PROJECT 4-22 COMPETITION BETWEEN WEEDS AND DESIRABLE PLANTS

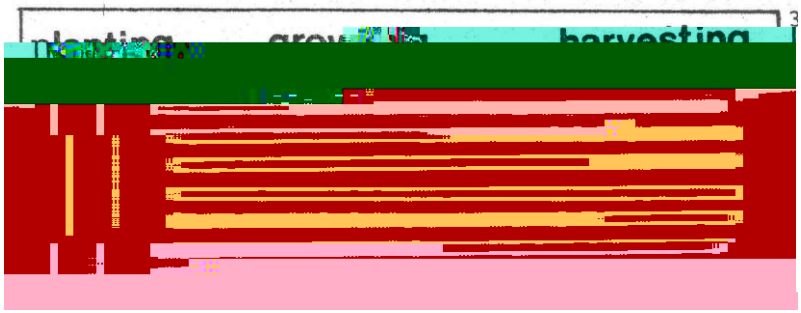
PROBLEM

Everyone hates weeding the garden. It is known that weeding vegetables during the early weeks of their growth gives a big increase in final yield, but that weeds established after a certain time have little effect on yield. Can you find out when you can hope to stop weeding your vegetables?

INFORMATION

1. There are two ways of tackling this. You might plant the vegetable seeds and let the local weeds do their thing, or you might start in weed free soil and deliberately plant weed seeds at a certain density at specific times. The second approach gives a better experimental approach as you can control density of weeds.

2. If planting weed seeds make sure you have plenty on hand and that they will germinate when you want them to.



3. Despite the apparent simplicity of the problem you will need lots of treatments and of course a number of replicates of each treatment. In one suggested design shown, the time that plants are exposed to weeds is shown by shading.

4. The aggressiveness of weeds depends on what they are competing against i.e. wild oats are very aggressive against barley but less so against mustard.

DESIGN OF EXPERIMENT

1. Read Section D on experimental design carefully before deciding on how many vegetables, how many weeds and how many treatment times you can handle.

2. What density of weeds will you use?

3. How will you measure yield of vegetables? Will yield of weeds give any useful information?

4. Pick a vegetable that will grow fast and one that your family like to eat as by the time you plant enough replicates they will certainly get lots of it.

5. While the experimental design suggested above might be fine for some things, in other cases it might be better to have weekly treatments for the early stages and then treatments wider spaced later on.

REFERENCES

As for Project 4-23.