



Exploring Cotton's Value in Face Covers to Fight COVID-19



By Dr. Seshadri Ramkumar | April 3, 2020



Face covers may become the face of the world in the fight against COVID-19.

With more than 1 million confirmed cases and 50,000 deaths globally, the need for prevention and containment technologies are growing exponentially.

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As the viral transmission is through air droplets that contain the microbe, social distancing has been rightly mandated, and countries and local municipalities are administering this by varied means. India has a national lockdown for 21 days, and several regions around the globe are advocating shelter-in-place.

As a way of enhancing the needed social distancing, face covers are being considered and recommended. While cloth-based face covers may not be efficient in protecting from fine aerosolized particles, it will help with containing the unwanted spread and help with psychological immunity. The nature and the type of face covers matter.

Cotton offers promise as a potential candidate for face covers.

Research carried out by USDA researchers in the late 1960s reveals that cotton can

contain virus spread. Although not carried out on the corona strain, this study showed that the virus did not persist on cotton cloth beyond 72 hours compared to another material studied. Our laboratory at Texas Tech University is currently working with multiple collaborators to develop improved masks, and some preliminary results show that masks with cotton-based material as the core absorbent material may offer some benefits.

A recent study by a team of United States researchers from government laboratories and academia on the stability of the SARS-CoV-1 virus on different surfaces showed that copper and cardboard seem to be better candidates in containing virus spread as opposed to plastic and stainless steel. No SARS-CoV-1 virus was measurable on copper and cardboard beyond eight hours.

The general inference from these studies shows that viruses do not persist longer on cellulosic materials. Additionally, moisture regain of cellulosic materials will be advantageous as humidity will affect the persistence.

Based on over two decades of cotton research in our laboratory, it is clear that cotton can find advanced applications such as toxic chemical decontamination wipes, oil absorbent and now in the war against COVID-19.

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