

CEMOS for Tractors “Better than an operator”



Ollie Hill

For the last 18 months CEMOS for Tractors has proved itself in the field, helping Leicestershire father-and-son team Stephen and Ollie Hill cover more ground while burning less fuel.

Farmers and contractors, they undertake a broad range of work from heavy cultivations and crop establishment to mowing, baling and wrapping. As such they need versatile prime movers capable of undertaking pretty much any task.

“In the past we’ve tended to run a whole plethora of older tractors, each machine with its own job to do from lightweight topwork to heavyweight cultivations,” explains Ollie.

“But a couple of years ago with some of the front-runners beginning to show their age we decided we needed to rationalise things, swapping out four old-timers for a pair of shiny new CLAAS tractors – an ARION 650 and an AXION 870.

“While this made sense on paper, being considerably lighter than our old heavyweight tugs we were concerned about how well the new tractors would get on with our heavy draft cultivators on our heavy clay ground. Of course when it came to it, with their stepless gearboxes, the right weights on the nose and some decent rubber those concerns proved unfounded.”

However with these two expected to undertake a much wider range

of jobs than the machines they replaced, getting the ballasting, tyre pressures and transmission settings right has become much more of an essential issue.

So when Ollie was approached by his local CLAAS dealer to trial a new system to help with this he jumped at the chance. “We were really impressed by the way the stepless CMATIC transmission delivered the power to the ground but I was keen to get any extra guidance I could in setting them up right. The 870 came fitted with 500kg of rear wheel weights plus 1500kg and 900kg blocks to go on the front linkage. That gave us quite a lot of opportunity for tweaking things alongside being able to drop pressures as low as 0.4bar in the Michelin Machbibs.

CEMOS SANITY CHECK

“What the CEMOS system provides is a sanity check about how best to go about making these changes.

“When I set off doing a new job, for example with our combination sub-soiler cultivator, I do a couple of runs with the tractor set as I think best,” explains Ollie.

“During this time the CEMOS computer is monitoring everything and then makes an assessment as to how things could be improved. It might suggest altering engine transmission drop settings or trying diff-lock. Alternatively it could propose altering how much air is in the tyres or how much weight is on the nose.

“Almost always making the changes results in the tractor going better – either covering more ground or using less diesel.”



SURPRISING SUGGESTIONS

Interestingly the fuel savings don’t necessarily come about with a reduction in engine revs.

“With our old tractors I’d always try to keep engine rpm as low as possible for cultivations work to extract maximum torque out of the motor. If I try that with the 870, CEMOS immediately suggests altering transmission settings to let the engine rev up to somewhere between peak torque and peak power. Typically aiming for 10-12kph with our disc-tine-press combo the system has comfortably knocked fuel use back by 1-litre/hour compared with how it would run before we had CEMOS fitted.”

This change in mindset is mirrored when it comes to ballasting, the system almost always suggesting a lighter footprint than Ollie anticipates.

“Having had CEMOS for two seasons and working with the CLAAS team developing the system, I’ve learnt that I have a tendency to over-weight the tractor. The computer almost always tells me to drop weight off. It amazes me how you really don’t need to stack it on when you might think you do.

“Just to prove me wrong CEMOS is constantly measuring tractor performance and how quickly I’m covering the ground. It’s proved the whole rig runs that much more efficiently the lighter it is and traction isn’t an issue with the way the transmission delivers the power.

“Of course when you think about it, it makes sense – we’re not hauling unnecessary bulk about and consequently we’re not burning unnecessary fuel. On top of that we’re not screwing the ground up and we’re elongating tyre life.”

BETTER THAN AN OPERATOR

The overall feeling is that the system is better than an operator in striking the right balance between ballast, tyre pressures and transmission settings and that’s where the efficiency gains are to be had. When it comes to adjusting the amount of air in the tyres, the tractor’s own compressor can be employed but in reality a trip back

to the farm workshop is generally timed with a fuel tank top-up if a serious pressure change is required.

“I can really see the merit in pairing CEMOS with a proper on-board central tyre inflation system to give the opportunity to tweak pressures on the move and it’s one of the next things we’ll be looking at,” says Ollie.

“CEMOS has added hugely to the capability of our tractors. At the core of it they’ve got modern engines capable of producing the power and fantastic stepless gearboxes that smoothly deliver the torque to the wheels so much better than what we’ve had before.

“What CEMOS does is provide an extra level of finesse, constantly questioning my judgements and giving me a sanity check about transmission set up, ballast and tyre pressures. Ultimately that results in us covering the ground faster using less fuel.”

