

AUG 12, 2012 @ 11:52 AM

4,863 VIEWS

The Little Black Book of Billionaire Secrets

# Would Rachel Carson Embrace 'Frankenfoods'? - This Scientist Believes 'Yes'



**Capital Flows, CONTRIBUTOR**

Guest commentary curated by Forbes Opinion. Avik Roy, Opinion Editor.

[FULL BIO](#) ▾

Opinions expressed by Forbes Contributors are their own.

By Pamela Ronald

“A truly extraordinary variety of alternatives to the chemical control of insects is available. Some are already in use and have achieved brilliant success. Others are in the stage of laboratory testing. Still others are little more than ideas



Rachel Carson, Author of "Silent Spring." (Photo credit: Wikipedia)

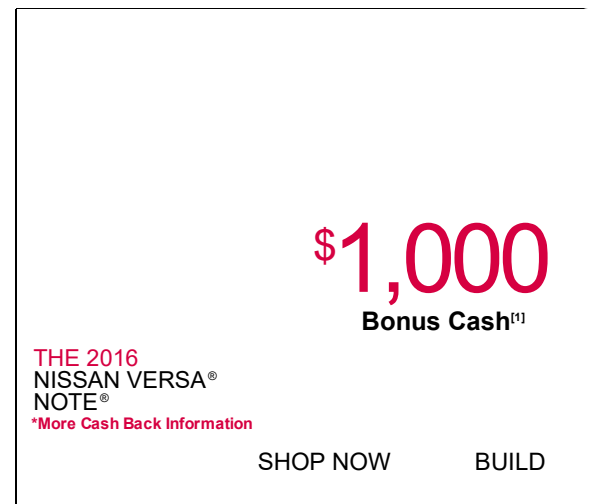
\$349

VIEW NOW

*in the minds of imaginative scientists, waiting for the opportunity to put them to the test. All have this in common: they are biological solutions, based on the understanding of the living organisms they seek to control and of the whole fabric of life to which these organisms belong. Specialists representing various areas of the vast field of biology are contributing—entomologists, pathologists, geneticists, physiologists, biochemists, ecologists—all pouring their knowledge and their creative inspirations into the formation of a new science of biotic controls.” - Rachel Carson, *Silent Spring*, p. 278*

The ‘Frankenfoods’ debate is coming to your dinner table. Just last week, a mini-war developed in Europe, when the European Union’s chief scientist, renowned biologist [Anne Glover](#), said that foods made through genetic engineering, such as soy beans—about 80 percent of U.S. grown soybeans have been engineered to grow with the use of less pesticides—are as safe as organic or conventional foods.

It’s a wholly uncontroversial comment—at least among scientists. But it set off the usual scare mongering from [Friends of the Earth](#), and other like-minded advocacy groups that finds all



**\$1,000**  
Bonus Cash<sup>(1)</sup>

THE 2016  
NISSAN VERSA®  
NOTE®  
\*More Cash Back Information

SHOP NOW      BUILD

genetically engineered (GE) foods and crops to be, in their words “stomach turning.”

The incident is also adding fuel to the California wildfires—no, not the ones caused by the drought—but the incendiary debate over a fall ballot initiative that would require warning labels on all foods with GE ingredients, despite the fact that all established health and science groups such as the [American Medical Association](#), the [National Academy of Sciences](#) and the [World Health Organization](#) have rejected claims that genetically engineered crops or foods pose additional risks or have altered nutritional profiles as compared to foods derived from conventional genetic alteration.

This debate is particularly poignant because fifty years ago this September, with the publication of *Silent Spring*, Rachel Carson launched the modern day environmental movement by shining a harsh light on the overuse of technology—in that era it was chemicals--in farming.

---

**Recommended by Forbes**

---



The Contraction Of Pharma  
Means Innovation Goes Out  
With a Bang

The Public S  
Start Keepin

Although Carson never used the term, her passion was "sustainability." She envisioned harnessing the knowledge of biological diversity—entomology, pathology, genetics, physiology, biochemistry, and ecology- to shape a new science of biotic controls that would help control weeds, diseases and pests without further damaging the environment. Her dream of a science-based agricultural system may come as a surprise to those who believe that sustainability and technology are incompatible.

My laboratory at the [University of California, Davis](#) has genetically engineered rice that [tolerates flooding](#) and [resists disease](#). As a scientist committed to sustainable agriculture, I have to believe that if Rachel Carson were alive today she would reject the anti-science fear mongering of anti-GE campaigners.

For 10,000 years, humans have altered the DNA makeup of our

crops. Conventional approaches were often quite crude, resulting in new varieties through a combination of trial and error, and without knowledge of the precise function of the genes that were being moved around. Such methods include grafting or mixing of genes of distantly related species, as well as radiation treatments to induce random mutations in the genetic makeup of the seed. Today, virtually everything we eat is produced from seeds that have been genetically altered in one way or another.

Over the last 20 years, plant breeding has entered “[the digital age of biology](#)”. Just as software engineers tinker with computer codes to improve machine performance, scientists and breeders are altering the “DNA software system” of plants to create new genetically engineered crop varieties, often called “GMOs”, that thrive in extreme environments or can withstand attacks by pests. Like the older conventional varieties, GE crops are also genetically altered, but in a manner that is much more precise and introduces fewer genetic changes.

To understand why farmers have embraced GE crops and how they

benefit the environment, take a look at genetically engineered cotton. These varieties contain a bacterial protein called Bt that kills pests, but does not harm beneficial insects and spiders. Bt itself is benign to humans, which is why organic farmers have used Bt as the primary method of pest control for 50 years. Today, [70-90% of US, Indian and Chinese farmers grow Bt cotton.](#)

Last month [a team of scientists reported](#) in the prestigious journal, *Nature*, that widespread planting of Bt cotton in China drastically reduced the spraying of synthetic chemicals, increased the abundance of beneficial organisms and decreased populations of insects that damage the crop. Planting of Bt cotton also reduced [pesticide poisonings](#) of farmers and their families. This month, German researchers [reported](#) that farmers in India growing Bt cotton increased their yield by 24%, their profit by 50% and raised their living standards by 18%.

PAGE 1 / 2

[Continue >](#)

[Comment on this story](#)



Print



Report  
Corrections



Reprints &  
Permissions

## RELATED TOPICS

**GENE**

**BEST**

**REFI**

**IMPR**

**BEST**

**TOP**

## From the Web

Ads by Revcontent 

**(1) Easy Trick "Removes" Your Eyebags & Wrinkles (Do This Tonight!)**

FIT MOM DAILY

**14 Times Lotto Winner: Do This Every Time You Buy A Lotto**

MONEY NEWS TIPS

**Did You Take Anatomy In High School?**

TOPIX

**Ever Googled Yourself? Do a "Deep Search" Instead!**

TRUTHFINDER

**Homeowners Get \$5,088 Back Thanks To New Bill**

THE MORTGAGE INSIDER

**Could This Be the Biggest Stock of 2017?**

INVESTOR-DAILY

**Tiger Woods' Daughter Was a Cute Kid, But What She Looks Like**

HYPERACTIVZ

**Own A Home In CA, Consider This Underused Federal Program**

EVERYDAY FINANCE HELP



**Forbes** / Tech

---

**ForbesBrandVoice**<sup>®</sup> [What is this?](#)

FEB 23, 2017 @ 02:01 PM

## Transforming Healthcare: Three Trends Shaping The Industry



