

16-Year-Old South African Girl Invents Drought-Fighting Super Material from Orange Peels

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The material's incredible moisture-retaining abilities come from its high polysaccharide and pectin content.

by [Orion Rodriguez](#)

In the midst of South Africa's worst drought in recorded history, one Johannesburg schoolgirl has [created a super absorbent polymer](#) that could change the way crops are grown. The [polymer](#) is created from simple, readily available recycled materials – orange peel and avocado skin – and it's capable of storing hundreds of times its own weight in water. Kiara Nirghin's project "[No More Thirsty Crops](#)" won the Google Science Fair's [Community Impact Award](#) for the Middle East and Africa.

Click here to watch "Google Science Fair 2016": https://youtu.be/fwRmICCVY_Q

Considering that South Africa's agricultural union has been pleading with the government for subsidies to help [weather the recent water crisis](#), Nirghin's project could offer much-needed relief. Her super absorbent material could be used to create reservoirs that farmers could use to maintain their crops at minimal cost.

Nirghin knew that other [super absorbent polymers](#) rely on chain molecule polysaccharides to give them their power, and her project sprang to life when she learned that orange peel is composed from 64% [polysaccharide](#). It also contains pectin, which is used as a gelling agent in

numerous applications. When combined with oily avocado peel and left in the sun, the mixture undergoes a reaction and forms a polymer compound.

As a Google Science Fair winner, Nirghin has been assigned a mentor from the company to help her develop her idea further, including potential tests on the field. Soon, she'll learn if she's one of the sixteen finalists in the [global competition](#) – but even if she doesn't make it to the final round, it sounds like she has a promising career ahead of her.
