

Seed – Harvest and Storage

About Seed Quality

The viability, vigor and quality of the seed planted has a big effect on The potential yield and quality of a crop. Seed quality involves genetic purity, seed size, germination, vigor and viability.

Seed harvesting

Seed moisture content is a good indicator of seed maturity. Suggested harvest moisture contents for various seeds:

Crop	Harvest moisture content %
Corn / maize	30-35
Bean and pea	14-20
Rice	20
Small grains	14-24

Simple grain moisture meters are available.

Seed drying

Heat is used to dry seeds because it increases the water-holding capacity of the drying air.

The relative humidity (RH) of the air decreases approximately one-half for every 10°C increase in temperature. Therefore it is easier to dry grain during the hotter part of the day.

Temperature °C	Relative Humidity %
15	100
25	50
35	25

Seed storage

The moisture content at harvest is usually higher than needed for good seed storage.

Lower temperatures during storage reduce damage from high seed respiration, or the development of mold and insects.

Use sealed airtight storage if possible.

Seed storage (continued)

Suggested storage for high seed quality:

Seed Type	Storage Moisture Content %
Starchy seeds (beans, cereals)	<12
Oily seeds (soybean, Brassicas)	<9
Sealed storage (most vegetables)	6-8

Seed longevity/viability

Seed viability during storage decreases by around one-half for every

- 1% increase in moisture content
- 5°C increase in temperature



Loss of seed viability starts as soon as seeds are mature.

Seed packaging and long-term storage

In open storage, seed moisture content varies with the relative humidity of the air. Seed in sealed packaging maintains low relative humidity.

Seed storage is best with airtight sealed storage with both low moisture content and low temperature; e.g. store seed long term at 25% RH and -20°C

Rule of thumb: store seed such that
Temp (°F) + RH% < 100

Summary: Seed Storage, Longevity and Deterioration

- Seeds have a finite lifetime
- Seeds absorb and lose moisture in response to the humidity of their environment
- Seed longevity is very sensitive to moisture content and temperature
 - Sealed airtight storage helps prevent moisture absorption and extends storage life
 - Low temperatures extend storage life

Reference: Seed quality Rice Knowledge Bank, IRRI