

Stopping gene flow: 'Containment genes' could prevent GMO seeds from spreading in the wild

The largest field-based study of genetically modified forest trees ever conducted has demonstrated that genetic engineering can prevent new seedlings from establishing.

The “containment traits” that Oregon State University researchers engineered in the study are important because of societal concerns over gene flow — the spread of genetically engineered or exotic and invasive trees or their reproductive cells beyond the boundaries of plantations.

Findings from the study — which looked at 3,300 poplar trees in a 9-acre tract over seven growing seasons — were published [August 3rd] [in *Frontiers in Bioengineering and Biotechnology*](#).

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[Steve] Strauss, [distinguished professor of forest biotechnology at OSU] and colleagues assessed a variety of approaches for making both genders of trees sterile, focusing on 13 genes involved in controlling the onset of reproduction.

Individually and in combination, the genes had their protein function or RNA expression modified with the goal of obtaining sterile flowers or a lack of flowering.

The upshot: Scientists discovered modifications that prevented the trees from producing viable sexual propagules without affecting other traits, and did so reliably year after year

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“People have this fear that GMO trees will take over the world, but these are containment genes that make taking over the world essentially impossible,” Strauss said

Read full, original article: [Groundbreaking poplar study shows trees can be genetically engineered not to spread](#)