

# Seed Production of Native Plants in the Intermountain West



**Loren St. John**

**Aberdeen, Idaho Plant Materials Center**

# **Aberdeen PMC Home Farm**

**Office/Greenhouse**



# Good Old Days



**Firecracker Penstemon**



**Venus Penstemon**









**“Branding  
Iron”  
Hole Jig**







**Seeding  
Tube**















# **“Jet” Harvester**

# TECHNICAL NOTE

USDA – Natural Resources Conservation Service

Boise, Idaho

PLANT MATERIALS NO. 55

OCTOBER 2010

## **The Jet Harvester: A Shop Built Tool for Harvesting Forb and Shrub Seed**

**Charles Bair**, NRCS Plant Materials Center, Aberdeen, Idaho

**Derek J. Tilley**, NRCS Plant Materials Center, Aberdeen, Idaho



This Technical Note introduces a new seed harvester developed by the Aberdeen Plant Materials Center farm staff. The information presented here covers the design and use of the Jet Harvester. This technology significantly decreases the time and effort spent harvesting seed of native forbs and shrubs that are not readily harvested by traditional methods.

# Bushel Scale



# Seed Popper



# TECHNICAL NOTE

---

USDA-Natural Resources Conservation Service  
Boise, Idaho – Salt Lake City, Utah

---

TN PLANT MATERIALS NO. 35

OCTOBER 2010

## Quick Methods to Estimate Seed Quality

Derek Tilley, PMC Agronomist  
Dan Ogle, Plant Materials Specialist  
Brent Cornforth, PMC Farm Manager

### Abstract

Waiting for laboratory germination results to determine if seed lots require additional cleaning can be time consuming and expensive. The process can be shortened by making relatively accurate in-house measurements of seed quality.

The Aberdeen Plant Materials Center (PMC) uses two simple procedures to estimate seed quality prior to sending seeds lots to a lab for testing, the pop test and historic bushel weights. A series of tests were conducted at the PMC to evaluate the accuracy of the pop test when compared with germination and tetrazolium results obtained from a certified lab. Popping reactions were observed and divided into three categories, 1) seeds that popped explosively and audibly, 2) seeds that rolled or moved but did not pop, and 3) no response. Means obtained from the pop test were used to create 90 and 95% confidence intervals (CI), and compared with results from the Idaho State Seed Lab. Our results indicate that the pop test is a good predictor of seed fill in newer lots of seed of many species tested. Combined pop and movement responses were well aligned with lab results. Lab tests fell within the 95% CI 15 of 30 times, and the 90% CI 25 of 30 times. Our results indicate that seed with any movement should be counted as viable, and not just those with a distinctive pop. Accuracy decreases with seed age, because seed embryos die at a quicker rate than seeds lose moisture.

This paper also discusses the use of bushel weights to estimate seed quality and provides tables of historic seed bushel weights of several native range and pasture grass, forb and shrub species.

**Nomenclature:** USDA-NRCS (2010)



Search  
no  
Enter Keywords **GO**

- Programs
- Contacts for Programs and Technical Resources
- Conservation Innovation Grants (CIG)
- Conservation Reserve Program (CRP)
- Conservation Stewardship Program (CSP)
- Cooperative Conservation Partnership Initiative (CCPI)
- Environmental Quality Incentives Program (EQIP)
- Farm Bill
- Grassland Reserve Program (GRP)
- Organic EQIP
- Plant Materials Program
- Resource Conservation & Development (RC&D)

## Plant Materials Program - Idaho and Utah

The [National Plant Materials Program](#) web site provides information on conservation plant materials.

### [Aberdeen Plant Materials Center Home Page](#)

The Aberdeen (Idaho) Plant Materials Center tests and develops new varieties of grasses and shrubs for use in the Intermountain West. This site contains information about the Center, current studies and activities, plant releases, riparian and wetland tools, technical notes, and plant fact sheets.

### Other PMC Home Pages

- [Bridger, MT Plant Materials Center](#)
- [Los Lunas, NM Plant Materials Center](#)
- [Meeker, CO Environmental Plant Center](#)
- [Pullman, WA Plant Materials Center](#)
- [Tucson, AZ Plant Materials Center](#)

**TECHNICAL REFERENCES - PLANT RELEASE BROCHURES, TECHNICAL NOTES, PLANT GUIDES, RIPARIAN/WETLAND TOOLS AND WINDBREAKS**

### [Agroforestry Notes](#)

### [Plant Release Brochures - Aberdeen PMC and Others](#)

### [Plant Materials Technical Notes - Idaho and Utah](#) Updated 3-1-11

**Loren St. John**  
**PMC Team Leader**  
**Aberdeen Plant Materials Center**  
**P.O. Box 296**  
**Aberdeen, ID 83210**  
**208-397-4133**  
**[loren.stjohn@id.usda.gov](mailto:loren.stjohn@id.usda.gov)**



**The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).**

**To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.**