

Cotton and it's by-products could be a solution to oil spills clean-ups

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COMMENTARY

An oil spill is the release of a fluid oil hydrocarbon into the earth, particularly in the marine biological system, because of human movement, and is a type of contamination. The term is typically given to marine oil spills, where oil is discharged into the sea or beach front waters, however spills may likewise happen ashore. Oil spills might be because of arrivals of raw petroleum from big haulers, seaward stages, boring apparatuses and wells, just as spills of refined oil based commodities, (for example, gas, diesel) and their results, heavier energizes utilized by enormous ships, for example, shelter fuel, or the spill of any sleek reject or waste oil.

Continuous growth in the world's population has increased the demand for more production and refining of crude oil. Sometimes, during this process, any causality (man-made or natural catastrophe) leads to oil-spills, creating a severe effect on the environment and economy.

A number of conventional, and chemical methods are currently being used which are un-promised and have opened new gateways for innovative approaches attracting researchers and scientist from different field of Petroleum, Environment, Biology, Agriculture, Chemical Engineering, Marine Geology, Environmental Geology, Biotechnology, etc. to come up with an approach/method that is much promising and efficient for oil-spill clean-up (1).

Oil spill affects many elements of the environment; more likely to occur in water it affects the complete marine ecosystem including their food chain. Having a relative density less compared to water the oil floats creating a problem in respiration and thermoregulation, the heavy oil sinks down and gets accumulated in the environment which reacts with various compounds and forms toxic element; in short a spill in no time can turn living habitat

into a dead zone. Depending upon the intensity of spill the oil can come across to shores and pollute them.

The biggest and the worst spill in history was the BP oil disaster which occurred on April 20, 2010, in the Gulf of Mexico which was tried to control and treated with skimmer ships, blooms, chemical dispersant, controlled *in-situ* burning but these clean up activity caused extensive damage not only to flora and fauna of marine and wildlife but also to various industries of aquaculture and tourism.

Keeping the environment in frame better ways for cleaning spills are being investigated among which various research and study showed what wonders cotton and its by-products could do. Blessed with the ability to soak up the oil unprocessed, raw cotton can be an answer to environmental friendly approach. Studies showed that cotton and its by-product can absorb and adsorb 40 times of its weight in oil in contrast to a synthetic material that can soak up to 20 times of its weight in oil. Apart from its amazing soaking capacity cotton and its by-product is being favored because of its re-usable capacity making it a cost-effective tool. Further research on the use of cotton revealed that cotton product containing more lint fibers are more effective and can absorb 80 times of its weight in oil when compared to non-linted fibers (2).

So, next time when it comes to cleaning up a massive oil spill use of cotton and its by-products can be best and the most environment-friendly solution for this job.

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