AQA Biology A-level

RP12 - Effect of Different Variables on Species Distribution

Flashcards

List 3 abiotic factors.

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Light intensity

Humidity

Temperature

Wind speed

Water supply

Day length

Nutrient supply

Rainfall

List 3 biotic factors.

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Competition for resources

Predation

Disease

How is percentage cover calculated?

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Use a quadrat with squares. Count how many squares the required species is present in. Only count a square if more than half of the square is covered. Calculate the percentage of squares the species is present in.

Outline the procedure to this practical.

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1. Choose an area to take samples from. Use a random number generator to generate 10 sets of random coordinates.
2. Use two tape measures to create a set of axes off which coordinates can be read.
3. Place the quadrat at each of the coordinates, placing the bottom left corner on the coordinate every time.
4. Record the percentage cover for the chosen species.
5. At each coordinate, a measure of the independent variable should be taken. Eg. record light intensity using a photometer at each location

How can the results be used to determine the relationship between the chosen factor and the percentage cover?

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Use a statistical test eg. Pearson's linear correlation, Spearman's rank

Why should a random number generator be used?

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To avoid bias in random sampling.

State the formula for the mark-release-recapture method.

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Population size = no. in 1st sample x no. in 2nd sample / no. marked in 2nd sample

State the assumptions when using the mark-release-recapture method.

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No births, deaths or immigrations.

Random mixing of marked individuals with population.

Marking does not affect behaviour of individuals or make them more vulnerable to predators.