



John Pawsey – Shimpling Park Farm, Bury St Edmunds

John Pawsey is an organic farmer who farms 650 hectares of Hanslope series clay and chalky boulder clay in Suffolk. John takes a systems approach to managing pests, weeds and diseases by growing a wide rotation, choosing appropriate varieties and building fertility up through clover leys.

The organic system means that artificial nitrogen is not an option for John, so he builds fertility through the use of leguminous crops and livestock. The 1,000 New Zealand Romney ewes help manage grass weeds and return fertility to the 60ha grass and clover leys they graze. Rock phosphate is also an option to raise the P indices and organic matter can be added via chopped straw or biodigestate from the local sugar beet factory.

After the regenerative phase, consisting of a two year grass and clover ley, John will plant a winter cereal: wheat, oats, spelt or heritage wheat, depending on the weed burden of that field. Because no synthetic herbicides can be used, weed control has to be achieved via non-chemical means. Heritage wheat is grown as it is the most vigorous when it starts growing, so covers the ground quicker. Modern wheat varieties also tend to have leaves that are very erect and therefore cannot shade throughout the growing season, whereas spelt and heritage have a much more smothering aspect. John has also found that, due to their lower yields, older varieties do not need as much fertility as modern wheats. Weeds and crop volunteers are encouraged to germinate by cultivating immediately after harvest. John uses several passes with a Gregoire Besson disc/tine cultivator, or a Horsch Terrano cultivator down to a depth of approximately four



John plants on 321mm row widths allowing space for the Chameleon to go through inter-row hoeing and planting under sown grass and clover at the same time. The crop is planted in a 120mm band that provides it with more room to grow but allows John to meet his target of hoeing 70% of the field (between the bands). However, John's philosophy is that mechanical hoeing is a last resort and avoids it where possible to save money, time and diesel. If he can establish crops with good architecture, they can shade out competitive weeds.

“ I have the IPM approach of thinking: what do I need to do, what's going to affect my yield and do I need to do anything about it? ”

inches. Repeated passes take out the majority of weeds before drilling with the Swedish System Chameleon drill. The farm never ploughs routinely, just as and when appropriate.

Yields (on average):

- 5 tonnes a hectare for winter cereals
- 4 tonnes a hectare for spring cereals
- Just over 3 tonnes a hectare for beans

John has also pointed out that mechanical weeding may not work on all soils. If there is resistance in the form of stones or flints, or if the soils are over 35% clay, there will be increased crop damage.

By the end of a rotation, there is very little fertility in the soil. Winter beans are then planted to add fertility back to the soil following cereal crops and are chosen as opposed to spring beans because black bean aphids are less damaging in a winter crop compared to a spring crop. Being in the east of the country, John has also found that black



bean aphid can be a problem as they hit the spring beans just as they're mid flower, whereas in winter beans, most of the pods will have formed by the time the aphids move into the crop.

Fungal diseases in winter beans are reduced through planting on wider spacing to reduce humidity but

chocolate spot can and does occur, with significant losses of up to half a tonne a hectare. Bruchid beetles are present and do cause damage so the harvested beans cannot be used for human consumption. Instead they are used to produce organic animal feed.



Thistles in Spring Barley before and after the Chameleon



POLICY ASKS

- Recognition of ways which farmers can run profitable businesses and look after wildlife at the same time.
- When policy makers require certain outcomes, farmers can change practices to deliver these outcomes and should be rewarded for doing so.

FOR FURTHER INFORMATION:

[Swedish System Chameleon drill](#);
[Chameleon](#); [chocolate spot](#); [weed surfer](#)

“ We are willing to try everything. You have to keep trying new things. ”

The farm has looked at cover crops but due to the low fertility they have had disappointing results. Regarding the use of biostimulants, John believes “If we build fertility in the way we are now, building it with a two year ley and with a more successful way of establishing it, we should be able to produce healthy crops that yield the amount we need to make money more consistently. Most research into biostimulants has showed that if the soil is in good condition, then biostimulants aren't needed.”

Weed control

Blackgrass can be a problem in some crops, particularly if it emerges within the crop rows and therefore cannot be taken out with the inter-row hoe. Once it grows above the canopy of the crop it can be cut with a weed surfer.

Rotation is key to John's weed control, and he has found that blackgrass is less of a problem if a rotation is run with mixed winter and spring crops and there is focus on individual fields; the same is true for docks and thistles. ▼

John also employs people to hand rogue some of the crops and budgets a total of £85 a hectare for weeding. Fields that are unable to be rogued will have the full £85 spent on mechanical weeding and those that can be rogued will have £35 spent on hand roguing, usually for wild oats, docks and thistles, and the rest of the money will be spent on mechanical weeding.