



Adaptive Grazing – Module 4



Pasture infrastructure



Module 4 – Pasture infrastructure

- ▶ Objective: Students will gain basic knowledge about the tools that facilitate adaptive grazing.
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Modern Fence Technology



Portable



Photo: S. Wika

Low cost

What type of fence?

- Physical barriers
 - Barbed, woven wire, or rigid panels.



What type of fence?

- ▶ Psychological barrier
 - ▶ High tensile energized fencing

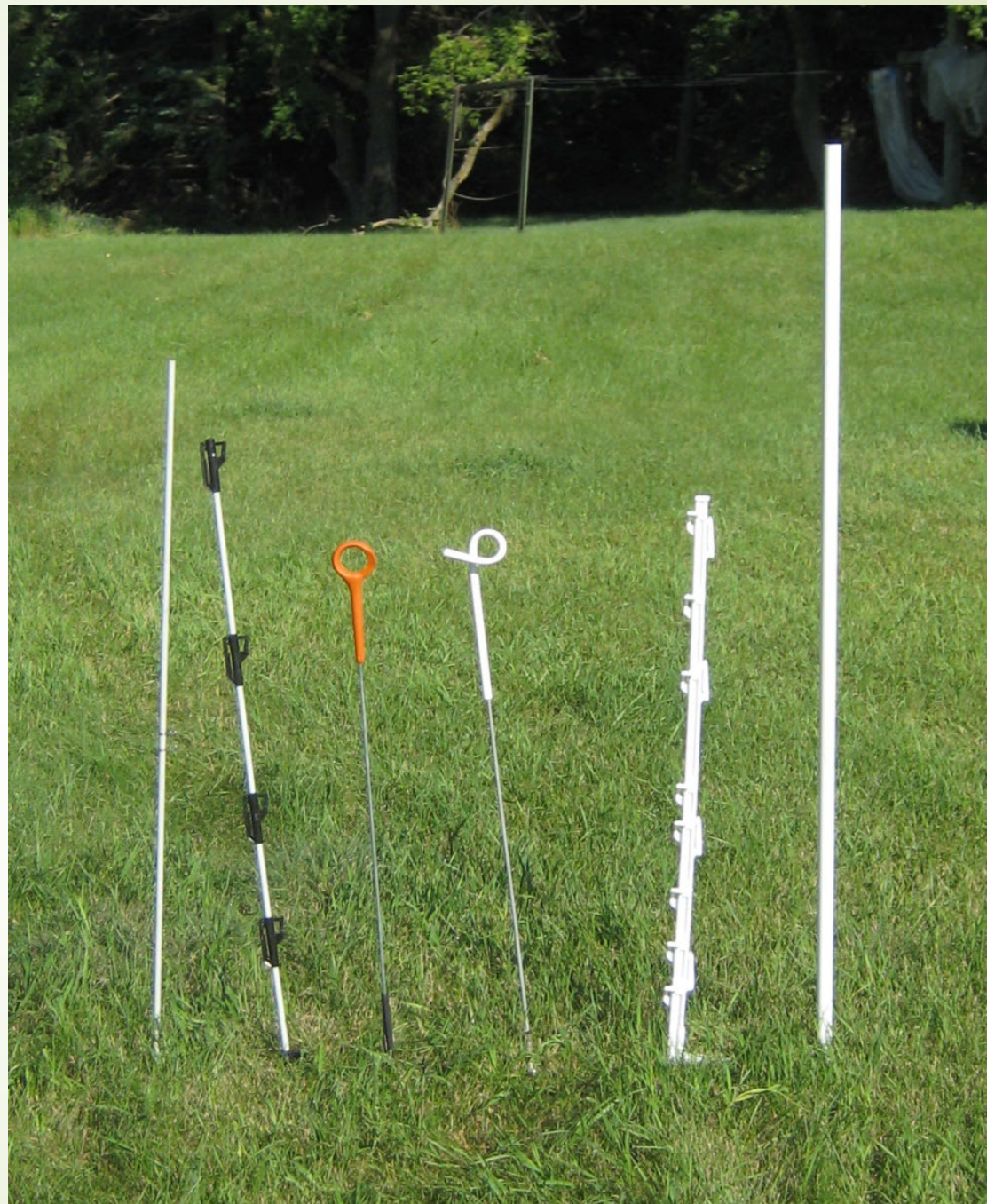


Critical energized fence requirements

- Match wire spacing to class of animal
- Maintain at least 7000 volts on the fence
- Use at least 3 ground rods - 6' long, 10' apart
- Digital voltmeter/fault finder
- Train animals to energized fence
 - Immediately remove problem animals



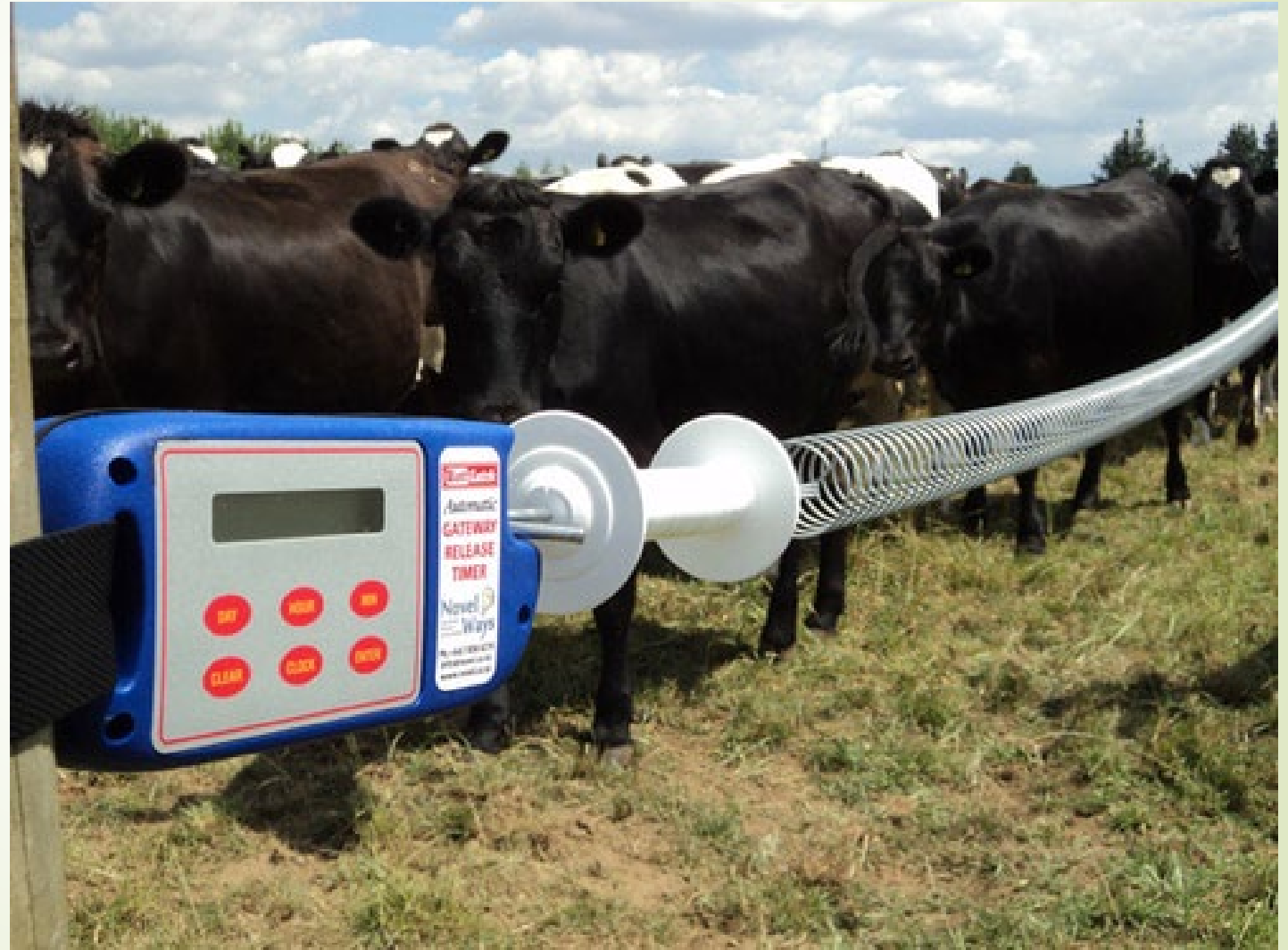
Posts



Reels



Other management tools: Automated openers.



Other fence considerations:

- ▶ Poly wire, braid or tape should be primarily white. White shows up best against vegetation.
- ▶ Reels hold more poly wire than braid or tape. Braid or ½" wide tape is used where visibility may be a concern. E.g., brushy, tall cover crops.
- ▶ Poly wire or braid should have at least 9 conductive strands.
- ▶ Portable energized netting is preferred by many managers for small ruminant, hogs and poultry on pasture and conducting frequent paddock shifts.



Water

Don't let water be your limiting factor!





Estimating daily livestock water consumption.

- ▶ <https://www.ag.ndsu.edu/publications/livestock/livestock-water-requirements>

Simple Watering System



Frost-free Water



Tire tanks



Continuous flow set-up



Solar pumping systems



Hauling



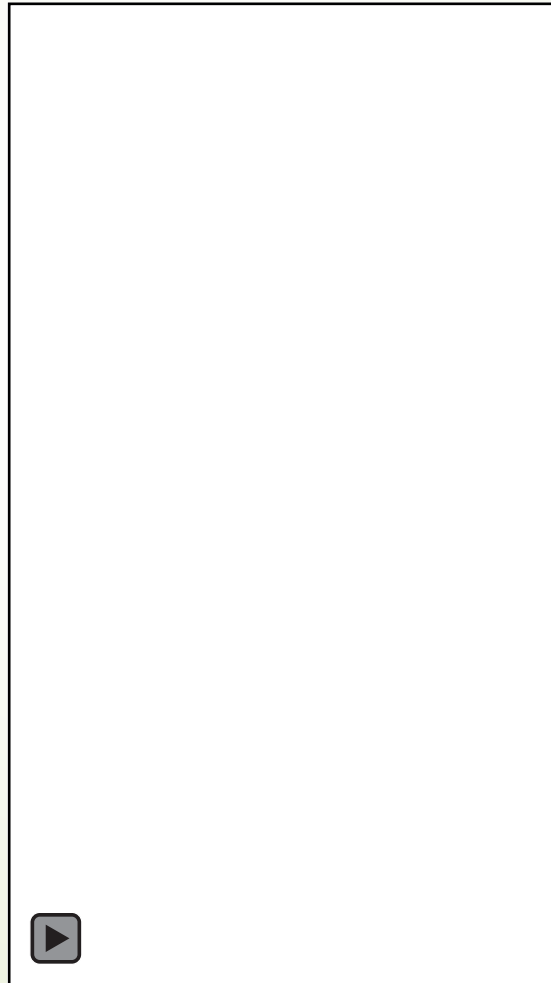
Photo: D. Voss



Photo: Understanding Ag, L.L.C.



Flat lay vinyl hose



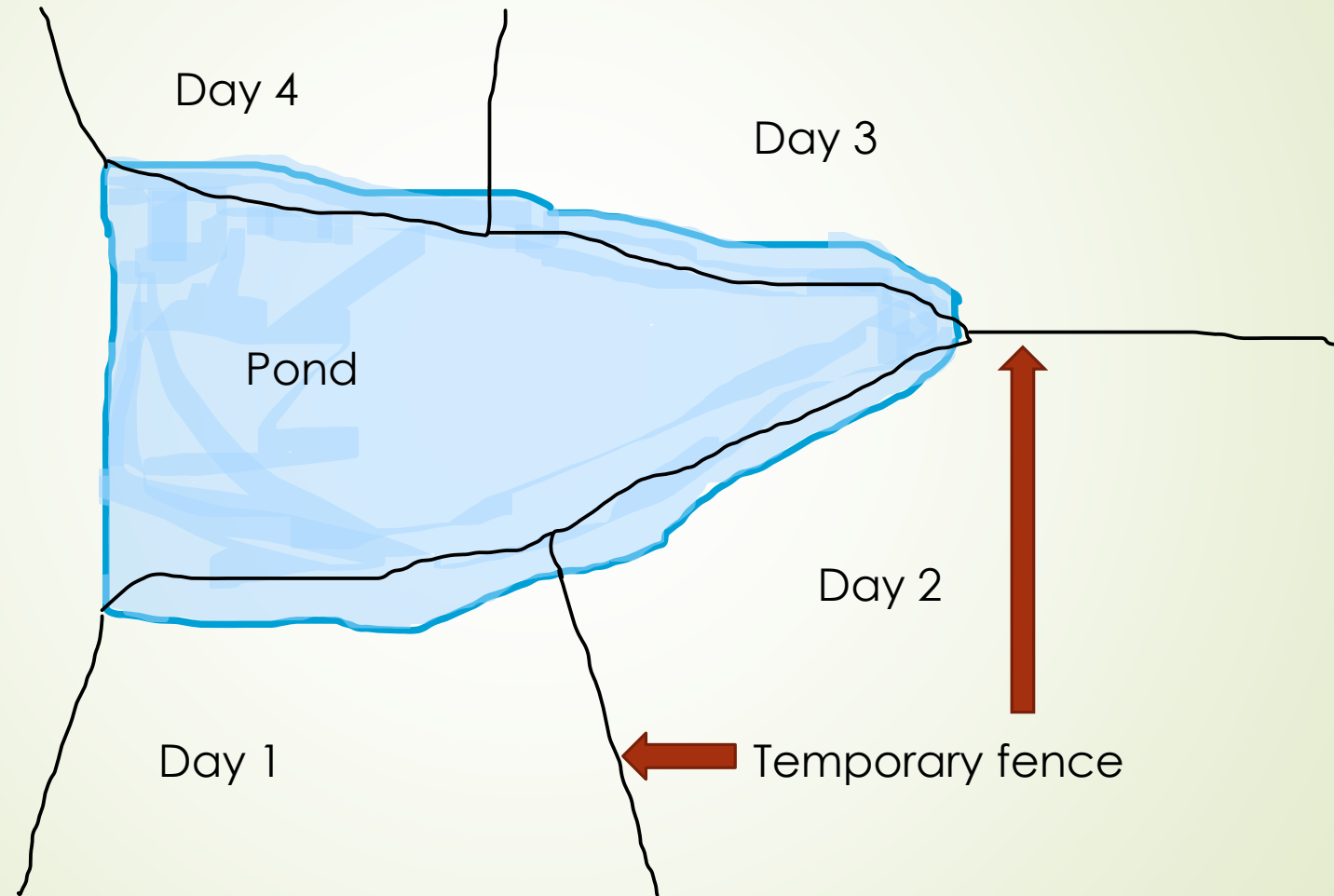
Surface Water - managed access



2-3" round rock entry pad



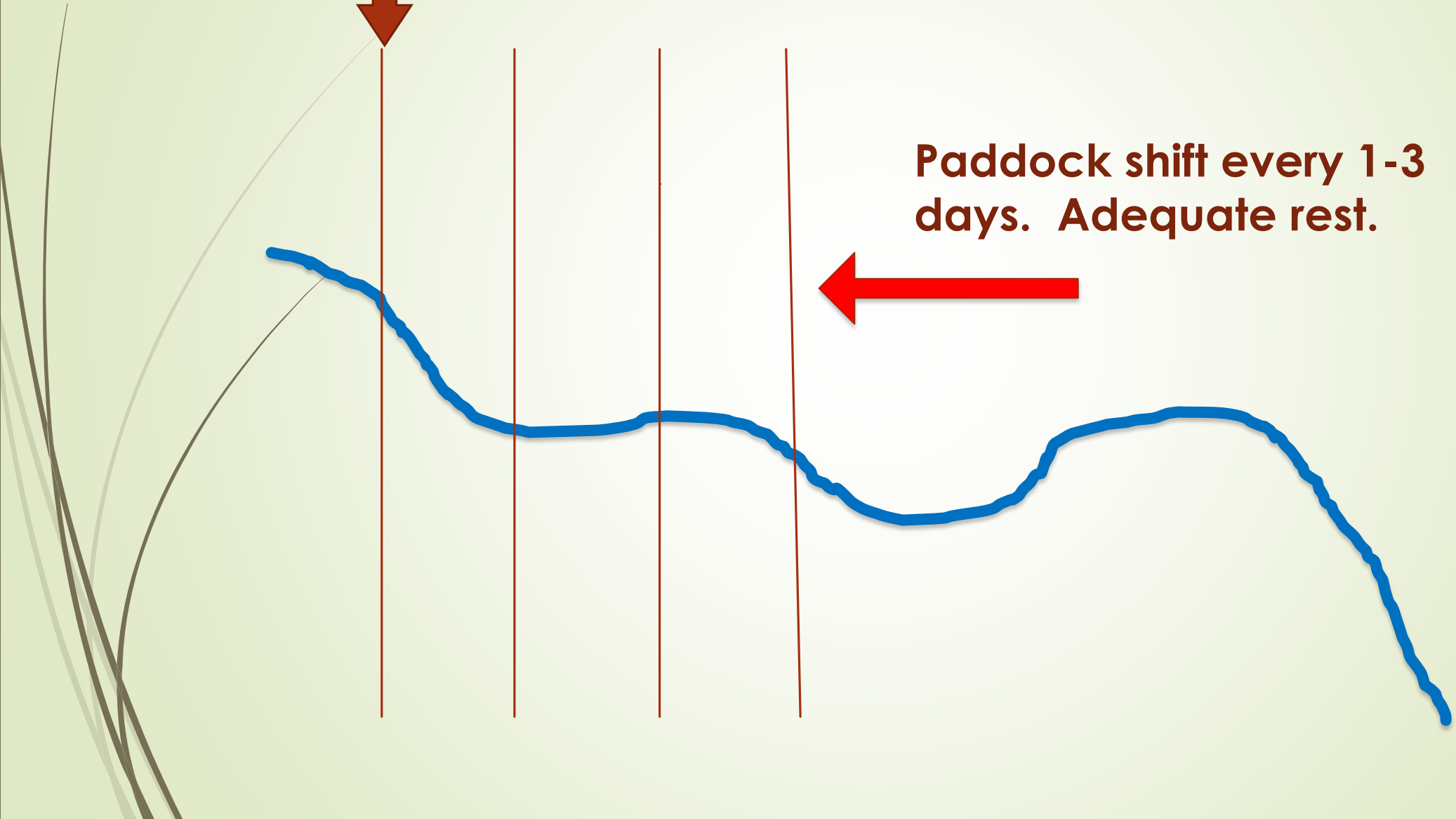
Ponds – limited access



Temporary fence

Streams

Paddock shift every 1-3 days. Adequate rest.





Other watering options

- ▶ Sling or river pump – commercial or DIY
- ▶ Portable nose pump
- ▶ Portable gas/diesel powered pump
 - ▶ Shallow well
 - ▶ Ponds/streams
- ▶ Pulsar pump
 - ▶ <https://www.youtube.com/watch?v=QOn7Zu3CCxo>
- ▶ Rain catchment systems
- ▶ Gravity feed from upslope pond to tanks with floats.
- ▶ Siphon from ponds to tanks with floats.
 - ▶ https://www.youtube.com/watch?v=ZUsTT_RUEdQ



Mineral feeders and salt blocks

- Mineral feeders can be portable.
- Strategic placement of salt blocks and mineral feeder can have a profound impact within a pasture.
- Most producers place salt and mineral for their convenience, not for optimal pasture management.
- Simply placing the mineral feeder on the opposite end of the paddock from the watering system can have a profound impact on pasture utilization.
- Placing mineral feeder and salt blocks in targeted areas concentrates animal impact and can be used to aid pasture management.



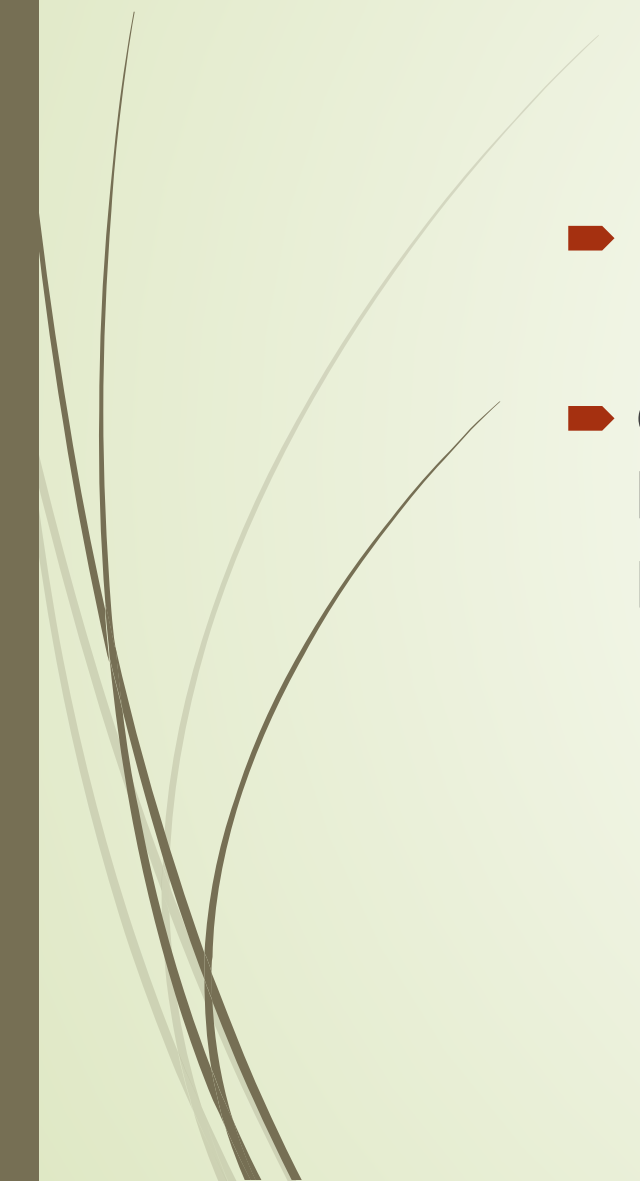
Shade



- ▶ Shade can be valuable to livestock performance.
- ▶ Portable shade can be valuable to facilitate herd distribution and vegetation management.
- ▶ Commercial or D.I.Y. portable systems both work well.
- ▶ Silvopasture and agroforestry practices can be a long term project to develop strategic shade.



Other:

- ▶ Portable oilers, brushes, corrals and loading facilities may be used to facilitate herd impact where possible.
 - ▶ On large ranches, riders on horseback using well trained herding dogs can be more practical than poly wire and portable fence posts.
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For the instructor: Field/lab exercises

- Have a variety of portable energized fence materials available for the students evaluate and discuss.
- Build a small paddock using portable energized fencing materials. Power with a small battery energizer. Learn how to measure voltage and trouble- shoot a short.
- Build an expandable livestock lane using portable energized fence materials.
- Evaluate a pond or stream as potential livestock watering site and how it could be utilized.
- Attend a pasture walk in your area.

Questions?



Photo: D. Voss



About the author

- ▶ This curriculum was developed by Kent Solberg. Kent has been involved in managed and adaptive grazing since 1986. He has owned and managed his own grazing operation for 23 years and has been a consultant for the past 13 years. His consulting work has taken him to Michigan, Ohio, North Dakota, Iowa, Wisconsin and across Minnesota working with a variety of crop and livestock farms. He has also taught courses in community and technical college on grazing management and soil health. Kent and his wife live on their farm in north central Minnesota. He can be reached with questions about this curriculum at sevenpinesandfence@gmail.com.
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