

Native Habitat Reconstruction:

From seed mix design to establishment
and everything in between

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Overview

- ▶ Seed mix formulation for diversity
- ▶ Hydroseeding vs Drilling vs Broadcasting
- ▶ Site prep
- ▶ Ideal timing
- ▶ Maintenance mowing
- ▶ Converting Brome to prairie

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Seed Mix Formulation for Diversity

- ▶ Make and/or use the most diverse mix you can afford
 - ▶ Species Richness
 - ▶ 50 species at a minimum
 - ▶ 80-100 is ideal
 - ▶ About 60+ forbs and about 20 grasses & sedges
 - ▶ How much seed should we throw on the ground?
 - ▶ 40-45 seeds per sq ft is the minimum (Drill)
 - ▶ 60-65 seeds per sq ft is the max (Hydroseeding and Broadcast)
 - ▶ 40-45 seeds/sq ft forbs; 18-20 seeds/sq ft grasses & sedges
- ▶ Have different mixes for different site conditions
 - ▶ Dry, Dry Mesic, Mesic, Wet Mesic, Hydric
 - ▶ This will lead to more success per dollar spent on seed, but the planting costs are a little higher

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Seed mix prior to stirring



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Hydroseeding vs Drilling vs Broadcasting

- ▶ So many factors effect decision making: topography, time of year, soil conditions, weather, ground prep, cleanliness of seed, seed availability, staff availability
- ▶ **Hydroseeding**
 - ▶ Great for highly erodible areas
 - ▶ Helps to hold the seed in place during rain events
 - ▶ **Increased cost: equipment, hydro mulch, higher seeding rate, etc.**
 - ▶ **Generally requires more than one staff member to operate**



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Hydroseeding vs Drilling vs Broadcasting

▶ Drill Seeding

- ▶ Great option on highly erodible ground
- ▶ One pass and doesn't disturb the soil
- ▶ Capable of drilling through vegetation
- ▶ Lower seeding rate
- ▶ Maneuverability can be a challenge
- ▶ Can't drill through snow or frozen ground
- ▶ Can lead to a reduction in forb diversity

- ▶ Land Pride - drill designed for natives



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Hydroseeding vs Drilling vs Broadcasting

▶ Broadcast Seeding

- ▶ This is how nature does it!
- ▶ Easily seed over light snow cover with just one pass
- ▶ Establishment will be the most diverse of all the planting options
- ▶ Vicon seeder is inexpensive
- ▶ Wind can limit seeding opportunities
- ▶ Spring seeding will require a second pass if cultipacker doesn't have extension

- ▶ Good success:
 - ▶ Right AFTER first flush of weeds in early spring
 - ▶ Do tillage to control weeds and prep the ground
 - ▶ Then broadcast and cultipack

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- ▶ Truax Trillion: low-to-the-ground broadcaster with cultipacker system built in
 - ▶ Tillage may be required prior to use



Truaxcomp.com

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Site Prep

- ▶ Killing off weeds beforehand is ideal
 - ▶ 2-3 Glyphosate applications throughout the growing season prior to planting
- ▶ Don't till or disk if you don't have to
- ▶ Plant into corn, not beans
 - ▶ Far less weed pressure when soil is not loaded with nitrogen
 - ▶ Corn stover provides organic matter that might help to hold soil moisture

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Ideal Timing

- ▶ HA! HA! Yeah, right!
- ▶ Mixes with 50+% forbs - dormant season
- ▶ Mixes with 70+% of grass - mid spring
- ▶ Best options:
 - ▶ Broadcasting
 - ▶ (Oct-Dec) Best
 - ▶ (Jan-Mar) Second best
 - ▶ (Apr-Jun) Third best
 - ▶ Drilling
 - ▶ Fall before ground freezes, or Spring as soon as the ground thaws, is best
 - ▶ Late spring (May-June) next best
 - ▶ July, Aug, Sept not recommended (lack of precipitation, late germination, etc.)

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Maintenance Mowing

- ▶ General train of thought is still
 - ▶ 1-3 times the first year, 1-2 times the second year
 - ▶ Reduction of weed seed production
- ▶ However...
 - ▶ Dryer prairies establish better and don't need as much mowing
 - ▶ Wet Mesic prairies can have more weed pressure and can require more mowing
- ▶ Bucking the trends...
 - ▶ Nachusa Grasslands (TNC-Illinois) has stopped maintenance mowing altogether
 - ▶ Just mow after ground freezes to aid in hunting for invasive species the next year

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Converting Brome to Prairie

- ▶ No remnant present
 - ▶ Glyphosate 3-4 times over two growing season
 - ▶ Brome is a cool season grass so it is not active when it is hot
- ▶ Remnant present
 - ▶ Atrazine
 - ▶ Single application to bare ground before the forbs come up
 - ▶ This is a bare ground chemical that controls annuals and shallow rooted plants

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How to have successful plantings?

- ▶ Have as many tools in your toolbox as you can because we rarely plant in the exact same conditions over and over again
- ▶ Plant as much diversity as you can afford because your first shot is your best shot
- ▶ Tailor mixes to the site conditions
- ▶ Get good kill on the weeds in the area prior to planting
- ▶ Attempt to plant within the most ideal window

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Questions and Thank you!



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