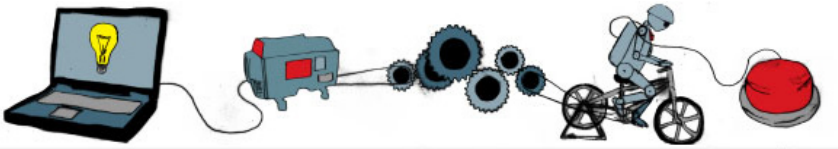
One Per Cent

Taking the sweat out of technology



Green Machine: Plants grow faster with nanotubes in their veins

15:00 22 January 2011

Green Machine Green tech Nanotech Technology

Helen Knight, technology reporter

(Image: Marie Griffiths/Wikipedia)

Forget fertiliser: to get your plants growing nicely you don't need poo, you need carbon nanotubes.

Sabyasachi Sarkar and colleagues at the Indian Institute of Technology in Kanpur have developed a technique to dissolve carbon nanotubes in water, allowing them to be taken up by plants without damaging them. When the team fed their nanotube solution to chickpea plant seeds they found it more than doubled their shoot length and increased their root growth and water uptake.

The nanotubes increase the prominence of channels in the plants that allow them to absorb much more water.

The technique could help farmers to make maximum use of the available water when growing crops in dry and drought-hit regions, says Sarkar. "The channels can extend to the upper parts (of the plant) to give better water and micro-nutrient management for the healthy growth of the plant," says Sarkar.

It could also improve the use of plants for cleaning up land affected by toxic chemical spills, he

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says, as the nanotube channels can very quickly absorb ions like cadmium. "So if someone wants to get rid of toxic ions from contaminated soil, such plant therapy can absorb them," says Sarkar.

Researchers have previously shown that water insoluble carbon nanotubes can enhance tomato plant seed growth. However, the needle-like nanotubes did this by rupturing the surface of the softened germinating seed. In contrast, the water soluble nanotubes do not pierce the seed's coating, preventing any risk of damage to the plant. Instead, Sarkar's nanotubes pass through the seed's existing water channels.

tags **agriculture** **nanotech** **nanotubes** **plants** **technology**

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xXKatPowXx on January 23, 2011 1:19 AM
Does the increased absorption of toxic ions for good (toxic spills),also mean an increased absorption of latent toxic ions,rendering edible plants inedible?

Jorge Stolfi on January 23, 2011 2:25 AM
Hard to believe. Better wait until the findings are replicated.

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Pretty much everyone seems already to have thought the same thing: This sounds pretty high-tech...