

# 2010: A year for industry to bounce back

Dr. Pearse Lyons  
President, Alltech





Once upon a Time

# Are you ready

For uncertain markets?





# Once Upon a Time



Once Upon a Time

The greatest  
4 words in  
any language





A young boy and girl are smiling together. The boy, on the left, is wearing a green t-shirt that says "Camp d'été FONTAINE Summer". The girl, on the right, is wearing a white tank top with a pink floral design. They are both looking towards the right. In the background, there is a chalkboard with faint, illegible drawings. A man in a white shirt and a cap is visible in the background, looking towards the children. The overall scene is bright and cheerful.

Once upon a time:  
A child imagined  
a future





But there  
was **none**



Once upon  
a time...

There was a  
world of water





# And then there was none






# A thirsty world



# Yet...






A composite image featuring a golf course landscape in the background with green grass, sand traps, and a line of trees. In the foreground, a large white golf ball sits on an orange tee, which is partially buried in a patch of grass. The text '2 billion gallons of water is used on golf courses every day' is overlaid on the left side of the image in a large, yellow, serif font.

2 billion gallons  
of water is used on  
golf courses  
every day

**2 billion**  
Average number  
of gallons of water  
used each day  
for golf course  
irrigation in the U.S.



A young girl with dark skin and hair tied back, wearing a bright yellow long-sleeved shirt and a colorful patterned skirt, holds a white plastic bag filled with water. The bag has "10 ¢" written on it. She is standing in front of a blue corrugated metal wall. In the background, there are some wooden structures and a cloudy sky.

While a little  
girl has to buy  
bags of water  
for 10 cents



Once upon a time... we  
began to recognize  
greenhouse gases

# GREENHOUSE GASES

The Greenhouse Effect

Some sunlight that hits  
the earth is reflected.  
Some becomes heat.

CO<sub>2</sub> and other gases  
in the atmosphere  
trap heat, keeping  
the earth warm.





# 25% of species face extinction





And as the ice cap melts...  
polar bears lose their habitat

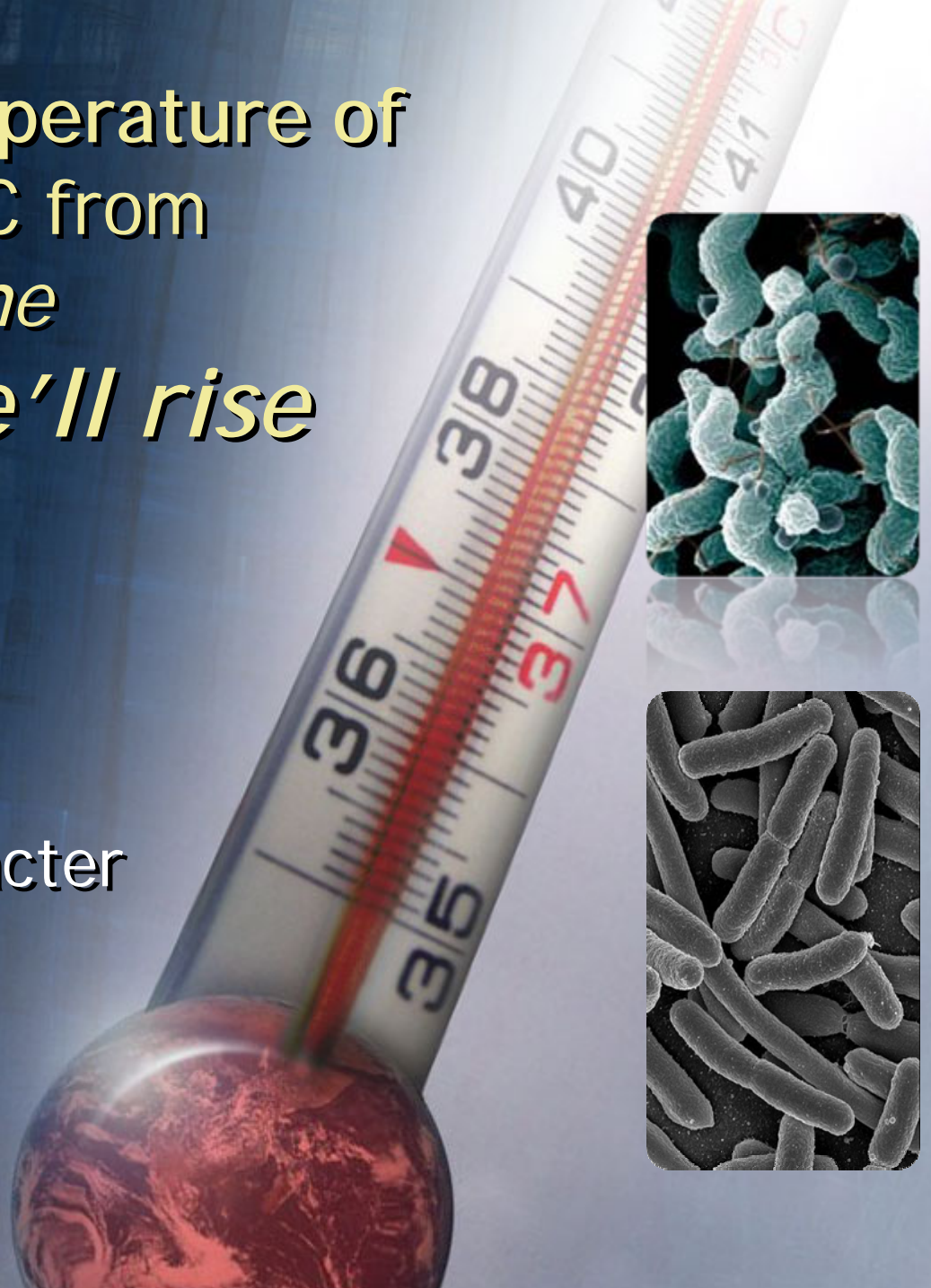


And they float away...



1990 – 2005 the temperature of the world rose .2° C from global warming *in the next decade we'll rise another 2° C*

- 6% more Ecoli
- 10% more Campylobacter
- Infections will rise





Once upon  
a time...  
**traceability**  
in our food  
chain became  
the issue







Are we what  
we eat or  
what our  
animals  
ate?





and yet our meat supply becomes more and more contaminated...drug residues



# A world of contamination

- Minerals contaminated with dioxins, pcbs and lead in 33% of all samples analyzed






And we continue to  
compound our  
problems

Gulf oil spillage  
threatens to  
destroy our  
coastline








But we **ignore** that this has  
been **happening** in the rest  
of the world **all along**...



A satellite view of Earth from space, showing the Americas. The image is dominated by the blue of the oceans and the green of the landmasses. A semi-transparent blue rectangular box is overlaid on the left side of the image, containing the text "A world of hope or a world of hopelessness?".

A world of  
hope or a world  
of  
hopelessness?





In the eyes of every mother  
it's a **world of hope**

- **A mother with 6 children**
  - No education
  - Wanted something better for her children



Mothers see no brick wall  
they see a way around it





The background of the image is a close-up of a brick wall. The bricks are reddish-brown and show signs of age and wear. Overlaid on the wall is a faint, blue, semi-transparent wireframe or grid pattern, which appears to be a 3D model of a structure, possibly a dome or a large building, with lines converging towards the top. The text is centered over the wall.

A world of  
opportunities  
not problems



A bronze statue of a young girl with curly hair, wearing a short-sleeved dress, is positioned in the foreground, reaching her right arm up towards a tall, precarious stack of books. The books are of various sizes and colors, including shades of blue, green, and brown, and are stacked haphazardly. The stack is located near a staircase with wooden steps and a glass railing. In the background, there is a modern interior with large windows, potted plants, and contemporary furniture. The text "Mothers invest in education" is overlaid on the right side of the image in a yellow and white font.

Mothers  
invest in  
education



When I came to launch a company  
my mother's encouragement?

*"What took you so long?"*





And when that  
company hit a  
crisis as the rest  
of the world did







a *world* of...

- *Rip offs*
- *Lay offs*
- *Madoff's*



A green highway sign with white text and an arrow. The sign is mounted on a metal structure with five visible brackets. The background of the entire image is a blue, abstract, wireframe-like pattern.

Changing Lanes


NEXT EXIT



We embraced our people



# In a time of crisis we

- 
- Increased salaries by 9%
  - Increased work force by 15%
  - Entered 10 new countries
  - Did 3 times more capital investments
  - Reduced debt by 30%





*All at a  
time of  
crisis*



We doubled  
our Profitability

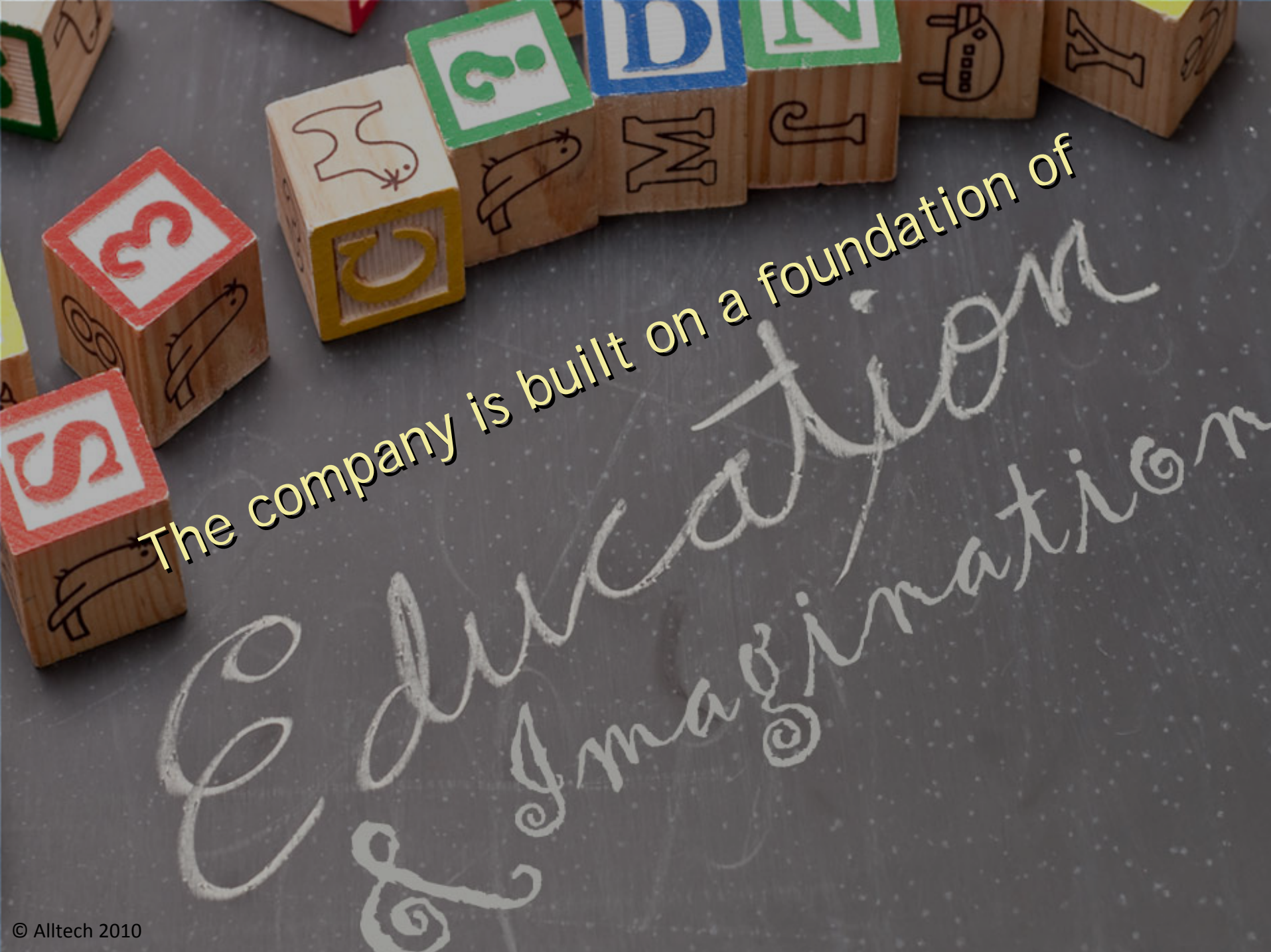




The background is a deep blue with a fine, light blue grid pattern. Several large, stylized question marks are scattered across the image, rendered in a darker blue with a slight 3D effect. The word "Why?" is centered in a large, bold, yellow font with a black outline.

Why?





The company is built on a foundation of


Education  
& Imagination





Built on  
technology






“What is holding  
you back”  
from embracing  
technology?



# Technologies

- Gene Chip
- Algae
- SSF
- Protected minerals
- Yeast derived products
- Genomics
- Nanotechnology
- Mass Spectrometry





These technologies will  
enable us to convert  
problems into  
opportunities.



# What can we do to reduce pollution and give full traceability?


Performance

✓Environment

✓Q+ Assured







And how has  
**biotechnology**  
allowed us to  
**tackle**  
**mycotoxins**



# Here's How...












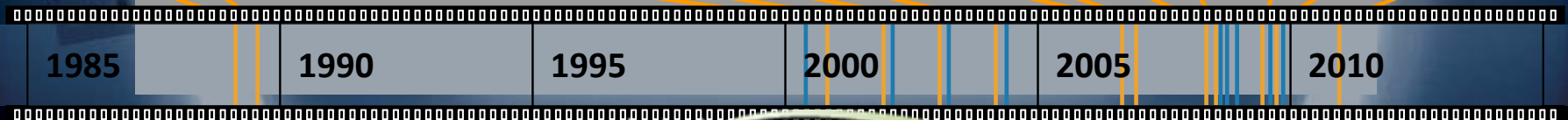
# 15 PhDs theses 18 Masters theses

## 3 patents

## 55 Peer reviewed papers



N. Afzali	MVLN. Raju	JE. Dvorska	DE. Diaz	HVLN. Swamy	A. Yiannikouris	P. Rossi	G. Diaz-Llano	SL. Raymond	GM. Meissonnier	CK. Girish	GN. Girgis	S. Firmin
1988	1988	2001	2002	2003	2004	2007	2007	2008	2008	2009	2009	2011
												





# Greenhouse Gases

GLOBAL WARMING



"What took  
you so long?"





There was another time when the  
world was full of  
Greenhouse gases

3.7 Billion years ago

$\text{CO}_2 + \text{CH}_4 + \text{heat} =$



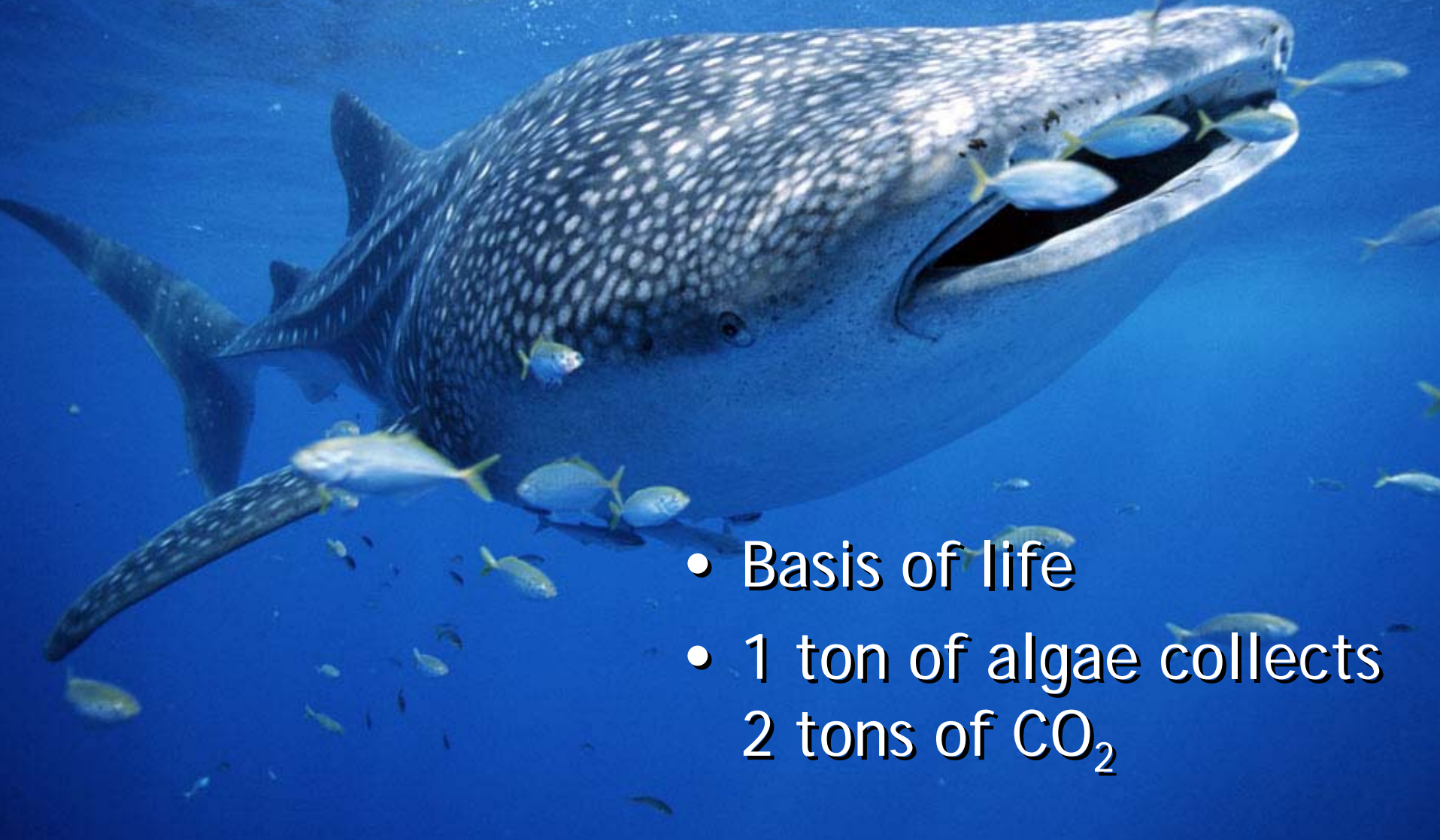
Algae

Oxygen

Our world today



A single algal cell may create a million offspring in a day.



- Basis of life
- 1 ton of algae collects 2 tons of CO<sub>2</sub>





# This is the future of Algae


Opening August 1<sup>st</sup>, 2010 -  
Alltech's new Algae Factory  
- *1.5 Million liters capacity*





How can we create new solutions?  
By embracing new technologies



A hand is holding a white card with a barcode at the top and a dark, square-shaped object in the center. The card is being held over a device that has a prominent red stripe. The background is dark and textured, possibly a wall or a large screen. The text "The source of many revolutionary new products and techniques" is overlaid on the left side of the image in a yellow, serif font.

The source of many  
**revolutionary** new  
products and techniques



How can we  
**redefine** nutrition?

Economas 



# Farm to Fork *Security?*



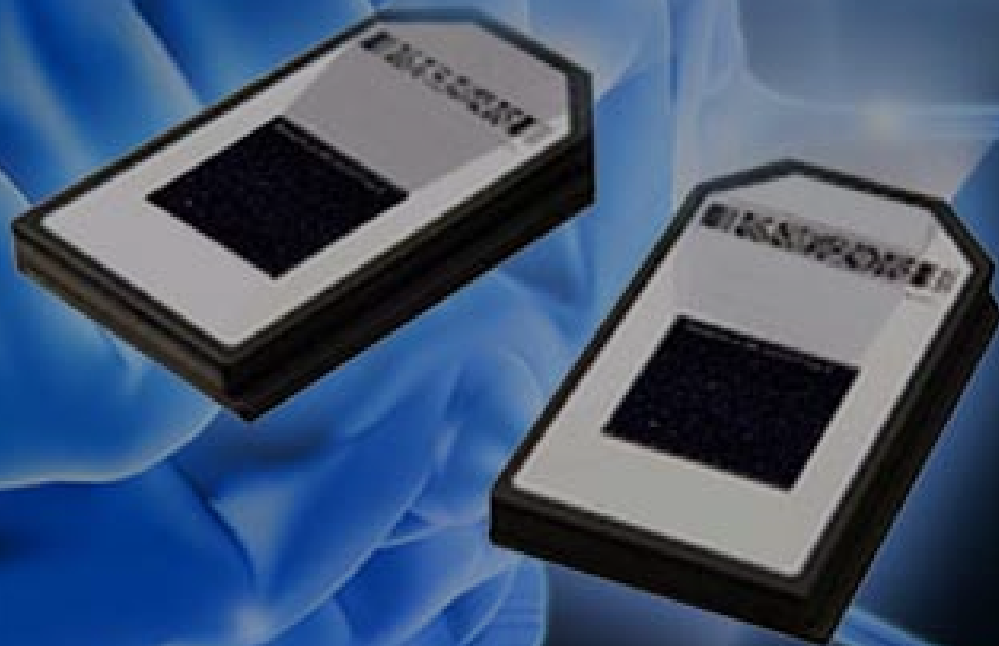


# Revolutionary approaches to Traceability





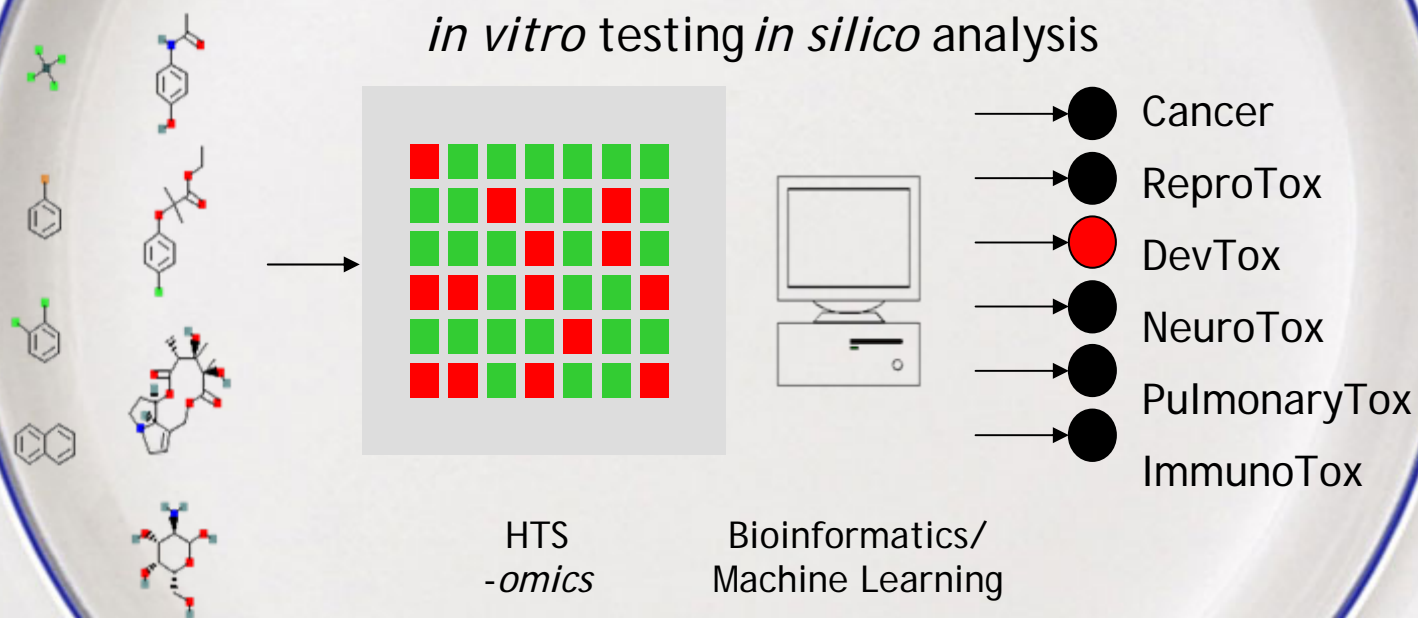
Of course we  
can because  
of the  
gene chip





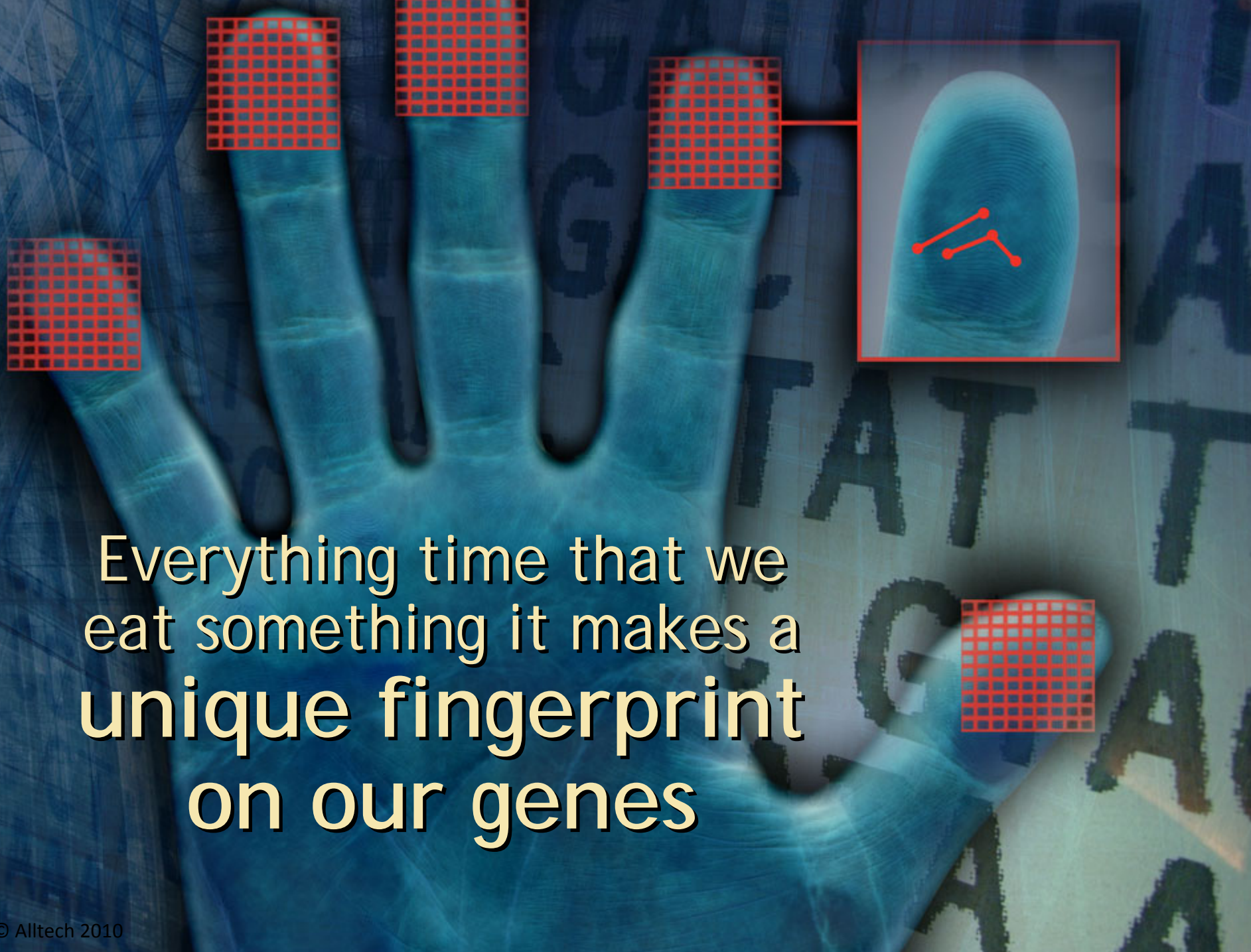
# What is the Gene Chip?

It's a laboratory on a plate — An animal on a plate



(EPA, 2007)





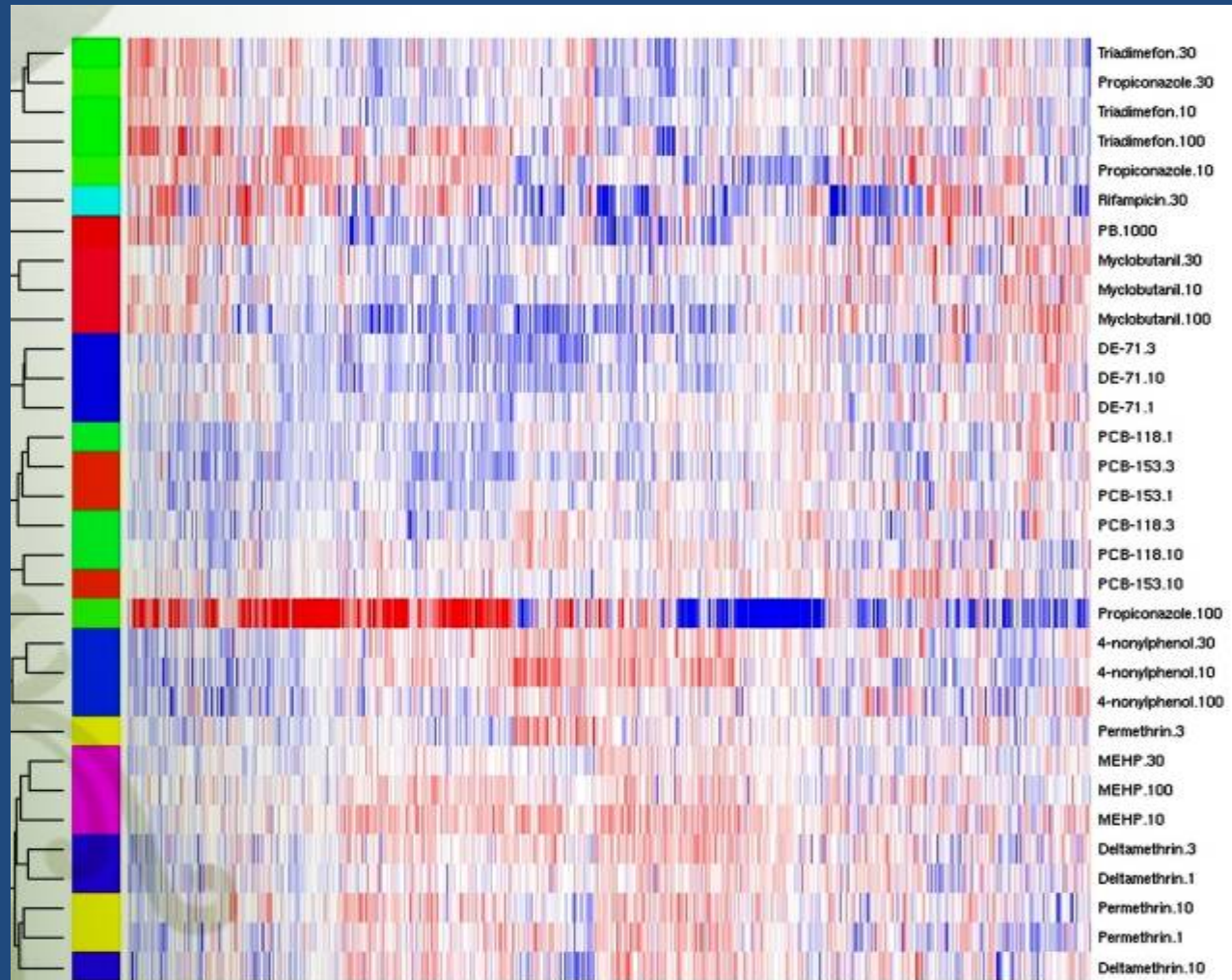
Everything time that we  
eat something it makes a  
**unique fingerprint**  
on our genes



# Some genes are up regulated and some are down regulated

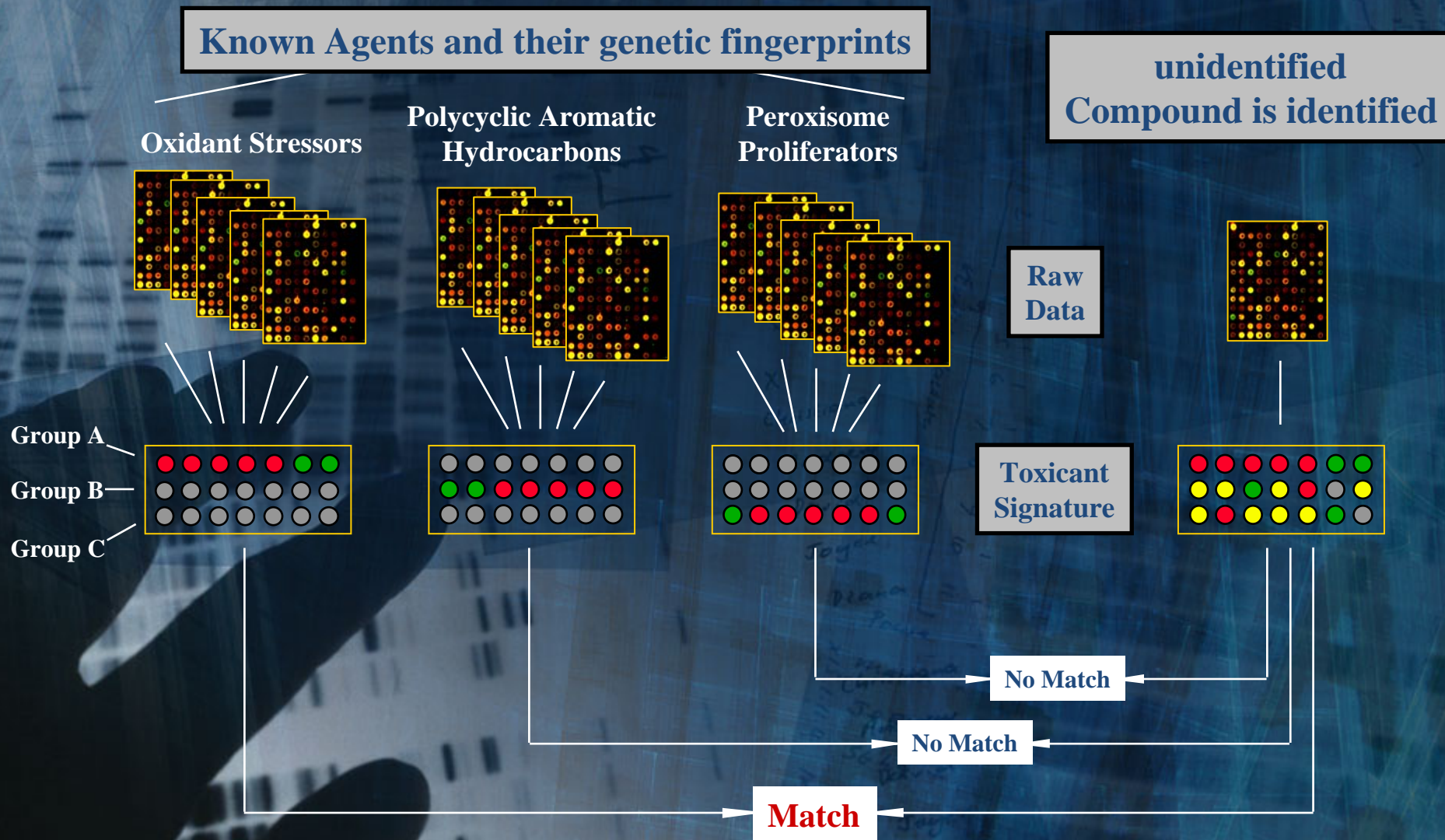
This is  
a typical  
example:

- Red means  
up regulated
- Green means  
down regulated
- Blue little happens





# Identifying the agent from the gene fingerprint





- Identify what that ingredient is in real time
- Can predict the effect of a certain ingredient
- It can be traced






*Moving towards a molecular  
Barcoding  
the security of the entire food chain:*

*It is not just a dream, but a necessary  
component of sustainability*







# Can we imagine an Alltech Institute of Traceability



Now we are starting to build a predictable  
new future based on natural sciences



With unlimited  
opportunities




~~\$500 million~~

~~\$1 billion~~

\$2 billion



A close-up photograph of a hand holding a white card. The card features a barcode at the top and a black square, likely a contactless payment symbol, in the center. The card is being held over a payment terminal, which has a red stripe visible. The background is dark and out of focus.

As we address  
some of the  
world's  
opportunities...

# This is just the beginning

Once Upon a Time

A person is walking away from the viewer towards a bright, glowing horizon. The person is silhouetted against the light. The background is dark blue with many bright blue light trails and particle effects, creating a sense of motion and energy. The overall mood is futuristic and hopeful.



**None of this is any good  
unless we brand.**



**\$4.39/ gallon**



Full of sugar  
Rots teeth  
Can rust nails  
Causes diabetes  
Causes obesity  
Zero nutritional value

**\$2.69/ 1 gal.**



# Our industry needs to learn how to brand

## Coke vs. Milk



Full of calcium  
Full of Protein  
Natures ideal food  
Excellent nutritional value  
Capable of being enhanced



**The Real Thing?**

**The "Real" Real Thing**



# How to launch a brand

The background of the slide features a dense crowd of stylized human figures. Most figures are in shades of orange and brown, while others are in dark blue or black. In the center of the crowd, a single white figure stands out with its arms raised in a 'V' shape, symbolizing achievement or leadership.

You avail of the  
opportunities that you are  
given

A few short months  
ago the world was  
watching the  
Olympics...





And on  
September  
25<sup>th</sup>, 2010



# The world will be watching us!

“The largest sporting event to come to the US since the 2002 Winter Olympic Games”

**Alltech.FEI™**  
World Equestrian Games™  
Kentucky 2010







*We started with  
1000 days out*

**94**  
days  
to go



**Altech. FEI.**  
World Equestrian Games™  
Kentucky 2010

**What has this  
done for us?**





**“Has altered  
the way that  
the world looks  
at agriculture and  
the way that  
Agriculture looks  
at the itself”**

**- Damien McLoughlin, April 2010**



**Altech®**





OPPORTUNITY

The Challenges  
are your opportunities



# Are you ready?



**BOUNCE BACK 2010**

**A TIME FOR PEOPLE, PROFITS AND PLANET**

- Embrace Change
- Be ready for change
  - Education
  - Research
  - Speed
- Brand



# MONDAY MORNING Call to Action

- Be at the Alltech Games
  - Show agricultures best face
- KidZone
  - The pipeline to the future
- Address problems
  - Peta





# Thank you



**BOUNCE BACK 2010**