GRASSLAND WEED MANAGEMENT AND FOCUS ON CONTROL OF COMMON RUSH WITHOUT USING CHEMICALS

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Reversion of ‘improved’ marginal grassland – it’s a natural process!

- Over time, quality and productivity deteriorates
  - Drainage less effective
  - Increase in soil acidity
  - Nutrient levels fall
  - Productive sward less competitive (more weeds – e.g. common rush an indicator?)
- Less grass, less clover, lower silage yield, supports fewer LSU, slower stock growth rates
- Expensive to improve – economically viable return?

Grassland weed associations

- Wet soils
- Dry soils
- Low fertility
- High fertility
- Poor competition from grass sward
- Disturbed soil/following reseeding

Grassland weed associations (examples)

- Wet soils* (Common Rush, Creeping Buttercup, Bog Asphodel, Sphagnum Moss)
- Dry soils (Bracken)
- Low fertility (Silverweed, Yellow Rattle, Common Orchid)
- High fertility (Docks & Nettles)
- Disturbed soil/following reseeding (Chickweed, Red Dead Nettle)
- Poor competition from grass sward (Any of the above)

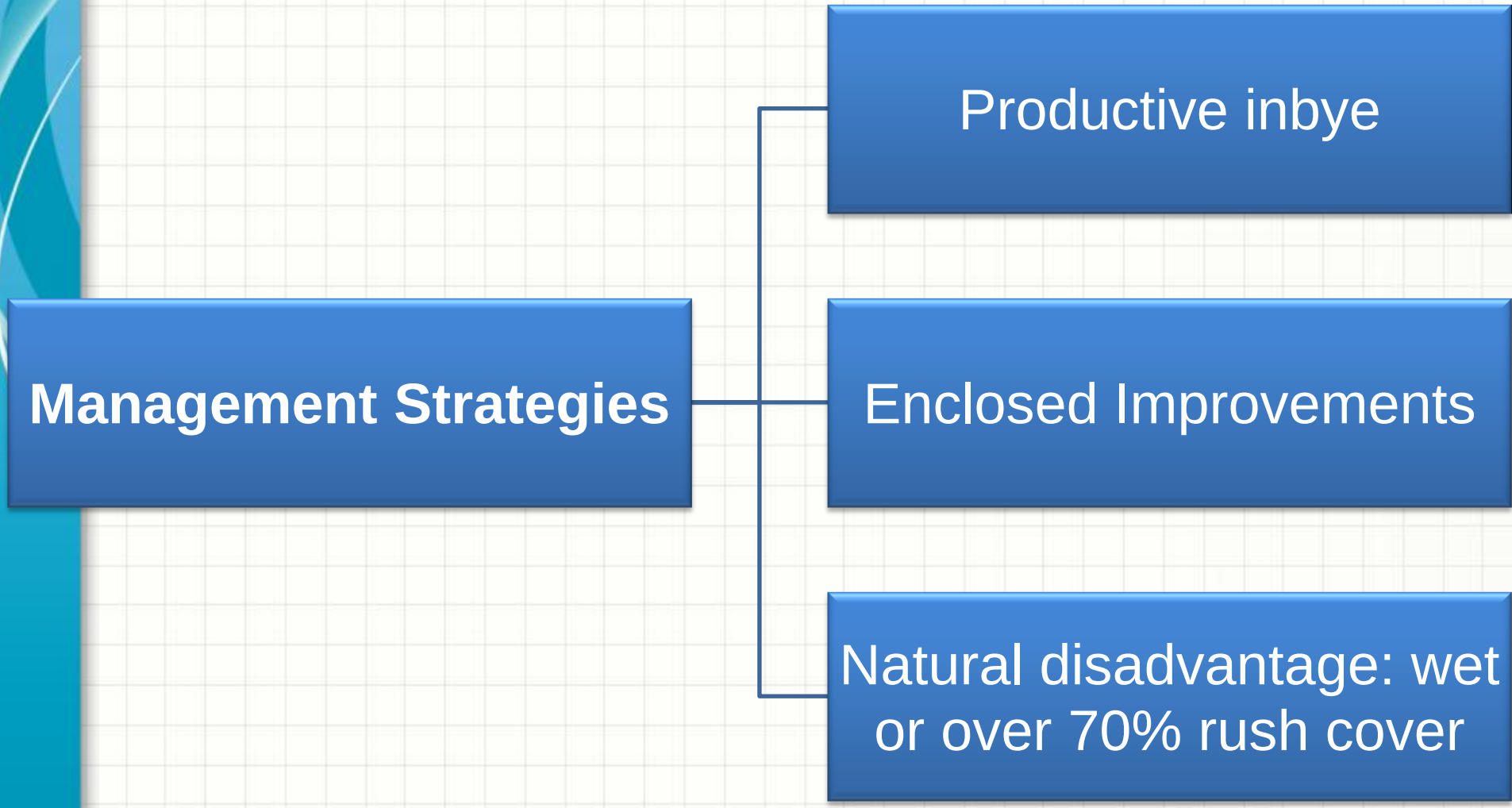
Maintaining/improving productivity

- What are your land management objectives?

Before improvement consider:

1. Is permission required?
2. Habitat management under agri-environment schemes
3. Cost/benefit of improvement
4. Practicality of improvement
5. Living with *less productive fields/part fields*

Land improvement strategy – marginal/crofting



Short term vs. long term control

Mechanical topping

<u>4 stages</u>

1. Graze hard to leave target weed standing above grass
2. Apply nutrients (if available/appropriate)
3. Top weeds at height above grass ‘crowns’
4. Use livestock grazing to manage the regrowth

Competition from sward

Soil Fertility & pH

Drainage

Role of good grazing management in weed control

- Avoid excess winter grazing
- Reduce risk of poaching (cross compliance issue in 2015)
- Reduce risk of winter kill in sward
- Graze hard in the late spring/summer (prevent dominant weed growth)*
- Cattle are better – less selective grazers and trampling (browsers are best!)
- Use topping for management in summer

Common Rush - Context

- Problem of permanent pasture & rough grazings - Greater problem in:
  - Poorly drained soils
  - High rainfall areas
  - Uncompetitive swards
- Dense, deep rooting clumps reduce grazing value of productive sward
- Huge volume of seeds produced – some lying dormant in the soil for decades
- Farm specific management strategy – driven by objectives

Option	Benefits	Limitations
Baling and removing	Clean cut close to ground No trash on surface Use as bedding material?	Need stone free and level surface Too much soil damage in wet conditions
Chemical destruction	N/A	Prohibited in organic system
Topping & left in-situ	Low cost Equipment available to most farmers Window of opportunity in conjunction with frost?	Mulch remains Probably too much for rotary topper. Limited by stones, drains, uneven terrain
Burning	No trash remains Reduced rush seed viability Fertile ash	Habitat/wildlife damage Safety issues
Ploughing in		Too much trash to plough

Improving grass productivity

- Liming and fertilising alone

- Surface seeding
  - Direct drilling
  - Slot seeding
  - Tined harrow seeding
  - Broadcasting
- Reseeding – ultimate control strategy?
  - Deep Ploughing
  - Light surface cultivation and firming
  - Sowing competitive seed mixture
  - Rolling to consolidate

Example Upland Seed Mixture

Type	%
Hybrid Ryegrass	6.67
Early Perennial Ryegrass	10.00
Intermediate Perennial Ryegrass	13.33
Late Perennial Ryegrass AberBite (T)	41.33
Timothy	13.33
S S Meadow Grass	2.67
Creeping Red Fescue	6.67
White Clover	6.00

Assess soil structure to identify any problems

Drainage

- Some soil types more susceptible to problems
  - High content of clay
  - High peat content
  - Very deep or very shallow soils
- Damage to field drainage systems
  - Outfalls
  - Open drains
  - Clay and plastic systems
- Damage to soil structure
  - Poaching by livestock
  - Machinery & cultivation

Soil fertility

Address underlying problems:

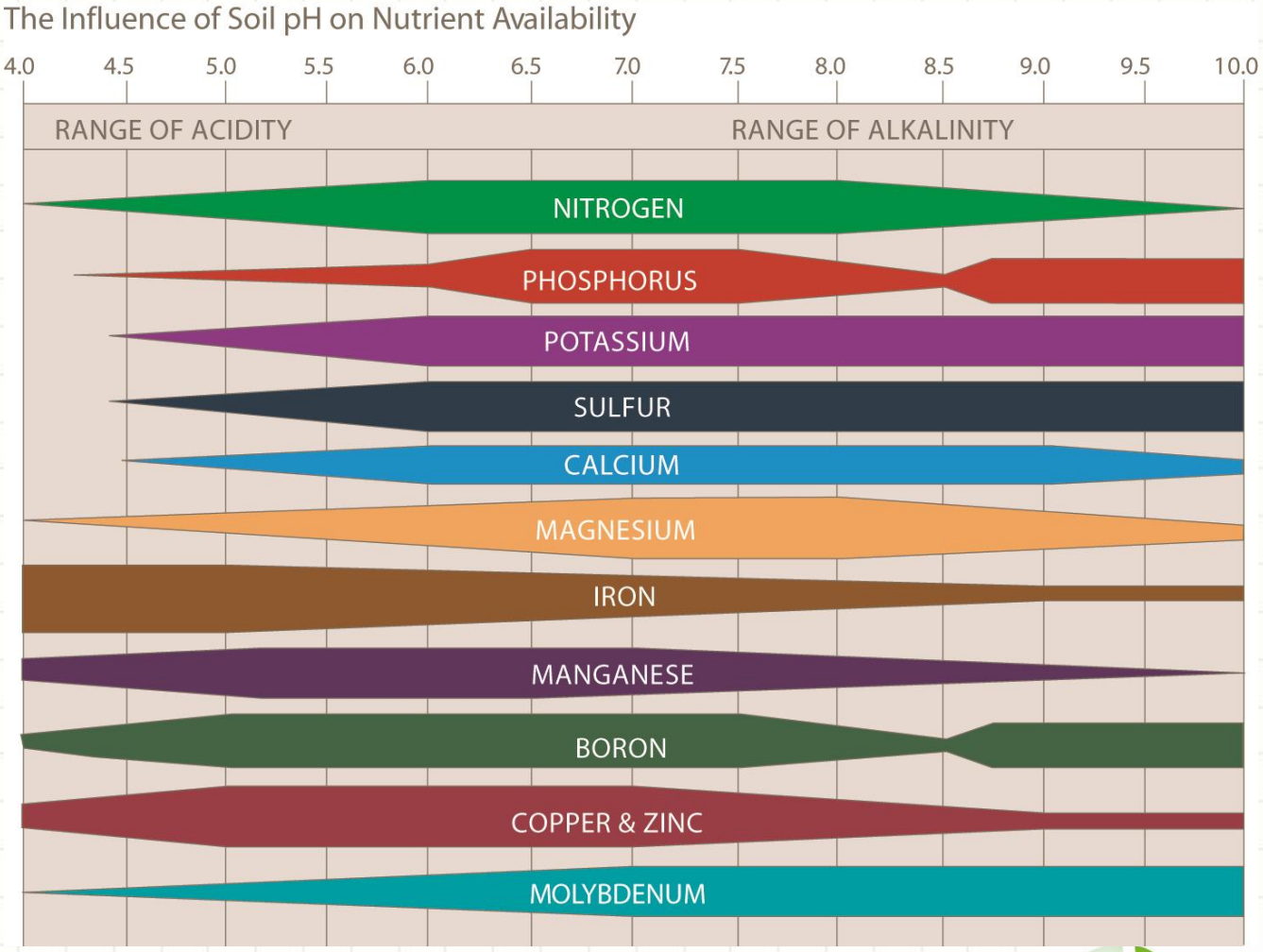
1. Soil acidity (pH)
2. Soil nutrient status (P, K, Mg)

Starts with soil analysis!

Soil fertility

- Grass needs to be favoured by soil and growing conditions
  - pH 6.0 or higher on a mineral soil
  - Free draining soil
  - **P** & K & Mg – target index Moderate or above
- Liming and nutrient application needs to promote grass growth
  - Types of liming material
  - Muck & slurry
  - ‘fertilisers’

Nutrient availability in the soil



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