

MALT AMYLASES AND EXOGENOUS AMYLASE IN THE PREPARATION OF MALT EXTRACT

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Malted corn grains (5th day) were dried in hot sun and powdered in a grinding mill. Moisture content, total carbohydrate, total protein and the endogenous amylase activity of corn malt powder were 100g kg^{-1} , 660g kg^{-1} , 90g kg^{-1} and $30.4 \mu\text{mol glucose g}^{-1}\text{ malt powder min}^{-1}$ respectively. The endogenous amylase activity was optimum at 60°C . When endogenous amylases were supplemented with increasing concentration of α -amylase, 95% of the endogenous starch was hydrolysed in 2 h by 5g kg^{-1} α -amylase. From one kg corn malt powder about 3.5 l clear malt extract was obtained. The colour substance in the malt extract had a maximum absorbance at 740 nm . Total carbohydrate, dextrose equivalent (DE), Ca^{++} , and total protein content of the malt extract were 150g l^{-1} , 60, 0.14g l^{-1} and 5.0g l^{-1} respectively. These results indicate that a good nutritious malt extract could be prepared from corn.