

# Dutch cotton comes from greenhouses

Cotton doesn't grow in the Netherlands. It is too cold here, even with climate change. So the fashion industry depends on countries such as India, China, Australia and the US. But could cotton maybe grow in a greenhouse? WUR researcher Filip van Noort has shown that it can. Text Roelof Kleis

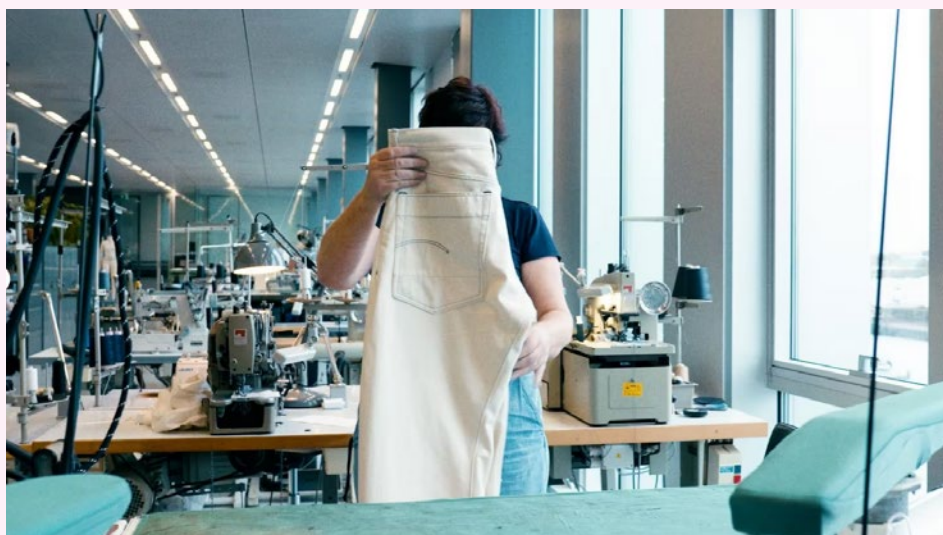
Thanks to collaboration with clothing producer G-Star, the first pair of blue greenhouse cotton trousers has come off the production line. G-Star is promoting the sustainable greenhouse cotton as Home Grown Denim. It could have been called Nederkatoen (Dutch Cotton), confirms Van Noort, who made a name for himself previously with Nedervanille (Dutch vanilla). 'But I suspect G-Star is thinking of the international market.' Although, on that market, 'home grown' will suggest cotton from your own country.

## Free of pesticides

Van Noort's cotton is genuinely different to the imported fabric. Not only is it grown on Dutch soil, but it is grown in a greenhouse under strictly regulated conditions, free of pesticide and with maximum reuse of rainwater. Even the word 'soil' is not quite accurate. Some of the 100 plants in the WUR greenhouse in Bleiswijk were grown on substrate, and some were grown on rock wool.

## 'To make greenhouse cotton profitable, production will have to go up and/or the costs will have to go down'

Greenhouse cultivation has considerable advantages. Cotton plants in the greenhouse grow up to four times bigger, produce between 5 and 23 times more cotton, and use about 95 per cent less water, thanks to reuse. Van Noort's plants rely almost entirely on the sun for heat



A pair of trousers is being made in the G-Star workshop using cotton from the WUR greenhouse in Bleiswijk. All that is needed is some blue dye to turn them into Home Grown Denim (as G-Star calls the trousers). ♦ Photo G-Star

and diseases could generally be kept at bay just by using biological pest control. Local production meant big savings on transport costs. It all sounds too good to be true, Van Noort agrees. The facts are right, but there are some downsides to greenhouse cotton too, the most obvious being the costs. 'Greenhouse cultivation is always more expensive than outdoor cultivation,' he says. 'To make greenhouse cotton profitable, production will have to go up and/or the costs will have to go down. And large plants might make for good yields but they make harvesting more difficult.'

So the few pairs of cotton trousers G-Star produced from the first harvest (in the Netherlands) are unaffordable. 'I'm pleased with what we've achieved so far,' says Van Noort. Follow-up research is

already under way. 'We are working on a new trial to see if a viable business model is possible for greenhouse cotton in the near future.'

## Disruptive

Outdoor cotton farming won't easily be replaced by greenhouse cotton. What Van Noort has in mind is a niche market for sustainable products. 'For me, the value of this project is mainly the disruptive way of thinking it represents. This is a totally different way of growing cotton. Maybe we can learn lessons from it for outdoor cotton farming. And that goes not only for cotton, but also for all outdoor crops that need a lot of water and nutrients.'