

SOW WILD! INSTRUCTIONS 2016

Welcome to the *Sow Wild!* community and thank you for taking part!
This leaflet should tell you everything you need to know about your project.

PROJECT KIT

In your kit you should have:

- 1 pack of seeds (16g)
- 8 plastic jars and lids
- 6 pan traps (2 pink, 2 blue, 2 white)
- Small plastic bag for soil sample (to collect at the end of summer)
- 1 piece of pH paper and colour chart in a brown envelope
- 4 recording sheets
- The box in which your kit arrived – keep this to return your samples at the end of summer

You will need:

- Clear vinegar
- Natural washing-up liquid without strong scent (for example, Ecover)
- Permanent marker
- Access to a digital camera/camera phone

THE WILDFLOWER SEEDS

Your seeds are native to the UK and contain both flowers and grasses. Grasses are an important part of the mix as they stop weeds growing amongst the wildflowers. Your mix contains the following:

Yarrow	Cowslip
Betony	Selfheal
Common knapweed	Meadow buttercup
Greater knapweed	Yellow rattle
Wild carrot	Common sorrel
Meadowsweet	Red campion
Hedge bedstraw	Ragged robin
Lady's bedstraw	Wild red clover
Rough hawkbit	Tufted vetch
Oxeye daisy	Cornflower
Bird's-foot-trefoil	Common poppy
Wild marjoram	Common Bent
Hoary plantain	Crested dog's-tail
Salad burnet	Slender-creeping red-fescue
Smaller cat's-tail	

Participants have been sent different mixes, so you might not have the same wildflowers as your friends!

Important note: In your 2x2m wildflower patch please only use the seeds provided by Sow Wild!

THE PROJECT PLAN

PART ONE: Plot preparation.

WHEN? As soon as you receive your pack

- Measure out your plot of 2m x 2m square (this is 4m² in size)
- Remove any weeds, decomposing leaves, nettles and waste from the plot

PART TWO: Testing the pH of your soil

When? When you are preparing your plot

- Using the pH paper ('universal litmus' paper) from your pack
- With your hand or a shovel, collect some soil from your plot – collect soil at about 15 cm (6 inches) deep
- Collect a tablespoon of soil and put this in a jar (you could use a jam jar, or a jar that has been provided in your pack – wash it out after use)
- To the jar, add two tablespoons of tap water
- Shake the soil and water sample to mix it all up
- Let the sample settle for 2-5 minutes
- Keeping hold of one end of the paper, put the pH paper into the mixture for 5 seconds
- Take the paper out, and hold for a few seconds while the colour stabilizes
- Compare your pH paper to the colour chart included and note down the pH here:

pH of my soil:

Important note: Please also record this pH on your recording sheet

PART THREE: Sowing.

You have been provided with a 16g bag of seed mix – enough to sow at a rate of 4g/m²

When? During the first three weeks of April 2016

- Remove any weeds that have grown since you prepared the soil
- Dig to bury surface soil, and rake to produce a medium tilth
- Flatten the bare ground to produce a firm surface
- Give the pack of seeds a little shake, so all the seeds are well mixed up
- Sprinkle the seeds evenly over the plot by hand, do not cover the seeds with soil
- Gently press the seeds down onto the soil with your hand to stop them blowing away
- Water the plot lightly if no rain is forecast (and then continue to water the patch as you would the rest of your garden)

PART FOUR: Sampling.

When? During the first week of May, June, July and August. Make a note in your calendar as a reminder!

Preferably during a dry and sunny 48 hour period. (You can start the 48 hour period anytime of day you choose)

Firstly, lay your pan traps:

- Fill each of your pan traps $\frac{3}{4}$ full with water, and a couple of drops of perfume-free washing-up liquid
- Lay three pan traps (one pink, one white, one blue) alongside each other in the middle of your wildflower patch
- If it's very windy, you could place a stone in the bottom of the pan traps (to stop them blowing away!)
- Lay the remaining three pan traps (one pink, one white, one blue) 10 metres away from your wildflower patch
- Leave the pan traps undisturbed (it's OK if it rains during this time)
- Collect up your pan traps 48 hours later

Collecting up your pan traps:

- Collect up the **three** pan traps in the wildflower patch, scoop out all the insects you have collected and place into a single jar
- Using your recording sheet, see if you can identify any of the insects collected – you could use a teaspoon to scoop them out so you can take a closer look
- Drain the water (as much as you can!) and fill the jar with clear vinegar, enough to cover the insects and preserve them

- Label the jar using permanent marker or pencil (anything else might rub off if the jars get wet)
- On the jar write:
 - ‘WP’ (which stands for wildflower patch)
 - Your full name
 - Your postcode
 - The date (day, month, year)
- Repeating as above for the **three** pan traps 10 metres away from the wildflower patch: scoop out all the insects you have collected into another single jar
- See if you can identify any of the insects
- Drain the water and fill the jar with white vinegar
- On the jar write:
 - ‘10’ (which stands for ‘10 metres from the wildflower patch’)
 - Your full name
 - Your postcode
 - The date (day, month, year)
- Tightly secure the lid on both jars, and store somewhere cool and dry until the end of the summer.

During this 48 hour period, take some pictures of your site:

Using your digital camera/camera phone:

- Please take a picture of your wildflower patch (so all of the patch is in view)
- Please take a picture of your whole allotment/garden (so we can see what other flowers are growing in your garden/allotment)
- Email these photos to j.griffiths-lee@sussex.ac.uk Or you could post them on Facebook (www.facebook.com/groups/SowWild/) if you are happy with other people seeing them.
- Note – please take photos in May, June, July and August, this is so we can see the flowers at different times over the summer. You can email them all at once at the end of the summer if you like, but please note the month in the name of the photo so we know which is which!

Also during this 48 hour period, tell us what you have found:

Using your recording sheet:

- Tell us about the weather when you collected your samples
- Tell us which pollinators/insects you think you have collected
- Tell us which flower species are present in the wildflower patch
- Tell us what other flowers you have grown in your garden/allotment, and how many plants on a scale of 1-10, 11-25, 26-100, 101-200, 201-1000, 1001-5000, 5000+

For help with identification, I will soon send you pictures of flowers and insects you might expect to find in your wildflower plot.

RETURNING YOUR SAMPLES

Before you return your samples, please take around a tablespoon of soil from your garden/allotment (about 15cm/6 inches deep) and put it in the small plastic bag provided.

- At the end of the summer –please return your collection of jars to us! You could use the box that we initially sent to you
- Please make sure the jars are labelled with your name, date, postcode and the code ‘WP’ or ‘10’ using permanent marker or pencil
- Please secure the lids of the jars with sticky tape (tip –give the jars a little shake upside down –if they leak the lids aren’t on properly!)
- Remember to include your recording sheets
- Remember to include soil sample
- Return the box to me at:

**Janine Griffiths-Lee
JMS PG Pigeonholes
University of Sussex
Falmer
Brighton
BN1 9QG**

Thank you! We are really looking forward to seeing your results!

Just a note - The cost of a second-class postage to the university is currently £2.80.

MANAGING YOUR WILDFLOWER PATCH

- **Year 1: 2016**

During the first year, you will just see annuals (probably poppy and cornflower). Let these flower and then cut back the wildflower patch as flowering declines. It is especially important during this first year to cut the wildflower patch before the flowers die back, set seed and collapse, and to remove all the cuttings.

Flowering decline will probably be mid-summer (late July – early August), depending on your location. Once the wildflowers are cut back it will reveal the developing meadow mixture below and give this the space it needs to develop.

Cut back/mow to about 5cm, or 2 inches.

- **Years 2 and 3: 2017 & 2018 (and onwards)**

This is when you will see a diverse and beautiful wildflower patch!

Cutting back should take place again before flowering die-back and collapse - this will probably be in August. Again remove all the cuttings, which prevents rotting vegetation stifling flower growth. Cut back/mow to about 5cm, or 2 inches.

In late Autumn/early winter cut back to about 5cm (2 inches) and then again in spring if needed.

In later years (2018 onwards) grasses may start to dominate the wildflower patch. If this happens you can also cut back mid-summer (late July/August).

NEXT STEPS:

- Please remember to keep your pan traps and instructions! You can use these again next year
- You will be sent new jars for 2017
- Once we have identified the species we will send you a list of what we found in your garden/allotment
- Once we have collected in the results over 3 years we hope to publish our results in a scientific journal and we will keep you up to date about this!

CONTACT DETAILS:

Email: j.griffiths-lee@sussex.ac.uk

Facebook: www.facebook.com/groups/SowWild/

I am also happy to talk on the phone – please email me with your phone number and I can call at a time to suit you!

If you would like to write to me, you can use the return address above.

THANK YOU!

MAY RECORDING SHEET – 2016

Your name	
Your postcode	
Date of the 24 hour sampling period (dd/mm/yy)	
What is the pH of your soil?	
What was the temperature (°C) during this 48 hour period? A rough average is fine!	
Did it rain during the 48 hour period (y/n)?	
If it did rain, was it light/medium/heavy/thunderstorm?	

How many of each type of insect did you collect in the pan traps placed in your wildflower patch:

INSECT	NUMBER OF INSECTS IN SAMPLE
BUMBLEBEE	
HONEYBEE	
SOLITARY BEE	
WASP	
HOVERFLY	
MOTH	
BUTTERFLY	
FLY	
OTHER	

How many of each type of insect did you collect in the pan traps that were placed 10 metres away from the wildflower patch:

INSECT	NUMBER OF INSECTS IN SAMPLE
BUMBLEBEE	
HONEYBEE	
SOLITARY BEE	
WASP	
HOVERFLY	
MOTH	
BUTTERFLY	
FLY	
OTHER	

If you think you know which species your samples contains (through previous knowledge or new research), please tell us the common or Latin name on another sheet. If you do not have any idea of the species, that's fine! The experts at Sussex will compare your results to theirs, so don't be afraid to have a go at identifying your species sample!

SOW WILD! 2017 INSTRUCTIONS

Welcome back to Sow Wild! We have made a few changes to the methods this year - the following instructions should tell you everything you need to know.

PROJECT KIT 2017

In your kit you should have:

- 32 plastic jars and lids (these are smaller than last year!)
- 8 pan traps (2 yellow, 2 pink, 2 blue, 2 white)
- 8 Yellow Sticky paper traps and 8 sticky labels
- Recording sheets
- ID guide for insects and flowers
- The box in which your kit arrived – keep this to return your samples at the end of summer

You will need:

- Clear vinegar
- Natural washing-up liquid without strong scent (for example, Ecover)
- Access to a digital camera/camera phone
- Ball of garden string and 2 sticks/bamboo cane (around ½ -1 metre long)
- Cling film or similar

CHANGES FOR 2017

1. We will be elevating pan traps (you can use upside down recycling boxes, buckets, or anything else from your shed!)
2. We only set pan traps for 24 hours
3. We will also use 'yellow sticky paper traps' when we sample each month
4. We will add a 10 minute 'bee watch' each month
5. We are interested in looking at what is attracted to the different colour pan traps, so we will separate the samples by colour

NOTES FOR 2017

1. The new pan traps have a 'nectar guide' on the bottom, so don't use last year's pan traps!
2. When collecting up samples, please **don't** keep slugs, snails, moths or butterflies, although please do mark them on your recording sheet. We found slugs and snails dissolved in the vinegar, making it very brown, smelly and sticky!

3. We found that people collected lots of flies. Its time consuming for you to count these, so just give us a rough estimate!
4. When recording flowers on your recording sheets, please only note those flowers actually in bloom at the time
5. When storing your pan traps – try to let these dry before storing them until the next month –this stops them flaking so badly.
6. We have added a ‘bee watch’ based on feedback from people saying their pan traps do not catch a representative sample of what’s in their garden. Take your recording sheet and a cup of tea and relax in your garden each month. Bliss....
7. Due to the extra methods, the project will take you a bit of extra time each month. We hope you enjoy this, but if it’s too much, just do as much as you are able. Even if you just stick to setting and collecting pan traps–we are very grateful!

THE PROJECT PLAN

STEP ONE: Preparing your wildflower plot

When? March/April

- Remove any obvious weeds or debris that have appeared overwinter
- Your seedlings may have already started to appear – if you are unsure what is seedling and what is weed, just leave them for now
- Start watering regularly

STEP TWO: Sampling!

When? During the beginning of May, June, July and August. Preferably during a dry and sunny 24-hour period.

This year we will be using THREE sampling methods, and we will do these during the first two weeks of each month:

- Sticky yellow traps
- Bee watch
- Pan traps

If you don’t have enough time, or don’t wish to do all 3 methods, don’t worry! Just carry on pan trapping as normal.

We will be sampling in your wildflower patch, and the area 10 metres away from your wildflower patch, (this is where you set your second set of pan traps last year) from now on we will call this the ‘10 – metre away control area’.

Part one: Set your yellow sticky paper traps

- Using a piece of string, stick/bamboo cane ($\frac{1}{2}$ -1 metre long is fine), and a piece of yellow sticky trap paper from your kit
- Thread some string through the hole in the yellow sticky trap paper, and securely attach to the top of the stick.
- Push the bottom of the stick into the ground in your wildflower patch. The yellow sticky trap should sit around half a metre from the ground, and shouldn't flap around too much in the wind. (see photo)
- Peel off the clear film on both sides of the yellow sticky traps
- Repeat with a second yellow sticky trap and stick, placed in your 10 metre away control area
- Leave the sticky traps for two weeks (it doesn't matter if it rains – they are water proof)
- When collecting up the sticky traps cover in a single layer of cling film. Note - The sticky paper stays very sticky, and covered in cling film will allow us to look at the insects under a microscope
- Write the **Month** and **Code 'WP'** (wildflower patch) or **'10'** (10 metres away) and your **Name** on a label provided, and stick it on the cling film covering the yellow sticky paper trap



Part two: The bee watch!

During the first 2 weeks of each month, we would like you to take 10 minutes to relax in front of your wildflower patch, followed 10 minutes in front of your '10 metre away control area', and record what pollinators you see. If you don't have the time for the bee watch – please don't worry if you have to skip it.

If you can, please do your bee watch when it's a nice day, and between 10am-4pm (this is when bees are most active).

- Looking at your 2m x 2m wildflower patch and timing 10 minutes on a clock
- Record the types of insect you see visiting the wildflower patch, using your insect ID guide and 'bee watch' recording sheet
- Now go to your '10 metre away control area' and measure out a 2m x 2m square. You could even use string or a few sticks to show the boundaries of the area if you like
- Again, for 10 minutes record the types of insect visiting this area

Part three: Pan trap sampling

You are no doubt an expert at this bit now! But remember this time to elevate the pan traps, and you only need to leave them for 24 hours

- Fill each of your pan traps $\frac{3}{4}$ full with water, and a generous squeeze of washing-up liquid
- Lay four pan traps (one pink, one white, one blue, one yellow) alongside each other in the middle of your wildflower patch
- Elevate the pan traps off the ground using an upside down recycling box, bucket, or anything else you can find in the shed! (see photo)
- If it's very windy, you could place a stone in the bottom of the pan traps
- Lay the remaining four pan traps 10 metres away from your wildflower patch, and again elevate off the ground
- Leave the pan traps undisturbed and collect up your pan traps 24 hours later



Collecting up your pan traps:

This year we will be collecting up the pan traps and separating into jars by colour!

- You will need 4 jars for the wildflower patch, and 4 jars for the pan traps set 10 metres away
- Scoop out all the insects you have collected into 4 separate jars – one for each colour pan trap
- Using your recording sheet, see if you can identify any of the insects collected – you could use a teaspoon to scoop them out so you can take a closer look. NOTE- please don't send us slugs or snails, and don't worry about counting all the flies!
- Drain the water (as much as you can!) and fill the jar with clear vinegar, just enough to cover the insects and preserve them
- On the jar write:
 - 'WP' (which stands for wildflower patch)
 - Your full name
 - Your postcode
 - The date (day, month, year)
 - The colour of the pan trap (P= pink, W= white, B =blue, Y = yellow)

- Repeating as above for the **four** pan traps 10 metres away from the wildflower patch: scoop out all the insects you have collected into 4 separate jars
- On the jar write:
 - ‘10’ (which stands for ‘10 metres from the wildflower patch’)
 - Your full name
 - Your postcode
 - The date (day, month, year)
 - The colour of the pan trap (P= pink, W= white, B =blue, Y = yellow)
- Tightly secure the lid on all jars, and store somewhere cool and dry until the end of the summer

Part four: Tell us about your garden

Also during this 24 hour period, tell us what you have found:

- Tell us about the weather when you collected your samples
- Tell us which pollinators/insects you think you have collected
- Tell us which flower species are FLOWERING in the wildflower patch
- Tell us what other flower species ARE FLOWERING in your garden/allotment, and how many PLANTS on a scale of 1-10, 11-25, 26-100, 101-200, 201-1000, 1001-5000, 5000+

During this 24 hour period, take some pictures of your site:

Using your digital camera/camera phone:

- Please take a picture of your wildflower patch (so all of the patch is in view)
- Please take a picture of your whole allotment/garden (so we can see what other flowers are growing in your garden/allotment)
- Email these photos to j.griffiths-lee@sussex.ac.uk Or you could post them on Facebook (www.facebook.com/groups/SowWild/) if you are happy with other people seeing them.
- Note – please take photos in May, June, July and August, this is so we can see the flowers at different times over the summer. You can email them all at once at the end of the summer if you like, but please note the month in the name of the photo so we know which is which!

RETURNING YOUR SAMPLES

At the end of the summer –please return your collection of jars to us! Remember to include your recording sheets and yellow sticky paper traps

- Include your yellow sticky traps covered in cling film
- Take a photocopy/photo of your recording sheets

- Please make sure the jars are labelled with your name, date, postcode and the code 'WP' or '10', **AND** the code 'P', 'Y', 'W' or 'B'
- Please secure the lids of the jars with insulation tape or parcel tape
- Only use enough vinegar to cover the insects, you don't need to fill the jar
- Place the samples in a bin liner or similar and tie it in a knot
- Return the box to me at:

**Janine Griffiths-Lee
JMS PG Pigeonholes
University of Sussex
Falmer
Brighton
BN1 9QG**

Just a note - The cost of a second-class postage to the university is currently £2.80.

MANAGING YOUR WILDFLOWER PATCH

- **Years 2 and 3: 2017 & 2018 (and onwards)**

This is when you will see a diverse and beautiful wildflower patch!

Cutting back should take place again before flowering die-back and collapse - this will probably be in August. Again remove all the cuttings, which prevents rotting vegetation stifling flower growth. Cut back/mow to about 5cm, or 2 inches.

In late Autumn/early winter cut back to about 5cm (2 inches) and then again in spring if needed.

In later years (2018 onwards) grasses may start to dominate the wildflower patch. If this happens you can also cut back mid-summer (late July/August).

CONTACT DETAILS:

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Facebook: www.facebook.com/groups/SowWild/

I am also happy to talk on the phone – please email me with your phone number and I can call at a time to suit you! If you would like to write to me, you can use the return address above.

THANK YOU!

MAY RECORDING SHEET -2017

Your name	
Your postcode	
Start date of the 24 hour pan trap sampling (dd/mm/yy)	
Temperature during 24 hour sampling (average)	
Did it rain during 24 hour period? (y/n)	
If yes- was it light/medium/heavy/thunderstorm?	
Start date yellow sticky paper traps set (dd/mm/yy)	

MAY - THE PAN TRAPS

Note - You don't need to tell us the exact number of flies- an estimate will do.
Please don't put any slugs, snails, butterflies or moths in the sample. These disintegrate in vinegar!

Please record how many insects you found in the pan traps set in the
WILDFLOWER PATCH

Number of insects in sample by pan trap colour

INSECT	YELLOW	PINK	WHITE	BLUE
BUMBLEBEE				
HONEYBEE				
SOLITARY BEE				
WASP				
HOVERFLY				
MOTH				
BUTTERFLY				
FLY (estimate!)				
OTHER				

Please record how many insects you found in the pan traps set **10 METRES AWAY**

Number of insects in sample by pan trap colour

INSECT	YELLOW	PINK	WHITE	BLUE
BUMBLEBEE				
HONEYBEE				
SOLITARY BEE				
WASP				
HOVERFLY				
MOTH				
BUTTERFLY				
FLY (estimate!)				
OTHER				

MAY - THE BEE WATCH

Date		Temperature	
Time started		Rain (y/n)	

Please record how many insects you spotted in the **WILDFLOWER PATCH** over 10 minutes

INSECT	NUMBER
BUMBLEBEE	
HONEYBEE	
SOLITARY BEE	
WASP	
HOVERFLY	
MOTH	
BUTTERFLY	
FLY	
OTHER	

Please record how many insects you spotted in the **10 METRE AWAY AREA** over 10 minutes

INSECT	NUMBER
BUMBLEBEE	
HONEYBEE	
SOLITARY BEE	
WASP	
HOVERFLY	
MOTH	
BUTTERFLY	
FLY	
OTHER	

MAY - THE FLOWERS

