

Promoting pollinators:

Active management to support pollinator species in agricultural landscapes

Robert Brown





Why look at pollination? Reading



Yield and quality





Decline

Habitat loss is believed to be the major driver

of pollinator decline

Agricultural intensification







What are pollinators?















Bees

- 16% of all flower species are bee dependent
- Bumblebee



Solitary bee

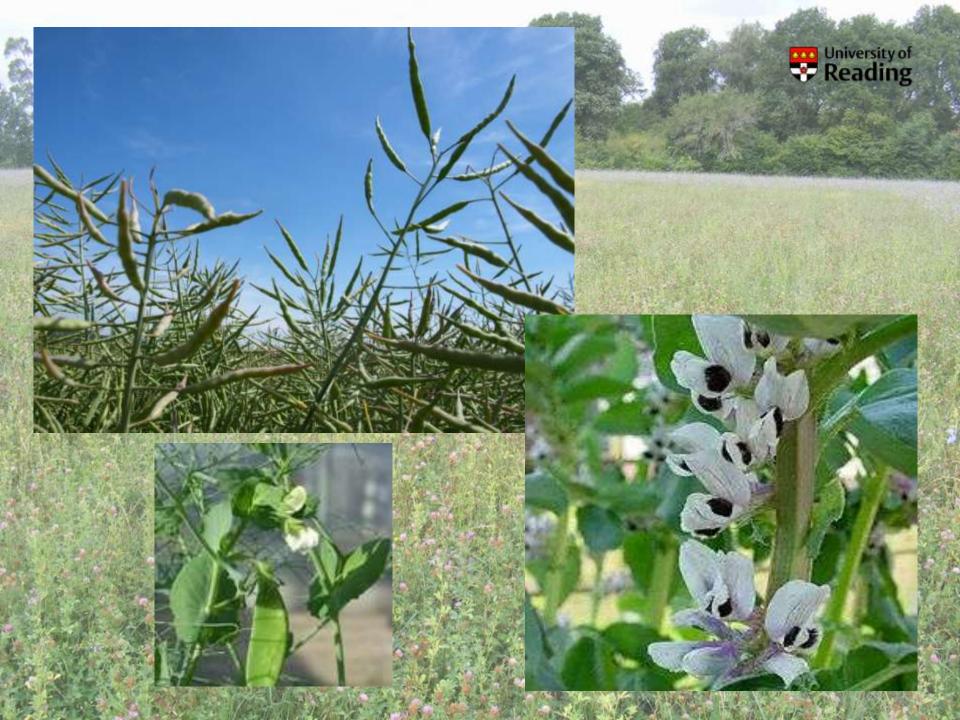


Honey bee



In all, 267 species recorded in the UK

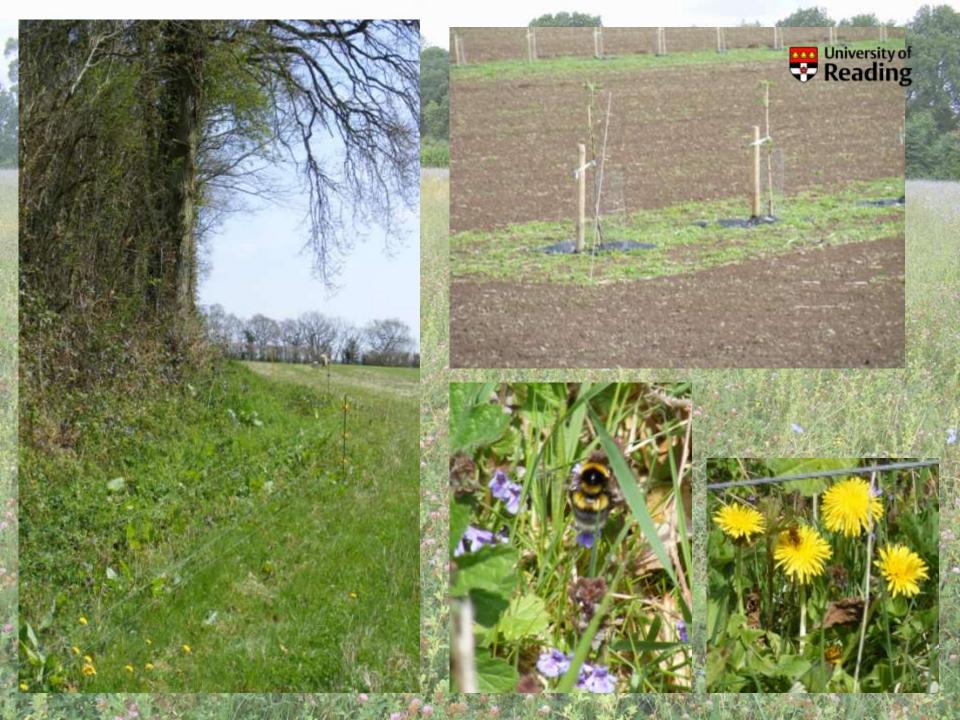
77% of food commodities are reliant on bees





Nesting habitat

- 3 major rules:
 - Undisturbed ground
 - Near flower resource
 - Provide suitable nesting materials mud, leaves...
- Agricultural nesting resource:
 - Woodland edge
 - Hedges
 - That old bit of land behind the barn?





Artificial habitat

 Bee keeping well documented and expanded in the 17th century











Forage



- The provision of pollinator forage throughout the season
- Any plant mixture should support the whole life cycle of a species









Role of legume leys







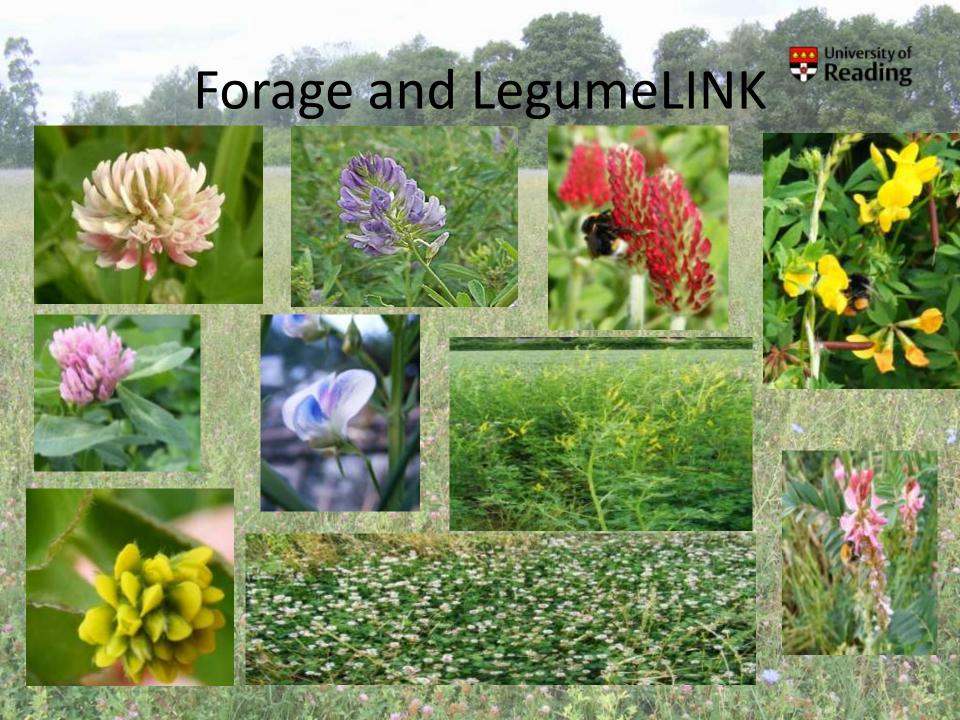






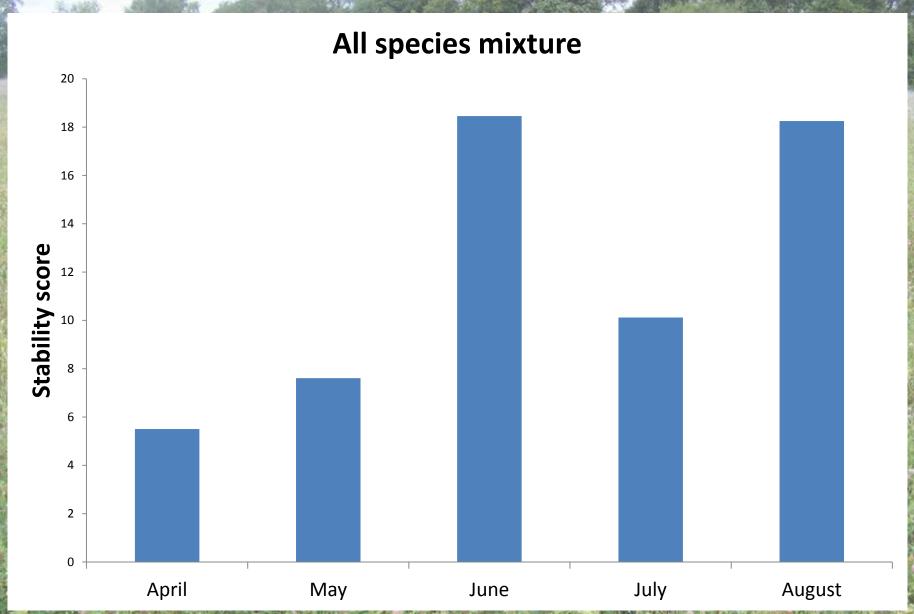


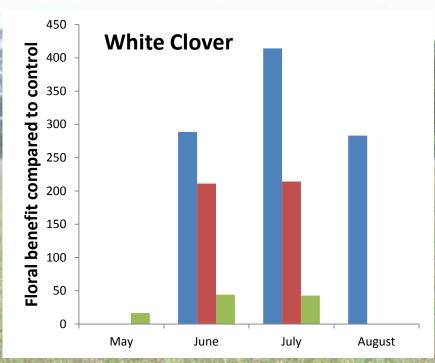


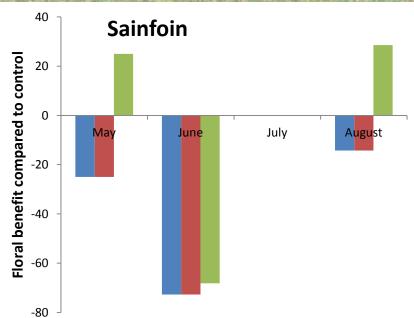


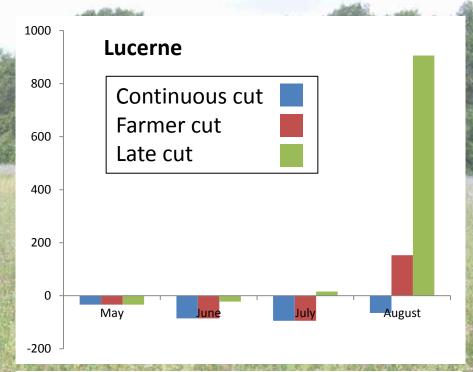
Stability

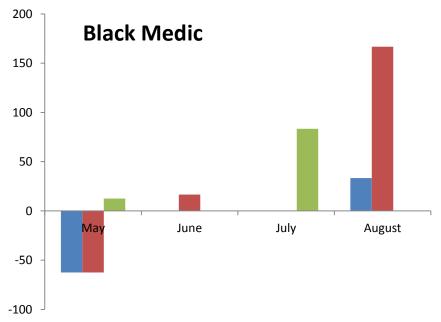




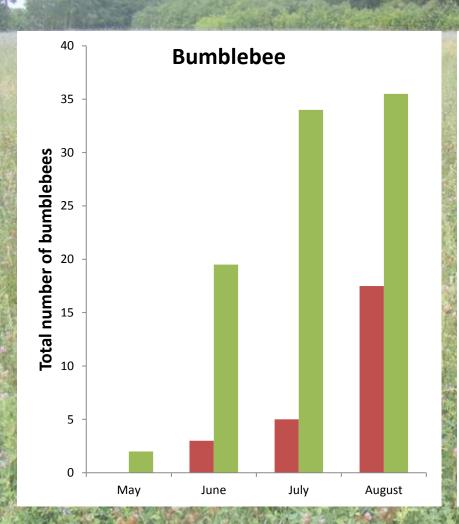


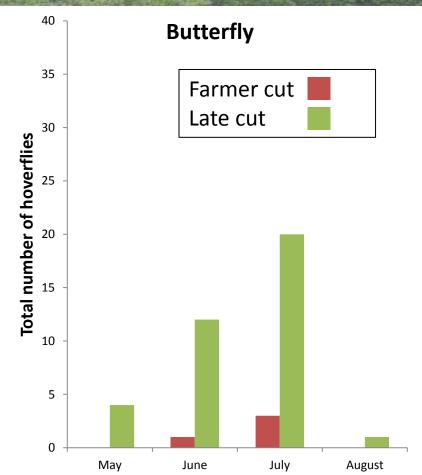






Pollinator response to management









- High levels of pollination increase yield and quality of crop = £, \$ and €
- To promote pollinators we must understand all their requirements:
 - undisturbed suitable nesting habitat
 - year-round forage
 - pollinator-sensitive management
- Other benefits: pest control, 'bird food', aesthetics



Special thanks to all the farmers who have supported my studentship by allowing me to carry out bee surveys on their land

- eft brewed with a ze BBSRC Quota studentship with the Organic Research Centre - Elm Farm
- Rothamstead Research
- LegumeLINK consortium





