

# No Mow Lawn on the Horizon

## GENETICS USED TO SLOW PLANT GROWTH



**W**ASHINGTON - Don't throw away the lawnmower yet, but scientists have found a way to stunt the growth of grass and other plants and keep them greener longer by tinkering with a single gene.

The gene regulates production of a steroid hormone that causes plants to grow, much the same way similar steroids work in animals. They have now succeeded in manipulating the gene to create dwarf versions of standard plant species, according to research published in the journal *Proceedings of the National Academy of Sciences*.

A tobacco plant that would normally grow to 1.8 metres tall was engineered to mature at 30.5 centimetres by scientists at the Salk Institute for Biological Studies in San Diego. The same technique worked with the Arabidopsis plant, a member of the mustard family that like tobacco, is frequently used in genetic studies.

"It very much parallels the steroids in football players. Plants buff up on it," Joanne Chory, the Salk study's senior re-

searcher, said of the newly manipulated plant gene. "If you do something ... so it isn't expressed, you get these little dwarfy guys."

The dwarf versions are identical to the standard plants in every way but size, she said.

Plant breeders have long searched for ways to slow the growth of grass to reduce maintenance on golf courses, as well as lawns and parks. But conventional breeding by cross-pollinating different varieties is far more time consuming and less exacting than engineering specific genes.

Golf courses are sprayed with chemicals to slow growth, but they still must be mowed frequently.

The plants the Salk Institute scientists used in their study are more similar to trees, so there may be difficulties in getting the technology to work with grass, said Andy Hamblin, a turf geneticist at the University of Illinois. But it is only a matter of time before scientists develop grass that only needs to be mowed once or twice

a year, he said.

Conventional varieties of grass take an average of 13 years to develop, and the latest breeds have only reduced mowings by only one or two times a year, he said.

Gene-engineered grass also raises environmental questions. Dwarf plants could cross-pollinate with standard plants and stunt the growth of their offspring, Hamblin said.

Governments would have to approve any new varieties of grass and could limit their use to avoid such problems. Hamblin said the approval process for a biotech grass could take several years.

As for its safety, the researchers said there would be no danger to children or animals from eating the grass, since it is essentially the same as conventional grass.

Chory said scientists expect eventually to be able to pinpoint and alter other genes that control the growth of leaves and flowers, enabling them to regulate the appearance of an entire plant. ♦

— Associated Press, *The Record*,  
December 21, 1999

  
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