Andrew West, of Warren Hill Farms near Diss, with a crop of maize that was drilled directly into grassland which had been in stewardship for several years

One for all... strip-seeding technique benefits diverse arable farm

A farm on the Norfolk-Suffolk border produces up to 14 crops – but despite the wide variation in seed sizes and sowing depths all are established using just one direct drill, as part of a low-impact strip-seeding system.

The idea of using just one drill to establish multiple crops had always appealed to farmer Andrew West, but until recently this scenario was difficult to achieve because of his farm's wide range of products and soil types.

He farms 2,500 acres, including 2,000 acres of arable, at Warren Hill Farms at Oakley near Diss, situated in a valley between the rivers Waveney and Dove.

The business produces everything from salad potatoes to wheat, maize, triticale, oats, oilseed rape and beans. But herbs have also been a key part of the cropping for over 30 years, with 200 to 300 acres of parsley, oregano, sage and coriander contracted to a local company for freezing or drying.

"Many of the crops that we grow, such as herbs, are very small seeded and must be drilled at a precise, uniform depth otherwise they will not germinate," said Mr West. "The key to growing them successfully is to achieve well-structured soil profiles and level fields, but that can be difficult to achieve using traditional deep, inversion tillage methods and the concept is outdated.

"Heavy cultivation may occasionally be required to rectify soils which have been unavoidably damaged, for example subsoiling if root crops have been harvested in adverse conditions, but the drill we use now takes out wheelings and compaction, creating the ideal growing environment for any crop."

The farm currently uses a Claydon 6m Hybrid T trailed drill which operates behind a 360hp Fendt 936 Vario tractor within a 36m Controlled Traffic Farming (CTF) system where all equipment, including the 12m New Holland combine, works within co-ordinated tramlines to reduce soil damage.

"At first glance you would not think that a wide, high-output trailed drill would be able to sow very small seeds less than 1cm deep to such high standards of accuracy and uniformity, but the quality of establishment is exceptional," he said.

"The choice of ag-chem products for many of our crops is now very limited, so in certain situations we aim to develop a thick crop canopy that will out-compete weeds. Parsley is a good example and because the seed is quite cheap, we use a high rate to produce lots of vegetation.

"Where the Hybrid T was used last year to establish parsley directly into stubble for the first time, the crop was three weeks earlier to harvest and produced 25pc more yield than when drilled into land which had been ploughed and power-harrowed."

Mr West said the strip-seeding system simplifies the farm's autumn workload and saves unnecessary tillage operations at key times of the year, which reduces the time and cost of establishing crops and improves timeliness, leading to better establishment and development.

"Achieving the correct soil structure and increasing the level of microbial activity is the key," he said.

Oilseed rape being drilled at Warren Hill Farms in 2018 Pictures: JULIAN COOKSLEY

"One of the most important benefits of this system is that over time fields become remarkably level. This is very important because it allows small-seeded crops to be drilled with much greater accuracy, so they develop much more evenly and can be harvested at the optimum time, which improves quality and reduces waste."

Mr West said he is also looking at other measures to improve the health and productivity of his soil.

"I like the concept of cover crops, which we desiccate in the spring, mow hard and drill several spring crops directly into the surface," he said. "We are also evaluating companion cropping as it could be especially useful to drill barley in one row and herbs in another, for example, to reduce soil erosion and create a micro-climate to encourage plant development.

"The technique could also reduce our reliance on insecticides and, going forward, the key will be to find the right nurse crops that produce funguses to improve soil and plant health."