

B-74: Pectinolytic enzyme activity in fermenting gherkins

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Spoilage of gherkins due to softening during fermentation in brine solutions is a problem faced by the industry. Brine solutions containing 6 to 10% sodium chloride, 0.03 to 0.05% calcium chloride and water treated with alum (0.75%) or chlorinated (0.8 ppm) were compared in respect of fermentation of brines. Undamaged, disease free, immature fresh gherkins of length 2.5 cm and diameter 1 cm were used for all experiments. The activity of the accumulated pectinolytic enzymes in brine, responsible for soft spoilage, was examined by the agar cup-plate diffusion assay method using 0.05% Ruthenium Red as the indicator at the end of the fermentation, in different combinations of brine solutions. The plates were incubated at 37°C for 48 h. The use of 10% sodium chloride (common salt) together with 0.05% calcium chloride in chlorinated water, was found to cause minimum enzyme activity resulting in minimum spoilage during fermentation and subsequent storage of gherkins.