

# How a University of Iowa Student and a Russian Scientist Created a Fungus that Could Replace Oil Forever



## Is This Tiny Stock "The Next Exxon"? (Codexis Just Paid \$10 Million to Find Out)

Dear Investor,

I just got off the phone with one of the most inspiring businessmen I've ever met. He told me a fascinating story involving a student from Iowa, Russian scientists, WWII soldiers and something called "C-1 fungus."

And it all leads to the real possibility of "biofactories" that can turn crops grown anywhere on the planet into all the energy we'll ever want -- eliminating the need for petroleum whatsoever.

I honestly think this guy is going to change the world.

If I'm right, he's going to make bucketloads of money for anyone who comes along for the ride. And that definitely includes me. You're invited too.

Powering the World With... *Sugar?*

What he's discovered isn't just ground-breaking biotechnology. It's nothing short of revolutionary -- and one single company has the edge.

It can shift our country away from petroleum and onto an efficient, secure and sustainable economic base. One based on sugar, of all things.

With sugar, this company can feed bacteria and yeast to make ethanol, plastics, polymers and all the other products made by petroleum -- with zero emissions and all of it renewable.

A barrel of sugar can replace a barrel of petroleum. The beautiful thing about sugar is that you can grow it in Texas... you can grow it in Canada... you can grow it anywhere. You don't have to import it from hostile foreign nations.

From a national defense and jobs-creation standpoint, growing "energy crops" or taking biomass and turning it into sugar is absolutely what our country needs.



Renewable "energy crops" like sugar can be grown anywhere in the world and can eliminate our dependence on petroleum.

In fact, Washington is doing everything it can to steer us toward energy independence.... including the implementation of a federal timetable that mandates our use of biofuel.

### A Stock Whose Immense Profits Are All But Guaranteed By A Government Timetable

The biofuel revolution is here. It's not a wish, it's not science fiction and it's not utopian dreaming. It's the law. The Energy Independence and Security Act of 2007 *requires* the country to use 36 billion gallons of biofuel by 2022.

The rub is that only 15 billion gallons can be regular corn-based ethanol. 21 billion gallons -- or almost 60% -- must be "advanced biofuels" that are 50% cleaner than gasoline. Of that total, 16 billion gallons must be something called "cellulosic" biofuel.

The problem? We make almost no cellulosic biofuel now. Only a few companies even know how.

By next year, we'll probably be producing 100 million gallons -- a drop in the bucket.

That means we'll see cellulosic ethanol production jump from almost zero to 16 billion gallons by 2022.

That's a +15,900% increase in only a dozen years!

How do you think that's going to translate to corporate earnings?

**Future Fuel Production,  
in Billions of Gallons**

Year	Renewable (Ethanol)	'Advanced' Biofuel	Cellulosic Biofuel
2008	9.0		
2009	10.5	0.6	
2010	12.0	1.0	0.1
2011	12.6	1.4	.3
2012	13.5	2	0.5
2013	13.8	2.8	1.0
2014	14.1	3.8	1.8
2015	15.0	5.5	3.0

Let me spell it out: The investors who get in on these companies are going to be putting cellulosic ethanol fuel into their Ferraris. Their chauffeurs will gas up their Rolls-Royces.

2016	15.0	7.3	4.3
2017	15.0	9.0	5.5
2018	15.0	11.0	7.0
2019	15.0	13.0	8.5
2020	15.0	15.0	10.5
2021	15.0	18.0	13.5
2022	15.0	21.0	16
<b>Growth</b>	<b>+66.7%</b>	<b>+3,400%</b>	<b>+15,900%</b>

Look at the table and you'll see that regular ethanol production is mandated to rise +50% -- and then flatline. A +50% gain isn't bad. You invest \$10,000 and you walk away with \$15,000. But a +15,900% gain is something else altogether: It turns \$10,000 into **\$1.6 million**.

As I said, the biofuel revolution is here. The debate is over, the bill has been passed, and the president signed it into law. The only question is whether you'll put biofuel into your car or whether you'll deposit biofuel profits into your bank account. Buy a few shares of the company I discovered today and you can do both. Here's why...

## How Stone Washed Jeans Started a Chain of Events that Could Topple Exxon

The University of Iowa student I mentioned? That's our CEO.

After graduating from the famed program in 1977, he made a mint pioneering the stonewash jeans industry. He taught Levi's, Guess and Wrangler how to wash blue jeans to soften and fade the denim... and sold them the pumice stones to do the job.

But in the '80s, a Danish biotech outfit came up with an enzyme that did a better job than pumice in the stonewash process. The compound ate at cotton the way an acid might eat at metal.

Steamed at watching his business shrink, but realizing that this was the future, he looked for scientists who could help him make his *own* enzymes.

When the Berlin Wall fell he found a group at Moscow State University who had worked on cellulosic ethanol in the 1970s.

So he hired them to look for something better to soften jeans with. The Russians were happy to work for 5% of what he would pay a lab in the States.



WWII GIs discovered the "trichoderma" fungus -- an enzyme similar to that which stone washes blue jeans.

By 1994, he had launched his first commercial cellulose product -- based on a fungus called trichoderma. Trichoderma was first found on GIs' tents in World War II. It was breaking down the cotton fabric and the soldiers were getting rained on. This fungus was a beast. It tore heavy-duty tents to shreds.

For the next 66 years, U.S. government scientists tried to engineer this particular fungus to do more productive things... but never hit pay dirt.

## A Lucky Break

Our CEO got to thinking: If trichoderma breaks down plant fiber that well, then maybe it can break down cell walls, too. That's the critical first step to unleashing the sugar inside cellulose, which can then be fermented into ethanol.

As his team bred this fungus, a serendipitous mutation occurred that allowed it to be produced on a large scale at low cost. He calls his new organism "C-1 fungus"... and nobody has it but him.

C-1 has almost twice as many biofuel genes as trichoderma. That's better not only for making ethanol from sugar... but for industrial enzymes, cosmetics, biopharma, and nutraceuticals.

The company's gene jockeys have worked with scientific groups like Scripps Research Institute in Florida for 15 years to perfect the technology.

All those years of effort are starting to pay off. Last November, he licensed C-1 to Codexis, the biofuel partner of Shell. He got a \$10 million upfront payment in April. Back-end payments start once Codexis sells products using this technology.

In May 2009, he licensed it again to Abengoa Bioenergy -- one of the world's largest alternative energy companies.

They're involved in solar and ethanol... and they're a leader in cellulosic ethanol, too. Every time they open a facility they have to pay a fee, plus royalties on products using his technology.



The "C-1" miracle fungus has twice as many biofuel genes as trichoderma. Its use is practically limitless. The company that owns this organism is going to change the world. Investors who own shares could make a killing.

## Limitless Use

The C-1 platform can be used for hundreds of applications beyond cellulosic ethanol. The markets are endless.

While the +15,900% government-mandated growth in cellulosic ethanol offers dramatic potential, C-1 is as useful as steel, as adaptable as silicone and as plentiful as hydrogen.

The fungus can produce enzymes for making bread rise in baking, or making a key part of a life-saving drug.

It can improve so many processes that someday you might go to the gas station and see "C-1 Inside" on the pump. You might go to the drug store and see "C-1 Inside" on the boxes of pills. Someday you might put on a pair of blue jeans and realize they've got "C-1 Inside." You might buy a loaf of bread or a bottle of beer and see "C-1 Inside." It goes on and on and on.

Thousands of companies would pay for the right to integrate C-1 into their manufacturing. And no one could copy it.

Even with unlimited cash, it could take another research team 10 years to catch up with C-1. And they still might fail. Remember, this company's breakthrough was a "serendipitous mutation" -- a happy win against long odds. That's one heck of a competitive advantage.

### What You Should Do Now

I bought this stock for my *Government-Driven Investing* portfolio on July 3rd. I consider it a strong buy today. The company has already licensed its C-1 miracle fungus to two major alternative energy players and is looking for more. As federally-driven demand for cellulosic ethanol grows, this firm's revenue stream will turn into a river.

This is just one example of how we're letting the government do the heavy lifting for us here at *Government-Driven Investing*.

Andy Obermueller  
Editor, *Government-Driven Investing*



While the +15,900% government-mandated growth in cellulosic ethanol offers dramatic potential, "C-1" can be used for *hundreds* of additional applications.