Cow Management

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Subsoil to prevent stunted maize growth

Maize is a deep rooting plant and so it is essential to remove any soil compaction in the ground to prevent stunted plants from depressing crop yields. For David Partridge and his son Clive of Ennerleigh Farm, near Tiverton, this problem is simply avoided by subsoiling the land early in spring using a Sward-Lifter, a piece of kit that was originally designed for use in grass swards.

"We took on some rented land and could tell the ground had received a hammering during recent years from heavy harvesting machinery," explains David. "In some areas of the field the growth of the maize plants was stunted and the resultant cobs were smaller.

"Tractors are a lot bigger these days and better able to go out onto land in the wet when previously we wouldn't have gone out. So there's a lot more compaction damage about."

The OPICO Sward Lifter had typically been purchased to improve areas of grassland where compaction was preventing water from draining away and resulting in wet areas in the fields. However, the Partridges' experience of poor maize crops prompted them to use the kit as part of their routine preparations for maize.

"Wherever we plan to drill maize, we always go through with the Sward-Lifter," says David. "First the residue from the previous crop – be it potatoes, cereals or grassland – is ploughed in. Then the Sward-Lifter is used to subsoil below the plough pan. The ground is then power harrowed, and the maize seed is drilled in early May.

"Subsoiling helps the plants get away faster, and ensures good solid cobs are produced. Plants sown in compacted ground do not start off well and certainly never catch up."

Although originally designed to subsoil grassland without damaging the sward, the kit can be used as a conventional subsoiler to break up the plough pan, working down to a maximum depth of 12 inches, according to OPICO's James Woolway.

"Subsoiling is routine for arable producers, but it is far less common on livestock units and rarely used in seedbed preparations for maize. Yet, due to the extensive root systems of maize plants, taking this 'arable' approach will ensure compaction is not a limiting factor to crop performance."

Digging deep: Clive Partridge shows the depth he routinely subsoils to using the OPICO Sward-Lifter