Australian Government

Northern & Yorke Regional Landcare Facilitator

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Ag Excellence Alliance

Natural Resources Northern and Yorke

Government of South Australia

Water Security in N&Y Rgion

- Trevor Gum sheeted catchment
- UNFS weed seeker technology
- N&YNRM Rivers Project creek lines & water quality
- Improved farm layout & water points
- Funds for Farmer Case Studies

EP farmer workshops

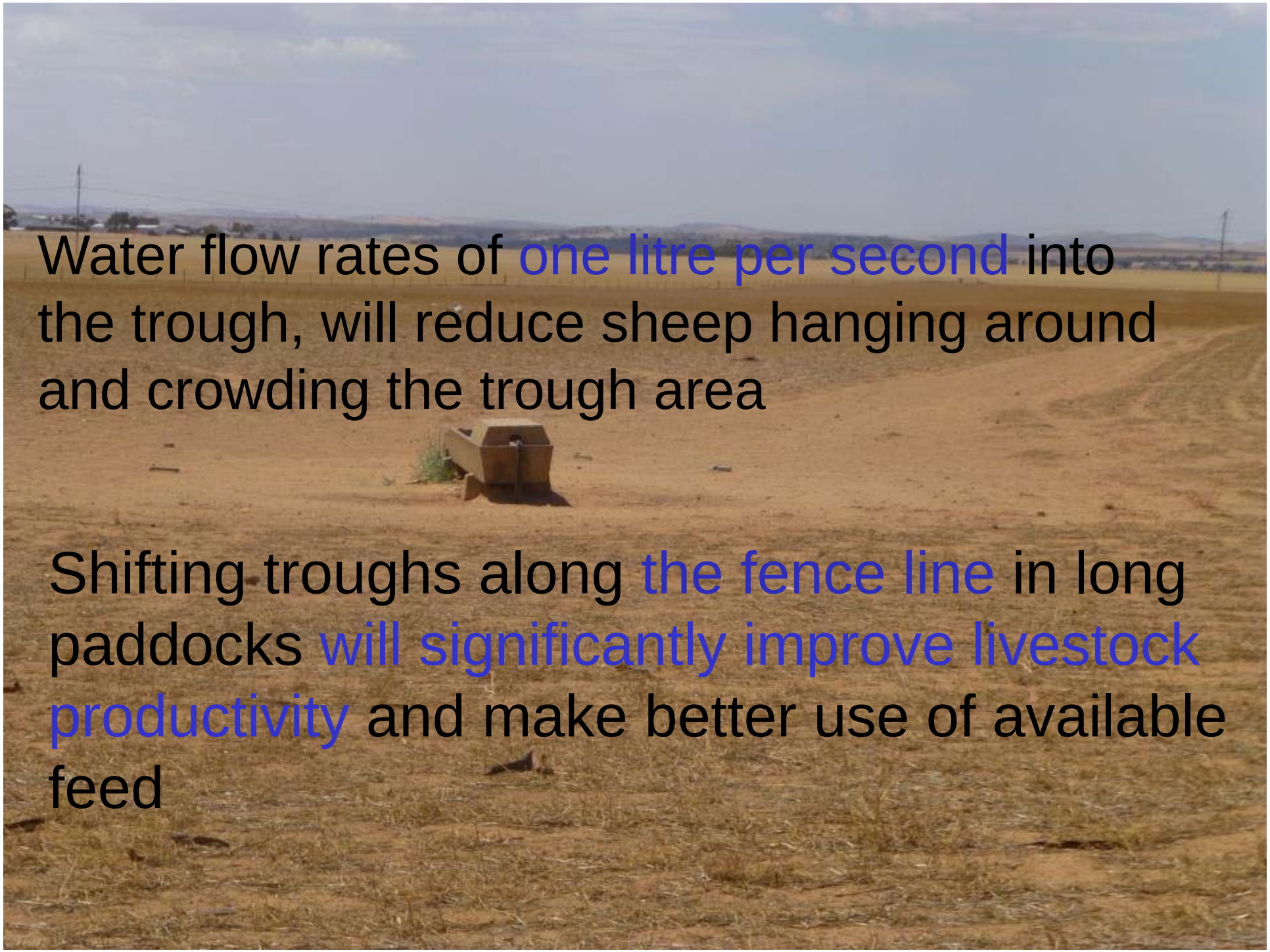
Farming trends

Increasing paddock size, as farmers seek greater operational efficiency

- Increased work rate
- Reduced overlap
- Increased timeliness

Through longer seeding and spraying runs

What are the opportunities to improve livestock and grazing productivity in mixed cropping and grazing systems with larger paddocks ?


Water flow rates of one litre per second into the trough, will reduce sheep hanging around and crowding the trough area
Shifting troughs along the fence line in long paddocks will significantly improve livestock productivity and make better use of available feed

Livestock Water Requirements

Flow Rate into trough required for 300 to 400 sheep is around **1** litre / Second

Sheep drink less than **7** litres per day

300 Sheep drink < 2,100 litres per day

400 Sheep drink < 2,800 litres per day

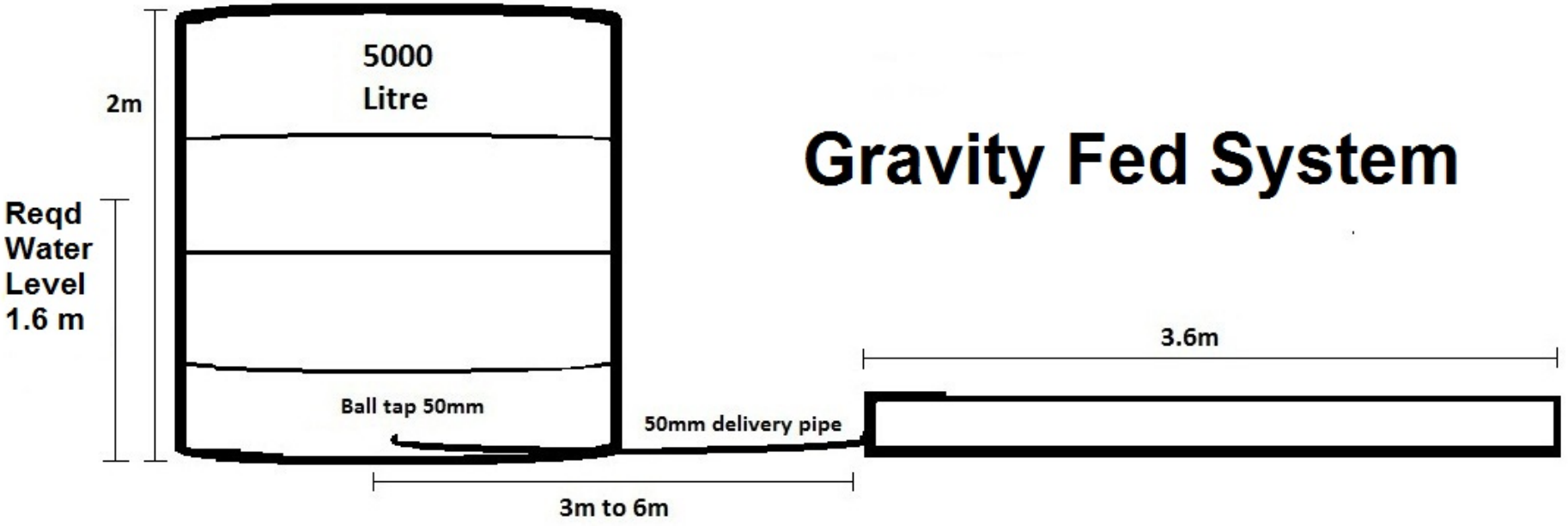
3.6 Meter (12 foot) Trough for 300 sheep

Equipment guidelines

The header tank

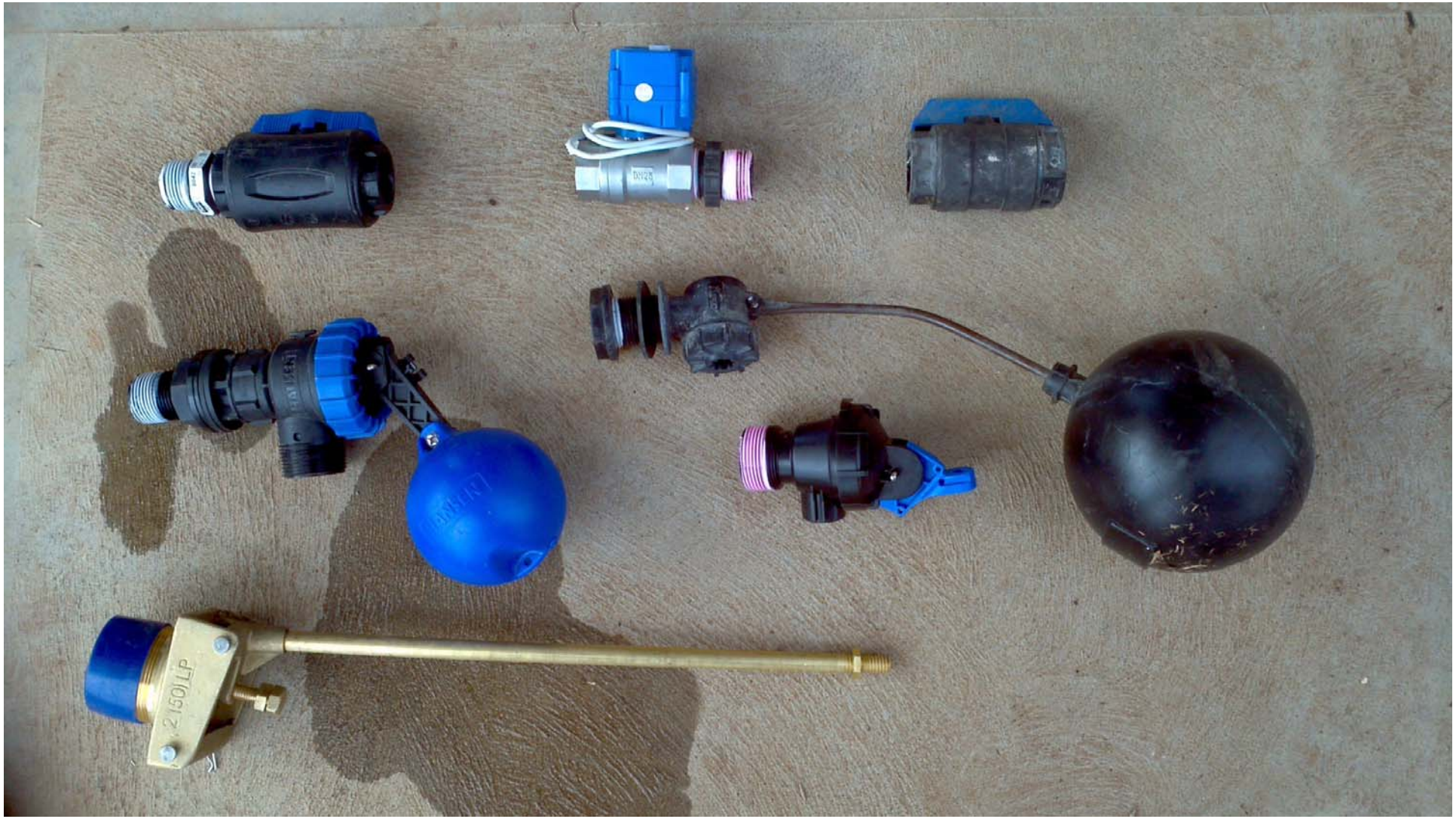
- Use a header tank to provide cool water
- Locate the header tank within **3 to 6 metres** of the trough
- If there is a reliable water flow to the header tank a **3,000** litre tank will be ample to ensure a reliable supply of cool water for **300 to 400** sheep

Water point unit providing 1 Litre / Second flow rate



The reliability of water supply to the tank needs to be considered when choosing tank size

New technologies provide a wide range of options to provide reliable flows of cool water



Low cost bilge pumps, electric float switches & electric ball valves can provide reliable water flows with 2 to 5,000 litre tanks and less than 1 metre head

Making it easier to relocate troughs as areas are fed out

Traditional trough float valves are inefficient in delivering high water flows needing large pipe size and tanks to be kept near full

Equipment guidelines Pump

- A 2,000 Gallon / Hour bilge pump delivers around 1.5 litres per second & draws approx 8 amps per hour
- If relying on a bilge pump and solar panel to boost water flow to the trough, use a battery for water flow during low light
- A 2,000 GPH bilge pump can also be used for water transfer, as it pumps to a height of around 3 metres

Equipment guidelines Power

- A 12 Volt 2,000 Gallon / Hour bilge pump will run for 30 to 40 minutes over the day to deliver 3,000 litres using approx 5 amps
- A 80 Watt 12 Volt solar panel will supply approx 20 amps in 5 hours of strong light
- A Gel or deep cycle 12 Volt battery of 14 amps will have a reliable and long life

Equipment Cost ?

By shopping around on the Web

- A 2,000 Gallon / Hour bilge pump can be purchased for under $40
- A 12 volt float switch is less than $15
- A 40 Watt Solar panel can be purchased for under $130
- A 12 Volt Gel or deep cycle 20 Amp battery can be purchased for under $60

Other ways to improve summer livestock production

Livestock production losses occur with temperatures over 28 degrees

(& high humidity) In 2012 there were over 80 days with temperatures over 30 degrees in the Mid North Ag area

Bare soil is much hotter than covered soil

Shade has been shown to reduce water needs by 26 % and increase lambing weights by 3.8 %

Larger mob size, and shifting livestock more often, improves grazing efficiency and reduces the number of overgrazed areas and trampling of feed and soil

Benefits from more even grazing patterns include

- Reduced weed seed banks
- Improved pest management through reducing feed sources
- Better crop establishment through leaving more stubble in the upright position and more consistent residue levels
- Reduced high nutrient problems around troughs ie; Crop lodging, Early onset of disease through heavy canopies

Next Steps

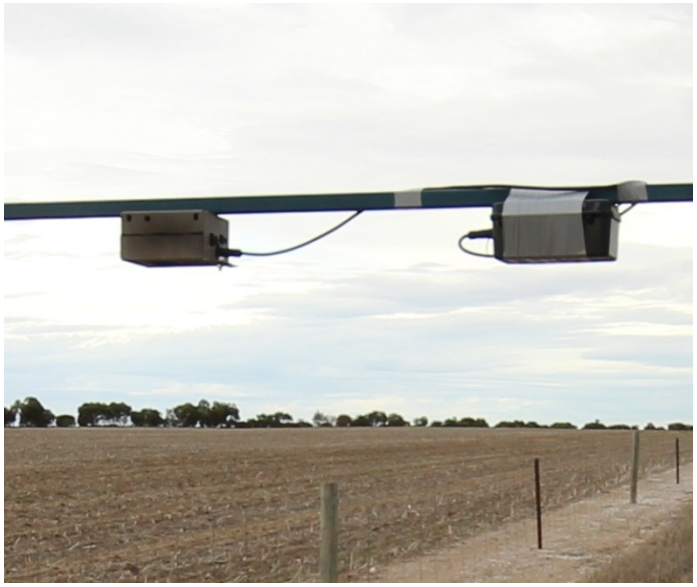
Use cameras for monitoring livestock watering patterns

To identify

Main drinking times

The number of livestock at troughs

How long they stay



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