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## Wildflower meadows

# Meadows matter

The introduction of SFI has created a surge of interest in implementing actions which aim to promote biodiversity through habitat creation. But does simply ticking a box deliver enough? CPM investigates what’s possible when inspiration is taken from nature.

By Janine Adamson

It’s difficult to fathom that wildflower meadows are one of the rarest habitats in the UK, in fact, 98% have been lost since the 1930s. But why care about British wildflowers and should the responsibility of their restoration fall at the feet of farmers?

The introduction of the Sustainable Farming Incentive (SFI) would suggest the government believes so, despite acknowledgement that the development of land for property is also at fault. This is because ultimately, a decline in wildflowers means a reduction in pollinators and insects that underpin many other ecosystems, which has a very

tangible impact on food production.

Furthermore, if pollinators such as bees disappear so do the animals that eat insects including birds, hedgehogs and bats, and that’s before even considering the visual negative impact on the country’s rural landscapes.

But does the answer truly lie in SFI, which financially rewards farmers for implementing management practices that aim to protect and benefit the environment? Wildlife farming consultant, Marek Nowakowski, questions whether the onus on quantity rather than quality is the correct approach.

### On a journey

“We should compare the parameters of SFI with what nature has been doing since the dawn of time and ask, are we doing the best that we can? Environmentally, we’ve come a long way during the past few years but it’s clear far more can be done.

“Science from the UK Centre for Ecology and Hydrology (UKCEH) tells us that cheap, poor-quality habitats don’t deliver the expected biodiversity increases aimed at boosting farmland wildlife,” he stresses.

According to Marek, farmers should be paid more for proven, higher standards of delivery. “Years ago, the payment by results experiment showed what farmers could really do when paid to deliver, so why has the bar been set so low by government?” he asks.

“I’m also concerned by the decision to replace rules with aims – we all require

rules – although guidance has since been modified to include the word ‘must’.

“Additionally, habitat quality and variety are key to an increase in biodiversity, but it all requires appropriate management. Ultimately, habitats are ‘crops’ so should be ‘farmed’ – by this I mean active management and adequate knowledge are essential.”

Marek highlights that many flower mixes



Science suggests cheap, poor-quality habitats don’t deliver the expected biodiversity increases aimed at boosting farmland wildlife, says wildlife consultant, Marek Nowakowski. Pictured with companion, Spot.

targeted at SFI aren't linked to soil type or a specific delivery, with most comprising 80% grasses and 20% flowers. The less expensive mixes can contain flowers from short-lived agricultural cultivars which on fertile arable soils, promote rapid vegetative growth and poor species diversity.

Instead, better results can be achieved from reducing the grass percentage and using native flowering species although it's unlikely this will be cheap, he says.

"It's important to remember there's a considerable difference between sowing a plant community and a random collection of seeds. But equally, there's a lot to creating an appropriate habitat; for something worthwhile, it can cost around £500-700/ha.

"These quality mixes take time to deliver – far longer than three years – but done well, they have a long life expectancy. We should aim to take inspiration from nature, which has provided habitats which stand the test of time, and copy those."

This was the approach adopted by Andrew Ingram at Greenfield Farm in Watlington, Oxfordshire, a self-confessed nature enthusiast. Although primarily in the business of Christmas tree growing, the farm also rotates between winter



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wheat, cover crops and game cover.

It was after seeing Marek walking around a wildflower meadow as part of a television programme in the 1990s that Andrew felt inspired to begin habitat restoration. "I asked Marek to visit and it soon became clear that we spoke the same language, so we embarked on our voyage in 1996 and started by enrolling

in an environment scheme," he says.

For 10 years under Higher Level Stewardship (HLS), Andrew looked after 16ha of meadows (assigning the least productive agricultural land at the farm) as well as planting woodland, hedgerows, field margins and introducing barn owl boxes. Then in 2006, the farm, which is mostly on thin chalk soils, entered a

## Mix options

Understanding the desired outcome and choosing a seed mix accordingly is the key to making biodiversity stack up, is the message from technical advisor, Hannah Clarke.

Hannah, from Kings Crops, part of Frontier Agriculture, explains that despite there being a broad range of price points available, in reality, there are two main mixes which the company recommends. "At the lower end, there are 1kg packs of wildflowers and agricultural legumes aimed at small-scale projects, or to add to existing grass swards.

"We then have two recommended mixes for establishing IPM2 for SFI – the flower rich grass mix and the enhanced flower rich grass mix. The difference between the two being that the enhanced contains twice the wildflower percentage," she says.

At the other end of the spectrum is the most premium wildflower option from Kings Crops – the IPM flower mix. "This aims to attract specific predatory insects including ladybirds, solitary bees and lacewings and is becoming popular in high value systems such as vineyards.

"But practically speaking, the flower rich grass mixes will fit most scenarios, although these can be tailored to include region-specific

wildflowers or to accommodate certain soil types such as heavier clays," suggests Hannah.

She agrees with the viewpoint of quality habitats requiring investment, but also acknowledges that for larger hectarages within conventional systems, the more cost-effective options still have a role.

"SFI payments are becoming increasingly desirable and we have to understand that for some, these mixes aren't going to last that long and are being used as a rotational tool. That means it's important to be pragmatic with flower-rich options such as IPM2 or AB8 and choose them when the desired outcome is to create long-term habitats.

"So in some instances, particularly those three year lifespans, winter bird food (ALH2/CALH2) and legume fallow (NUM3/CNUM3) are likely to be better choices," explains Hannah.

Having spent the summer at events and speaking to farmers about SFI, she says she's observed an overall attitude shift towards IPM. "We're definitely undergoing a mindset change and with that comes new learning.

"A critical element is taking advice regarding the establishment of the different actions, particularly IPM2 and AB8. Consider the location – can you access it regularly to



It's important to be pragmatic with flower-rich options such as IPM2 or AB8 and choose them when the desired outcome is to create long-term habitats, says Kings Crops' Hannah Clarke.

cut it? Flower-rich options require time for management because good weed control is vital for the survival of perennial species.

"They are long-term projects, so for many embarking on their SFI journey, it may be more of a gradual process," she concludes.

Details of the different mixes available can be viewed at [www.kingscrops.co.uk/wildflowers](http://www.kingscrops.co.uk/wildflowers)



*Quality mixes take time to deliver but done well, have a long life expectancy.*

► Mid-Tier scheme and expanded the area of flower meadows to around 40ha.

As a result, one of the wildflower meadows at Greenfield Farm is approaching 30 years old, which Andrew says has proven a source of great enjoyment during that time. “We went in with a basic mix of 26 species, six of which were grasses, but selected specifically for chalk grassland. We’ve now recorded more than 120 different species including five different orchids that now call the meadow home.”

Since then, he’s purposefully added new flowering species aimed at specific insects. “Although we had to intervene with proactive management early doors, it’s reached an equilibrium now with little intervention. Perhaps we’re fortunate that the site is a perfect location surrounded by woodland, but we’ve done our bit and nature has repaid us handsomely.”

An example of Andrew’s tailored approach has been the introduction of horseshoe vetch (*Hippocrepis comosa*) – a perennial plant which is essential for chalkhill blue butterflies because their caterpillars feed solely on it. And of course, the overall result has been a hike in insects and wildlife – the farm has started moth trapping for UKCEH and has so far recorded 32 different species.

Marek believes Andrew’s meadows are a showcase of what can be possible with a nature-first mindset. “The fact unusual species are thriving proves the value of the whole thing;



*Horseshoe vetch (*Hippocrepis comosa*) is a perennial plant which is essential for chalkhill blue butterflies because their caterpillars feed solely on it.*

Andrew has always gone above and beyond what’s necessary,” he says.

Andrew admits that stewardship grants haven’t covered the cost of establishing his meadows, but instead he’s used the money to subsidise the journey he wanted to pursue. “I’d never go there with these new three-year options,” he adds.

But what of the management that both Andrew and Marek promote? At a basic level, it begins with understanding exactly what’s in the mix, suggests Marek. “In terms of golden rules, flower seed depth is critical – broadcast the seed don’t drill it, then, ensure you’re sowing at the correct time of year.”

## Managing growth

“Repeated cutting in year one is required to manage growth, reduce weed burden and to allow light to penetrate the canopy,” he says. “That’s why it’s also important to carefully consider seed choice selecting between native and agricultural species. Whereas native seed is more expensive and slower growing, it lasts longer. Agricultural species may be cheaper, but they’re bred for yield and are therefore dominant and shorter lived.”

As for habitat lifespan, some SFI mixes may cost around £125/ha but are designed to only meet the criteria of SFI agreements. In comparison, a balanced plant community for quality habitat delivery will cost more than £500/ha, but has the potential to thrive beyond 10 years. Marek hopes this provides food for thought in regard to the economics of achieving environmental good.

“It’s worth comparing all the costs

of cheap repeated sowings to a single quality, long-lived sowing and that’s before we compare the different environmental deliverables.”

Equally, by combining a thriving wildflower meadow with other tactics such as well-managed hedgerows, he believes it’s perfectly achievable to fill the ‘hunger gap’ wildlife often experience and therefore break the chain of decline.

But Marek stresses that he doesn’t blame farmers for the direction of travel with SFI, far from it. For one, he says there’s a distinct lack of training on the benefits of optimal habitat management. “No one wakes up simply knowing all of this, myself included. There has to be a greater focus on providing farmer-appropriate education across the board.”

In fact, Marek is actively involved with Agrii – which now trains all agronomists accordingly so appropriate advice can be given to farming customers.

He also flags that the Office For Environmental Protection could evaluate environmental delivery which may result in SFI funding model changes and greater governance. “This is concerning, but payment by results would reward delivery and therefore yield a better outcome for the public purse, nature and the biodiversity we’re trying to protect.

“Additionally, there’s no denying there’s a lot of enjoyment and pleasure to be taken from a more considered approach. I don’t think I’ve ever met a farmer who isn’t remotely interested in wildlife and nature,” he concludes. ■



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