



## RESEARCH PROTOCOLS

### Identifying Nectar Resources on Farms

**Objective:** Identify and map existing nectar resources on PFI member farms; identify temporal and geographic gaps in nectar resources throughout the year.

**Hypothesis:** We expect to find gaps, either geographically or temporally, in nectar resources on farms.

#### **Farmer-Cooperator will:**

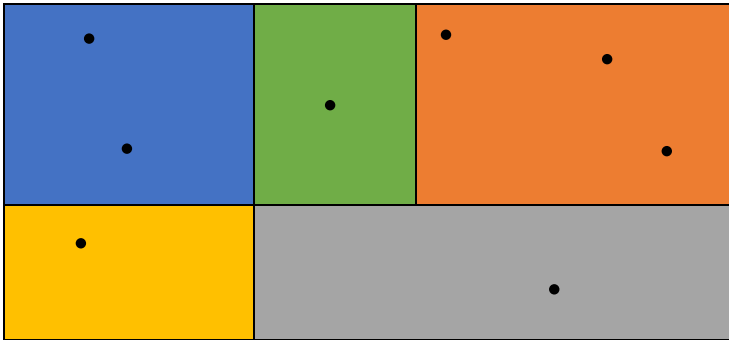
- Follow Research Protocols for study
- Take photos throughout the project
- Keep in contact with PFI with updates and questions
- Turn in all data by November 2020

#### **Practical Farmers of Iowa will:**

- Help design research protocol
- Monitor progress and provide support as needed
- Publish results in a PFI research report, on PFI website, and potentially other outlets
- Will assist with Geographic Information Systems work
- Provide \$550 cooperator payment at the conclusion of project year

#### **Project Design:**

- Areas to be observed will be divided into zones with established observation points; zones may not be comprehensive or inclusive of all areas of the farm. Each cooperator will travel a consistent route at least twice per month (every two weeks), observing nectar resources at each observation point.
- Nectar resources will be identified as the number of discrete colors of blooms (e.g., 3 types: yellow, green, and red), approximate percentage of ground cover in bloom, and number of types of different blooms. Blooms persisting across multiple observations should be recorded each time they are observed.
- Cooperators will record observations on data sheets provided by PFI.
- At each observation point, it is recommended that cooperators take at least one picture.



Sample zones with observation points (black dots)

### Photo List

- At least six total photos from each observation point taken throughout the year
- Any particularly noteworthy observations (e.g., a very diverse flowering; contrariwise, an observation point with no nectar resources present)
- Bonus for photos of pollinators/invertebrates
- Bonus for photo of cooperators collecting data in the field

### Data to Collect

- See attached data sheets

### Information to Report

- Approximate locations, shapes, and areas of zones
- Locations of observation points
- Dates of observations
- Approximate length of time needed to complete route
- Photos from observation points

### Project Timeline:

<ul style="list-style-type: none"> <li>• Review research protocol</li> <li>• Complete MOU and pre-project Survey</li> </ul>
<p>April / May</p> <ul style="list-style-type: none"> <li>• Work with PFI staff to identify zones and observation points / finalize data sheets</li> <li>• Begin collecting observations</li> </ul> <p>May – October</p> <ul style="list-style-type: none"> <li>• Collect observations of nectar resources per data sheets</li> <li>• Take photos</li> <li>•</li> </ul>
<p>October/November</p> <ul style="list-style-type: none"> <li>• Provide completed data sheets and photos to PFI staff</li> <li>• Complete post-project survey</li> </ul>

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