Malting 101

Juno Choi
Brewers Supply Group

Malting 101: Barley Basics

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  - Thinner grains
  - High losses on screening
  - Higher enzyme potential
  - Higher protein content

Malting 101: Barley Basics

Malting 101: Stages of Malting

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- 3 Major Stages of the Malting Process.
  - Barley Steeping
  - Barley Germination
  - Malt Kilning

Stages of Malting

Barley Unloading

Drying, Cleaning & Grading

Transfer to Silo

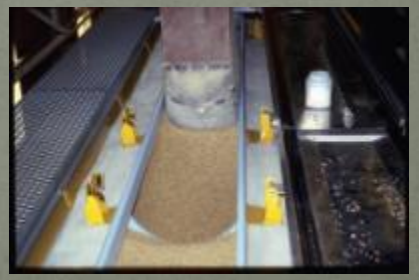
Steeping

Germination

Kilning

Malt Cleaning

Transfer to Silo



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Stages of Malting: Steeping

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  - Hydrate the barley evenly for uniform growth during germination stage.
  - Clean the barley from dirt and removes floating material.
  - Increase moisture to aid initiation of germination.
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  - Mixing the barley kernels with water to raise the moisture level and activate the metabolic processes of the dormant barley kernel.
  - Draining the water, and turning the moist barley several times to increase oxygen uptake by the respiring barley.

Stages of Malting: Steeping

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- Germination starts at about 35% moisture, uniform germination above 43%

Stages of Malting: Steeping

- How barley looks after steeping

Stages of Malting

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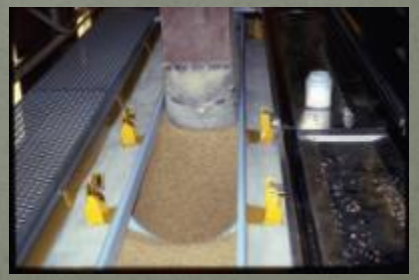

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- Process
  - The moist barley is drained and held at a suitable temperature and humidity level.
  - The barley is raked or turned every 8-10 hours to ensure even modification.

Stages of Malting: Germination

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Day 1

Stages of Malting: Germination

Day 2

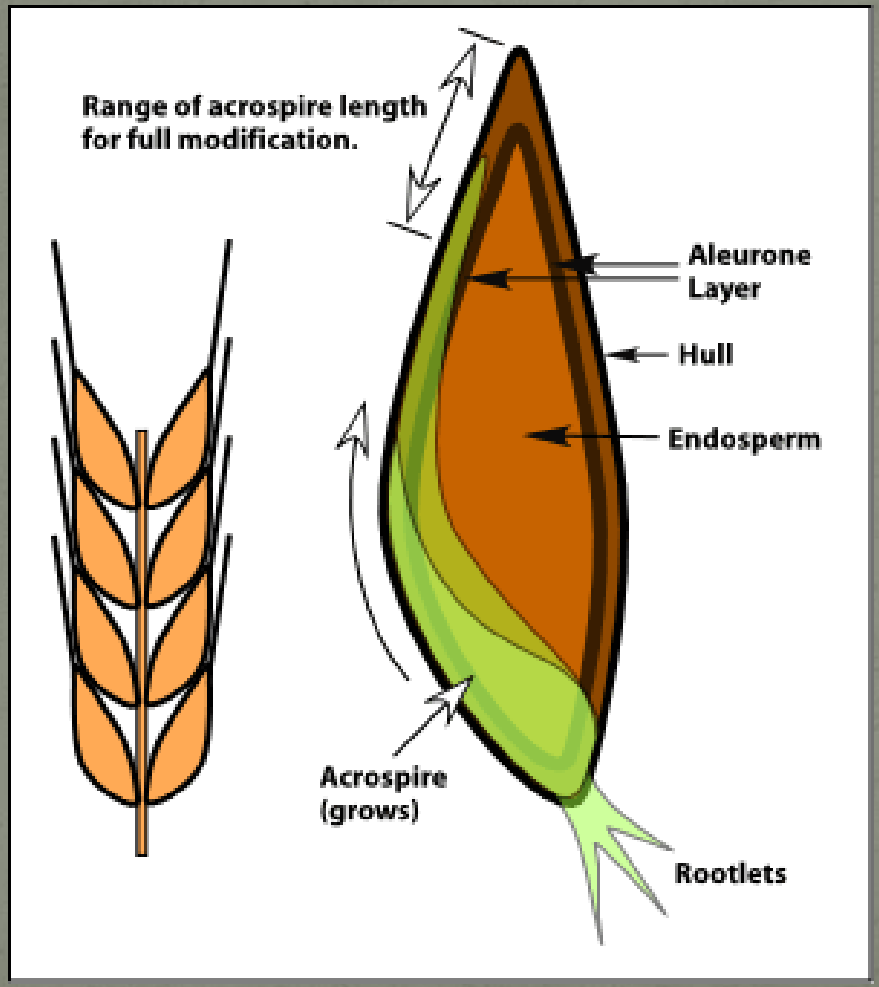
Stages of Malting: Germination

Day 3

Stages of Malting: Germination

Day 4

Stages of Malting: Germination



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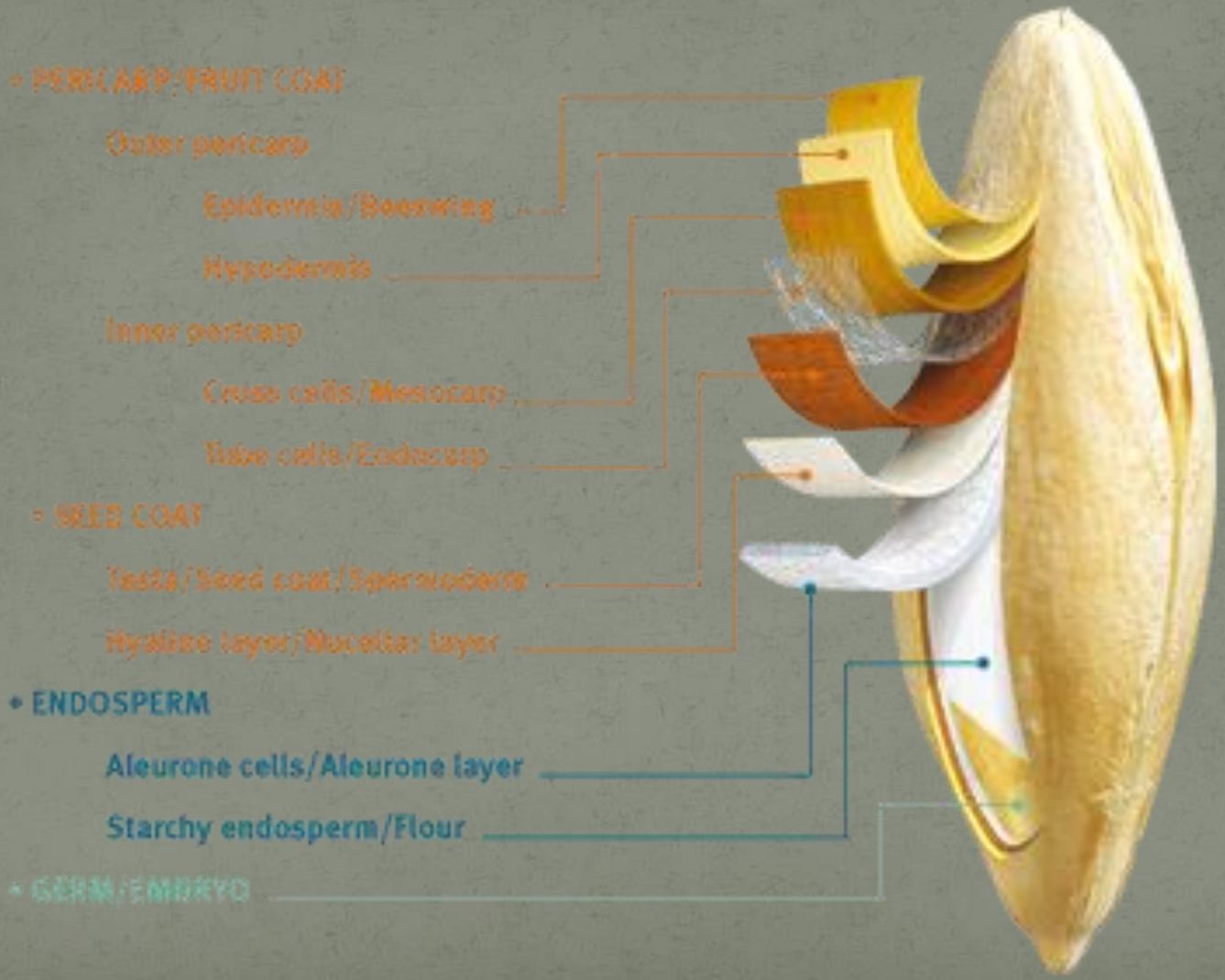

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Transfer to Silo

Steeping

Germination

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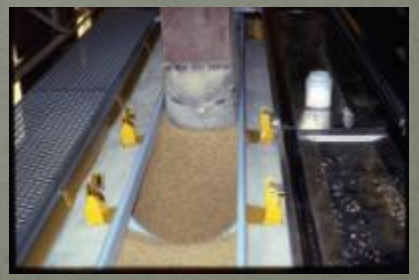

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  - Ease removal of rootlets.
  - Develop color, flavor and aroma.

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  - Temperature regime determines color of the malt and the number of enzymes available.
  - Pilsner and pale ale malts are examples of malts kilned at low temps.
  - Munich and Vienna malts are kilned at intermediate temps, thus lower in enzymes but higher in color and flavor compounds.
  - Crystal and chocolate malts are kilned at high temps, and have little if any enzymes and are lower in extract.

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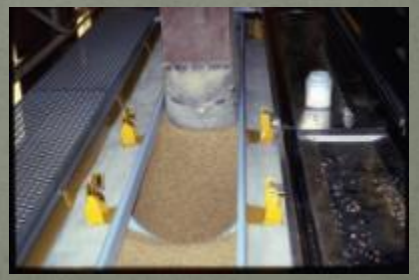

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