

Can we use plants to grow human tissue and body parts?

[Dr. Andrew Pelling] wanted to see whether grocery-store-bought plants can supply the necessary structure for [engineering replacement human tissues](#).

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Under the microscope, the microenvironment of an apple is on the same length scale as engineered surfaces for fabricating replacement tissues. That discovery got the team to wonder: is it possible to exploit that surface pattern of plants to grow human organs?

To test it out, they took an apple and washed away all its plant cells, DNA, and other biomolecules. This left them with a fibrous scaffold—the stuff that usually gets stuck in your teeth. When the team stuck human and animal cells inside, the cells began to grow and spread.

Encouraged, the team then hand-carved an apple into the shape of a human ear and repeated the process above. Within weeks the cells infiltrated, turning the chunk of apple into a fleshy human ear.

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The team next implanted an apple-based scaffold directly under the skin of a mouse. In just eight weeks, not only had the mouse's healthy cells invaded the matrix, the rodent's body also produced new collagen and blood vessels that helped keep the scaffold living and healthy.

That ticks three important aspects for an engineered tissue: it's safe, it's biocompatible, and it comes from a sustainable, ethical source.

Read full, original post: [Ears Grown From Apples? The Promise of Plants for Engineering Human Tissue](#)