

# Wildflowers as a crop

## Trewithen Estate

A case study on the benefits  
and opportunities of  
wildflower seed production



University of Exeter

Environment and Sustainability Institute



## Who is this case study for?

This case study is designed to inform and inspire landowners, land managers and people looking to rent land for the production of wildflowers and seeds. This case study also provides examples of the economic, environmental, and engagement opportunities that wildflowers and wildflower seeds could have for businesses in Cornwall and beyond.

## Site history

The 300-year-old Trewithen Estate sits between Truro and St Austell in Cornwall and consists of roughly 8500 acres of land, one of the largest private Cornish Estates. The Trewithen Gardens and Estate House are located in the 2500-acre 'home area' with a further 5500 acres north of the A30 road that runs down through Cornwall. The majority of the Estate is let to farmers on Farm Business Tenancies with some land farmed in partnership and some on contract farming arrangements. Other businesses include renewable energy projects, a boatyard and riffle range as well as a large portfolio of let cottages.

In 2021, Estate owner Sam Galsworthy and Estate Director James Humphreys launched a Wildflower project to take the Estate in a new environmentally friendly direction.



**JAMES HUMPHREYS**

*Estate Director, Trewithen Estate*

*"If you've got the right sort of land, then wildflowers are a brilliant project.... I would certainly say to anybody, go for it, but take advice."*

## Aims of the project:

- Help pollinators and ground-nesting birds.
- Help tenants farm in a more environmentally friendly way.
- Balance the land between contract farmers and tenants.
- Improve relations and communication.
- Plant more trees and hedgerows, allowing them to grow out and attract more wildlife.
- Maintain and enhance soil health.

## More about the Wildflower Project from James

In 2021, Sam Galsworthy decided to trial growing wildflowers for seed in a 15-acre field off Carland Cross on the A30 road. "Sam Galsworthy has a very strong environmental side." recounts James, and already helps run an organic dairy farm on the Estate.

### **The inspiration:**

According to James, "The Heligan wildflower project case study was very influential.", as they took inspiration from the methods used and advice from Alasdair Moore, Head of Gardens and Estate at the Lost Gardens of Heligan and Dr Grace Twiston-Davies, at the University of Exeter. Although James and Sam had been considering a wildflower project previously, the Heligan case study provided the inspiration and how-to they needed to finally get started and provided the connection to Richard Scott at the National Wildflower Centre based at the Eden Project.

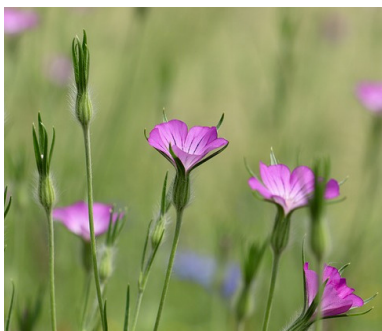
### **The chosen site:**

The trial site selected was near Carland cross, Newlyn East off the A30 road and had previously been used for growing crops such as brassica and wheat.

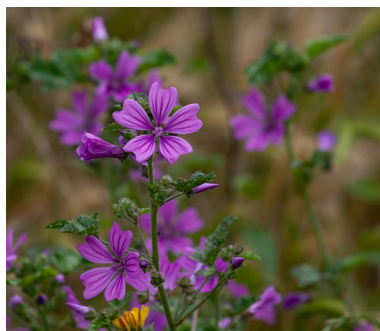
The site had a clearer seed bed with lower nutrient levels when compared to other fields in the area. Thus, the field was used for wildflower planting as "To grow a crop of wheat or brassicas, it would have needed a lot of fertiliser...", so wildflowers were deemed much more environmentally friendly. This land was then leased to the National Wildflower Centre.

### **The seed mix used:**

The seed was obtained from the National Wildflower Centre and consisted of two species of Cornfield annuals and one species of perennial wildflower. Using a wildflower mix meant that the annual species would prevent weeds from coming through as they grow quickly and that the seed could be easily separated once harvested because the species used had different seed sizes. The cornflower (*Centaurea cyanus*) and corncockle (*Agrostemma githago*) seeds were harvested from the Lost Gardens of Heligan and the red campion (*Silene dioica*) seed from a National Wildflower Site in Liverpool, using a small combine harvester. The seed was sown at the Trewithen site using a soil drill by the local arable contractors in the Spring of 2021.



Corncockle



Red campion



Cornflower

### The results:

The first harvest was in the autumn of 2021 and yielded roughly 500-750kg of cornflower and nearly 2 tonnes of corncockle. Although Trewithen aren't selling the seed themselves they "might well expand the wildflower business into retail" in the future and are expecting to match the equivalent revenue that would have been made if wheat or brassicas were grown instead. Due to this success, the area of wildflowers for seed was expanded to cover 100 acres as of February 2022 and there are plans to potentially expand further.

#### Economic:

- No fertiliser needs to be bought.
- Cheaper to grow than wheat or brassicas.
- Land can be used for livestock in break years.
- Attracts young farmers to the Estate

#### Environment:

- No risk of run-off as no fertiliser is used.
- Wildflowers will encourage more wildlife than traditional crops.
- Less machinery needed to farm and collect the seeds.

## Benefits of wildflower crop

#### Engagement:

- Attractive to look at - "create a bit of a 'wow' factor for locals travelling around."
- Opportunities for public engagement and community projects.



Corncockle seed



Red campion

### Benefits of wildflower crop

#### Economic gains

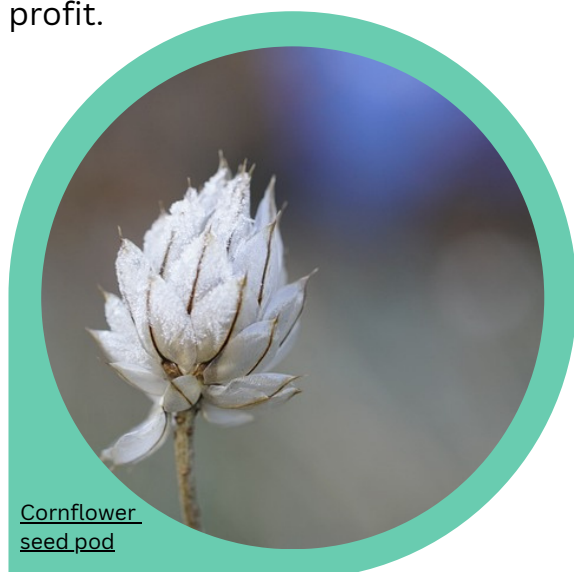
This trial has allowed the Estate to expand into leasing land for wholesale seed, with the predictions of profits being "... on par with some of the brassica growers...". Seeds harvested on-site can be used to sow additional fields in the future, resulting in a further profit from the new patches sown.

For businesses with areas accessible to the public, there are potential benefits by encouraging locals and tourists to visit and enjoy the aesthetic value of the wildflowers and to connect to nature. Given the Estates' ambition to build a farm shop, revenue from selling the wildflower seeds could be used to create new accessible nature-friendly areas around the shop which may attract more customers, and seeds could be sold in the shop.

Depending on the crop and seed supplier, wildflower crops may provide higher returns per acre of land used than other crops. Furthermore, chances of profits are higher as less needs to be spent on fertiliser to ensure a good yield of wildflowers compared to growing arable crops on the same land, particularly if the soil has low nutrient levels. In the same vein, there is less machinery needed for crop maintenance, saving money on fuel costs and machinery upkeep.

Additionally, because food crops are no longer being grown, there is potential to use the land for livestock in break years.

Sowing wildflowers could also prove profitable by attracting more young farmers, particularly on the Trewithen Estate as James found that young farmers are "...very interested in growing this sort of crop.". For Estates, profits can be made from renting out land to young farmers especially if wildflowers have been sown previously with evidence of profit.



Cornflower  
seed pod



Harvesting at project Gwerras. Photo by James Humphreys

### **Environmental gains**

James describes how the land previously "wasn't being farmed in an environmentally friendly manner.". The land was marginal and therefore required high quantities of fertilisers to grow food crops successfully. The Wildflower Project provided a more environmental way of farming crops as it enabled a significant reduction in fertiliser use across the Estate, and thus a reduction in harmful run-off. Moreover, the planting of wildflowers will enable carbon dioxide sequestration without the risk of releasing carbon back into the atmosphere through the use of heavy machinery needed for maintenance. A win-win for reducing greenhouse gases and maintaining soil health. Similarly, the site's location adjacent to the busy A30 may help absorb the air pollution given off by vehicles driving past, further decreasing environmental damages.

The maintenance and enhancement of soil health was an important aim of this project for Sam. The planting of wildflowers enables soil health by cycling nutrients in a more effective way than would be seen with monoculture crops. Another aim was to help wildlife, with James stating "...we want to help pollinators and ground-nesting birds.". Wildflowers support bird populations because they provide habitat and forage for insects as well as seeds, both food sources for birds. Pollinators will be able to thrive during the period leading up to seed production because of the large amounts of nectar and pollen provided by the flowers. Therefore, wildflower crops will aid environmental health through an increase in local biodiversity levels.

### **Engagement gains**

James and Sam worked closely with Jacob and Joseph Kerkin, two local young farmers who were contracted to do the ground prep and sowing. This provided opportunities for knowledge exchange on wildflower cropping opportunities and methods.

With the addition of a farm conversion and the potential farm shop on the Estate, both designed to improve the gardens and welcome more visitors, there are further engagement opportunities with the community to be had.

The proximity of the wildflower crops to the A30 road will present an opportunity to appeal to locals and tourists alike "... they'll be asking questions about it as the crops grown there will be unusual.". James is hoping that locals will get involved by growing the seed produced at Trewithen or their own seed and spreading the knowledge of the project, spurring others to do the same for wildlife and soil health. James hopes that young farmers will get involved and support their peers as well as older farmers looking for diversification opportunities in realising wildflowers as an opportunity for innovative, profitable and sustainable farming.

"We're very enthusiastic about trialling it elsewhere.... There's a lot of birdlife out there, and we want to help pollinators and ground-nesting birds. That's our main objective"

-James Humphreys,  
Estate Director, Trewithen Estate

# Conclusions



The aims of the Wildflower Project were met - the wildflower crop enabled the Trewithen Estate team, tenant farmers and contractors to collaborate and knowledge share whilst improving the quality of the soil, enhancing biodiversity and providing opportunities for engagement.



Taking inspiration from the Heligan wildflower project case study and receiving support from the Lost Gardens of Heligan and the University of Exeter, provided "a really good kick-start." needed to launch the Wildflower Project.



There have already been numerous economic benefits to this change in crop type, and the revenue per hectare is estimated to be equal to that already generated through current methods of farming.




The expansion of the fields from 15 acres to 100 acres, and any future extensions, will reinforce and increase the economic, environmental and engagement benefits of wildflowers as a crop.

## Final thoughts

We advise that businesses looking to take inspiration from this case study who are interested in exploring the opportunity of wildflowers as a crop further should seek independent advice from their financial advisor and agronomist.

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