**Effect of climate change and land use on plant populations**

Climate change poses a big threat for plant populations, which in European grasslands are shaped by management decisions and land use. While there are many experiments on the effect of climate change and land use on the population growth of plant species, very little is known about the interaction of both.

You connected to some researchers that worked in the Global Change experimental facility in Bad Lauchstädt, which is an experiment that realistically simulates climate change and different land use treatments. They provided you with their data so you can choose a species that would be worth investigating the effect of climate change and land use on its population growth.

Decide on a species and present us with your experimental design to answer the following question:

What effect does climate change and land use have on the population on the grassland species x?

Data set provided:

Species\_number.csv

Columns:

Species = the species

Dia\_car = *Dianthus carthusianorum*

Sca\_och = *Scabiosa ochroleuca*

Tra\_ori = *Tragopogon orientalis*

Cre\_bie = *Crepis biennis*

Ant\_odo = *Anthoxanthum odoratum*

Pla\_lan = *Plantatgo lanceolata*

Tri\_pra = *Trifolium pretense*

Lyc\_flo = *Lychnes flos-cuculi*

Lot\_cor = *Lotus corniculatus*

Med\_fal = *Medicago falcate*

Climate = the climate treatment the individuals were found in (ambient and future)

Management = Land use the individuals were found in (grazing and mowing)

Number = number of individuals found