

An Experimental Approach to Native Seed Production



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Native Plant Propagation Specialists



An Agricultural Trial?

- An agricultural trial is a simple comparative test of farming methods
- Should fit seamlessly into your production system
- Compares yield, inputs, and plant habits
- It is not a scientific experiment



The Take Away Points

1. We identified clear production trends through the use of simple agricultural trials
2. Trials are an essential and powerful tool for any agricultural production system
3. Greatly increase efficiency, identify problems, and find solutions

Challenges of Producing Natives on an Agricultural Scale

- Capturing full genetic spectrum
 - Indeterminate flower and seed set
 - variable germination, growth, and dormancy habits
- Few examples of growing these species on a large scale



Trial Goals and Limitations

- Goals
 - Critically examine our production methods
 - Maximize yields
 - Increase labor efficiency, reduce inputs
 - Maintain genetic diversity
- Limitations
 - Extrapolation across species and/or sites



Measured Response Variables

- Yields per treatment
- Labor and material inputs
 - Bed preparation (tarping, tractor work)
 - Planting/seeding
 - Weed management
 - Harvest
 - Seed cleaning



Observed Response Variables

- Potential impacts on genetic diversity
- Plant health (growth, disease)
- Germination trends



2015 Annuals Trials

- Species:

- *Plectritis congesta*
- *Collinsia parviflora*
- *Microsteris gracilis*
- *Collomia grandiflora*



- Why Annuals?

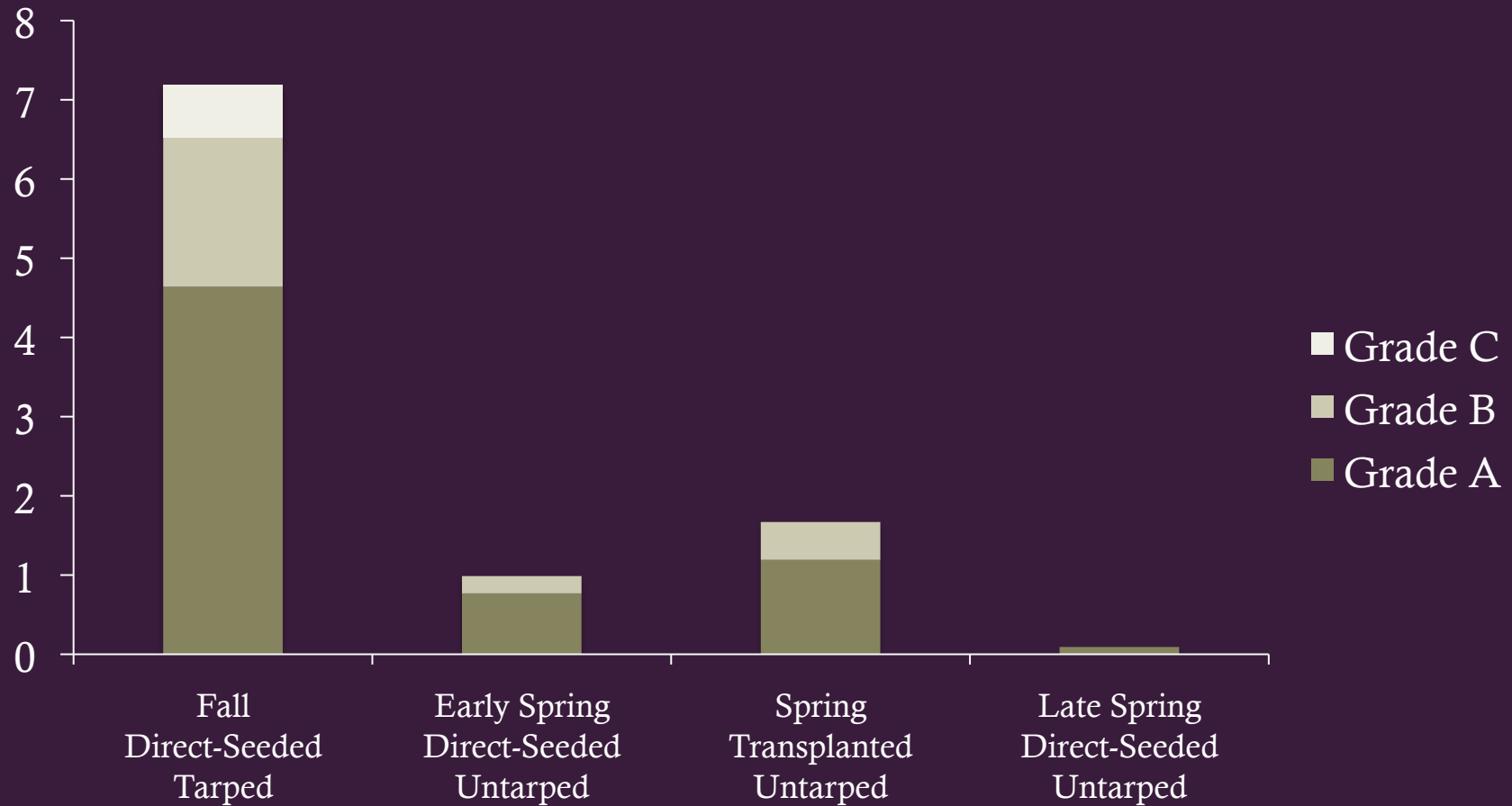
- Increased understanding of the role of annuals on the prairies
- Demand is rapidly growing for annuals seed
- Fast results due to short life-cycles

Trial Treatments

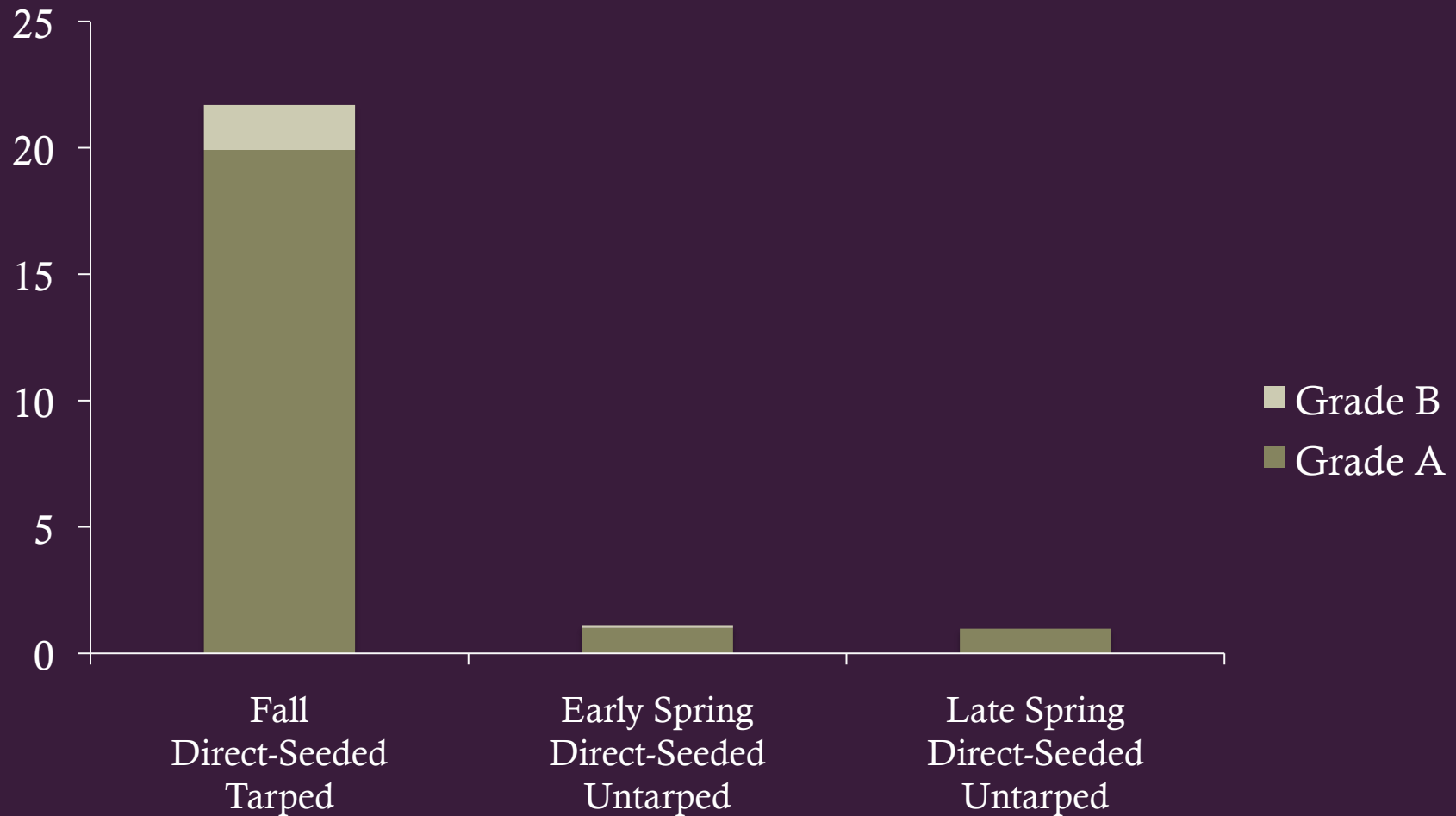
- Fall vs. spring sowings
- Direct seeding vs. transplants
- Continual harvest (tarps) vs. single cut (no tarps)



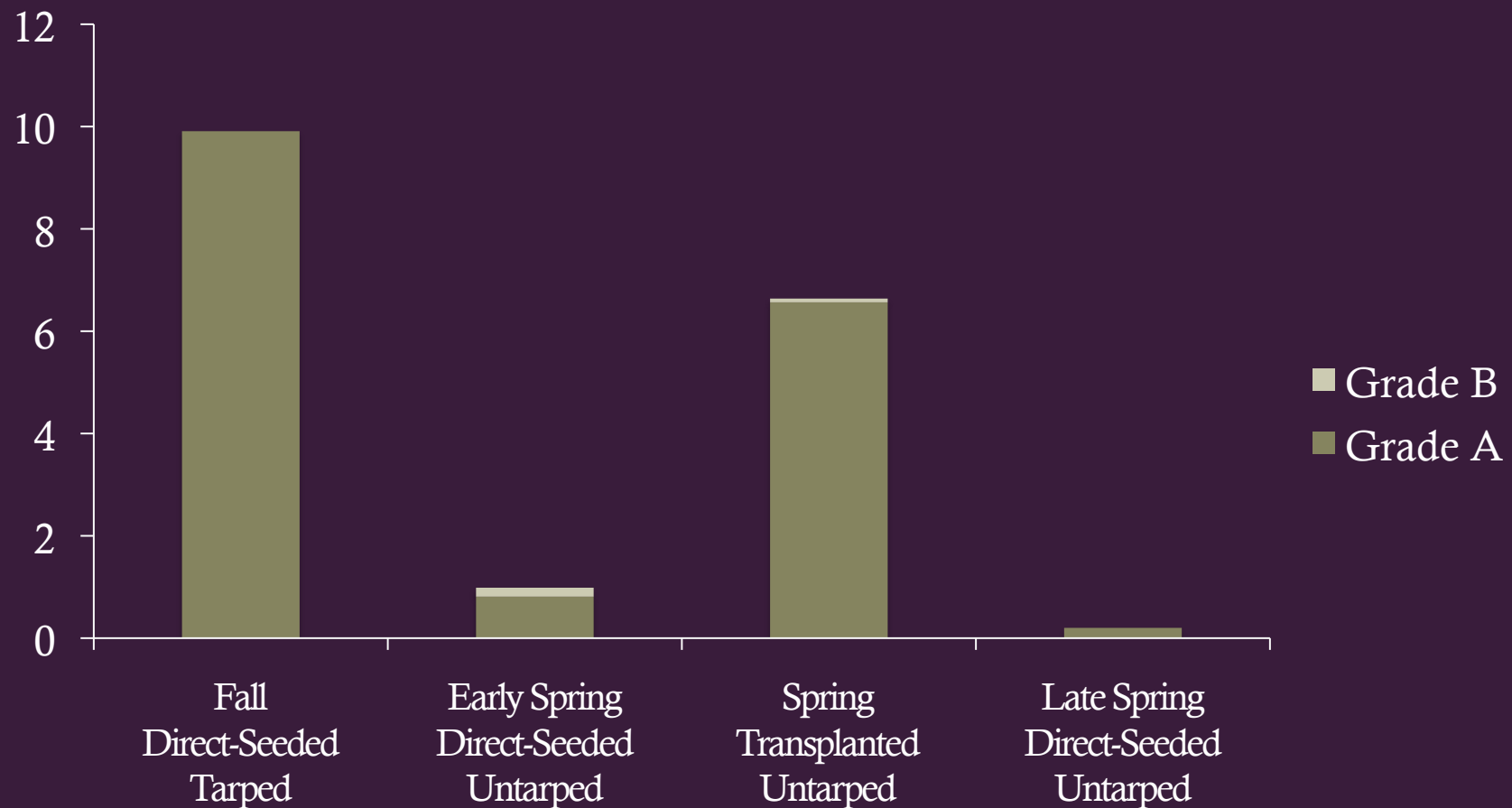
Plectritis congesta: Seed Yield (grams) per Row Foot



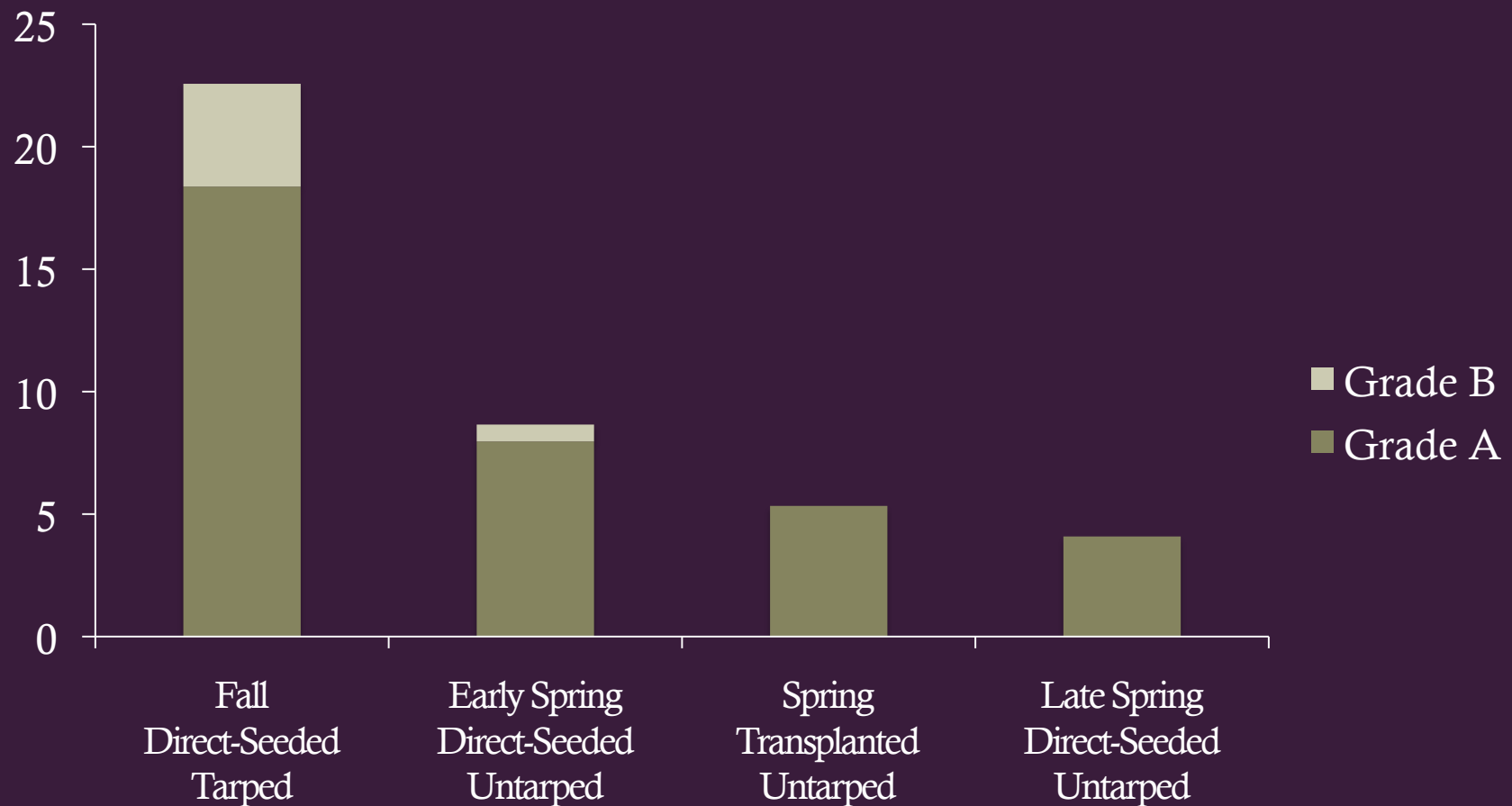
Collinsia parviflora: Seed Yield (grams) per Row Foot



Microsteris gracilis: Seed Yield (grams) per Row Foot

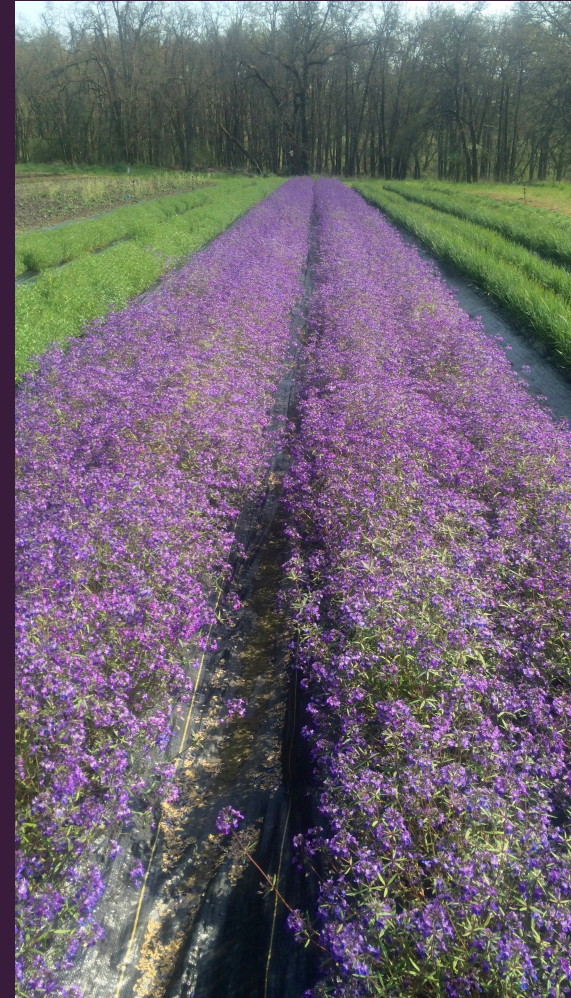


Collomia grandiflora: Seed Yield (grams) per Row Foot



Summary of 2015 Trials

- Yields: Very conclusive results
- Labor and material inputs TBD
- Spring Planting Observations
 - Smaller plants, fewer flowers, less seed
 - Delayed maturity
 - High rate of mildews in MIGR, PLCO, COGRX
- Fall Planting Observations
 - Large, robust, and had prolific flowers and seed



Looking Ahead to 2016 Production Trials

- Annuals follow up
 - Fall seeding
 - Tarped vs. untarped
 - Row spacing (labor inputs/ yields/ weed suppression/ disease)
- *Lupinus lepidus*, *Lupinus bicolor*, *Trifolium wildenovii*
 - Fall vs. spring seeding
 - Scarification treatments
 - Row cover



Questions?

