

# DRILL GIVES A PRECISION TASTE TO CORNISH CREAM

The concept of having a drill which can be used for both traditional cereal and precision maize drilling would appear to be the utopia for any farmer seeking low cost establishment. Pottinger appear to have achieved this concept with the Aerosem 3002 ADD. Mike Whiting went drilling in Cornwall to find out more.



Mark Philp farms 485 Ha and 400 dairy cows, with his Father Anthony and brother Miles.

An early morning visit into Cornwall to meet Mark Philp at Trenake Manor Farm near Pelynt provided a full "cooks" tour of its capabilities. Farming 485 hectares with a 400 dairy cow herd keeps the 5th generation of the Philp family business busy, and timeliness of cultivations in close proximity to coastal weather patterns is essential. On arrival at the farm yard Marks Father, Anthony Philp commented that when he was a lad growing cereals in this area of Cornwall was considered an impossible task. The sight of high capacity combines parked up in buildings as you drive past the neighbouring farms seems to bury that myth.

## STAGGERED DUAL ROWS

The Philp's purchased the drill after a successful trial in 2017 where the harvested crop showed the benefits of the 75cm gap between the staggered dual rows at 12.5cm seed spacing's. Maize is renowned for being a hungry crop both in terms of soil nutrients but also sunlight, which is exactly what this duplex concept aims to deliver. In addition root penetration can project without restriction which gives each plant an equal chance, ensuring even growth and ripening.

The simplicity of the 3002 ADD starts with the split hopper. Partitioning off into three sections with folding plates allocates the central section to fertilizer, with the two outer compartments holding on this occasion the variety 'Glory' maize seed. To provide the nutrients Mark was applying Diammonium Phosphate with a typical NPK ratio of 18:46:0. Visualise from above the maize seed being planted in the predetermined rows, the 3002 ADD quite simply uses the interspersing coulters to deliver the fertilizer which although is not directly next to it, is proven to be placed near enough to the maize seed to be effective.

The open mesh steel access platform provides quick and easy access when refilling. Coupling up to the Pottinger 3m combination drill requires 170hp upfront with hydraulic power beyond facility and up to 3 sets of spool valves to operate the fan, maize meter, bout markers and pressure control on the coulters. The early edition JD 6155R with a 3m front mounted home modified press handled the 3002 ADD with relative ease. Although whatever colour of prime mover you choose check the hydraulic pumps output against the Aerosems manual as it does require a healthy constant

supply of the light thin oil. Mark prefers to run the drill via the integral John Deere Gen 4 GreenStar Display, although Pottinger can provide their own Aerosem control panel screen.

Reconfiguring the 3002 ADD back to drilling conventional cereals takes no more than a couple of hours and doesn't require any specialist skills beyond the farm workshop.

## STRAIGHTFORWARD OPERATION

Glancing through the detailed operator's manual provides an overview of the Multitronic Sowing Monitor with its 7 keys and their functions. As a drill operator newbie it appeared to be a good opportunity to ask Mark how he found the tramlining system. He pointed across to an adjacent field where he'd sown a spring cereal crops which was a carpet of green. "I drill the whole field and put the wheeling's in with the sprayer using GPS, I find it easier to run on the growing crop and although there might be a small amount of seed wastage the effects of erosion are much reduced" responded Mark. An interesting concept and certainly

one which could find favour elsewhere. For those who prefer the traditional guidance system a full page in the manual displays a "ready reckoner" correlating drill specification, sprayer distribution width and the required switching rhythm to close off the coulters when starting a new bout.



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## CALIBRATION EASE

Ease of calibration of the seed / fertilizer has been considered by the Austrian designers. A large tray sits on a track system which is easily pushed under the hopper outlet, with a calibration scale included in the specification. Determining the placement for the maize is derived from the seed size and then setting an appropriate fan speed. The manual provides guidance for all types of drilling options such as cover crops, oilseed rape and pulses. From the cab display each maize unit has its own bar graph display to confirm its seeding at the correct rate. The drill incorporates clear glass tubes with associated monitoring to quickly detect any blockages. As with all air seeding systems keeping the fan at a constant speed is essential, and therefore some thought on prioritising supply from the tractor is required.

## PRACTICAL ROAD TRANSPORT

Moving from the yard along the narrow Cornish lanes is trouble free thanks to the tip up end guards on the power harrow. Once in the field there are no further mechanical adjustments required by the operator to commence drilling. On the visit Mark was drilling into a medium loam on rented land which had received a heavy dosing of FYM. Dropping the PTO into gear generates little noise from the power harrow which is certainly robust in design. The field entrance previously had a building erected near the entrance with the inevitable scattering of residual masonry on the surface which didn't cause any problems. The deep gear trough of the Pottinger Lion harrow is manufactured for a single piece with a welded central gusset providing the utmost strength. Welding the bearing houses in place before final milling on the CNC unit maintains precision accuracy spacing between the rotors. The solution for power harrow durability considering the forces exerted when drilling at speeds of up to 10km/hr.

As an experienced operator Mark had made a courtesy call through to the forage harvester driver just to check which direction he preferred to cut the crop, always a good reminder of how a few moments pre-planning prevents problems later on, particularly if it's a wet season.

For the multi-skilling engineering journalist sat in the passenger seat it was easy to interpret the Aerosem 3002 ADD schematics and variables such as fan speed and hopper levels on the tractors display. Values can be pre-set for generating low level alarms to indicate a re-fill is imminent.

Each maize unit has its own bar graph style display to confirm its seeding at the correct rate with real time sensors to ensure consistent seed flow.

## INITIAL CONCERNS SILENCED

There were some initial concerns over the purchase of a drill at Trenake Manor Farm in Cornwall, mainly due to the high workload of cultivating land, drilling maize, taking first cut silage and fertilizer addition from the mid-April to May time frame. Although any doubts over completing all tasks against the backdrop of the variable Cornish climate appears to have been displaced with the Aerosem 3002 ADD purchase. A recommendation for the Pottinger team would be tweak the positioning of the fertiliser hopper folding panels to increase its capacity beyond the 600kg bag volume\*. There's room to reduce the capacity in the precision seed hopper without affecting output and it would just expand the window on when a nutrient refill is required.

As brothers Mark and Miles Philp continue to develop their business there seems to be plenty of scope for the Pottinger 3002 ADD Duplex drill to keep pace with them.

\*As part of Pottinger's ongoing product development the 3002 ADD hopper folding panels are receiving a redesign to increase the capacity beyond 600kg.

Calibration is easily taken care of with a large track mounted tray which is easily pushed under the hopper outlet.

## FLYING FLOCKS – THE BENEFITS OF SHEEP IN AN ARABLE ROTATION

Introducing sheep into arable rotations holds many benefits and this system is already steadily increasing in many eastern arable areas.

'Flying Flocks' refers to a flock of sheep that doesn't breed its own replacements and which are usually brought in to finish on arable land and crops, says Martin Titley, director of marketing for forage crops with breeders Limagrain UK.

So, what are the benefits and is this something that growers should be considering?

"Soil always benefits from increased organic matter. Manure from grazing animals is slowly released and can be utilised by the arable crops following in the rotation. Sheep generally defecate more evenly and are less damaging to the soil than cattle and should therefore be the animal of choice."

Sowing grass leys or fast-growing brassica crops can also help combat black grass. The crops can be grazed off which can help with the switch to a spring sown arable crop, he points out.

"Grass leys can be sown in spring or autumn and can be grazed for a period of 1-3 years and are great for black grass infested fields. Mixtures such as Sinclair McGill Lambtastic includes beneficial herbs such as Chicory and Plantains as well as White Clovers, which will finish lambs and help with the soil structure."

## CROP DIVERSITY

"Mixed species on the farm helps crop diversity and for many, may help unlock environmental scheme payments for grazed crops and fencing. There's also the option of developing a partnership with other farmers, and also encouraging young farmers to have a stake in a new enterprise, which can be rewarding to both parties."

If all of this sounds attractive and something that may work on your farm, then the next step is to think about cropping, he says.

"Consider what you want to use the crop for and when it needs to be ready for feeding – this will help with the choice of forage crop."

## THERE ARE SEVERAL OPTIONS:

**Stubble turnip - Samson** – easy to grow; crops are usually sown after barley in July and early August. They are fast growing, with some crops being ready to feed in 12-14 weeks.

Tonnes fresh yield/ha 38-45

Growing costs/ha £305

**Forage rape - Rampart** – another fast-growing brassica crop that can be sown in June to August. It is more winter hardy than stubble turnip, so crops can be left for later use.

Tonnes fresh yield/ha 24-35

Growing costs/ha £408

**Kale - Pinfold** – great for providing huge feed yields that can be grazed into February, but crops need to be sown earlier, in May to June.

Tonnes fresh yield/ha 60-65

Growing costs/ha £496