

Black-grass-driven agronomy delivers in Lincolnshire

Case Study: The Wiggins-Davies family's Revesby Estate near Horncastle

Agronomy+ research and advice helps in a determined battle against black-grass

Serious black-grass concerns across land brought back in hand in recent years have prompted major changes to the 1220 ha arable business at Revesby Estate on the southern edge of the Lincolnshire Wolds as farm manager, Peter Cartwright and his team have brought all their available cultural as well as chemical weapons to bear on the problem.

At 10.32 t/ha across the 500 ha of first and second winter wheats grown last season, a farm yield fully 1 t/ha above the historic average suggests their fully integrated, rotation-wide approach is starting to pay dividends. But Peter sees it as very much a work-in-progress, with the real proof of the pudding a 10t/ha-plus farm average over at least three years. And he and his Agrii agronomist, Richard Butler are keen to build on their experience to date.

Fully Integrated Action

Overall, Peter and Richard reckon bad black-grass has been costing Revesby Farms a good 2t/ha in wheat output, not to mention £50-£100/ha in extra seed and chemical costs. Their determined effort to counter this major drain on profitability has meant changing from a mainly min-till based wheat/wheat/rape regime to an extended rotation involving a sizeable area of spring wheat; rotational ploughing; delayed winter wheat drilling



Drilling at Revesby Farms



with competitive varieties at increased seed rates; and robust pre-planting and pre-emergence herbicide treatment.

Wheat land with bad black-grass is now automatically ploughed in the autumn, set up over winter and put down to a spring crop. In addition to the sugar beet traditionally grown on the estate and both vining peas and potatoes contracted to local groups, 135 ha of spring wheat were harvested last season. As well as giving time for Roundup control ahead of sowing, the team have found this especially competitive and financially rewarding. It suits them far better than spring barley and – importantly – avoids any volunteer barley problems in the rotation.

Keeping up the Pressure

"Having ploughed the worst of the seed burden down, this means we need to apply plenty of pressure on seed remaining in the germination zone while keeping the buried seed down there for the five years or so our Stow Longa trials are showing to be necessary..

"So after the one ploughing we revert to minimum tillage, using a combination of the estate's Spalding Flatlift and/or Terrano MT ahead of the Vaderstad Rapid cultivator drill to deal with what had become significant compaction problems and give sufficient seedbed cultivation without moving black-grass in the profile. At the same time, we're attacking the weed seed remaining in the upper soil layer with a robust combination of rotational, cultural and chemical controls.

All October Drilling

"We don't start drilling even our first wheats on low black-grass pressure ground until October 1st these days," explained Peter. "That's because of the

opportunity even in a September as dry as the past one. Our 8m Vaderstad Rapid gives us the capacity we need even with such a large acreage to sow.

"We're also choosing competitive varieties and employing higher seed rates. Free-tillering Relay has been valuable on the worst infested fields to date, although we may need to revisit this on the basis of the latest Stow Longa research. At the same time, we're drilling fully 450 seeds/m² on the bad black-grass fields compared to 350 seeds/m² on the cleanest ones.

"We're keeping up sowing rates on our medium black-grass pressure fields too, as the last thing we want to do is let the black-grass get away. While we're not using such a robust pre-em, we've still gone in with a combination of flufenacet, DFF and prosulfocarb. And, of course, we're continuing to make the most of every stale seedbed opportunity we can."

KEYS TO SUCCESS

- Field-by-field agronomy driven by black-grass status.
- Maximum initial assault on bad problems, only easing as they are overcome.
- All bad black-grass ground ploughed and put into spring wheat.
- Min-tilling resumed thereafter to avoid bringing viable weed seed back to the surface.
- Robust rotational, cultural and chemical controls against weed seed in the germination zone.
- Maximum stale seedbed control ahead of every crop every season.
- Competitive wheat varieties sown at higher seed rates with no drilling