

VERTICAL 3

Primary Processing

Primary processing also includes curing, grading and sorting, storage and other treatment to reduce sprouting like irradiation.

Grading: Onions are graded before they are stored or transported to the market. The thick necked, bolted, doubles, injured, and decayed bulbs are picked out.

Onion size grading of following diameters:

- a. Large: > 60 mm
- b. Medium: 40-60 mm
- c. Small: 20-40 mm

Irradiation of onion: Object of irradiation is to control losses due to sprouting of onions during prolonged storage. Sprouting issue can be controlled by using irradiation technique with low dose: 0.06-0.2 k Gray. Benefits include economic gain due to reduced sprouting losses which could be as 10 - 15%.

Table 11: Challenges encountered during primary processing

Challenges
• Improvements in existing grading systems
• Reduction in processing time
• Cost effective alternative process to irradiation process to control sprouting (like linear accelerators, cold plasma etc.)
• Curing related challenges are mentioned above in vertical 2