

EFFECT OF FORTIFICATION INGREDIENTS ON THE QUALITY OF YOGHURT MADE FROM COW'S MILK

K. M. Kamaly, K. M. K. Kebary, A. H. El-Sonbaty, Khadega R. M. Badawi
Department of Dairy Sci. and Techno., Faculty of Agric., Minoufiya University,
Shibin El-Kom, Egypt.,,

ABSTRACT:

Effect of replacing non-fat dry milk that used to fortify cow's milk in making yoghurt with either milk protein concentrate or whey protein concentrate or inulin were studied. Control yoghurt treatment was made from 3.0% fat cow's milk that was fortified with 3.0% non-fat dry milk. Another 12 yoghurt treatments were made by replacing 25, 50, 75 and 100% of non-fat dry with either milk protein concentrate or whey protein concentrate or inulin respectively. Replacement of non-fat dry milk with other ingredients did not affect significantly (0.05) the total solids and fat contents of yoghurt treatments. Protein and ash content increased by replacing non-fat dry milk with milk protein concentrates, while using inulin to replace non-fat dry milk caused a significant decrease in total protein and this increase or decrease was proportional to the rate of replacement. Replacing of non-fat dry milk with milk protein concentrate caused a significant increase in titratable acidity of yoghurt treatments, while replacing of non-fat dry milk with inulin up to 50% increased yoghurt acidity. Increasing the rate of replacing non-fat dry milk with inulin up to 50% increased total volatile fatty acids, while treatments those made using milk protein concentrate and whey protein concentrate were not significantly different from control yoghurt treatments. Replacement of non-fat dry milk with either inulin or whey protein concentrate caused a significant reduction in whey syneresis. On the other hand, curd tension of yoghurt increased by replacing non-fat dry milk with either milk protein concentrate or inulin. Yoghurt treatment that made by replacing 50% of non-fat dry milk was the most acceptable yoghurt treatments and were not significantly different from yoghurt treatments those made by replacing 25 and 50% of non-fat dry milk with milk protein concentrate.

Key words: Inulin, non-fat dry milk, milk protein concentrate, whey syneresis, prebiotic