

Augers well for drying

STIRRING augers feature in the grain drying and storage facility installed for last year's harvest at Redmere Farm near Sutton St James, Lincs, where the Groves family need extra capacity and improved drying efficiency for the feed wheats, oilseed rape and protein peas grown on the 162ha unit.

"We've taken on a bit more land and with yields steadily increasing we had reached the limits of our 500t floor store," says Alistair Groves. "I also wanted

a drying system that could be left to run itself. But with grain prices as they are it all had to be done at an economic cost."

Having considered another floor store and a mobile dryer, he says the 380t capacity GSI storage bin-cum-dryer installed alongside the existing store achieves both aims. Excluding the DIY ground works and concrete base, the facility cost £77/t, with the stirring system and automated controls ensuring that it needs minimal supervision.



"It worked very well — dry grain went straight into the floor store, wet grain into the bin where it was dried," Alistair reports. "We were very impressed with the consistent

samples taken as the grain came out again."

Several lower cost options eased the eventual all-in cost of the set-up: a carry-in rather than a permanently installed sweep auger takes out the last of the grain once gravity has done all it can; there is a simple external access ladder in preference to the spiral staircase that is also available; and the 40-60t/hr emptying auger is a little smaller than supplier Danagri-3S commonly installs these days.

"It does everything we wanted it to. It's simple with few moving parts"
Alistair Groves



GSI drying bin has provided Lincs grower Alistair Groves with 380t of additional storage capacity plus an efficient, automated drying system at a cost of around £77/t

Nonetheless, the facility is a significant step forward from the plain floor store and ancient Airwoods oscillating bed dryer used previously. The steel framed building is in good shape and continues to provide useful grain and oilseed storage, with Martin Lishman pedestal columns and fans used to cool and aerate the crop when necessary.

The bin provides an efficient and largely automated drying facility in addition to 380t of additional storage capacity, aided

by the two full-depth augers that work in concentric circles to stir the entire bulk over a 24-hour period.

“Apart from ensuring that all the grain is dried evenly by mixing the dry and wet grain, the stirring system reduces the overall drying time and the power of the fan needed by maintaining good airflow,” says Mark Unitt of Danagri-3S.

A 50-75t/hr 20mm diameter, 16m long portable auger is used to fill the bin and top up the floor store, as well as for out-loading the bin when it comes to shifting grain to the adjoining building or to the merchant’s lorry. A powered spinner in the roof of the bin is designed to give an even fill and less compaction.

Grain sits on a fine-perforation floor suitable also for oilseed rape with air supplied by a single 15kW DMC fan with a vapour gas heater improving the moisture absorption capacity of the air when necessary.

“The new set-up’s a real treat,” concludes Alistair Groves. “It does everything we wanted it to, it’s simple with few moving parts and judging by the look of the materials and installation it should last us a good few years.”



Easy-to-follow control panel layout and simple automation makes life easier during a hectic harvest



Grain is augered out of the bin by a 152mm horizontal and 200mm angled combination with 4kW motor

System spec

Bin: GSI five-ring – 11m diameter, 5.61m to eaves, 8.79m to peak.

Capacity: 380t.

Filling: DMC portable auger – 200mm diameter, 16m long, 11kW motor, 50-75t/hr. Electric motor powered spinner in bin roof.

Drying: fine-perforation floor, DMC 15kW fan, vapour gas heater with modulating valve and electronic controls; triple auger stirring system, each with 1.1kW electric motor.

Emptying: lever-operated central outlet plus two lateral outlets over 152mm horizontal auger and 200mm 25deg angled power head auger with 4kW motor, plus carry-in sweep auger.

Access: internal and external ladders, three-section barrier hatch above out-loading auger.