

PROBLEM

Honey is sometimes sold with the different flavours kept separate (e.g. karri, white clover etc.) but more often as a blend. Honey contains a little pollen and the question is whether different sorts of honey have a distinct range of pollen types.

INFORMATION

To extract pollen from honey weigh out 10 g, dissolve in 20 mL water at 30-40 C. Centrifuge at low speed for 10 minutes. Pipette off supernatant leaving 1-2 cm above the sediment. Place a drop of sediment on a slide and add a drop of Calberla's fluid, mix and add coverslip. Pollen from stamens can be dissected straight into the stain.

Calberla's fluid – 5 mL glycerol, 10 mL 95% ethanol or methylated spirit, 15 mL distilled water, 3 drops of saturated solution of basic fuchsin in water (don't make much, it's expensive) and 3 drops glycerine jelly. (Basic fuchsin (a Gurr or BDH product) is available from Selby's 21 Glassford Road, Kewdale)  
Glycerine jelly – Gelatine 10 g, distilled water 60 mL. Mix and leave for 2 hours. Add glycerol 70 mL and phenol (crystalline) 0.25 g (take care, phenol is corrosive). Warm and stir for 15 mins until flakes produced by phenol have disappeared.

Store slides flat. Pollen will stain red. Slides will keep well if sealed with clear nail polish.

DESIGN OF EXPERIMENT

1. Are you going to score just presence or absence of various sorts of pollen or are you going to estimate frequency as well.
2. How are you going to identify the sort of pollen that you find? (it may be impossible, in which case good drawings should be made).
3. Are you going to "stick" to local pollen or look at some from overseas as well e.g. "Heather Honey".

REFERENCES

Crane, E. (1976) Honey – A Comprehensive Survey (Morrison and Gibb : London)

Knox, R.B. (1979). Pollen and Allergy (Studies in Biology No. 107). (Edward Arnold : London)

Faegri, K. and van der Pijl, L. (1971). The Principles of Pollination Ecology (2<sup>nd</sup> ed). (Pergamon Press : Oxford).