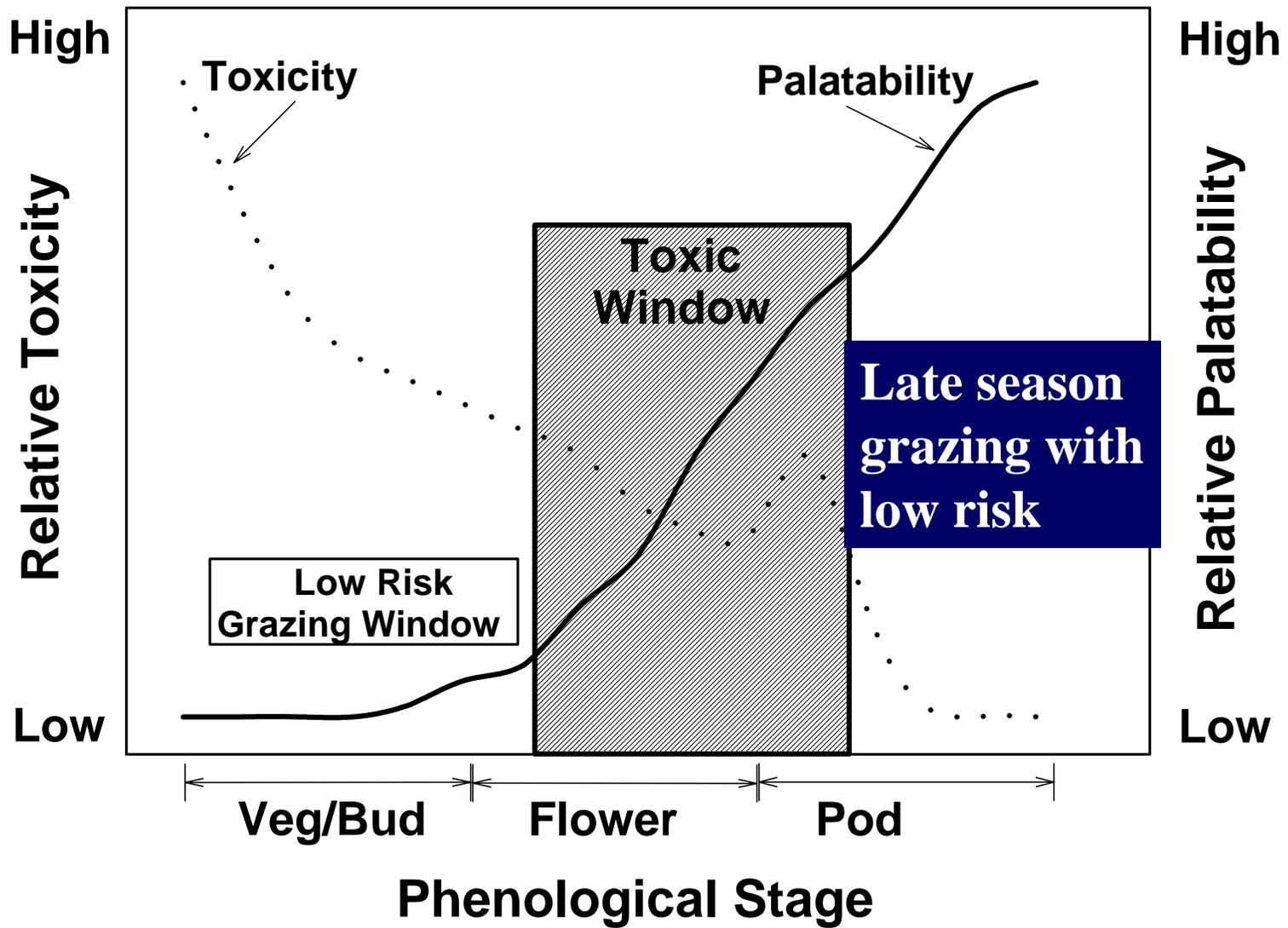


Larkspur Grazing Management



Plains larkspurs (*D. geyeri*)

- Emerges early in spring before grasses
- In 3 of 4 grazing studies, cows ate little *geyeri*
- In 1 study, consumption began when plant was in early flower stage
- Intoxicated cows ate in cyclic fashion (2-3 days up & down)



Low Larkspurs

- Contain toxins not found in tall larkspurs
- Toxicity relatively stable over time
- Cattle eat most after flowering
- Even dry stems may be toxic, but cattle have difficulty eating enough after pods shatter



Preventative Measures

- Grazing management
- Conditioned aversions
- Sheep grazing
- Herbicidal control
- Bloat Prevention?



Proper Distribution (Herding)



- Use rider to sample larkspur
- Use rider to observe cows
- Use rider to keep cows from dense patches
- Use rider to move cows to new forage

Preventative Measures

- Grazing management
- Conditioned aversions
- Sheep grazing
- Herbicidal control
- Bloat Prevention?



Averting cattle to larkspur

- Drug (LiCl @ 200 mg/kg) causing nausea paired with flavor of larkspur
- Cattle associate taste of larkspur with gastrointestinal distress from LiCl
- Pros: aversion reasonably easy to condition; 1 or 2 doses avert cattle for at least 3 yrs
- Cons: Social facilitation may extinguish; intensive management option (I.e., handling livestock); each dose of LiCl costs \$6.00

Preventative Measures

- Grazing management
- Conditioned aversions
- Sheep grazing
- Herbicidal control
- Bloat Prevention?



Sheep Grazing Before Cattle



- Sheep very tolerant
- Need to graze larkspur early to do much good
- Must not eat all other forage
- Bedding or trailing over dense patches some times works well

Preventative Measures

- Grazing management
- Conditioned aversions
- Sheep grazing
- Herbicidal control
- Bloat Prevention?



Herbicidal Control of Tall Larkspurs

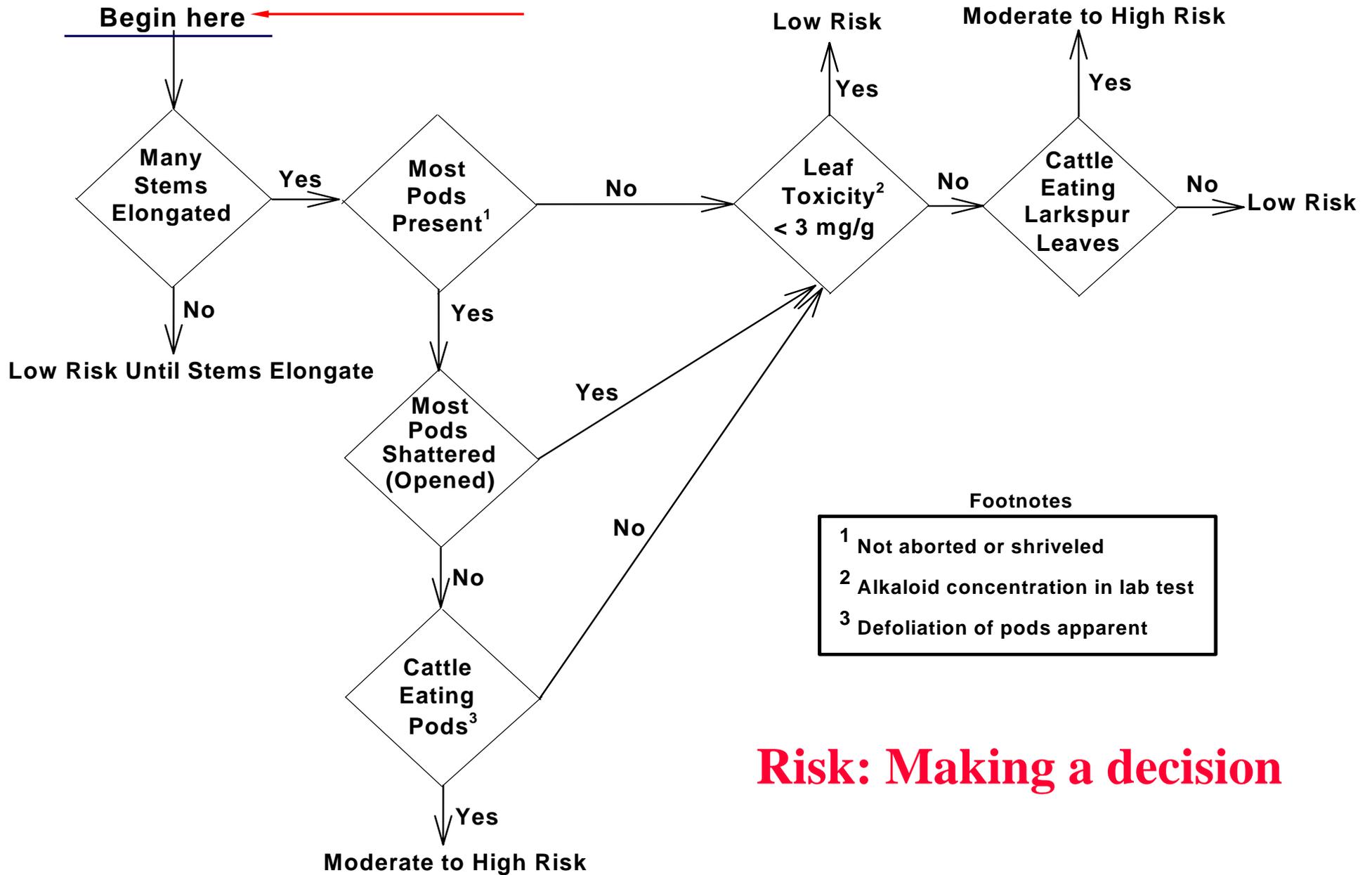
- Must penetrate waxy leaves, kill root crown
- Herbicides: Escort @ 2 oz ai/acre -vegetative
- Tordon@1-2 lb ae/acre bud/flower stage
- Treatments good for 20 years
- Dead plants are palatable and very toxic so no grazing that year



Preventative Measures

- Grazing management
- Conditioned aversions
- Sheep grazing
- Herbicidal control
- Bloat Prevention?





Risk: Making a decision

Larkspur: Current Recommendations

- Risk assessment- Collect larkspur & observe cow behavior
- Graze early; graze late and avoid toxic window
- Create larkspur-free areas if possible w/ herbicides
- Use aversive conditioning
- Use rider to redistribute animals as needed



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