

## Cellulose fibers extraction from *Ulva lactuca* from the Black Sea

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**Abstract.** Cellulose fibres are known for their good mechanical properties, therefore they are used as fillers in structural composite materials, including as nanofibrils in nanomaterials. Also, they are biocompatible, non-toxic and biodegradable, reason for their use in the food industry as packaging materials or in obtaining medical materials. One source of cheap, easy- to- extract cellulose is the algal mass of *Ulva lactuca*, one of the most frequent species found in the Black Sea. In this study, cellulose extraction from *Ulva lactuca* was achieved by a simple low cost physical-chemical treatment. Freshly harvested seaweed was dried at 45 °C for 48 hours, transformed into a fine powder in order to increase the contact surface between the solvents and the alga. Extraction of lipids and chlorophyll took place in Soxhlet apparatus with ethanol. Successive steps of chemical treatment, having in view removal of hydrosoluble ulvans, pigments and hemicellulose lead to a yield of 15.36% in dry matter (DM) of cellulose-rich insoluble fraction proving that *Ulva Lactuca* species is a viable alternative resource in cellulose production.

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