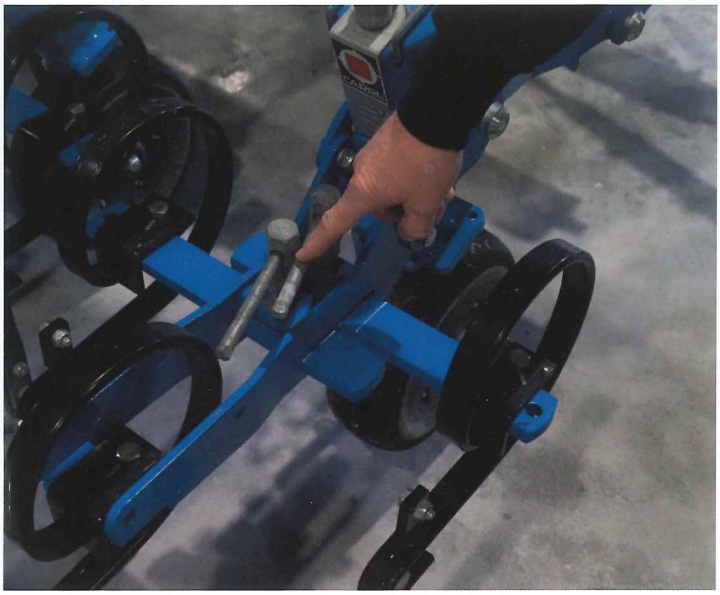
A camera mounted on the frame of the hoe identifies the crop rows and side shifts the frame if necessary to ensure that the tine unit is in the centre of the inter-row space; large directional coulters at either side keep the frame in the ground as it side shifts ensuring positive movement of the hoeing elements.

RTK helps to keep the work straight on slopes and also operates the section control with each element capable of being lifted out of work individually to avoid overlaps in irregular shaped fields and corners.

The Econet arrived on the farm in spring 2023 and performed well in its first season.

"The 6m Econet has 11 elements each of which carries three tines, fitted with shares to match the narrower row width for cereals."

On Ralphs machine each element is fitted with three 100m shares



Ralph points out how adjustments can be made without tools

"It's a weather-dependent operation, but the aim is to start with a first pass in the winter crops in February to March, drill the spring crops and then make a first pass through the spring crops when they have emerged," explains Ralph.

"We tackle black-grass as soon as it starts to reappear in the spring, and the best results are on smaller weeds, although it is also effective later." Crop height determines the cut-off date for the second pass, he adds.

"You need to wait for the optimum conditions; it doesn't want to be too wet. The taller the crop, however, the greater risk of damage."

Forward speed of 8-10kph is ideal, he suggests, making the best of the spring tines' action while allowing the camera time to work.

LED lighting is available as an option allowing the system to function in poor light conditions or even in the dark.

Mr Castle praises the strong build and weight of the Econet which not only helps it withstand the nature of the work but also ensures that it can penetrate the ground on heavier land, where black-grass has the greatest impact.

Compatibility with the RTK guidance in his tractors has been seamless, he notes, and any technical queries have been swiftly resolved by a phone call to KRM.

"It's early days yet and every year is different, but we're hopeful that we may be able to cut herbicide costs in the long term by having cleaner seedbeds," he comments.

"We've already seen a reduction in broadleaved weeds and while there's no opportunity to stop black-grass growing in the row itself, the competition is reduced.

The most immediate benefit is that we can at least take a profitable crop to harvest, even if it doesn't have the yield of a completely clean crop yet."