

New grain drier delivers 40% boost to throughput



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EXTREME weather has had an unprecedented impact on farming in recent years, but for one Scottish cereal grower, the forecast is looking bright, thanks to a new OPICO drier.

Upper Bolton Farm in Haddington is situated some 20 miles from Edinburgh. Its 450 acres have been in the Clark family for over 80 years and today the farm is looked after by Will and his sons Andrew and James.

As well as Upper Bolton's 450 acres, the Clarks contract farm an additional 3,000 acres growing biscuit wheat, malting spring and winter barley, oats and oilseed rape.

Despite the extreme weather, the Clarks have grown their contract farming business over recent years, but in 2021 they thought they'd reached their limit.

"At the time, we only had one shed, and it was all on-floor drying at low temperatures, which is great for malting barley, but it is slow and involves a lot of handling," says Will. "To be fair, we always had trouble dealing with very wet grain, so we decided we needed more capacity and the ability to deal with wetter grain in smaller batches, as the smallest floor drier we have takes 350 tonnes. We brought in Thorburn Group to design and build us a new shed."

As part of the design and build of the new grain store, Thorburn Group recommended the Magna 4810 ATE grain drier to the Clarks.

"We knew that we wanted an automatic system in which we can fill a wet bay and

automatically fill the drier, which then automatically empties onto the conveyor which fills the shed," explains Will. "The guys we used to build the new shed recommended an OPICO drier, and as we know Colin Grigor, their Territory Manager for this area, it made sense to contact him."

Will's son Andrew, who oversees most of the grain drying, is quick to say that "Colin was really helpful. He knew exactly what we needed and was able to explain how the 4810 ATE would meet our needs. He took us to meet two farmers who were already using the same drier, and we were able to see it in action, which was really reassuring. He kept us up to speed on the delivery and made sure it was here on time."

"We also received fantastic support from technical support team. They defined the specification of the drier so that it suited the new shed and they were part of the team who built the 4810 when it arrived. They were happy to talk us through everything and taught us how to use the system, from setting the temperatures and times, which I have to say is really straightforward."

With a 48-ton holding capacity and capable of reaching 20 tons per hour throughput, the 4810 ATE is the largest drier in the range.

The Clark's 4810 ATE is one of the first driers to feature new smart panel. This intuitive touch screen allows the user to control the drier and access a wealth of live information, such

as temperature, timings, moisture levels and error messages.

The smart panel also allows people to connect to the drier over the internet, meaning that drying can be started and stopped from anywhere in the world and also technical support team can log in should an error code be displayed.

"The smart panel is really good because I can tell when the batch is emptying on my phone, and if I have any problems, I can phone the technical support team, and they can have a look on their system and can actually see how the drier is running and can check all the settings. Knowing that OPICO can get into the system and look at it from their end if we have any technical issues is reassuring."

Like many growers, Will pays close attention to the finer details. "We monitor lots of things," he says. "We have a FOSS grain testing machine like the commercial grain merchants use, which allows us to monitor proteins, bushels, nitrogens and moisture levels. Andrew was working the drier in the shed last year, and the moisture in the shed was absolutely spot on, which is a reflection of how good the drier is and easy it is to operate."

With the Clarks drying oilseed rape and biscuit wheat in the Magna, they're focused on avoiding tainting and overheating, something that OPICO's unique indirect DUAX heat core delivers with ease.

At the centre of the DUAX Heat Core is a steel barrel located in the burner

chamber, which is lined with heat-retaining bricks similar to those found in storage heaters. As the burner heats the air, the temperature of these bricks gradually increases. Once up to temperature, the Duax Heat Core retains heat to provide a more even "moderated" temperature to dry the grain. This process means less burner modulation - switching between high and low flame - is required to maintain an even drying temperature. The end result is a cleaner burner, reduced fuel usage and a more even drying temperature, which Andrew appreciates.

"We like the simplicity of the drier," says Andrew. "It's really nice just to let it get on with it. I don't really have to do much at all to get the moisture levels I'm looking for."

It is not just the very wet seasons when recirculating batch driers come into their own, the Magna range also feature a grain cleaner as standard and the driers' mode of operation makes them very efficient at cleaning and increasing the hectolitre weight (Bushel weight) in difficult seasons. Similarly, when grain comes off the combine hot this can cause big problems but recirculating batch driers are ideal for cooling hot grain too.

"Last year, we had an exceptionally dry harvest, and if we hadn't, we would have been in big trouble, so the drier arrived at the perfect time. We had lots of wet grain in 2021, and last year the dry grain was coming off the combines incredibly hot. The drier is perfect for both conditions."

Currently, Will and Andrew are sending their biscuit wheat to a flour mill in Kirkcaldy, which is looking for soft wheat with 10% protein levels and moisture levels to be 14.5%. They are also sole supplier to the new Leith Distillery in Edinburgh, which requires low nitrogen Laureate Spring Barley.

Based on their current throughput, the drier should prove a cost-effective investment, with Will predicting the Magna will pay for itself in around three years.

However, having used the Magna drier last year and experiencing quicker and effortless drying, Will and Andrew have their sights on expansion.

"We had got to the stage where given the amount of ground we were farming that we were on the edge of what we could handle



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drying-wise," says Will. "The new drier has given us extra capacity and will allow us to take on more ground. It also means that we don't have wheat sitting off-farm for up to three weeks waiting to be dried. We can dry wheat and spring barley at the same time now, making us much quicker."

"As our business expands, we know that bottlenecks will turn up, and we've encountered several of them over the years. At one stage, it was combining capacity, so we now run two combines. Then we got to the stage where it was drying capacity;

the drier has solved that, and we're now able to expand. We will be targeting 7,000 tonnes of wheat now we have the extra capacity; that's 2,000 tonnes per year more than now and all down to the new shed and the drier."

"The next bottleneck will most likely be sprayer capacity, and after that, something else will be the limiting factor, but we will cross those bridges when we reach them! At the moment, we're just focusing on using the drier to achieve the 40 per cent increase in throughput that we can now handle."