



It's not particularly impressive:

The thale cress flower (*Arabidopsis thaliana*) measures no more than two to three millimeters. In this image, which was taken with a scanning-electron microscope and subsequently colored, the yellow pollen is clearly visible on the inner stamens. They seem disproportionately large compared with the leaves of the corolla. The small field plant is considered to be an important model organism for geneticists. In searching for a formula for longer plant life, developmental biologists in Tübingen have now found, in the cell nucleus of *Arabidopsis*, small gene segments known as microRNAs. These short, single-strand sections of ribonucleic acid

(RNA) regulate other genes by binding to complementary sections of DNA, preventing them from being read and translated into proteins. The researchers found that the thale cress always formed less jasmonic acid when many of these gene segments were present in the cell nucleus. One effect of jasmonic acid is to cause plants to grow more slowly – and thus not age as quickly. Since the quantity of microRNAs in plants can be regulated through genetic methods, it may soon be possible to breed, on the one hand, plants that live much longer, and on the other, plants that grow considerably faster.

PHOTO: MPI FOR DEVELOPMENTAL BIOLOGY – JÜRGEN BERGER

