MAKING STRATEGIC SEED COLLECTIONS FOR NATIVE PLANT RESEARCH AND PRODUCTION

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Outline

- Setting the stage for seed collection
 - Goals
 - Timeline
- Understanding and Evaluating Populations
- Collection
- Post-Collection Considerations





Setting the Stage for Seed Collection

- Determine your Goal
 - Understand the Problem
 - Define targets
 - Set geographic parameters
 - Seed Transfer Zones
- Keep Goal in Mind Throughout Project Implementation

Setting the Stage for Seed Collection

- Budget
- Create a Realistic Timeline
 - When are you planning to use seed?
 - How many seasons can you collect?
 - Consider weather and climatic impacts
- Recruit Collection Partners
 - Training is critical
 - Keep your eye on the prize





Seed Collection Priorities

- Workhorse species
- Species important for pollinators
- Wildlife support (forage, habitat, seasonal)
- Competitive with invasives
- Crop Wild Relatives
- Early, late and mid-successional species
- Suitable for commercial production

Understanding and Evaluating Populations

- Know Site history
- Accessibility
- Timing
 - Repeated visits
 - Monitor phenology
 - Collect throughout ripening period
- Equal and random sampling across extent
- Microsites



How much to collect?

- Depends on intended use
 - Direct Seeding
 - Nursery increase
 - Research
 - Conservation/Seed Banking
- Viability
- Yield



Before you Begin

- Estimate raw material to collect
 - Do your research Bend is a resource
 - Average yield
 - Average PLS/lb
 - Average seed/lb
 - Understand which species need special attention



Species with yields below 5%

- Monardella odoratissima (MOOD)
- Pleuraphis jamesii (PLJA)
- Artemesia tridentata ssp. wyomingensis (ARTRW8)
- Chrysothamnous viscidiflorus (CHVI8)**
- Krascheninnikovia lanata (KRLA2)**
- Salvia dorrii (SADO4)
- Tetradymia canescens (TECA2)**
- Atriplex polycarpa (ATPO)

Remember Your Collection Goals

Atriplex canescens (ATCA2)

- 10,000 pure live seed (PLS) are required for long-term storage
- 5,000 PLS are needed for nursery grow out.

Average yield data show that approx 7,700 PLS/lb of raw wt. can be expected for ATCA2, so...

15,000 PLS/7,700pls/lb = 1.94 lbs raw material needed

* Average PLS/lb of raw wt. was used in this calculation instead of yield (%) or seeds/lb because ATCA2 typically finishes with a lower than desired percent purity and/or percent fill due to limitations in the extraction process. This is typical of many Atriplex species, conifers, and species producing fleshy fruit. If unsure, make calculations using all methods and take the highest number for field collection.



Site Verification

Identify

- Monitor
- Assess

Collect





Make Your Collections Count

- Examine small, representative sample of seeds
 - Estimate percentage of undeveloped seed
- Be careful of weedy sites
- Collect mature seed
 - Collect around natural dispersal
 - Cut tests
 - Color as an indicator
 - Do not count on post-collection ripening

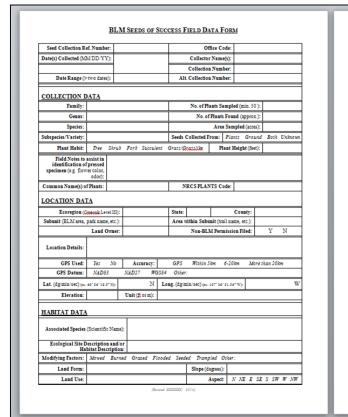
Collect Carefully

- Seed collection tools
- Determine collection methods
 - Stripping, clipping, shaking, beating
 - Avoid inert material and stems/branches >6"
 - No need to collect entire plant
- Don't forget to leave some behind
 - 20% rule for conservation



Collection Data

- Consider intended use
 - Seed certification requirements
- Species
- Location Details
- Collector Details
- Herbarium Specimen
- Photos



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Post-Collection Seed Care

- Appropriate packaging from collection to shipping
- Consider relative humidity

- Move to next step quickly
- Dry material
- Include data



THANKYOU!

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This and additional presentations available at http://nativeseed.info





