

# CONTROLLING RUSHES WITHOUT CHEMICALS

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The European Agricultural Fund  
for Rural Development:  
Europe investing in rural areas



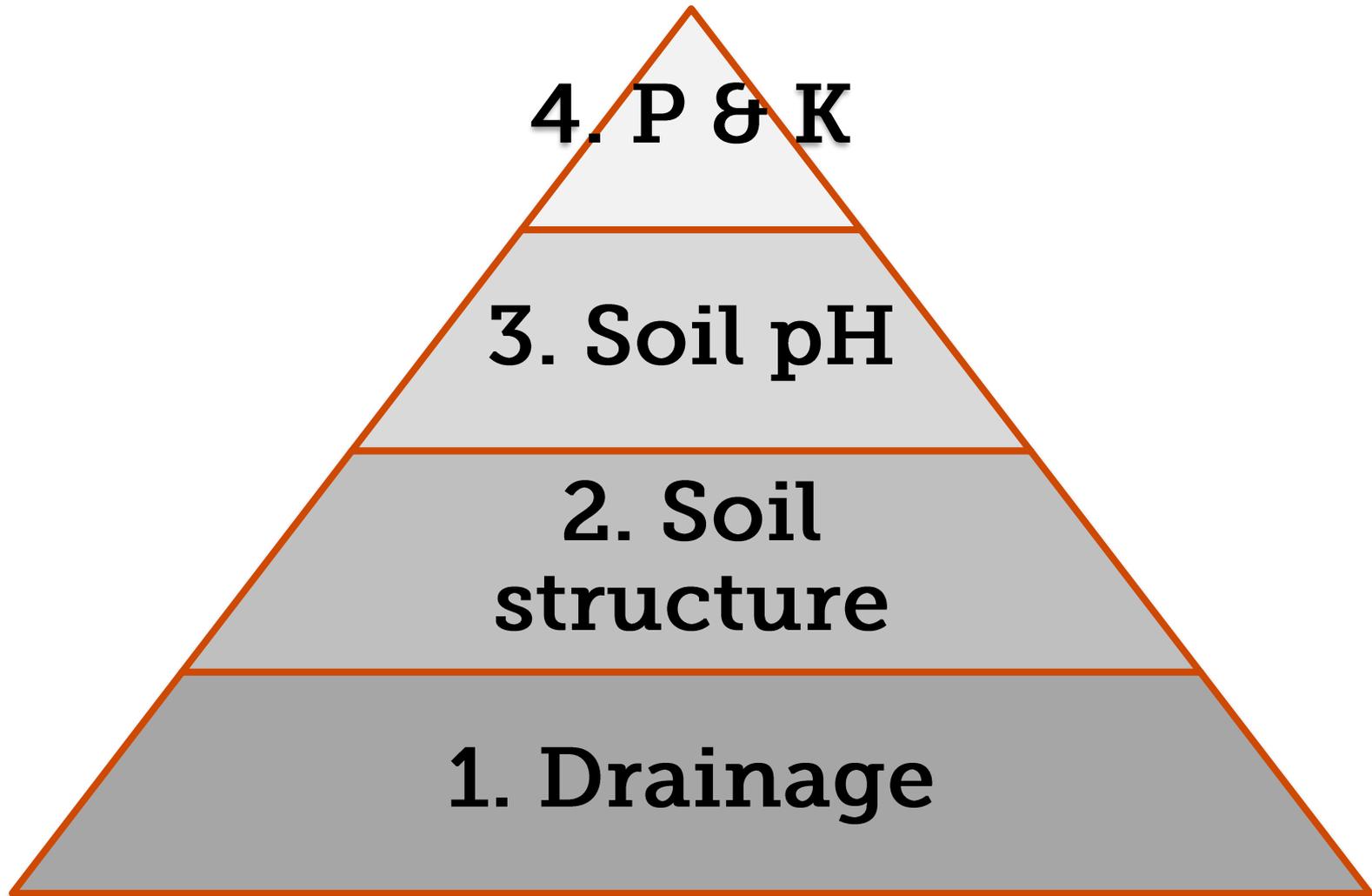
The Scottish  
Government



# The greater good

- Water quality
  - Pesticides
  - Phosphates
  - Nitrates
- Biodiversity
  - Funding through AECS
  - Waders
  - Wetland

# Rush management





Removal of cover  
(topping / mowing)



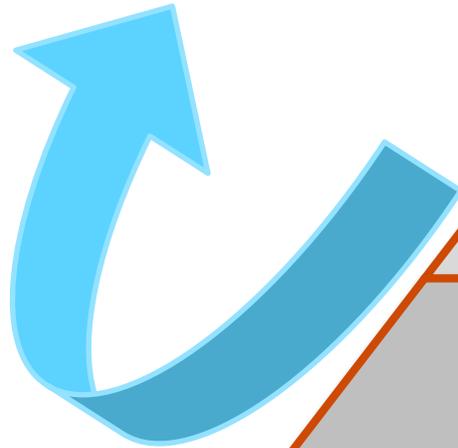
4. P & K

3. Soil pH

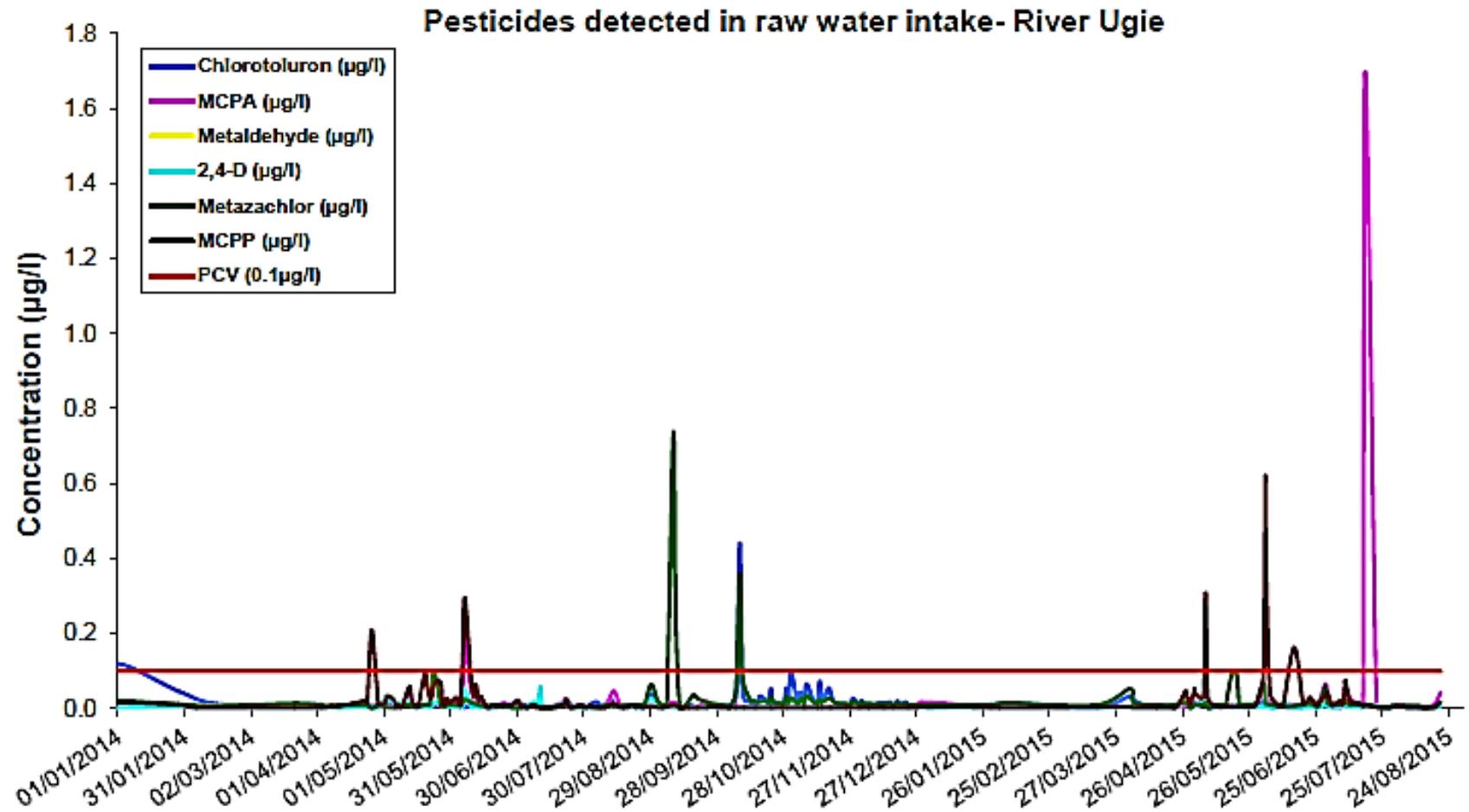
2. Soil  
structure

Control emerging rush  
seedlings with grazing

1. Drainage



# Water quality



# Water quality

## Pesticides

- Scottish Water have reported high levels of MCPA in watercourses as land managers have tried to clear rushes ('ineligible land')
- Very costly to filter out of drinking water

# Water quality

## Nitrates and phosphates

- Poor soil structure and drainage could increase soil erosion and run-off
  - Phosphates
  - Nitrates
- Negative impact on water quality

# Biodiversity

## Wading bird species

- Boggy areas can be managed as a wader habitat
  - Good nesting sites and source of food
- Rushes are important for waders, and should not be allowed to become too thick
  - Shouldn't make up more than  $\sim 1/3$  of the area
- Ideally areas are greater than 3 ha, vary in height, and are not next to trees or hedges

# Biodiversity

## Wading bird species

- Restrictions on livestock and mechanical operations during the breeding season
- The sward should be well grazed outwith the breeding season

# Biodiversity

## Wetlands

- Areas where the soil is saturated (permanently or seasonally)
- Supports plants, insects, amphibians, reptiles, mammals and birds
- Slow water flow, act as natural water storage zones, helping reduce impacts of flooding downstream

# Does it matter?

- Future agricultural policy support could well relate to public goods
- Important that farmers show that food production in Scotland is good value to the tax payer

# Acknowledgements

Ian Cairns





**SOH**  
*Association*  
**SCOTLAND**



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The Scottish  
Government

**QMS**



Forestry Commission  
Scotland



# TACKLING PARASITOLOGICAL CHALLENGES IN RUMINANTS (SHEEP)

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SRUC**



# Basket of options

- Worm control with reduced reliance on wormers

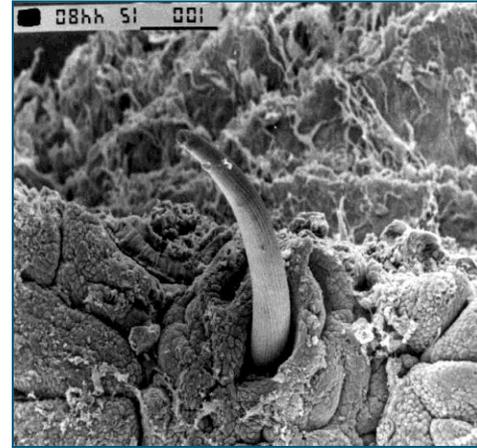


# Worm damage & lamb growth

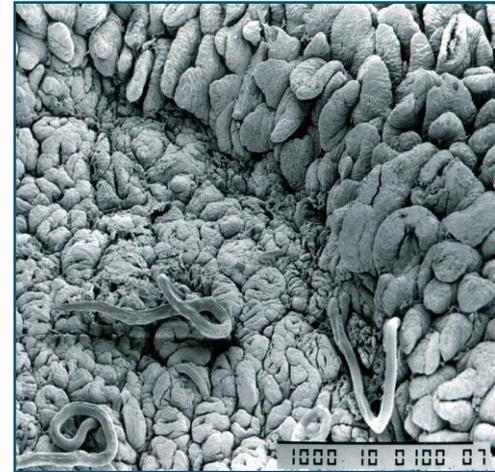
Worm infections reduce performance

- reduced food intake
- impaired food digestion
- protein leakage (needs replenishment)
- gut damage (needs repair)

**Less nutrients are left for the animal to grow**



*Disrupted stomach function*



*Gut damage in small intestine*

# Worm monitoring trial 2015

- Organic sheep farmers trialed from the basket of options
- Managed a small number of sheep with an option from the basket
  - Remaining sheep managed as usual (control)
- FEC and cultures by researchers
- Questionnaire and economic analysis

# Please help

- There is more information gathering to be done
  - Questionnaires
  - Small focus group meetings
- Mainly aimed at organic farmers, but all farmers can be a part of it
- If you are interested in helping, then we can get you in touch with the researcher
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