Wildflowers as a crop

Trevisker Community Meadow

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

wildflower collective

TREVISKER COMMUNITY MEADOW

University of Exeter

Environment and Sustainability Institute

the halpin trust

Trevisker Community Meadow - Wildflower crop

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.

Trevisker Community Meadow

With years of experience working to protect wildlife on the coastline through their Beach Guardian organisation, father and daughter duo Rob and Emily Stevenson set their sights on dry land and in 2019 began work on protecting pollinators. Emily and Rob teamed up with Trevisker Garden Centre who offered them a large polytunnel at their site near Padstow, North Cornwall, as a hub for their volunteer focussed beach cleaning, engagement and wildlife activities. The hub was situated next to a large field at the back of the Garden Centre which had been fallow for three years. In 2019, Rob and Emily decided to lease the field with Mark and Sian Sandry, the Garden Centre owners, along with Emma-Jayne Rothwell, founding team member of the Lost Gardens of Heligan and the Eden Project. The aim was to transform it into a wildflower meadow and wildlife pond. Together they set up a not-for-profit Community Interest Company – Trevisker Community Meadow.

TREVISKER COMMUNITY MEADOW CIC

Co-directors, Rob Stevenson, Emily Stevenson, Sian Sandry and Mark Sandry (Emma-Jayne Rothwell photographer).

"Seeing the thousands of bumblebees every day on the cornflower was just absolutely incredible. So that was a real success ...."

Aims of the project:

- Provide a sustainable funding source for future community projects.
- Encourage local farmers to manage the surrounding fields in a more environmentally friendly manner.
- Buffer Trevisker Community Meadow and wildlife pond from chemicals and pollution.
- Increase the amount of flowers available for pollinators, especially bees.

More about the project from Rob

The inspiration:

Having been involved in previous pollinator conservation projects run by the University of Exeter, Rob was inspired by the fact that the coastal areas that Beach Guardian were taking care of were also hotspots for rare bee species. In 2019, the 'Bee Guardian' project was formed as an offshoot of Beach Guardian to use their volunteer and conservation activities to help these important pollinators. The creation of the 4.5 acre Trevisker Community Meadow was their first major activity to create new habitat and forage for pollinators as well as a special space to hold workshops.

However, Trevisker Community Meadow was surrounded by intensively managed arable farmland and after concerns about chemical run-off from neighbouring fields impacting the wildlife pond and community meadow, Rob, Emily, Sian, Mark and Emma-Jayne inquired about leasing the adjacent 10-acre field. This field had previously been used for arable crops with the use of chemical sprays but had been fallow for a few years.

With help from existing sponsors, they were able to lease the field from the local farmer as part of a pilot project to grow wildflowers for seed, sell the seed to fund further community projects and start to create a network of wildflower sites in the Padstow area.

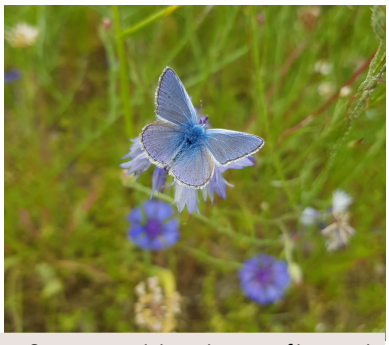
The seed mix used:

For the pilot project, the Trevisker Community Meadow team decided to grow cornfield annuals as they could be harvested in the same year. These were purchased from the National Wildflower Centre based at the Eden Project with some of the seeds originally harvested from the Lost Gardens of Heligan. Four species were used, cornflower (Centaurea cyanus), corncockle (Agrostemma githago), corn chamomile (Anthemis arvensis) and corn poppy (Papaver rhoeas).

These four species were sown at the start of 2022, each sown in a mono-culture strip to maximise the yield for individual species. This method also allowed for the seed to be sold in single species packets without the need to separate the seed upon harvest.

Poppy

Corn camomile



Common blue butterfly and Cornflower

The results:
Unfortunately, due to the weather and time of sowing, some of the crops grew poorly as weeds were able to quickly grow before the crop germinated. In particular, corn poppy suffered due to late germination times and extensive weed growth. Both corn chamomile and corncockle fell victim to the weed fat hen (Chenopodium album) so wildflower seed yields were less than expected and seeds had to be separated upon harvesting, adding additional costs to processing. Luckily seed separating proved relatively straightforward as the seed sizes varied for each species.

However, cornflower proved to be the most successful crop, growing quicker than the weeds and suppressing any that managed to take root in the same strip. Due to the success of the cornflower crop, plans will involve sowing mixed seeds with the hopes that the cornflower will suppress the weeds and lead to an increase in yields for the other three species. Seed separation will be required with this method, which increases processing time and costs and therefore could reduce the profitability of the project.

Despite the challenges of the first year, Rob sees these this these as "...learning experiences, and we're convinced that year one, we will more than break even on it, it's enabled us to see the benefits that it has on people visiting and looking at the wild flowers."

The collaborations:
The National Wildflower Centre was a partner throughout this project, who were contracted to provide seed and arranging expert, experienced contractors, ensuring the seed was evenly distributed and sown deep enough into the soil. They were also contracted throughout the first harvest. Rob believed it is paramount to "... use the best value model of taking the experience and the expertise of those people that have done it before."

The University of Exeter's Wildflower Collective project funded by the Halpin Trust were also a key partner "The experience of people like Dr Grace Twiston-Davies to help and advise us, and to look at best practice and find the best way to do things was invaluable" as well as Masters students to aid with pollinator species identification. Thanks to the Halpin Trust, The University of Exeter were also able to purchase a proportion of the seed to help launch the pilot project.
Age UK (Cornwall and the Isles of Scilly) collaborated up with Trevisker Community Meadow as part of their #GoForGold campaign celebrating their 50 years as a charity with the Trevisker team donating thousands of wildflower seed packets.

Benefits of wildflowers as a crop

Environment:

- No chemical sprays were used to minimise the negative effect these can have on wildlife.
- Improved soil health due to no fertiliser used.
- Large numbers of insects and bird life seen in the crop and surrounding area.
- Reduction in pollution due to less chemical runoff.
- Buffering hedgerows and allowing hedgerows to be managed for wildlife.

Engagement:

- Collaborating with experienced organisation helps to build connections and reach more people.
- Engaging more businesses and volunteers helps spread the environmental message and inspires others.
- Volunteers can learn new skills and get involved in the project.
- Provides an example site for local farmers, and an honest case study of what went right but also what went wrong!
- Wildflower seed is a great engagement tool – 3500 packets of seed were donated to Age UK

Economic:

- Seed can be sold in different packet sizes and mixes to optimise profit.
- Costs were saved due to no fertiliser or chemical sprays being used.
- Seed costs will be less in subsequent years as seed will have dropped in the field, less seed will need to be purchased and seed can be sourced at cost price from own harvest.
- Volunteers supporting the harvesting and seed packing reduces costs.
- Many farmers already have or have experience of using the machinery and equipment needed for wildflower seed production.

Benefits of wildflower crop

Economic gains:

With a high yield of seeds, Trevisker Community Meadow can alter their income by changing the way seeds are sold and to who they are sold. Seeds can be sold in small 10g packets to customers at the Garden Centre, in kilogram bags to landowners and farmers or bulk for wholesale. This can also be adapted by mixing seeds or selling them as single-species packets.

In the first year the pilot more than covered its costs. Rob has hopes that after around 3 years "... it will be self-perpetuating, we will be able to keep on generating funds and seed to keep sowing it ..." with enough profit to cover contractor costs and increase the chances of a good profit the following year. Additionally, any seeds that drop or are missed during harvest will regrow the following year and reduce the costs of seeds for the subsequent year. The cost of next year's sowing should therefore be less and they can use their own harvested seed at cost price.

The lack of chemical sprays and fertiliser further reduces the money spent on crop production, unlike the growth of more commonly grown crops that require frequent enrichment. However, without spraying, weeds can become a problem so, seed mixes need to be adapted to include at least one fast growing species that outcompete the weeds or seed needs to be separated once harvested.

Harvesting Trevisker Community Meadow wildflower crops

Providing hands-on experience for volunteers to help out with seed harvesting and filling seed packets for charity and outreach purposes, reduces overheads.

Due to the nature of the machinery needed, it is likely that farmers or those interested in growing wildflowers commercially are already in possession of some of the tools needed, and if not they are relatively cheap to purchase and maintain, cutting equipment costs. There is often just some configuration or adjustment of the machinery to accommodate different seed sizes and harvesting heights.

Additionally, they are easy to use, allowing volunteers to practice and use the equipment in place of farmhands that may be needed, allowing projects to become self-funded though the sale of the harvest collected by volunteers.

Engagement gains:

Volunteers involved in the maintenance and harvesting of the wildflower crops, learn new skills that can be applied to future projects or job opportunities. Volunteering in nature also provides health and well-being benefits.

The pilot has provided an example for local farmers of what can be done for nature within a short time frame, Rob describes the reaction of the farmer who owns the 10-acre field, "He's loving, seeing the benefits of nature!" and “Once he got what we were doing, and why we were doing it, and then got to see the knock on effects, he was very supportive of what we were doing, very pleased to give it a go.”.

Local businesses can get involved with the volunteering days and develop their sense of community. The more business and volunteers involved, the more awareness of the work being done to help pollinators and people which will inspire others to do the same.

"You just need to talk to those people that are doing it ... and just ask the question of how can we get involved? There will be farmers that have the machinery already that's capable of sowing and harvesting wild flower seeds. It's not as daunting as perhaps you may think"

Rob Stevenson

- Co-director of Trevisker Community Meadow CIC

Collaborating with experienced and well-known organisations like the Eden Project, the University of Exeter and Age UK, helps to build connections for future projects and spread the pollinator conservation message further.

The Trevisker team have been using the seed to work with Age UK (Cornwall and the Isles of Scilly). As part of Age UK’s #GoForGold campaign celebrating their 50 years as a charity, the team at Trevisker donated 1000 packets of corncockle and 2500 packets of golden corn marigold seed. They are encouraging people of all ages to pick up a packet, sow it and share their photos using #seedcornwall.

Environmental gains:

Directly, the wildflower crop itself is providing huge amounts of nectar and pollen for pollinators, providing a much-needed food source in the summer. With plans to diversify the seed mixes, the effect will only be amplified once annuals and perennials are added and provide more variety for flower visiting insects. The increased insect populations will also help support birds and bats which feed off them as providing seeds and seed pods for birds.

Indirectly as a consequence of the Trevisker team taking on two adjacent fields the hedgerows between and around the two fields, the community meadow and the wildflower crop, are now managed for wildlife and protected from chemical spray and run-off, providing habitats and shelter for pollinators, nesting birds and small mammals.

Growing the wildflower crop in a more environmentally-friendly way with no chemical sprays or fertiliser minimises the negative effect these can have on wildlife, improves soil health and reduces pollution due to less chemical runoff.

Conclusions

- Trevisker Community Meadow provides an example of how growing wildflowers as a crop could be used to generate revenue to fund future conservation and community projects.
- By being flexible about how the seed is sold, the team at Trevisker can optimise their profits and make the most of their collaborations and connections.
- Combining the community meadow project with the wildflower crop provides volunteer opportunities and benefits.
- Providing an exemplar and an honest case study to local farmers, Trevisker Community Meadow showed the potential benefits for these sorts of projects.
- Using wildflower crops in conjunction with habitat creation and hedgerow management could provide the biggest benefits for profit and pollinators!

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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