
A-level Biology example for required practical 12

Investigation into the effect of a named environmental factor on the distribution of a given species:

Investigation into the distribution of dandelions in a lawn not treated with herbicide and a lawn treated with herbicide using a point quadrat frame

Student sheet

Method

You are provided with the following:

- point quadrat frame (also called a point quadrat or pin frame)
- two tape measures.

You should read these instructions carefully before you start work.

1. Before going to the lawn, generate 10 sets of random co-ordinates.
2. Go to the herbicide-treated lawn. Make sure you can identify a dandelion plant by the shape of its leaves.
3. Lay out the tapes at right angles and place the point quadrat frame at the first set of random co-ordinates.
4. Use the pointers in the point frame to record the dandelions at this position.
As each pointer is lowered, you must record any dandelion that is “hit” by the pointer, in your tally chart. Repeat this at the position determined by each set of random co-ordinates.
5. Take 100 pointer samples in each site, ie 10 placements of the point quadrat frame.
6. Repeat steps 1–5 at the lawn that has not been treated with herbicide.
7. Add up the total number of dandelion plants in each of the two sites.
8. Calculate the percentage cover of dandelions = $\frac{\text{number of dandelion plants hit}}{\text{total number of pointer samples}} \times 100$