



Environmental and Technological Stresses and Their Management in Cyanobacteria. Chapter 11

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Abstract

This present chapter emphasizes the data on environmental and technological stresses in cyanobacteria (namely *Arthrospira platensis* (Spirulina) and *Nostoc linckia*). The factors investigated were: light, temperature, salinity, and chemical stimulants. Common elements have been established for cyanobacterial response to the stress caused by various factors, as well as specific elements depending on the culture and type of stress. Changes in phycobilins, proteins, carbohydrates, and lipids content, as well as in the activity of antioxidant enzymes in cyanobacteria under stress conditions are presented. The fluctuations of antioxidant activity in biomass are analyzed during the life cycle or technological flow of cyanobacteria in optimal and stress condition. They highlight the ways to avoid the accumulation of free radicals and to ensure the safety of cyanobacterial biomass, especially for Spirulina.

Keywords: cyanobacteria, technological stresses, environmental stresses, antioxidant activity, biomass, stress management