

## عنوان مقاله:

Producing Cellulose nanofiber from Cotton wastes by electrospinning method

## محل انتشار:

مجله بین المللی ابعاد نانو، دوره 6، شماره 1 (سال: 1394)

تعداد صفحات اصل مقاله: 10

## نویسندگان:

R. Dashtbani - M.Sc. Student of pulp & paper industry, Department of wood & paper Engineering, Gorgan University  
.of Agriculture Science & Natural Resources, Gorgan, Iran

E. Afra - Associate Professor of pulp & paper technology, Department of wood & paper Engineering, Gorgan  
.University of Agriculture Science & Natural Resources, Gorgan, Iran

## خلاصه مقاله:

One of the main issues of nanotechnology is producing materials with new properties. Nanotechnology, as a powerful tool, has the ability to create evolution in the agricultural system and food–medicinal industries across the world. Producing a high-performance material from reclaimed cellulose material will increase motivation to recycle these materials at all phases of paper production and remove them from the waste stream. Electrospinning typically produces nonwoven mats of nanofibers, which could provide nanoscale pores for industrial filters. Electrospinning (ES) technique is a method to produce nanofibers by applying an electric field on a fluid jet. Nanotechnology also play a role in recycling of agricultural crops residues and converting them into energy and industrial chemicals by using natural processes of biological, physical and chemical. For example, unfortunately, since cotton harvesting time up to producing textile more than ۲۵% of the fibers are converted to wastes. By using an electro spinning method of cotton waste some products such as cotton balls, yarns and cotton batting are produced. In addition, you can use this method to produce nanocellulose fibers that constitute ۹۰ percent of cotton yarn and also produce fibers less than ۱۰۰ nanometers which are ۱۰۰۰ times smaller than the current produced fibers. The technique relies on electrical rather than mechanical forces to form nanofibers. Different applications of nanofibers can be used in fields such as nanomembrane filters, protective clothing, electronical and optical equipment, and biomedical applications reinforced composites.

## کلمات کلیدی:

Cellulose nanofiber, Cotton, Electrospinning, fibers, Nanotechnology, Papermaking

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1483234>

