

Wisconsin NatureMapping Asian Beetle Study

Developed by:

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High School Procedures and Methods

Since Asian Lady Beetles can be found on plants, buildings, and virtually anywhere else, designing a common sampling protocol is difficult. The sampling protocol detailed below is intended to be a modified random sample. It is modified in the sense that it will likely be used after a group of Asian Lady Beetles have already been observed.

Additionally, the intent is to make the sampling design flexible enough to accommodate a wide range of classroom applications. For example, the teacher using the method should determine whether students should sample all four sides of a building or just the sides with beetles present. It is critical, however, that the specifics of the sampling method be recorded on the data entry form. Hopefully, this will allow flexibility for the teacher while allowing others to have sufficient metadata to determine if previously collected data is appropriate for a particular application. Any comments about modifications to the sampling method are welcome.

Incidental observations

Incidental observations may be recorded but should be noted as such on the data entry form. This data may be used for general distribution information only.

Traps

Asian Lady Beetle traps are available at many home improvement and discount stores. These traps may be used to collect a sample. Alternately, teachers may wish to have students construct their own traps.

Quadrat

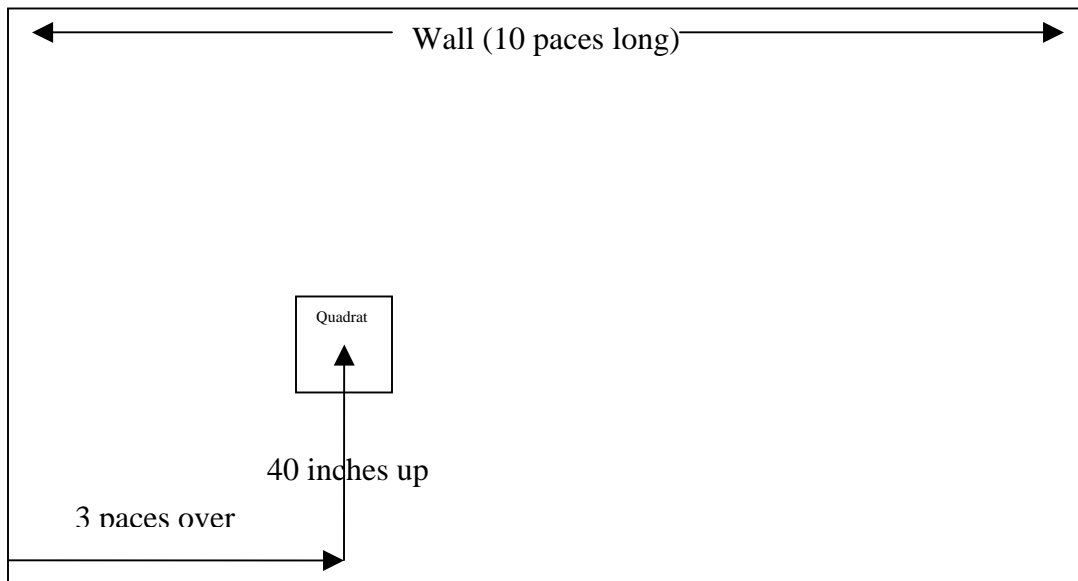
For consistency, a one square foot quadrat should be used. The quadrat can either be constructed (for example, out of PVC pipe) and reused or simply marked out on a surface. All Lady Beetles within the quadrat should be counted. It may be necessary to estimate the number of beetles which left during the counting process, especially for a large sample.

To randomly select a quadrat location, please use the following procedure:

- Pace off the length of the area to be sampled, either along the land surface or along the wall of a building.
- Randomly select a number between one and the total number of paces.
- Return to the start location.

- Walk the randomly selected number of paces. (For example, if the wall of a building is 10 paces long, and the randomly selected number is 3, the sample site should be 3 paces from the original location.)
- Select a random number between 1 and 60 (For example, 40 inches).
- Measure up, in the case of a wall, or forward, in the case of land, the randomly selected number of inches (between 1 and 60).
- Use this location for the center of your quadrat.

Figure 1. Sample quadrat location. Please note that the numbers represented



on this diagram are for illustration only. The actual quadrat location will be determined by randomly selected numbers as explained above.