

Comparative β -Carotene content of *Spirulina* Strains at different days of Incubation

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ABSTRACT

Carotenoids are synthesized *de novo* by all the photosynthetic organisms and by some microorganisms. The β – carotene content was ranged from 171.1 to 231.7 ($\mu\text{g g}^{-1}$ dry weight) in different *Spirulina* strains. The four top ranked strains based on LSD grouping were Sp₄ (231.7), Sp₇ (212.8) , Sp₃ (185.9) and Sp₂ (182.90 $\mu\text{g g}^{-1}$ dry weight). There was a gradual increase in β carotene accumulation with the peak observed at 15th day of incubation followed by a slow decline there after upto a period of 25th day of incubation. Strain x days of incubation interaction studies were significant and the top ranked combinations were Sp₄ at 15th day (295.6 $\mu\text{g mL}^{-1}$), 20th day (289.5 $\mu\text{g mL}^{-1}$) and at 25th day of incubation (282.4 $\mu\text{g mL}^{-1}$). High carotenoid production by Sp₄ can be exploited as natural food colouring additive.

Key words: β -carotene, Carotenoids, HPCL, *Spirulina*