

# In genetics, memory may span generations

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Swiss scientists say they've determined plants pass memories of stressful events from parent to progeny to help them adapt to difficult conditions.

Heat, pathogens or other stresses may trigger an increase in the frequency of genetic mutations and rearrangements, but it was largely unknown whether the increased rate was inherited by subsequent generations.

Barbara Hohn and colleagues at the Friedrich Miescher-Institute for Biomedical Research in Basel, Switzerland, now have shown one such response is passed on.

The scientists found exposing the thale cress plant -- *Arabidopsis thaliana* -- to ultraviolet radiation or a bacterial protein boosts the process of homologous recombination in which two similar DNA segments are exchanged. That characteristic persists in at least four subsequent generations, regardless of whether the offspring are subjected to the stress.

The authors propose the elevated frequency of recombination is not caused by an actual change in DNA sequence, and so the trait is inherited epigenetically by some unknown mechanism.

The research appears in the current issue of the journal *Nature*.

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