

First EDENS project meeting: 4th October 2022

The history of citizen science at HDRA/Garden Organic

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Research Centre
Agroecology, Water
and Resilience



Natural
Environment
Research Council

How it all started



Lawrence Hills founded the *Henry Doubleday Research Association* (HDRA) in 1958

The overall aim was to back up claims of organic gardening with science:

“We are observers not believers”

From the beginning there was strong emphasis on HDRA members actually conducting the experimental work:

“... researchers wouldn’t be experts in white coats, bent over laboratory benches, they’d be ordinary people”

Members' Experiments – teams and themes

1958:
TEAMS

COMFREY TEAM

Freak Plant Team

Tagetes and Crotalaria
Team

Composting and Green Manure
Team

1964:
THEMES

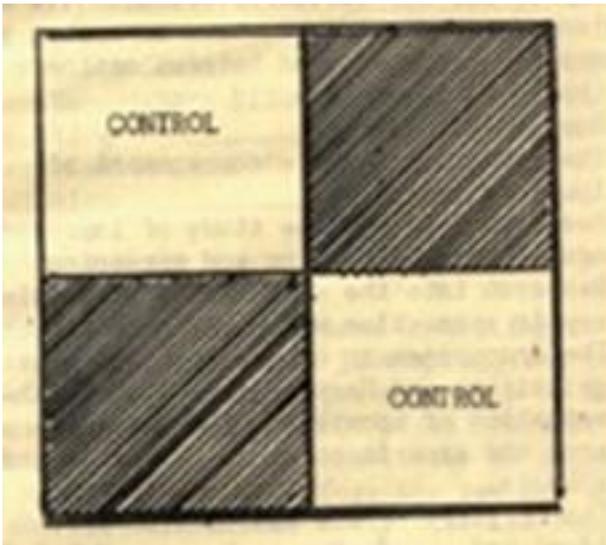
Comfrey

Gardening
techniques, lifestyle
& wildlife

Varieties & Novel
Crops

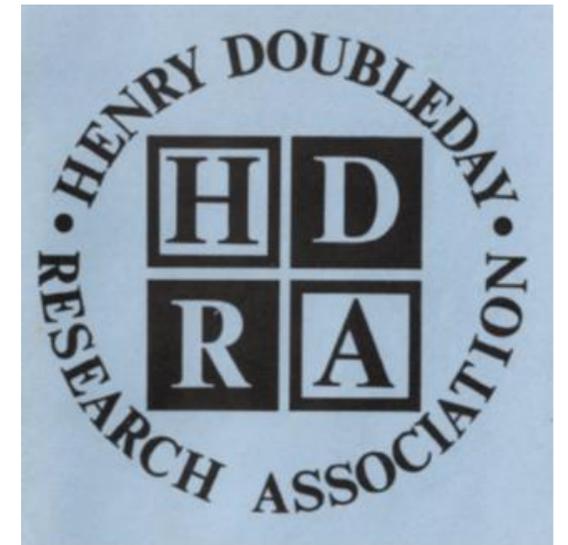
Pest Control
Without Poisons

Composting & Green
Manures



The importance of experimentation was reflected in the early logos of the organisation

Overall 550 members experiments were conducted between 1958 and 2018



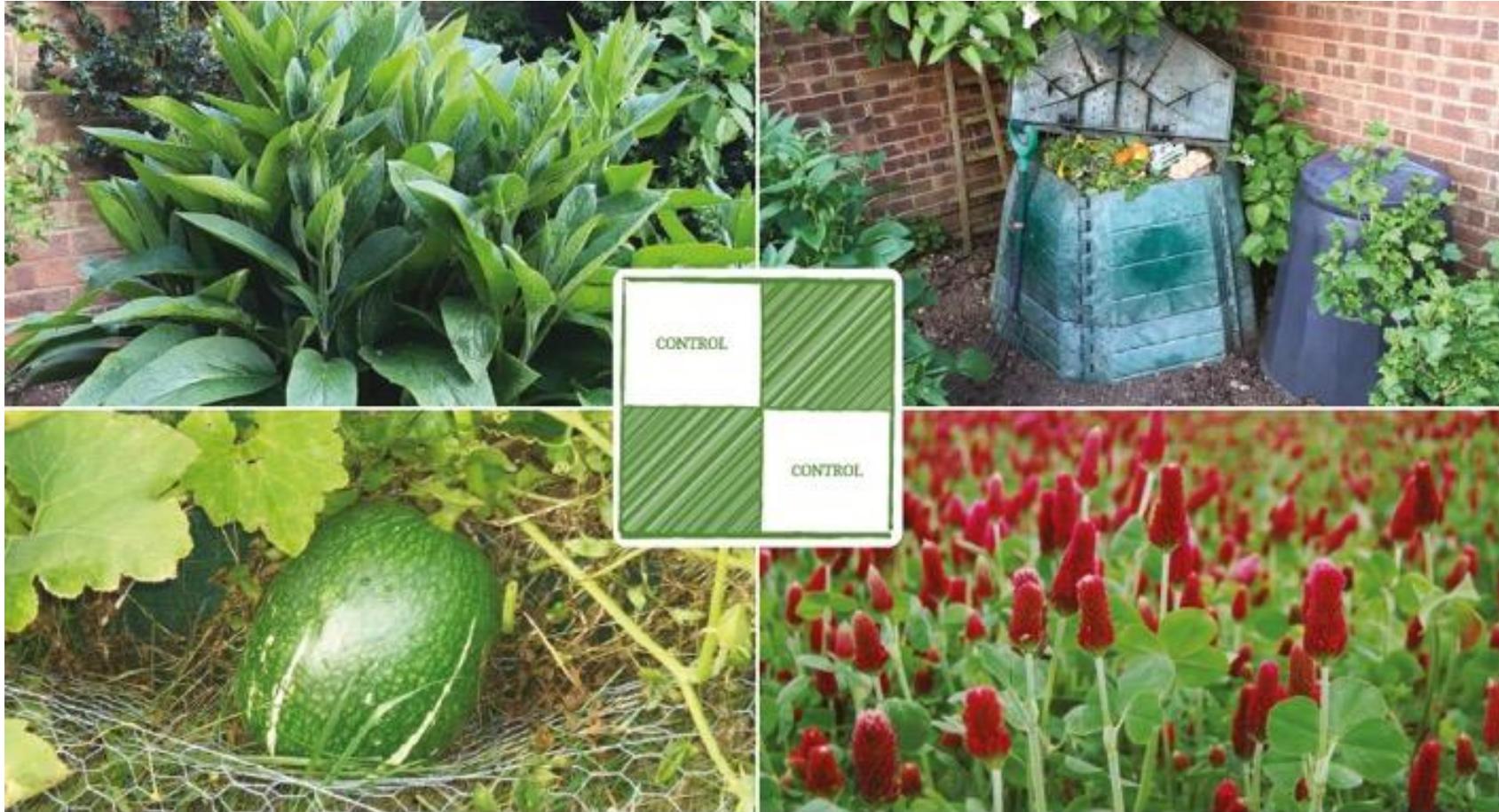
Members' Experiments – the general approach

- Topics suggested by members, staff & gardeners
- Experiments advertised (annually)
- Instructions, record sheets, seeds and materials distributed
- Members (individuals, groups, schools) undertake experiments in their gardens & allotments, 3-12 months
- Results reported, shared and disseminated in Newsletter, AGM, open days, speaking tours, books, periodicals, newspapers, internet

Co-created citizen science - active participation by citizens in all stages ✓
Gardener-led & self-directed citizen science – room for improvement ?

Review of 60 years of the Members' Experiment Scheme - an e book:

<https://indd.adobe.com/view/7fca5eed-b3e8-4c92-be11-df955280a832>



The Garden Organic Members' Experiments Programme
Celebrating 60 years of Citizen Science in Organic Horticulture

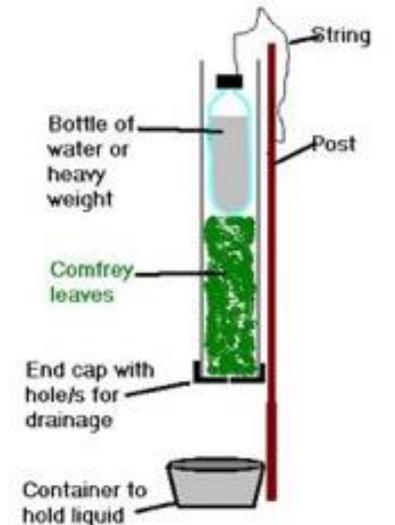
Garden Organic in association with the Centre for Agroecology, Water and Resilience (CAWR), Coventry University



Some examples of frequent topics from experimentation

Comfrey

- Russian comfrey, Bocking strains
- For animal feed
- For human consumption
- To build soil fertility
- As compost activator
- In growing media
- Comfrey liquid
- Widely used by organic gardeners



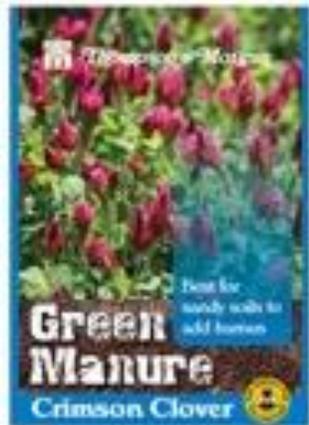
Composting & use of compost

- Composting methods
- Feedstock for composting
- Composting activators
- Compostable packaging
- Use of composts, e.g. for soil fertility, growing media, pest control
- Uptake by members
- Widespread use by gardeners and non-gardeners



Green manures

- Build soil fertility
- Biodiversity
- Attract beneficial insects
- Pest and disease control
- Uptake by members
- Uptake by gardeners in general



Pest control without poisons

Carrot root fly: 29 experiments – barriers, amendments, repellents, intercropping, sowing date

Clubroot: 36 experiments - *Tagetes minuta*, green manures, rhubarb, organic fungicides, soil amendments, liming, brassica root secretions, resistant varieties

Biological control – encouraging natural predators, introducing biocontrol agents



Carrot fly barrier



A range of biological control agents

Growing novel crops and varieties

- Oca
- Quinoa
- Soya beans
- Winter salads

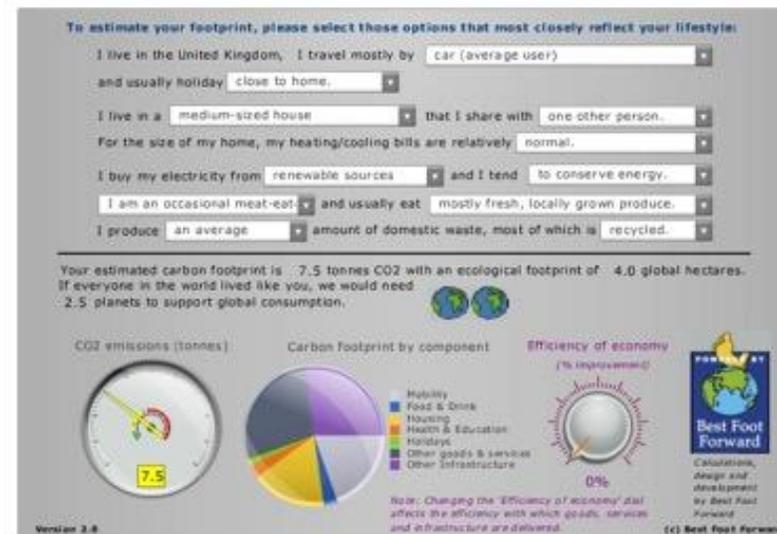


- Carrot fly resistant carrots
- Slug resistant lettuce, potatoes
- Blight resistant tomatoes



'Survival Gardening' & Ecological Footprinting

- Survival Gardening
- How Does Your Garden Grow?
- Self-sufficiency
- Home grown protein
- Ecological Footprint of Gardening



The top organic gardening innovations – results from a survey of experimenters



Some recent highlights

Emerging pests



Allium leaf miner survey:

- Pest causing damage in leeks (and other alliums) spreading around the UK
- Many growers didn't know what it was but now know to cover their crops in autumn

Where does it occur?



- Regular severe damage
- Occasional damage
- No problem

No red dots north of Manchester!

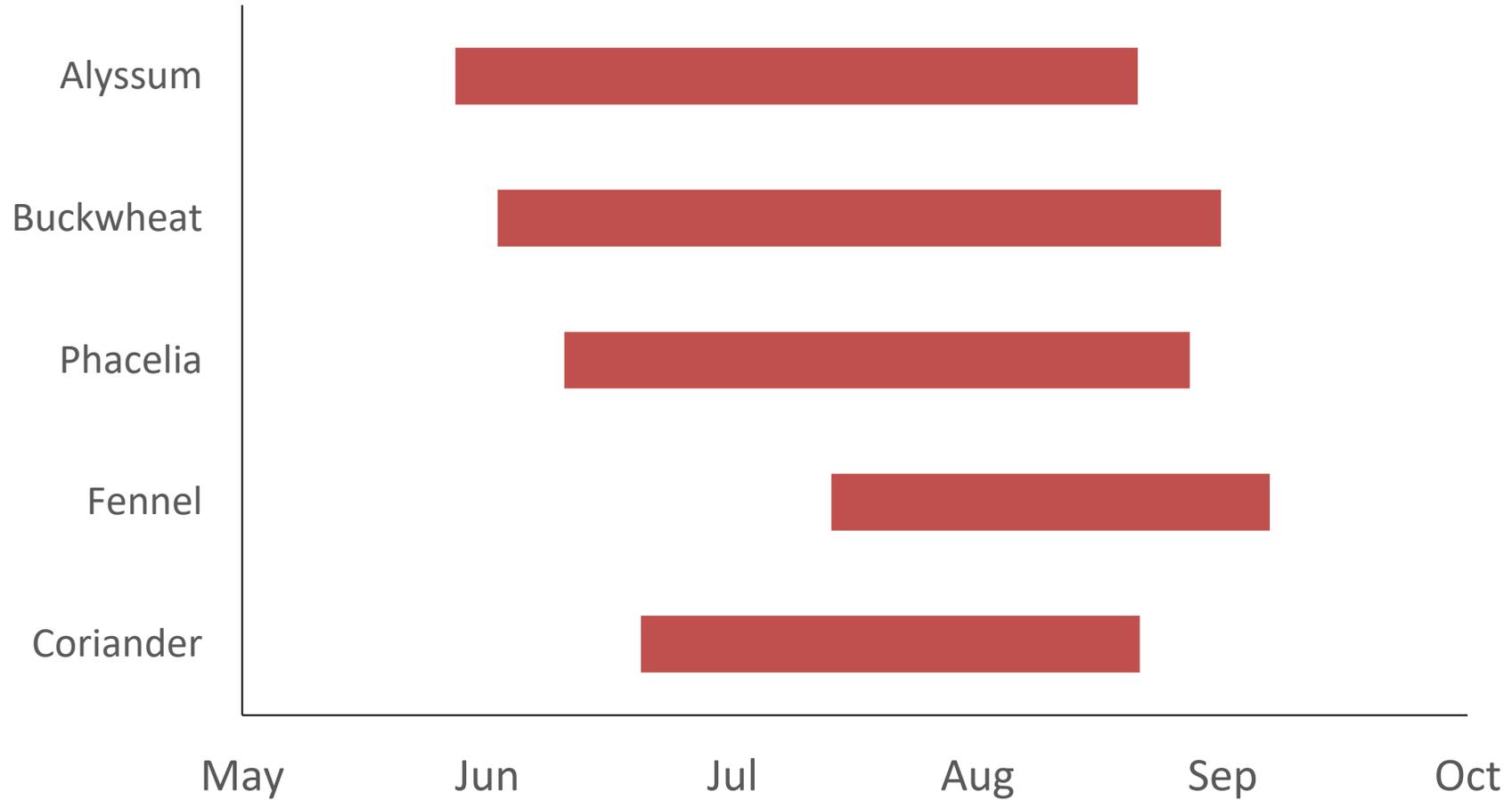
Plants to attract predators



Buckwheat proved to be an easy plant to grow to attract predators in early June.

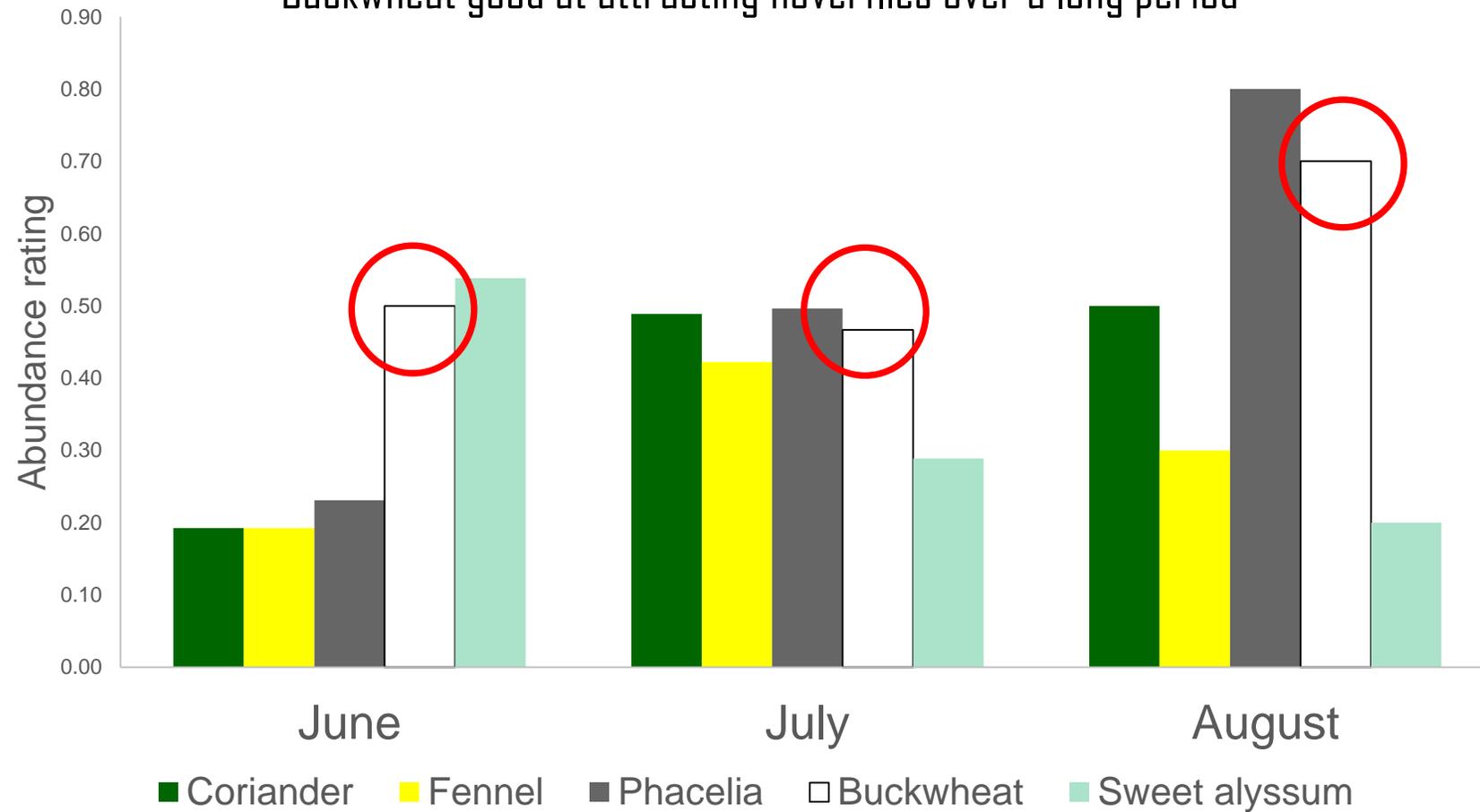
- ✓ Reliable
- ✓ Vigorous
- ✓ Rapid to flower
- ✓ Long flowering period
- ✓ Attractive to hoverflies

Flowering period



Visits by hoverflies

Buckwheat good at attracting hoverflies over a long period



Current collaborative work

Centre for Agroecology Water and Resilience at Coventry University:
Collecting a national data set on home-prepared liquid plant feeds



Stockholm Environment Institute at University of York:
Antimicrobial resistant bacteria on home grown produce

The future

AIM: to build a network of citizen scientists using our community networks and members

- ✓ Ideas generated and driven by communities
- ✓ Engage wider audiences in science
- ✓ Address issues which are relevant to society