

INTRODUCTION:

- Seed Science Center (<http://www.seeds.iastate.edu>)



- ISU seed research since 1890
- New Seed Science Building, 1978
- Largest public seed testing lab
- Six programs (Director Dr. Misra):
 - Seed Testing
 - Seed Physiology
 - Seed Pathology
 - Seed Conditioning
 - Global Seed Program
 - Computer & IT Management

(c) Seed Science Center, ISU/Dr. Shyy

Flow Diagram for Seed Processing

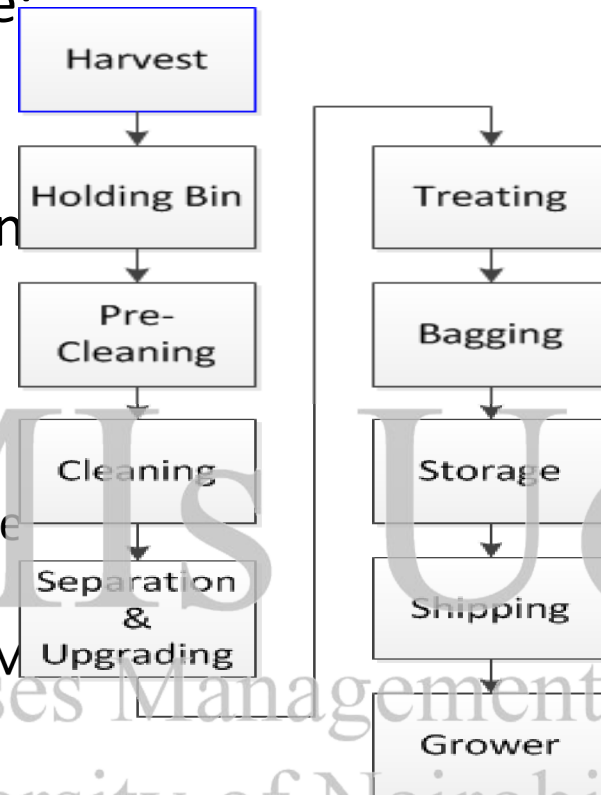
- Limiting mechanical damage:

- Reduce speed (RPM)!
- Avoid at partial capacity

- Avoid varietal contamination

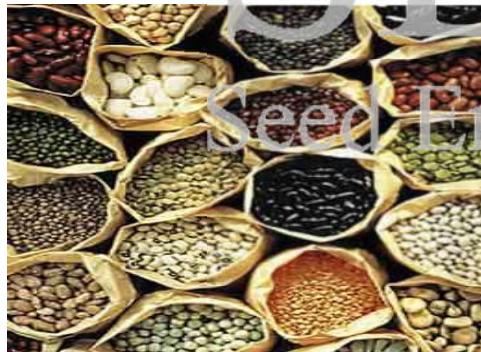
- Maintain quality in storage:

- Limit incoming moisture
- Limit FM or damaged seeds
- Pre-clean seed before storage
- Properly aerate
- Careful drying to reach safe M



“Seed” vs “Grain”

SEED	GRAIN
Planted and reproduce	Consumption & industry
Embryonic structure is critical	Dry matter, foreign material, MC%
Germination, purity, health, and vigor	POS (Protein, Oil, Starch), and fiber
Slow drying to minimize heat damage	Fast drying to save cost
Chemical treatment to maintain quality	Hardly any chemical treatment
Sold by bag, Kg, or Unit (80,000 seed corn)	Sold by truck or Tons
Seed Processing...	Food Processing...



(c) Seed Science Center, ISU/Dr. Shyy