



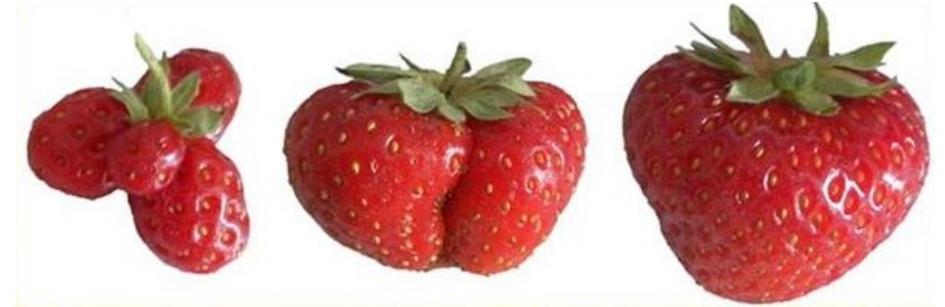
How can understanding bee behaviour improve pollination?

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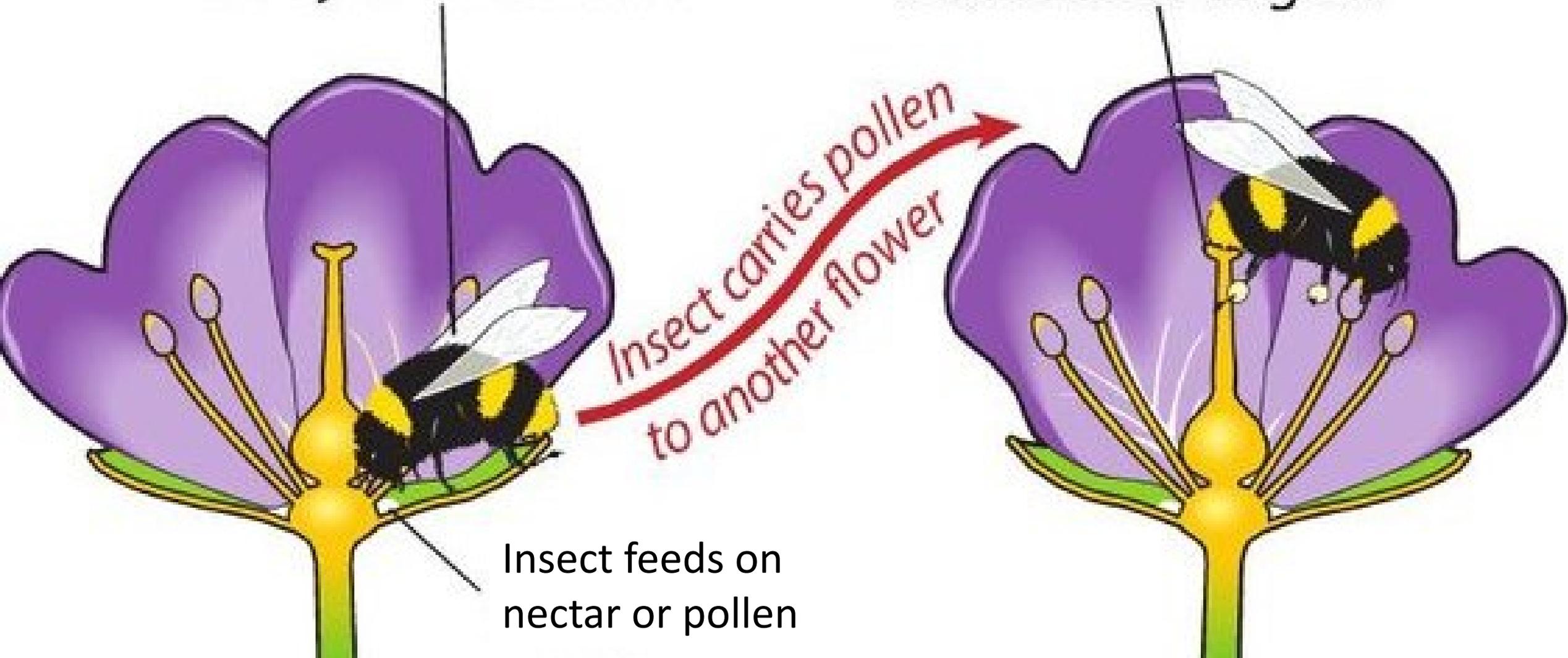
1 in 3 mouthfuls 'owed' to pollinators

- Reliance on insect-pollinated crops is increasing (Goulson *et al.* 2015)
- Pollination affects yield and *quality* of produce *e.g.* taste, marketability, shelf-life
- Pollination deficit
- Yield gap for Gala apples worth £5.3 million/year to UK economy (Garratt *et al.* 2014)



Pollen sticks to the body of the insect

Pollen falls from insect onto stigma

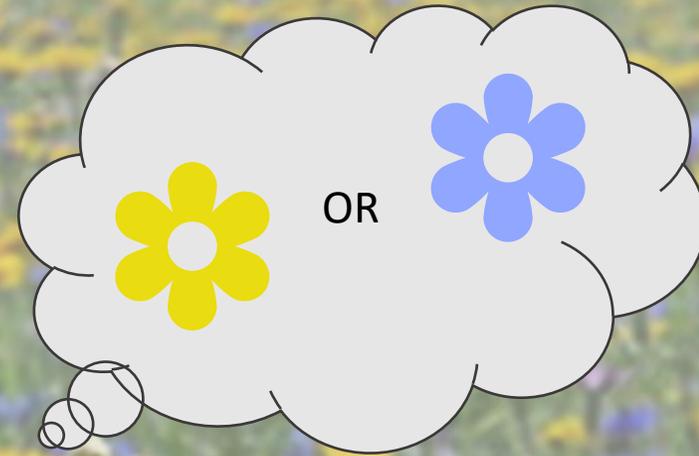


Insect feeds on nectar or pollen

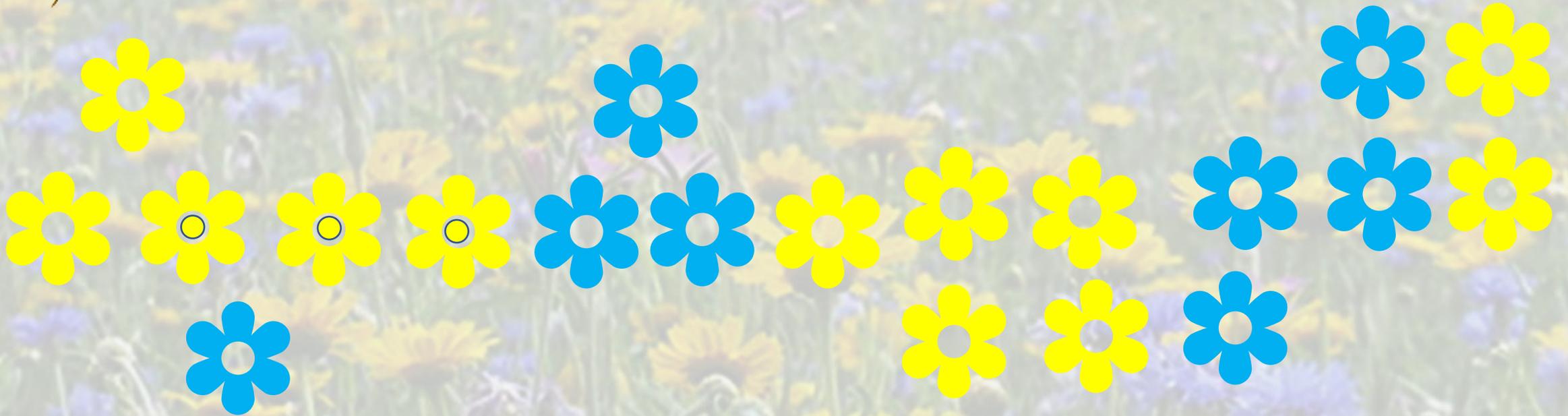
Pollination depends on foraging choices of individual insects

Complex economic decisions based on:

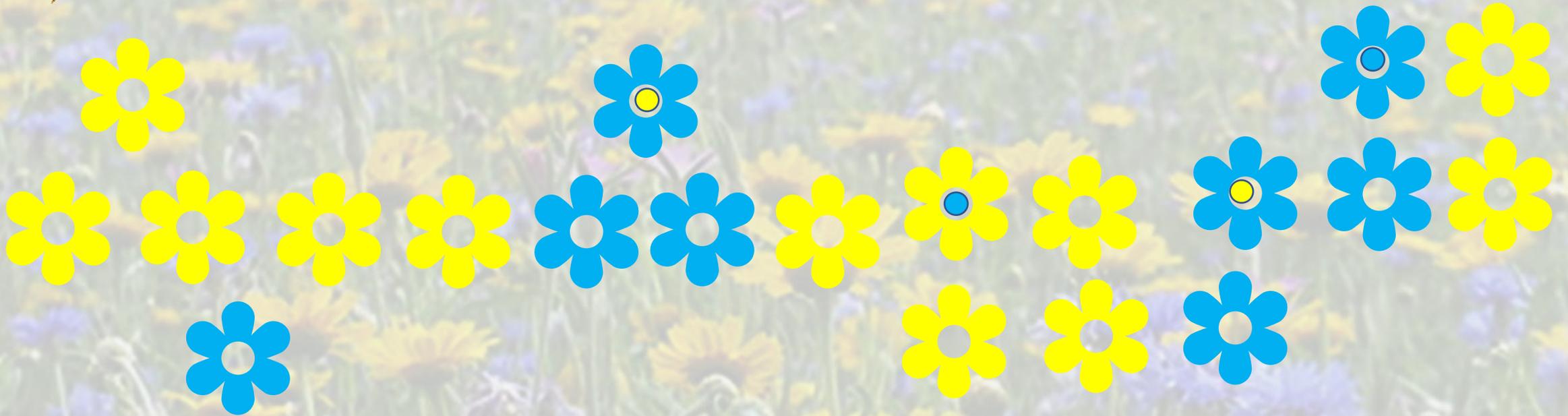
- Sugar content
- Nectar amount
- Flower shape
- Distance to nest
- Pollen?



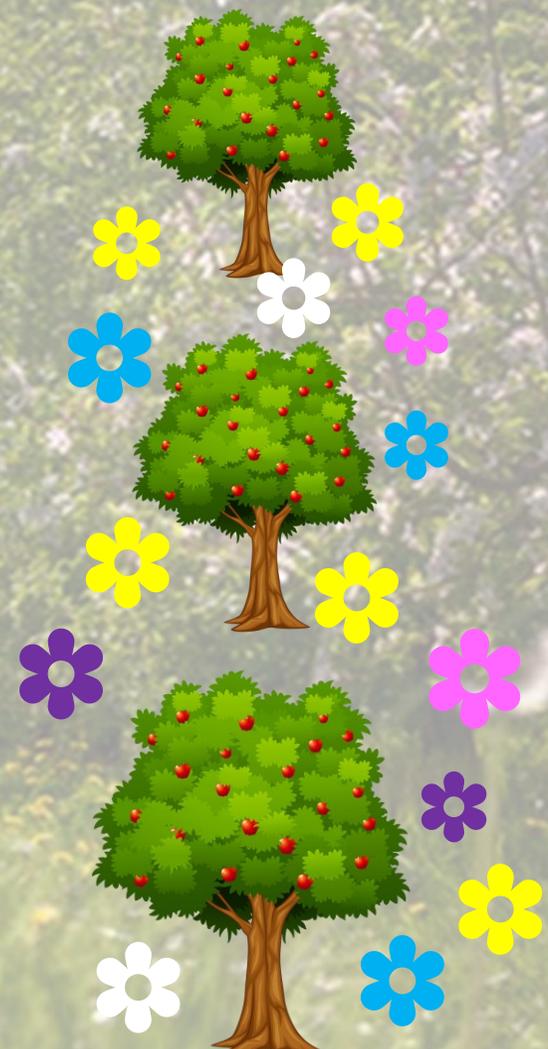
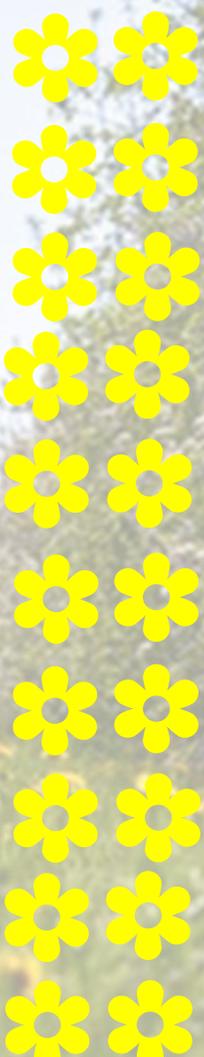
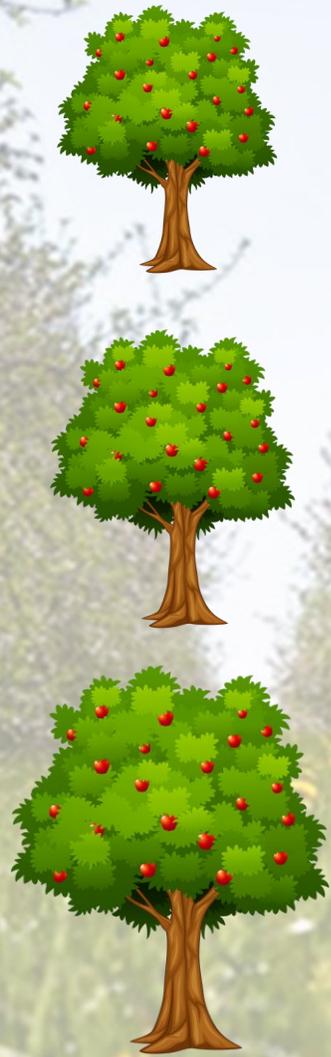
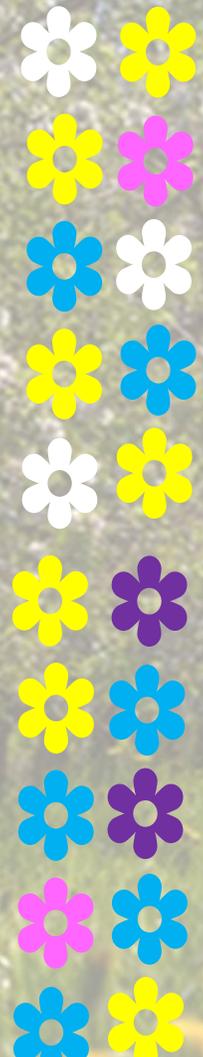
Pollination depends on foraging choices of individual insects



Pollination depends on foraging choices of individual insects



Understanding foraging decisions can aid design of agri-environments



Physiology



Can bees use taste to choose the most nutritious flowers?

Behaviour



How do bees decide where to forage?

Ecology



What are the implications of those decisions for pollination?

Opportunities for collaboration...

<https://www.sussex.ac.uk/research/labs/nicholls-lab/>

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