

After centuries of failed attempts at breeding a blue rose, biotechnology does the trick

For centuries, gardeners have attempted to breed blue roses with no success. But now, thanks to modern biotechnology, the elusive blue rose may finally be attainable. Researchers have found a way to express pigment-producing enzymes from bacteria in the petals of a white rose, tinting the flowers blue. They report [their results](#) in *ACS Synthetic Biology*.

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[T]he researchers chose two bacterial enzymes that together can convert L-glutamine, a common constituent of rose petals, into the blue pigment indigoidine. The team engineered a strain of *Agrobacterium tumefaciens* that contains the two pigment-producing genes, which originate from a different species of bacteria. *A. tumefaciens* is often used in plant biotechnology because the bacteria readily inserts foreign DNA into plant genomes. When the researchers injected the engineered bacteria into a white rose petal, the bacteria transferred the pigment-producing genes to the rose genome, and a blue color spread from the injection site.

Read full, original article: [Blue roses could be coming soon to a garden near you](#)