

Development and Production of Native Grasses for the Mojave Desert

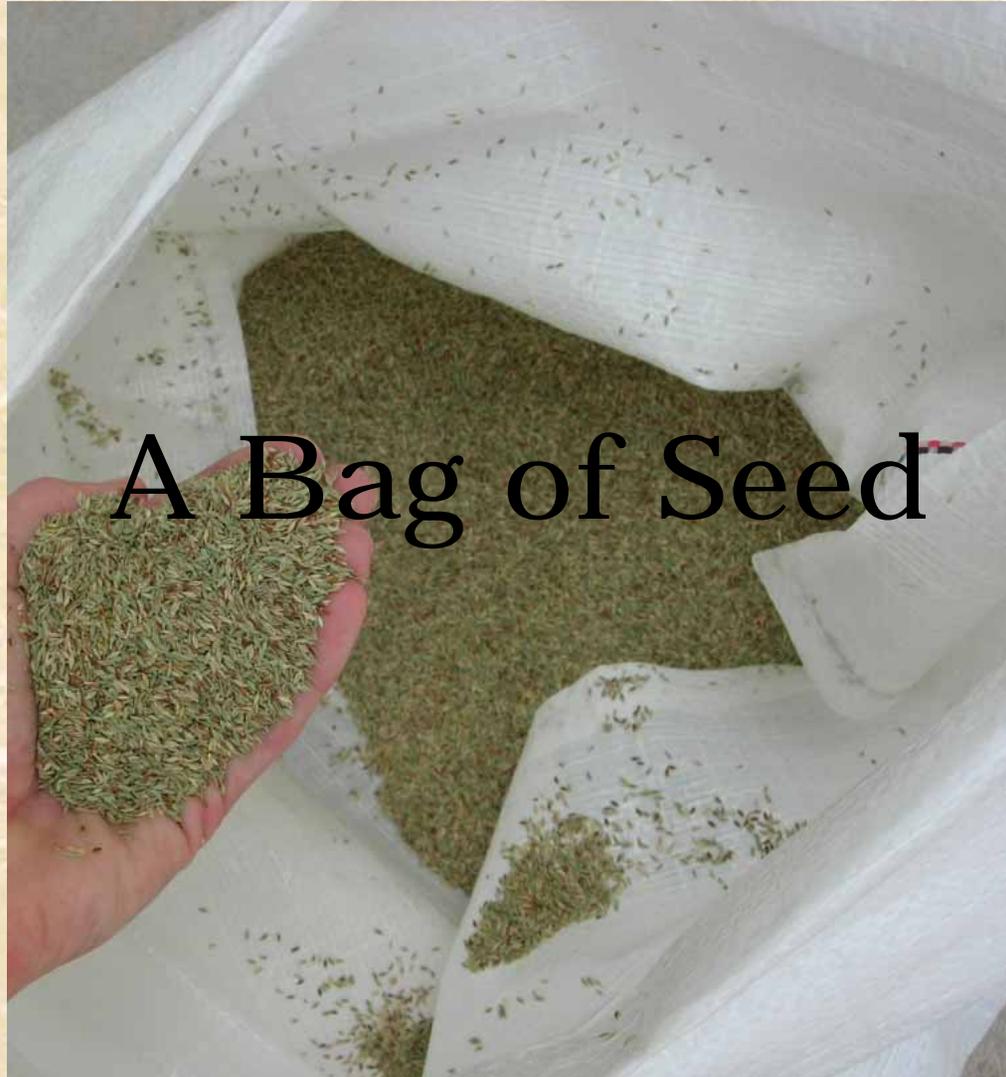
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Tucson Plant Materials Center

USDA-Natural Resources Conservation Service



Objective



A Bag of Seed

What Do You Want the Bag of Seed to Be?

- **Appropriate Species**
- **Locally Adapted**
- **Genetically Diverse**
- **Locally Produced**
- **Profitable for a Producer**

Species

- **Alkali Sacaton**
(*Sporobolus airoides*)
- **Scratchgrass or Alkali Muhly**
(*Muhlenbergia asperifolia*)

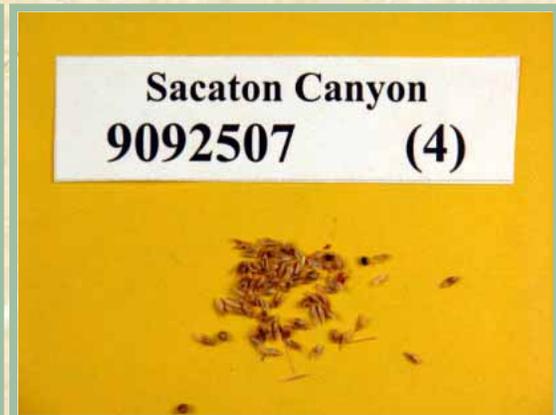
Locally Adapted



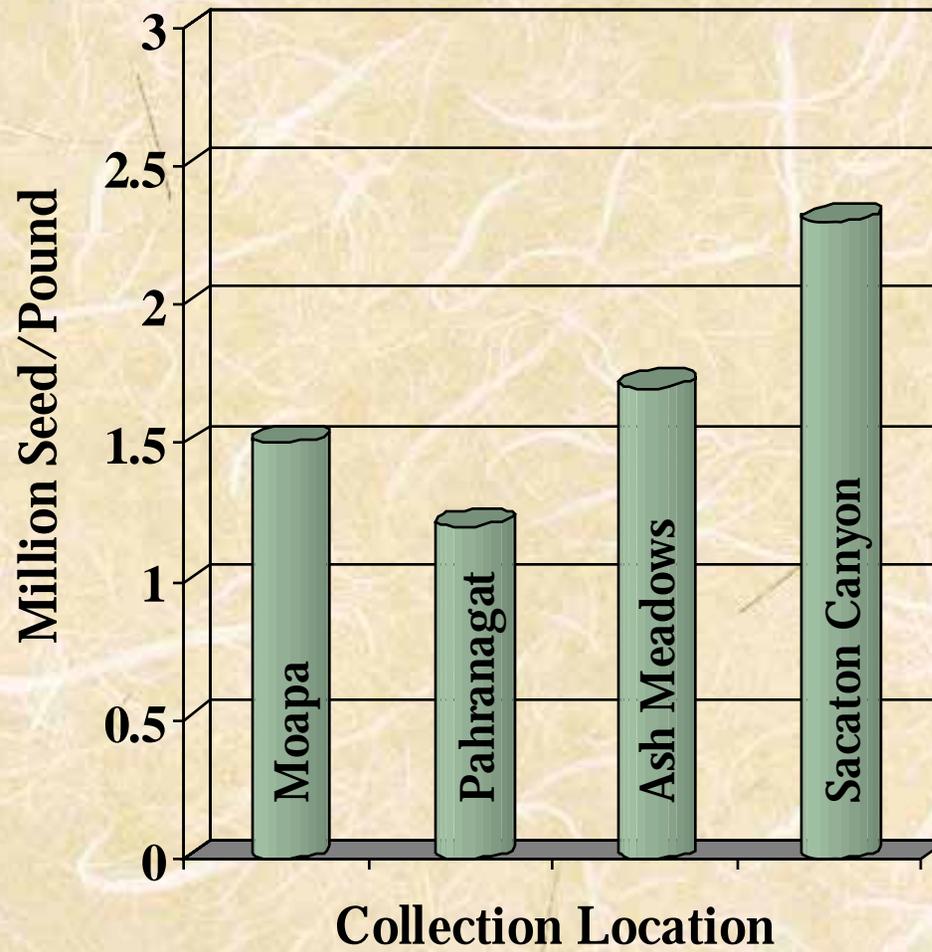
- **Moapa**
 - 3 collections
- **Pahranaagat**
 - 3 collections
- **Ash Meadows**
 - 2 collections
- **Sacaton Canyon**
 - 1 collection

Seed Processing

- seed per pound
- percent purity
- percent fill



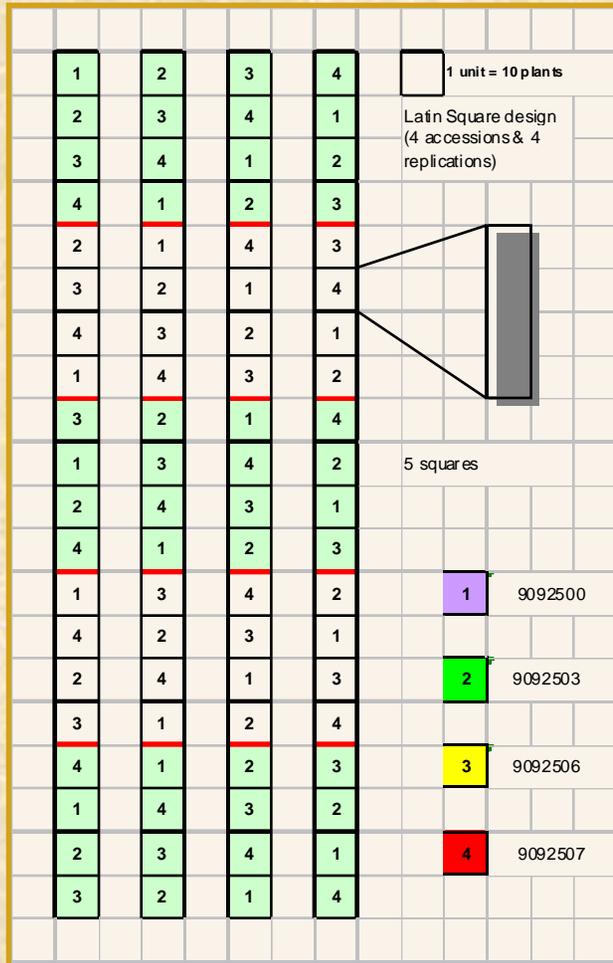
Seed Size



Planting



Genetic Diversity



Replicated Latin Squares

Genetic Diversity





June 2005



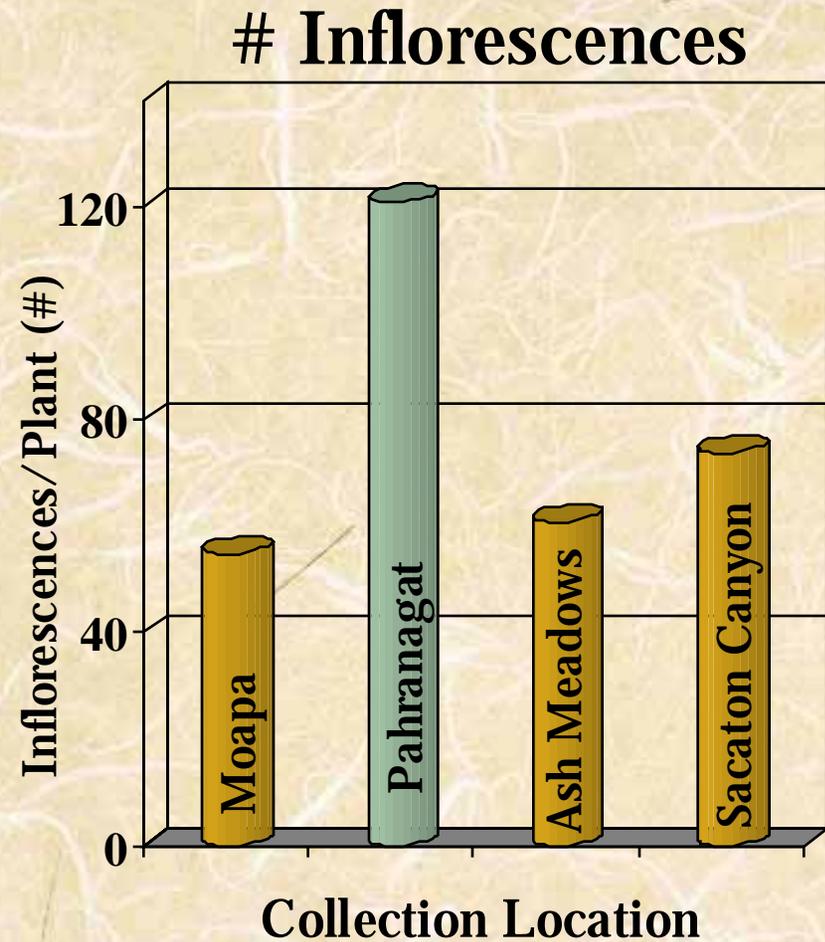
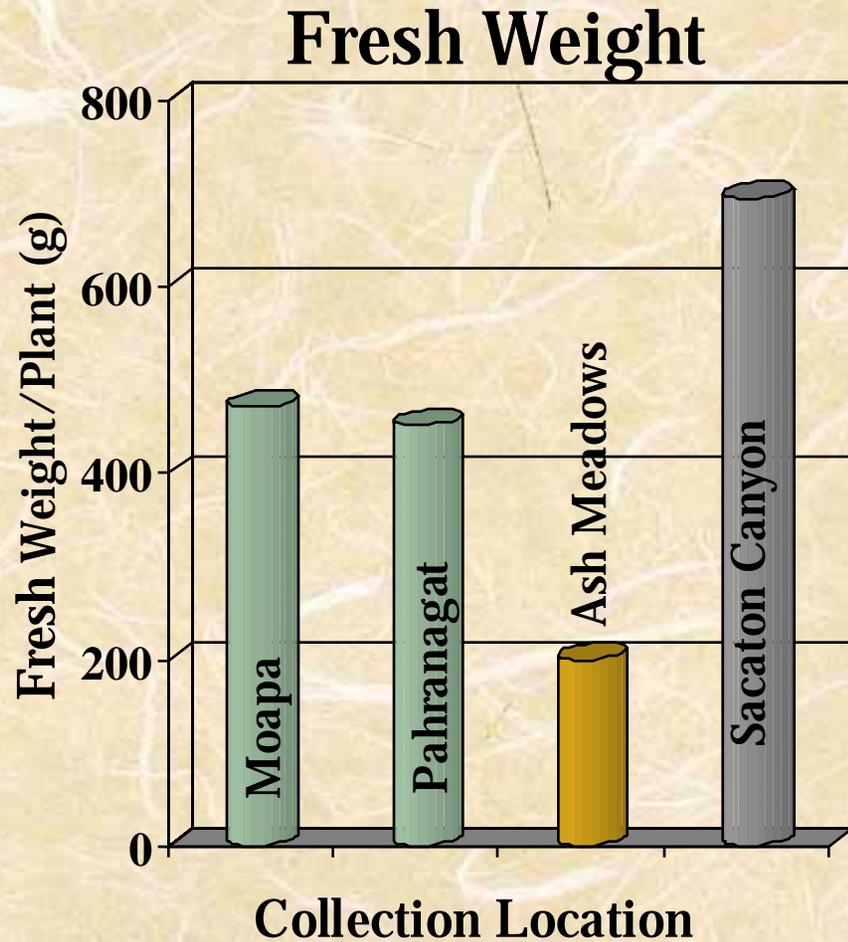
September 2005

Variables Measured

- Flowering Date
- Inflorescence Maturity
- Foliar Height
- Inflorescence Height
- Fresh Weight
- Diameter
- Number of Inflorescence



Size and Inflorescence



*Bars of the same color are not significantly different ($P \leq 0.05$)

Seed Harvest

- **Seed was harvested 4 times using a seed stripper (Woodward Flail-Vac)**



Local Producers

- **High Desert RC&D**
 - **MANAGE SEED GROWERS**
 - **Find and contract growers**
 - **Provide incentive payments**
 - **Spot check growers production practices**
- **Tucson Plant Materials Center**
 - **Provide F₁ generation plugs for establishing field**
 - **Provide technical assistance to RC&D**
 - **Assist with harvest**
 - **Clean & Store Seed**

*Products from Local
Producers*

A Bag of Seed
Haybales

*Products from Tucson
PMC*

A Bag of Seed
Haybales
Data
Composite Population

Potential Projects

- **Common garden evaluation of parents and progeny**
- **Common garden evaluation of F₂ generation plants from seed produced locally and seed produce at Tucson PMC**

April 14, 2006



Alkali Sacaton



Scratchgrass