

# Species and Cultivar Considerations

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Make it easier to do the  
right things right



# Peace Forage Seeding Tool

An interactive forage seeding database for the Peace Region

[Species Options Tool](#)[Seed Mix Calculator](#)[Search](#)[Species Ratings](#)[Overview](#)[Support](#)[Suppliers](#)

Explore the species options form – [Species Options Tool](#)

Use a seed mix calculator – [CALC](#)

Browse the seed species table – [Species Ratings](#)

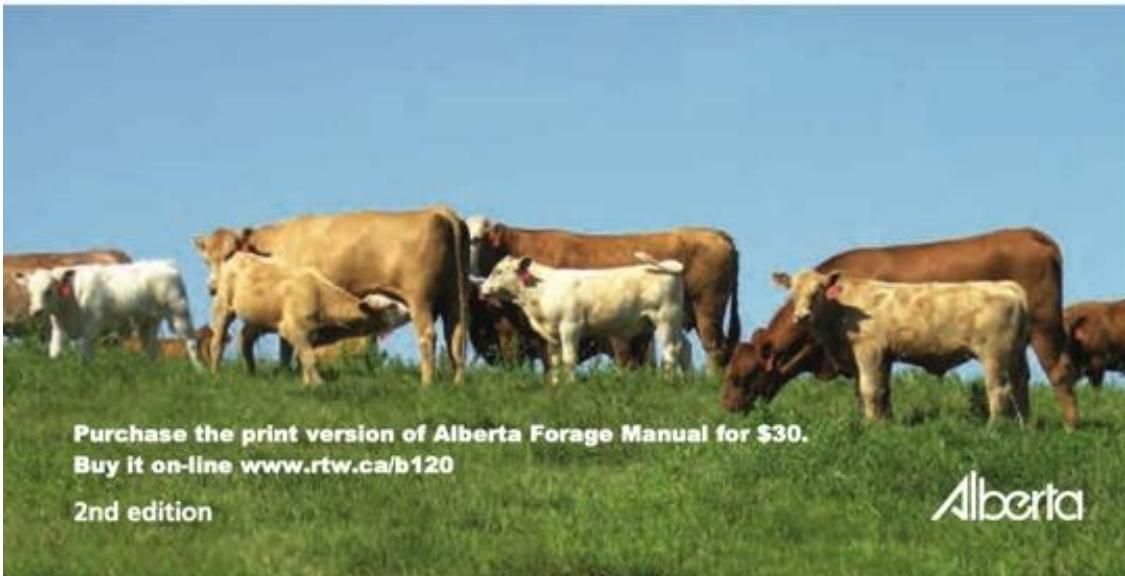
Explore the whole database – [Search](#)

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Read about the Project – [Overview](#)

Explore general information, tool instructions and Manual chapters – [Support](#)

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**2nd edition**

**Alberta**

[Forages Suited to My Field](#) [Seeding Rate Calculator](#) [Forage Weed Management](#)[Select Zone](#)

# An interactive forage species selection tool for Western Canada



Forages Suited  
to My Field



Seeding Rate  
Calculator



Forage Weed  
Management



Funding Provided By

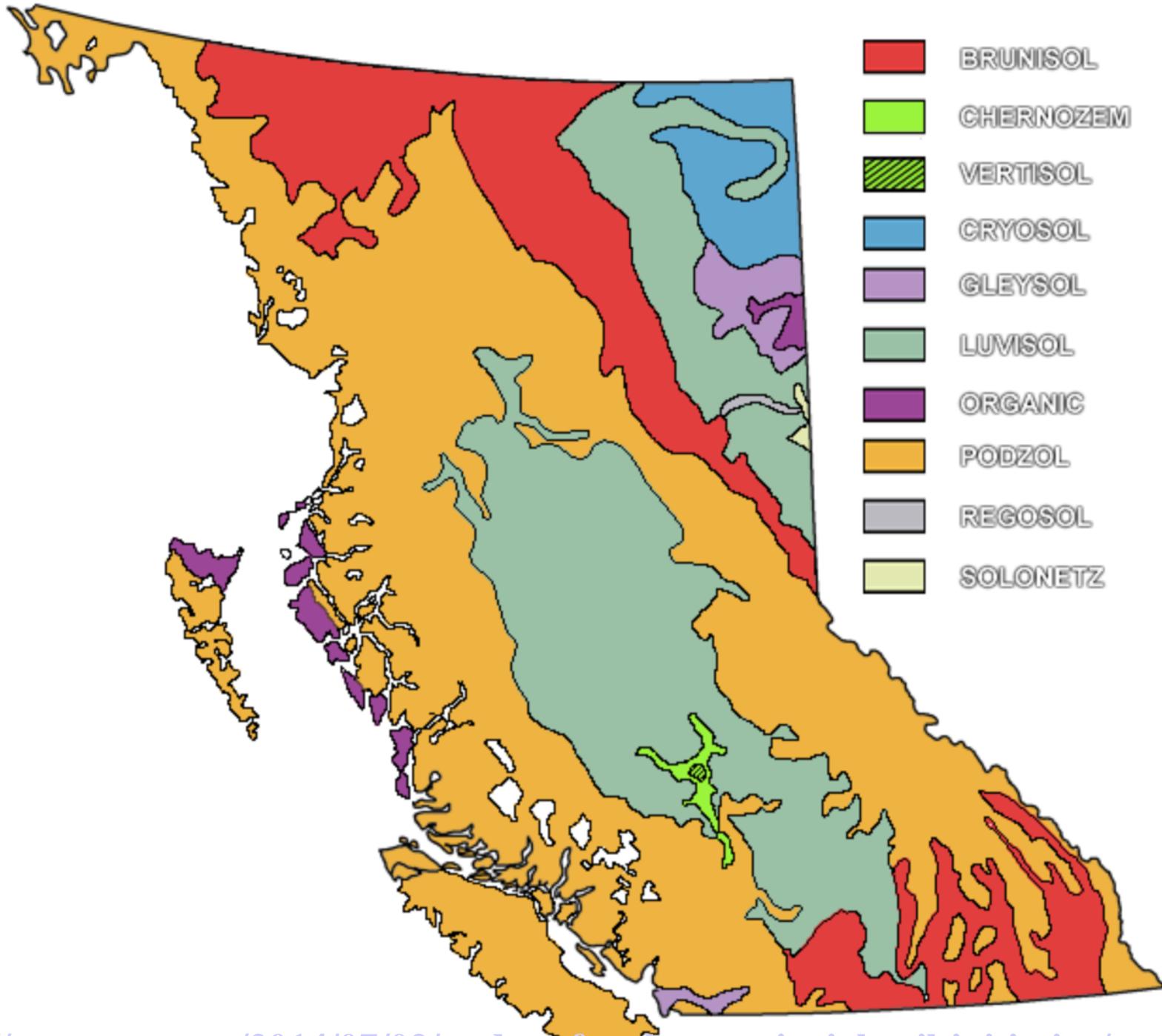


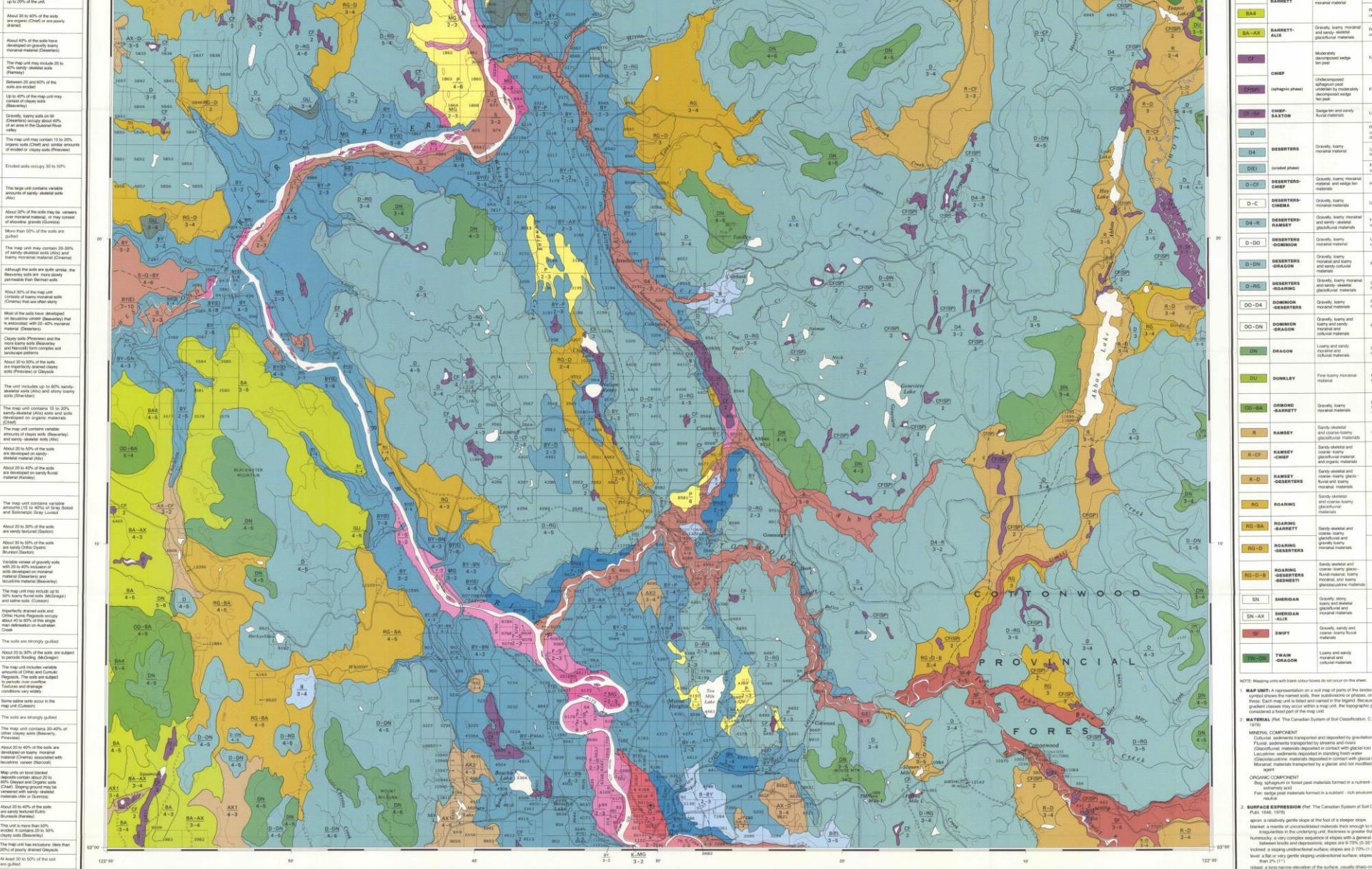
Forage U-Pick gratefully acknowledges the past projects that have been used to support its development.

[View all acknowledgements](#)

# Rough Rule of Thumb

- Management -40
- Environment-40
- Species-20?



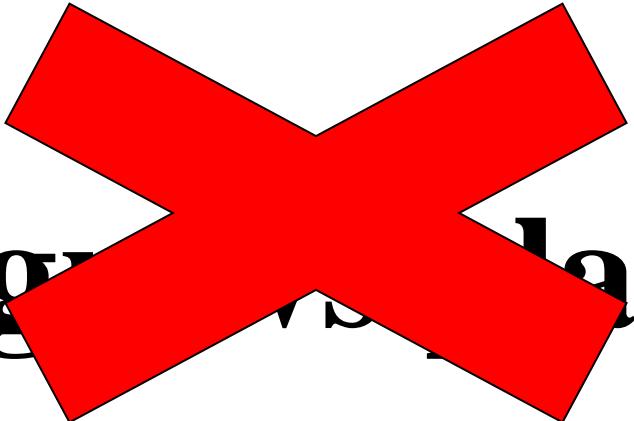


SOILS  
OF  
**QUESNEL AREA**  
BRITISH COLUMBIA

<http://sis.agr.gc.ca/cansis/publications/surveys/bc/bc31/index.html>

# Rules of Thumb

Soil grows plants



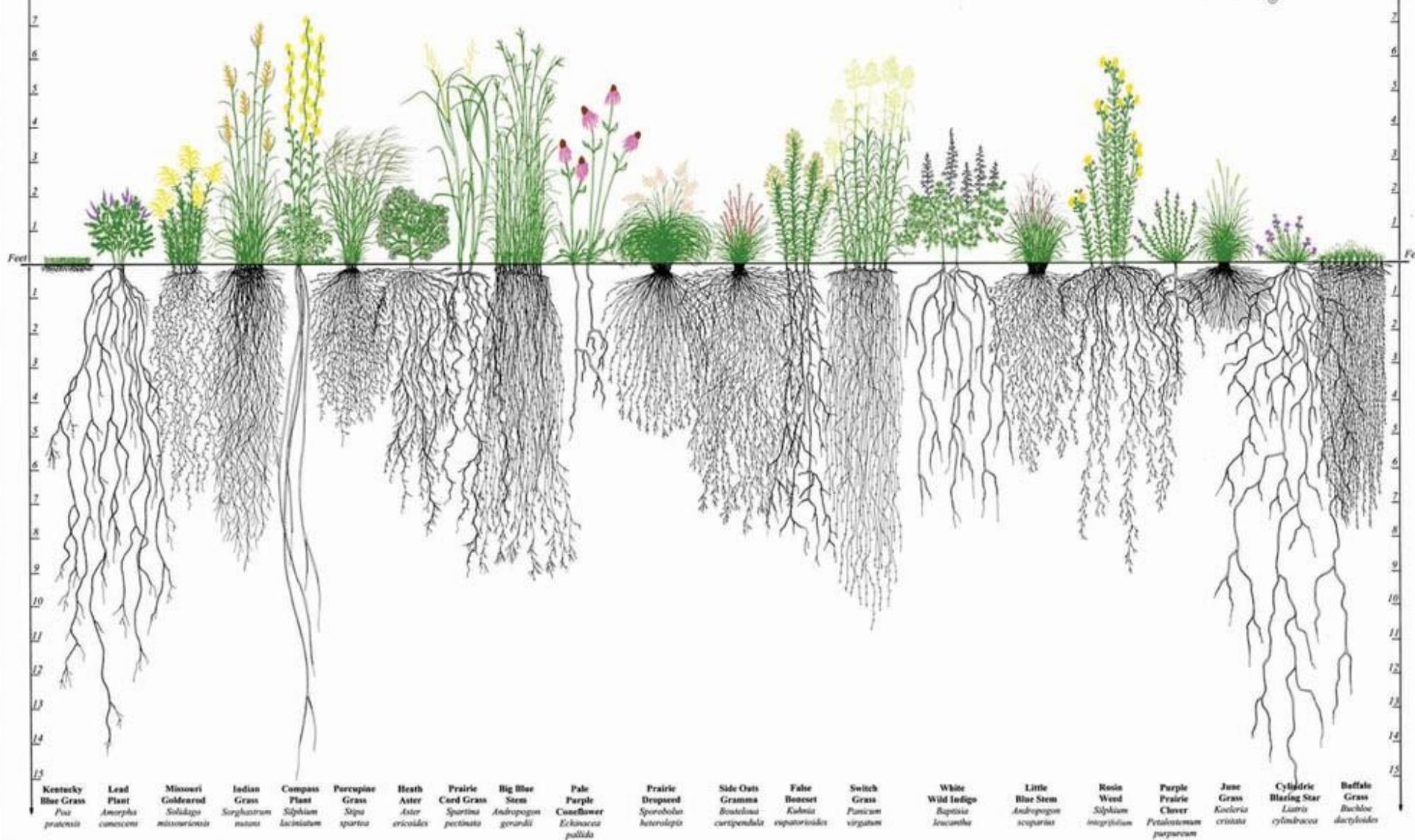
# Plants grow soils

Dr. Christine Jones-

Prsn. Western Canadian Grazing Conference, Red Deer 2012

# Principles to Increase Soil Health

1. Armor the soil
2. Minimize soil disturbance
3. Increase plant diversity and/or rotation
4. Keep living roots in the ground longer
5. Integrate livestock grazing



Biodiverse Functional Traits enhance Ecology mimics Mother Nature

Source: Prairie Grasslands Roots Conservation Research Institute, 1995

# Plant Species Diversity

- Nutrient cycling
- Primary production

SO....

- Fills niches water, nutrient capture
- Better chance one or more species will be productive...even in variable weather, late grazing/haying, etc.

Source: Bittman, Hunt, et. Al., Cool Forage-Advanced Mngmt of Temperate Forages, Ch. 9 Biodiversity in Forage Stands p. 42-43.

# Select the right forage species

- End use – hay, pasture, management systems
- Soil – type, pH, texture, problems (solonetzic, stony)
- Soil moisture during growing season
- Species adaptation – life span, cold tolerance, disease tolerance
- Get seed certificate, best adapted, persistent species

# Hay Stand Objectives

- End use market
- Years left down
- Number of Cuts
- Harvesting Method
- Grazing also?

# Pasture Mixtures

- Creeping grass
- Rapid regrowth grass
- Legume
- Root variation
- Growth timing

# Seed Company Mixes

- They are theirs not yours!
- Often has an annual in it
- Lower cost seed may be dominant
- Hardiness/Change of Cultivars
- Percentages of each confusing?
- Knowledge of weed seed content unknown?
- Coated or noncoated

# What Chosen-What Got-Why? Because...

- Seed percentages/establishment
- Interspecies competition
- Natural stand thinning
- Pasture Naturalization
- Management/Fertility Effect
- Law of the most Aggressive
- Law of the most Limiting

# Soil Test and Balance Fertility

- P2O5      25-35 #
- K2O      300 #
- S      15 - 20 #
- N      5-10#

# Keys

- Contact-Seed to Soil
- Control competition-  
Above & Below ground
- Weather timing
- Manage for Success



**Sink No Deeper than Boot Sole**



Firm Well Packed Seedbed

# Seeding Depth - Do You Know Your Equipment ?

- How confident are you as to where the seed is actually going ?



After Seeding



# Seeding Depth

- Seeding too deep common cause of poor establishment
- Seed small forage seeds no deeper than  $\frac{1}{2}$  to  $\frac{3}{4}$  inch (1 to 2 cm) deep
  - Clay soils max.  $\frac{1}{2}$  inch deep
  - Sandy soils to  $1\frac{1}{4}$  inch



Photo courtesy Frank Gazdag



Seed  
Into  
Sod

# Sod Seed Forages

- With Glyphosate kill/timing fall
- With soil test 0-6; 6-12
- P, K, S, B? fertility added
- Just before an inch of rain
- With patience

Renovation System	<i>% of Seeded Plants of the Total Plant Population ( June 2003)</i>	
	Herbicide plus Phosphate	Herbicide with no Phosphate
<i>Sod Seed</i>	57%	29%
<i>AerWay &amp; broadcast seed</i>	80 %	48 %
<i>Drag&amp; broadcast seed</i>	80 %	44 %
<i>Broadcast</i>	30 %	39 %

# Results Inconsistent

- Decaying sod a hostile place for a seedling
- Moisture limited for germination
- Seed bed not good mineral soil to seed contact
- Regrowth old stand from roots

# Take Home Message

- Good, vigorous establishment critical for productive, long-lived forage stand
- Use quality seed of suitable forage species
- Inoculate legumes
- FIRM, FIRM, FIRM...seedbed-then seed
- Use proper seeding rate... any method
- Seed early
- Minimize competition, MONITOR
- Be patient to call new seeding a failure

# Direct Seeding Forages Back Into Forage Stands



Results to date have been  
inconsistent