



SORGHUM MALTING

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DEFINITION OF MALTING

Malting is defined as the germination of grain in moist air under controlled conditions

OBJECTIVES OF MALTING

Main objectives of malting sorghum

- To mobilise (develop) the endogenous amylase, protease and other enzymes of the grain

Objective cont,....

By means of these enzymes

□ To modify (alter) the constituents of the grain during malting so that the constituents are readily solubilised. ...E.g. during souring and mashing processes of opaque beer brewing in order to produce a fermentable medium (wort).

Objective Cont,....

■ By means of these enzymes to solubilise the unmalted cereal grain (starchy adjunct) during the mashing process of opaque beer brewing.

Malting Process

Malting as consisting of three stages:

1. Steeping (soaking)
2. Germination
3. Drying or kilning

Steeping

The cleaned and graded grain is immersed in water until an appropriate grain moisture content is reached, then the excess water is drained away.

• Germination

The steeped grain is allowed to germinate under controlled conditions.

Drying

The germinated grain is dried at **50°C**, so that growth is stopped. The germ dies and a shelf-stable product is produced

Milling

Sorghum malt is milled coarsely after removing shoots and roots

Distinction between malt and grain

Sorghum malt	Sorghum grain
High in alpha- amylase and relatively high in beta-amylase activity (Diastatic Power)	No alpha- or beta-amylase activity
Moderately high in protease activity	Low protease activity
Starch modified and more readily solubilised during brewing	Starch not modified
High in free amino nitrogen (FAN) and fermentable sugars	Very low FAN and low fermentable sugars
Malt flavour	Grain flavour

Malt	Grain
High in free amino nitrogen (FAN)	Very low FAN
Moderately high in fermentable sugars	Very low fermentable sugars
Vitamins and minerals more readily solubilised during brewing	Vitamins and minerals less readily solubilised during brewing
Malt flavour	Grain flavour

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THANK YOU

SHALOM !!!!!