

PROBLEM

Some trees live for thousands of years but at the other end of the scale annual plants die after a year or less – why? It is not fully understood but it is known that you can extend the life of annual plants by removing the fruits. You might like to investigate how long you can extend the life of the plant if you remove the flower buds; the flowers after pollen is shed, the young developing fruit, the immature fruits, the mature fruits? As a related issue you might compare the total yield of fruit from your plant if you remove fruit as it matures rather than do one harvest when the plant dies.

INFORMATION

1. Plants like legumes or tomatoes which flower on side branches are suitable to use, but you might also like to include something like sunflower in which the top growing point is “used up” in producing the inflorescence.
2. Sugar snap peas in which you can eat pod as well as seeds from your “immature” harvest might be a useful plant to include but it grows very tall.

DESIGN OF EXPERIMENT

1. How will you record “growth” of plants?
2. How will you record death of the plants?
3. How will you measure yield?
4. Read Section D on experimental design carefully and then decide how many plants you will have in each treatment.

REFERENCES

- Greulach, V.A. (1973). *Plant Structure and Function* (Collier Macmillan) Chp. 18 (advanced)
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- Waring, P.F. and Phillips, D.J. (1970). *The Control of Growth and Differentiation in Plants* (Pergamon : Oxford). Chp. 12
- Woolhouse, H.W. (1972). *The Ageing Process in Higher Plants* (Oxford Biology Reader No. 30).