



The Great Sunflower Project

Welcome to the Hunt for Bees!

We are so glad that you are joining us! Please collect data as many times as you can this summer. We'd love to have a sample from the early part of each month and the later part of each month for as many months as you have flowers. We also changed the protocol. Each sample should last 15 minutes. Before sampling, remember to describe your garden online.

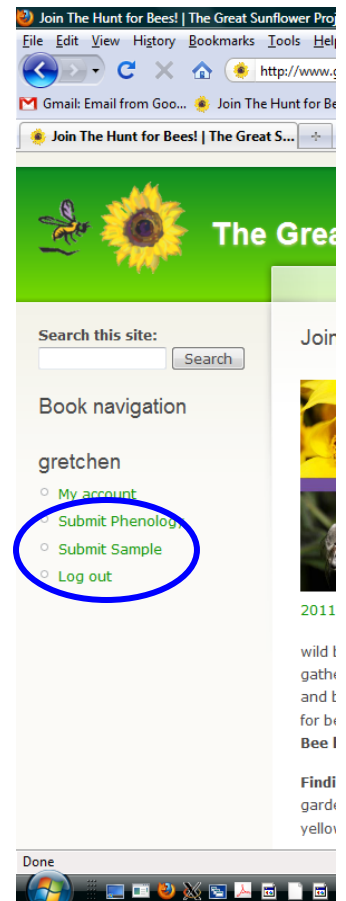
How to sample:

What you need: Sunflowers, a place to sit comfortably, a data sheet (on the accompanying sheet), a pen or pencil, and a watch. You might also bring a camera.

Pick a warm sunny day and if possible, sample in the morning. We recommend 9 or 10 am.

Here are the five steps:

- 1) Set yourself up near your plant. Take a look at your garden and count how many sunflower plants are blooming. We recommend a cup of coffee or tea...
- 2) Focus in on one plant, count and record the number of open flowers on your plant. Don't count older flowers that might not have pollen or nectar. You can tell if a flower is old by touching the center part and seeing if your finger picks up pollen.
- 3) Write down your starting time (e.g. 10:00 am).
- 4) For each bee that visits the plant, write down it's arrival time (e.g. 10:02 am)
- 5) Stop after 15 minutes have passed
- 6) Enter the data at: www.greatsunflower.org. After you login, look left and find "Submit Sample"



If you can, we would love to have photos of the bees. You can upload your photos on Flickr and link them to our Great Sunflower Group. You can also record the type of bee (bumble bee, honey bee, carpenter bee, green bee or other, we've put a guide on the datasheet). Remember, seeing no bees is just as important as seeing bees.

Thanks so much,

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DATA SHEET

Your User Name: _____ Garden address (if you have more than one): _____

Please use these types of bees: Honey bee, Bumble bee, Carpenter bee, Green bee, Other or Don't know.

Month:	Date:	Date:		
Start time (e.g. 10:00 am). If you see no bees in 30 min, write no bees here.				
#sunflower plants blooming in your garden				
# open flowers on your plant with pollen				
	Time of arrival (e.g. 10:03 am)	Type of bee Not required	Time of arrival (e.g. 10:03 am)	Type of bee Not required
First bee				
Second bee				
Third bee				
Fourth bee				
Fifth bee				
Sixth bee				
Seventh bee				

Remember: Some of the most important data is when you do not see bees. Please be sure to share those data!!!

Comments (Such as what else is in bloom in your garden that's attracting bees?):

BEE GUIDE



<u>Bumble bee</u>	<u>Honey bee</u>	<u>Carpenter bee</u>
<p><u>Are yellow and black (though some have red or white) and hairy.</u></p> <p><u>Their abdomens are hairy unlike a carpenter bee.</u></p> <p><u>Are un-aggressive unless you appear to be attacking their nest</u></p>	<p><u>Have gold to dark brown or black shiny abdomens with subtle stripes</u></p> <p><u>While they have hair, the hairs are sparse.</u></p> <p><u>Generally smaller than either bumble bees or carpenter bees.</u></p>	<p><u>Are often but not always totally black in color</u></p> <p><u>The top of the abdomen is shiny not hairy like a bumble bee.</u></p> <p><u>Have strong mandibles that they use to dig into wood where they establish nests</u></p> <p><u>Are not likely to sting unless handled</u></p>



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Please enter the information about your garden online! You can find the link to this on the left side of the screen when you login. If it is checked, you have already done it!

Your User Name: _____

Garden Location:

Street

City, State, Zip

Latitude _____ Longitude _____

(if you have your own way to tell like a GPS or Topographic map)

Size of Garden (Which best describes the size of your garden?):

- Pots
- Small-the size of a car or smaller
- Medium-the size of one side of a UPS truck or smaller
- Large- half a basketball court or smaller
- Extensive- a whole basketball court or larger
- Community garden
- Botanical garden
- Farm

Supplemental Water (Do you water your garden?):

- Yes
- No

Fertilizer (Do you add a chemical fertilizer?):

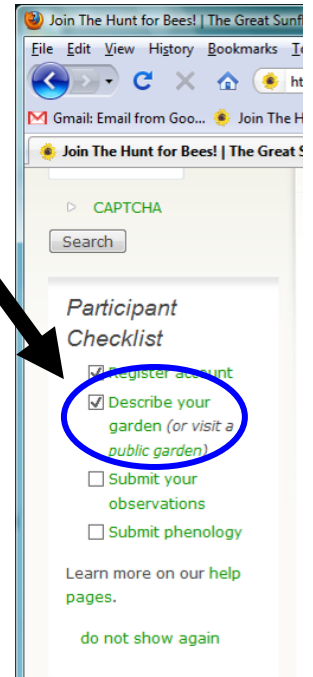
- Yes
- No

Amount of Sun (Which best describes the sunlight in your garden?):

- Morning
- Afternoon
- All day
- Very little

Development (Are you in an urban, suburban or rural area?):

- Urban
- Suburban
- Rural
- Wildlands
- semi-wildlands





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Your User Name: _____ (in case the sheets get separated)

Bee Hives (Are bee hives in or near your garden? How many?):

- NO bee hives
- 1-5 bee hives
- 6-15 bee hives
- 16-25 bee hives
- 26-50 bee hives
- 51-500 bee hives
- 500 or more bee hives

Habitat (Which term best describes the habitat surrounding your garden?):

- too urban to tell
- upland
- desert
- open grassland,
- field, or lawn
- grassland,
- field, or lawn with scattered trees
- cropland,
- cultivated field
- vegetable garden
- shrub thicket or old field covered in low woody vegetation
- forest or woodland
- forest or woodland edge
- wetland

Slope Direction (If on or near a slope, which direction does the slope face?):

- Don't know
- North
- North-East
- East
- South-East
- South
- South-West
- West
- North-West

Slope (Which best describes the terrain of your garden?):

- flat (no slope)
- top of slope
- middle of slope
- bottom of slope
- in valley
- between slopes