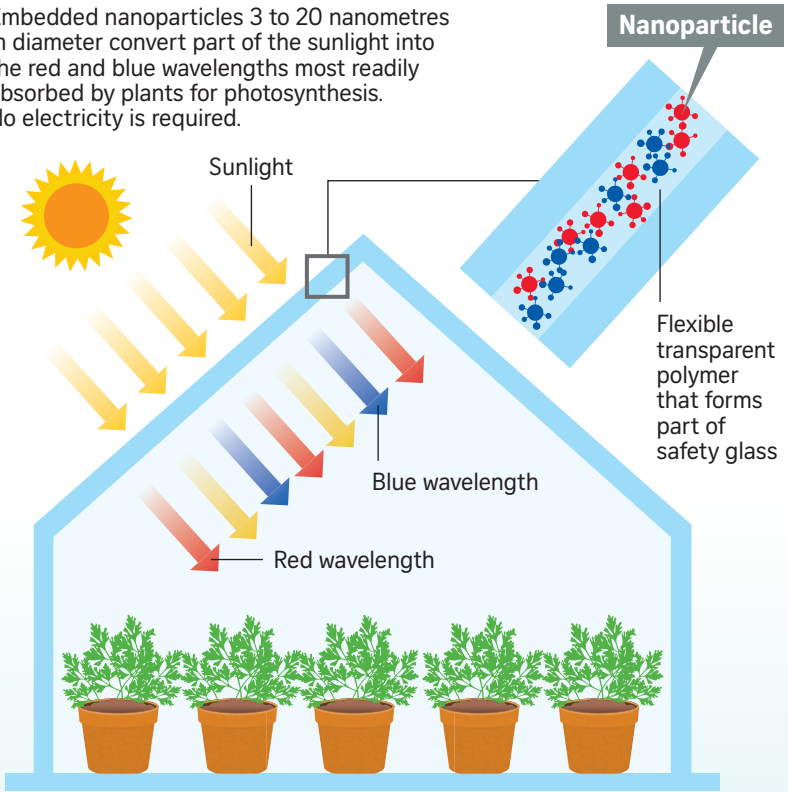
An invisible force that makes plants grow bigger

Nanyang Polytechnic partners Singapore Safety Glass to develop nanoparticles that turbocharge plant growth, with the potential to improve agricultural production.

Embedded nanoparticles 3 to 20 nanometres in diameter convert part of the sunlight into the red and blue wavelengths most readily absorbed by plants for photosynthesis. No electricity is required.



GREENHOUSE

- Vegetables grown under the converted light, compared to those grown under normal sunlight, were on average:

190%
taller, and had

40%
more leaf area

- Cost comparison with current method of enhancing plant growth using red and blue LEDs (per square metre of light):

LEDs:

$80 to $130
excluding electricity

Nanoparticle layer:

$18 for polymer + **$0.20** for nanoparticles

Source: NANYANG POLYTECHNIC STRAITS TIMES GRAPHICS