

# The USDA NIFA Potato 2.0 Project

Creating a New Paradigm for Potato Breeding Based on True Seed

**Dates:** 2019 – 2025

**Budget:** \$3M from USDA + \$3M matching funds

**Ultimate Goal:** Replace tetraploid clones with diploid F1 hybrids

**Rationale:** More efficient breeding and seed systems

## NEW Breeding System

### 1. Inbred line development

- Introduce resistance genes via backcrossing, without changing other traits
- Easier to store and ship breeding lines as true seed

### 2. F1 hybrid development

- Easier to predict and exploit hybrid vigor

## NEW Seed System



F1 Hybrid  
True Potato Seed

Elite Foundation  
Seed from  
transplants

0 – 2 years of seed  
tuber multiplication

Commercial  
Grower



## PROJECT HIGHLIGHTS

- Generated 100+ diploid lines from elite tetraploids, representative of US russet, chip, and red markets
- Field- and marker-based breeding for agronomic, quality, and resistance traits
- Practical knowledge to produce and manage seedling transplants
- 20+ publications, 30+ presentations, 10+ students



## Key Personnel

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<https://potatov2.github.io/>

