



# Hill Sheep Health North

## A participatory approach to managing liver fluke and flukicide resistance with farmers in Cumbria and the Yorkshire Dales



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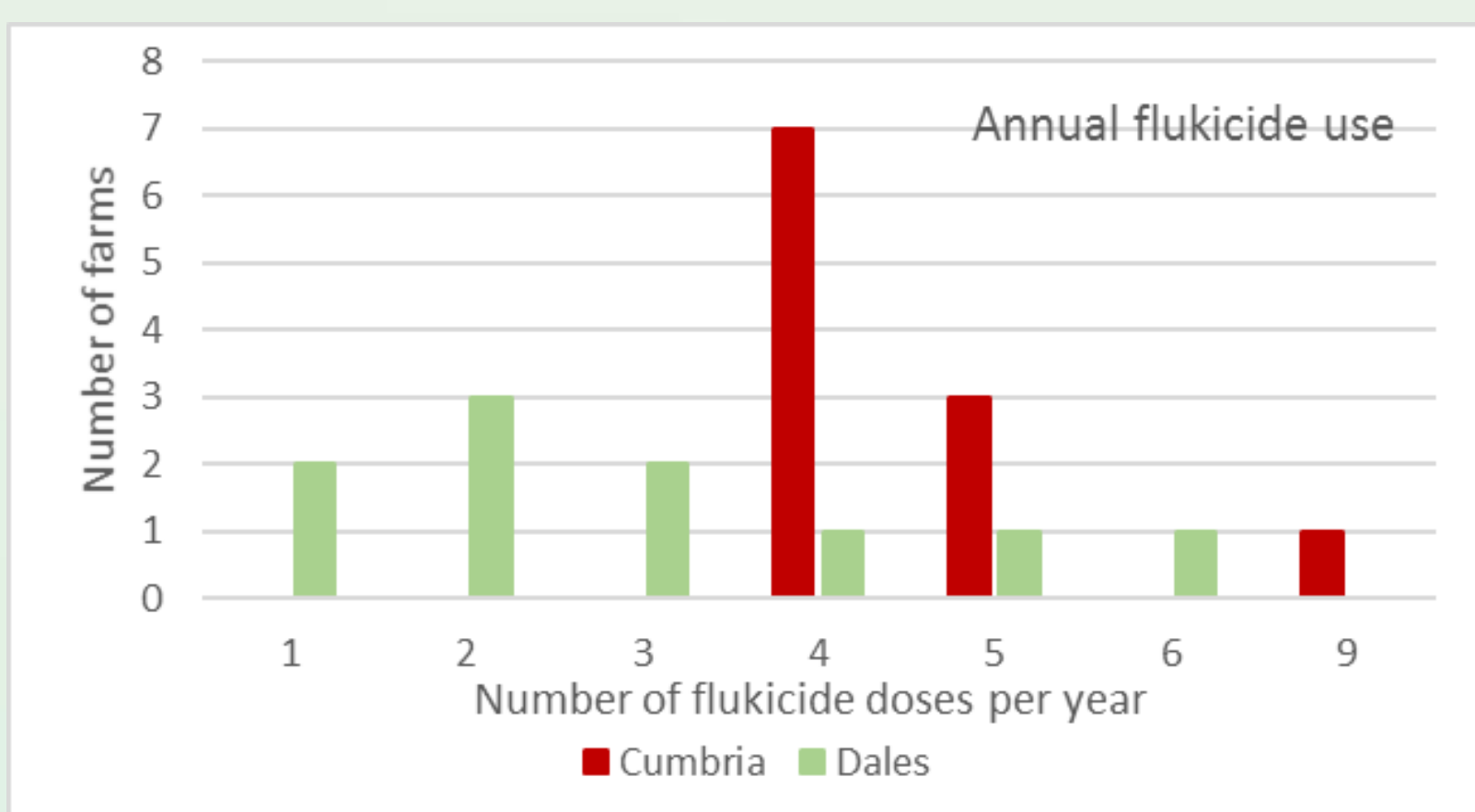
### Background

The Farmer Scientist Network and hill sheep farmers in Cumbria and Yorkshire Dales identified management of liver fluke as a major problem in hill sheep flocks

- Moors & upland fields are high risk habitats for intermediate snail host
- Flocks gathered at specific times during year
- Triclabendazole resistance
- Restrictions of environmental schemes

### Baseline questionnaire

To document farm characteristics, disease problems, preventive measures



### Laboratory testing

- Faecal Egg Count Reduction Test (FECRT) for triclabendazole (TBZ) and closantel resistance
- Composite Fluke Egg Counts
- Coprantigen test

### Mobile phone App

Real-time recording of fluke treatments

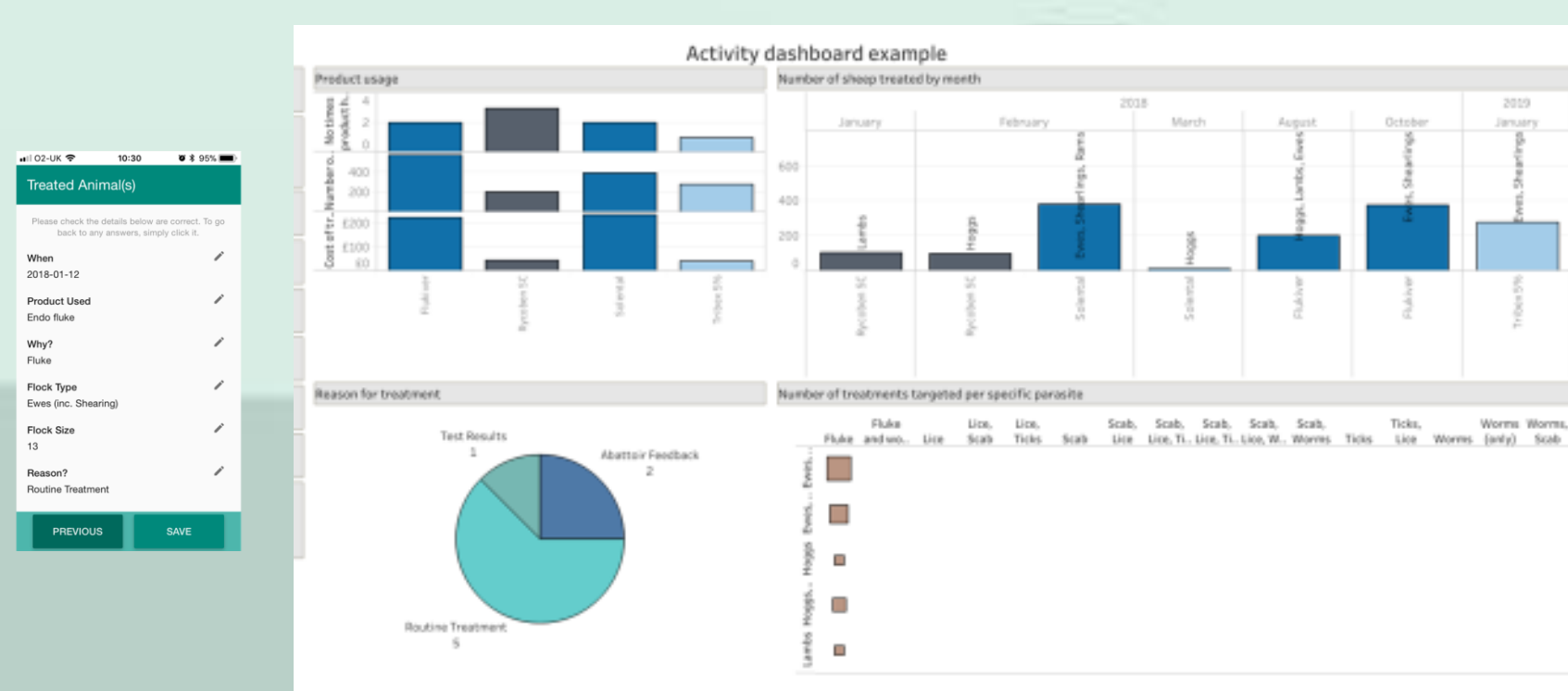
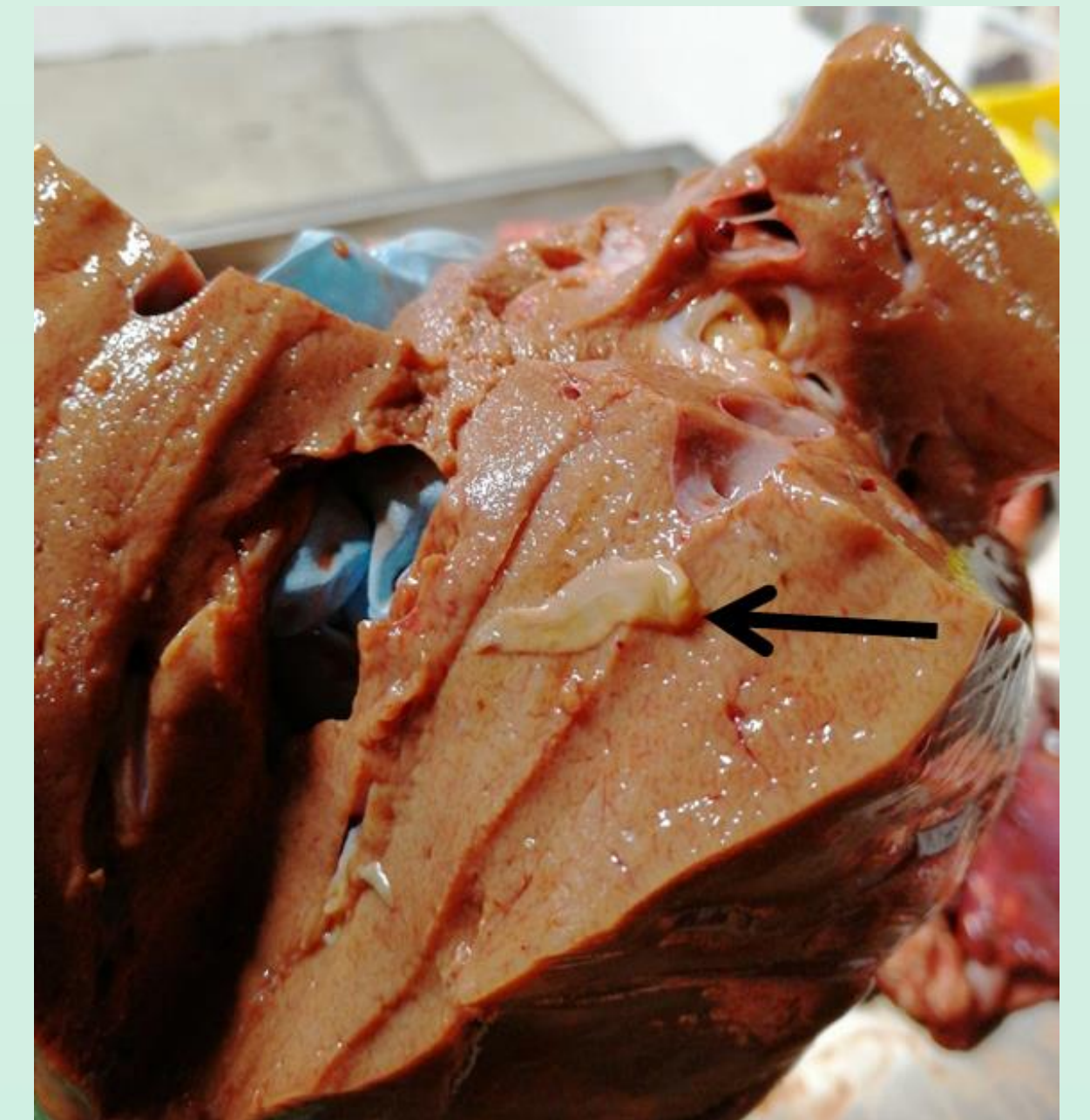


Photo A Carson



Post mortem: cut surface of pale spongy liver with adult liver fluke (black arrow) Photo C Moffat

### Methods

**Participatory:** farmers, vets and experts share knowledge and experiences for improved disease management.

**Farmer groups:** Cumbria 12 farmers, Yorkshire Dales 11 farmers

**Farmer meetings** – review disease problems and practices, share experiences, guest speakers provide latest technical information



Photo A Carson



Photo K Gascoyne

### What have we learned?

Better understanding of:

- fluke life cycle
- which flukicide to use when
- managing triclabendazole resistance
- high risk areas on farms
- on-farm post mortems to confirm cases
- post mortem of fallen stock
- lab tests for monitoring infection – annual variation, strategic dosing
- using abattoir feedback

### Challenges

- Farmer drop-out, variable meeting attendance, use of App and lab tests
- very dry, low fluke risk years!

### Next steps

- Continue meetings, monitoring, refining fluke management plans
- FECRT on farms not yet tested
- Feedback to SCOPS on farmer resources
- Interest in sheep scab - use ELISA test to determine flock status.

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