

Food Safety Controls in the Global Distribution Chain

Managing risk through measurements?



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mocon[®]



Consumer Confidence

Science



Regulations



Politics



Public Health

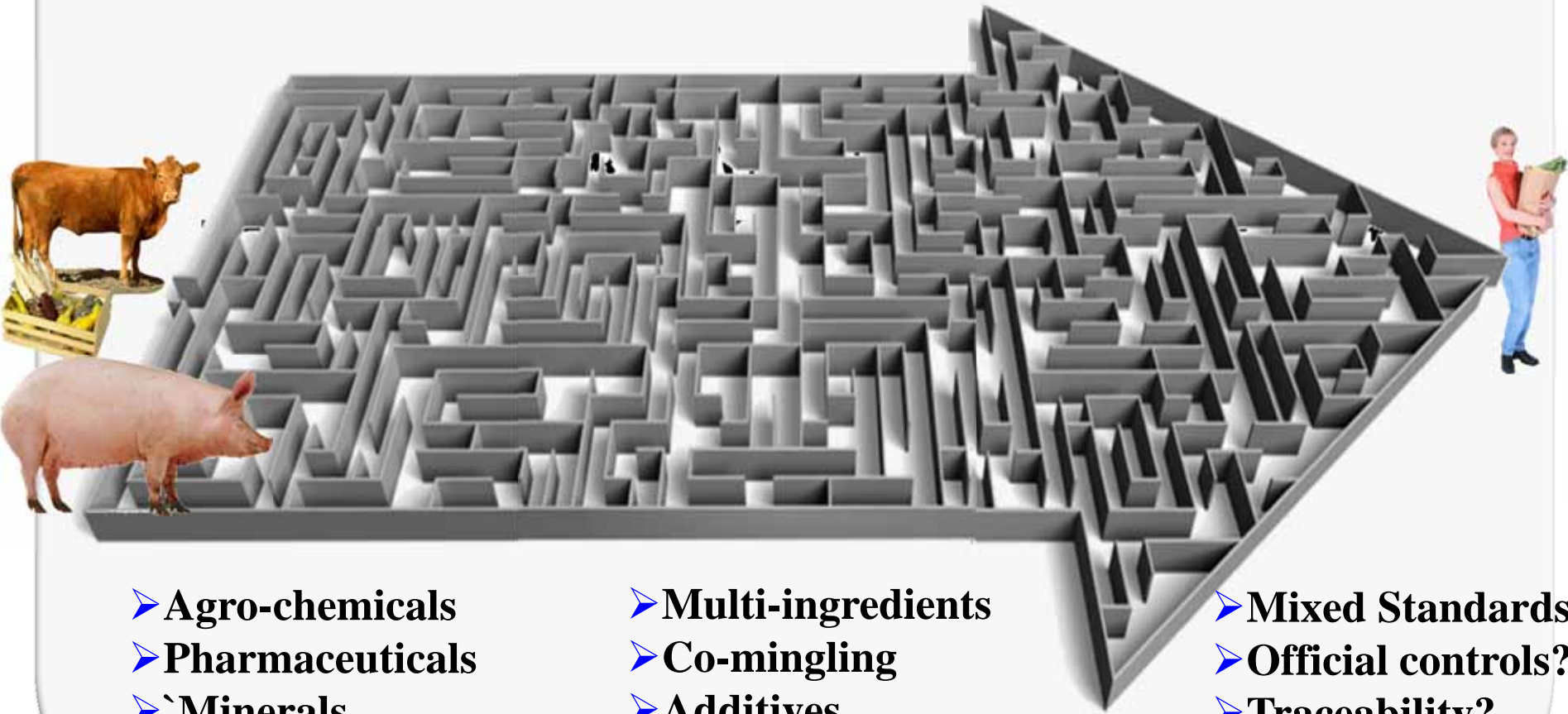


Business \$\$



Food Safety

The Food Chain



- Agro-chemicals
- Pharmaceuticals
- Minerals
- Vitamins
- **Animal Feed**

- Multi-ingredients
- Co-mingling
- Additives
- Flavourings
- Spices/herbs
- Global sourcing

- Mixed Standards
- Official controls?
- Traceability?
- Global threats

Industrialisation of the Food Industry

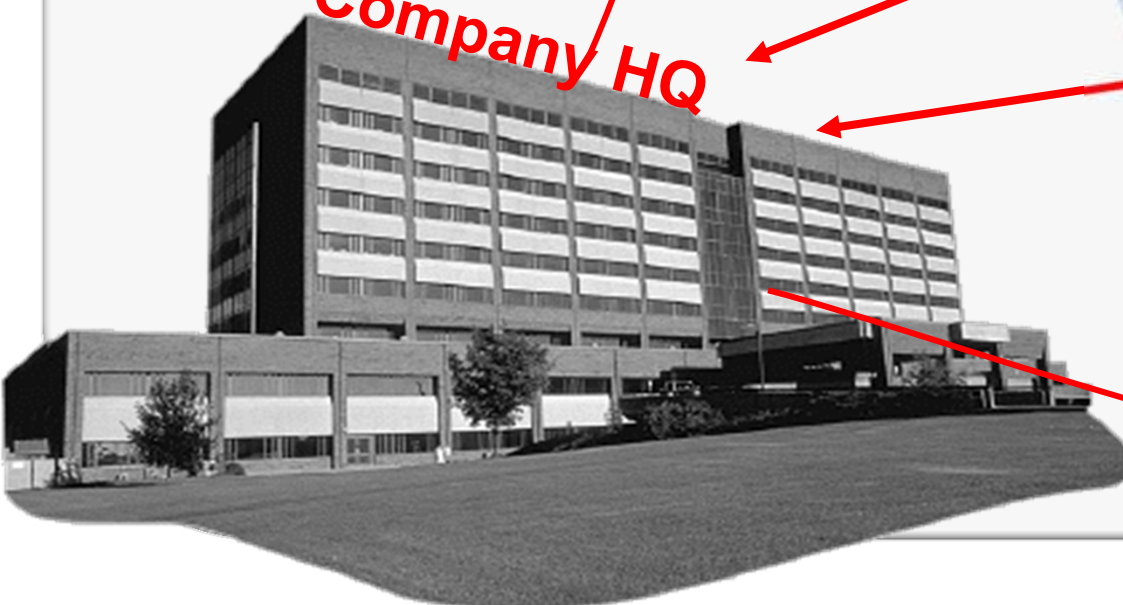
JIT
“Just in Time”
Delivery

Time is money!

“Ready to Eat”
Products

“Animal Feed”

Company HQ



Definitive typing of microbes

**Farmers/
Millers**



Patient



Processors



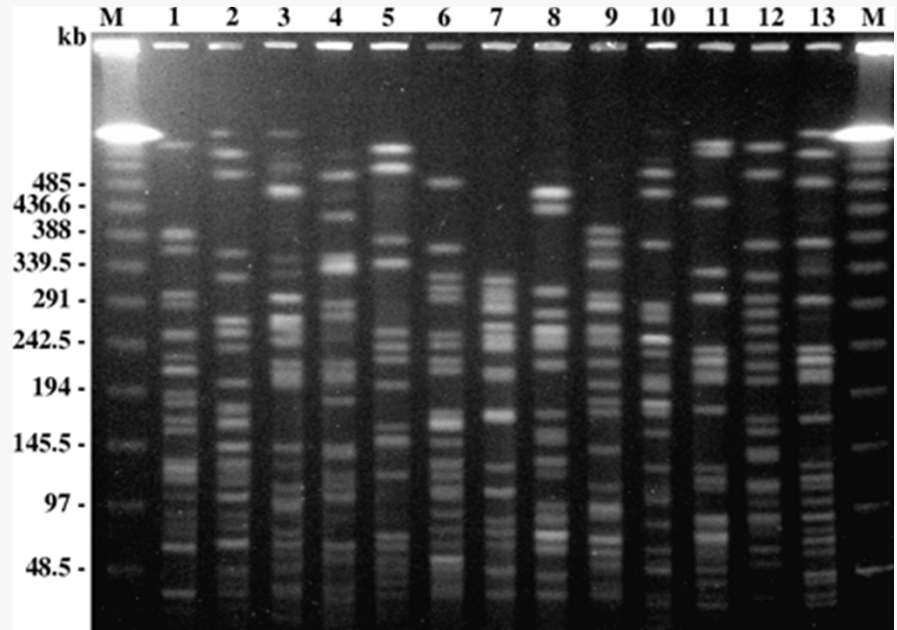
Food



**Retail/Catering
outlet**



You will not get away with producing contaminated product



**You can run but you can't hide
from the disease detectives of the CDC**



FREE PINT
FOR EVERY READER

Just present this
coupon in pubs Page 37

PLUS FREE

Paddy Power

£5 BET

FOR EVERY

READER

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LONDON, FRIDAY 23.06.06

www.thisislondon.co.uk

Incorporating THE EVENING NEWS 40p

CADBURY BARS POISON SCARE

Salmonella fear: million snacks taken off shelves

JONATHAN FRYNN
Consumer Affairs Editor

A MILLION Cadbury's chocolate bars were taken off the shelves today after the firm warned they may be infected with salmonella.

Seven products, including parts of the Dairy Milk range, have been withdrawn from sale.

The affected products are the Dairy Milk Tinkles, Dairy Milk Curious and Dairy Milk Melt bars, the Dairy Milk Easter Chick, the Big Dairy Milk bar, the Big Dairy Milk Buttons Easter Egg, and the Big Tinkles bar.

The company said it had agreed to recall the products, which are among the most popular, after consulting the Food Standards Agency.

A spokesman for the consultancy giant said: "This being done purely as a precautionary measure, as one of these products may contain minute traces of salmonella."

Consumer knowledge already has been unwell, with a recall of these products. Cadbury is taking steps to ensure these particular products are no longer sold.

A contamination was detected at Cadbury's Mail, a plant, near Lutterworth in Leicestershire, which makes 200,000 tonnes of chocolate every year, last year caused by a leaking pipe, the spokesman said. It has now been fixed.

He said the firm, which has been successful in producing for more than 150 years, expects to have links back on the market in the near future, as it has wanted to have direct contact with Cadbury's 100,000 staff to arrange a refund. It will also be found in poultry eggs and imported, as well as in food and untreated water. It can be carried by bats.



Unveiled: this is the new Javelin train. It will travel from King's Cross to Ashford in just 36 minutes when it arrives in three years



On its way, the 140mph bullet train

LONDON'S new 140mph bullet trains are unveiled today.

The sleek, Japanese-built models cost £100million and will run between Ashford and King's Cross in 36 minutes, slashing 40 minutes off the current journey time.

A fleet of 28 six-carriage Javelins will come into operation in three years. They each have 334 seats but no first class accommodation and no tables. As well as carrying

DICK MURRAY
Transport Editor

Fast commuters, the Javelins will ferry thousands of spectators and fans the 2012 Olympics.

The province of support trains was seen as key to landing the London bid. But customer groups warned the cost of £100 million could rise by as much as 70 per cent by

Continued on Pa

Communication” is now global & rapid

24 hours per day 7 days/ week 365 days per year



Brands Take Years To Build...



About 12 Hours to damage - WORLDWIDE

New Rapid diagnostic method

**Spanish cucumbers
are absolutely Safe!**

Spanish farmers loosing 200million Euro/week

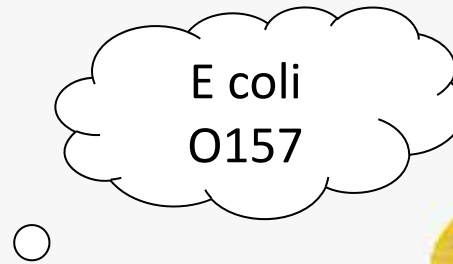


Six Factors contributing to Outbreaks

1. Contaminated raw ingredients/ water
2. Inadequate storage/ refrigeration
3. Insufficient cooking
4. Cross contamination of products to
5. Poor hygiene facilities for staff
6. Poorly supervised or trained staff

**Outbreaks are not bad luck
They are bad management**

Zoonotic agents not necessarily from meat



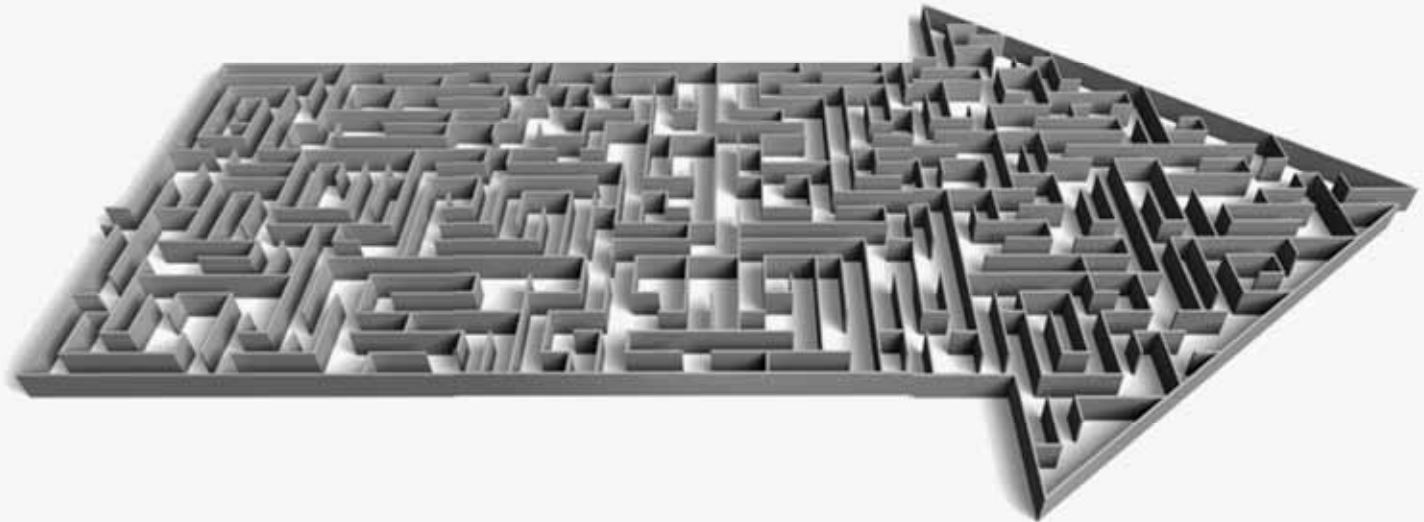
Climate Change:-contaminated water

Conventional Microbiology:- too slow



Microbiological testing will not ensure food safety!

Robust Food Safety | Management Systems are required



The 10 commandments

Food Safety Management System

10 Ps

1 - Premises



Food grade
Vermin proof
Zoned
Drainage
Water supply
Waste
Facilities

Looks Great... is it SAFE?

2 – Plant & Equipment



- Bio-film
- Cleaning Regimens
- Maintenance

A lot of Places for Bugs to Hide...

3 - Procurement

“Explain to our viewers why you sold contaminated product?”

**It wasn't us!
It was one of our suppliers!**



Plc Chairman

Your brand is as secure as the standards of your weakest supplier

4 - Product

Risk profile of raw ingredients



Risk profile of finished product



5 - Process



Goods in
Refrigeration
Preparation
Cooking
Packing/
Serving
Zoning?

Infrastructure

Process control ?

6 - Protocols



Pre-requisites

Standard Operating Procedures

HACCP

Validation

Tests on product

Verification of compliance

Traceability

Recall procedures

Crisis management

7- Practices



Culture???

8 - People



Asset or Liability ?
Multi-disciplinary teams

9- Profit

- **Cost of Waste**
- **Cost of re-work**
- **Customer dissatisfaction**

- **Cost of recalls**

- **Litigation**
- **Fines**
- **Reputational and brand damage**



10 - Paranoia



**Analytical chemists
Forensic Microbiologists**

Quality Improvement



High Standards



Knowledge

Compliance

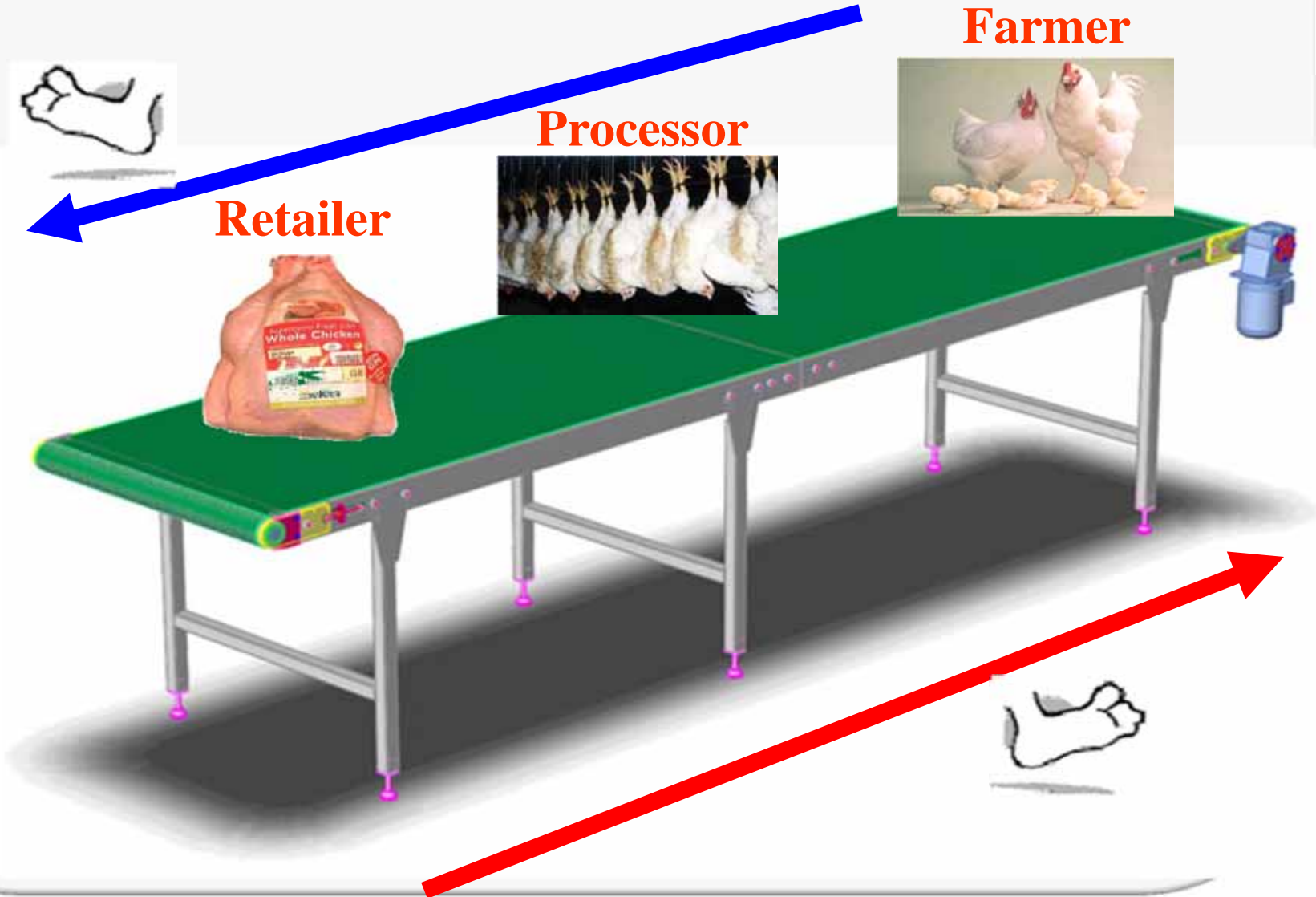
Traceability



- **Traceability is a component of a food safety management system not a guaranteed of safety**
- **Necessary to limit recalls**
- **Without it how can you be assured of the standards of your suppliers**

Traceability in the Food Chain – Reg EC/178/2002

“One Step Forward” – “One Step Backwards”



This Man Delivers...

35 Products

60 Countries

5 Continents

...in **1** Box



In Just One Pizza!

Dough

France
UK
Poland
USA

Sugar

Brazil
Indonesia
Jamaica
UK

Herbs

Greece, Italy
Spain, Kenya, Uganda
Tanzania, Morocco

Yeast

UK
Ireland
Germany

Tomato paste

Italy

Salt

UK
France
China

France
Netherlands

And Then the Toppings...

Cheese from Switzerland, Ireland, France, Italy, Spain, UK, Netherlands; **Onions** from Ireland, Chile, UK; **Peppers** from Brazil, Ireland, UK, Netherlands, Germany; **Chilli Peppers** from Africa, Asia, South America; **Anchovies** from Peru, Argentina, Italy, Falkland Islands; **Spain**; **Iceland Denmark**; **Pepperoni** from Poland, Italy Ireland, UK Denmark, USA; **Vegetables** such as garlic, mushrooms, sweet pepper, onions, olives, from a host of Mediterranean countries; **Olive oil** from Italy, Greece, Spain,

Country of Origin: Ireland

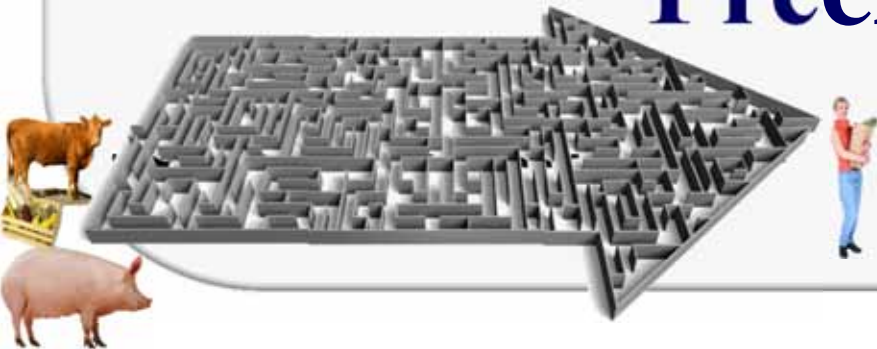


Traceability

Achievable?

Speed?

Precision?



A Needle In Haystack?



Recall all the bales

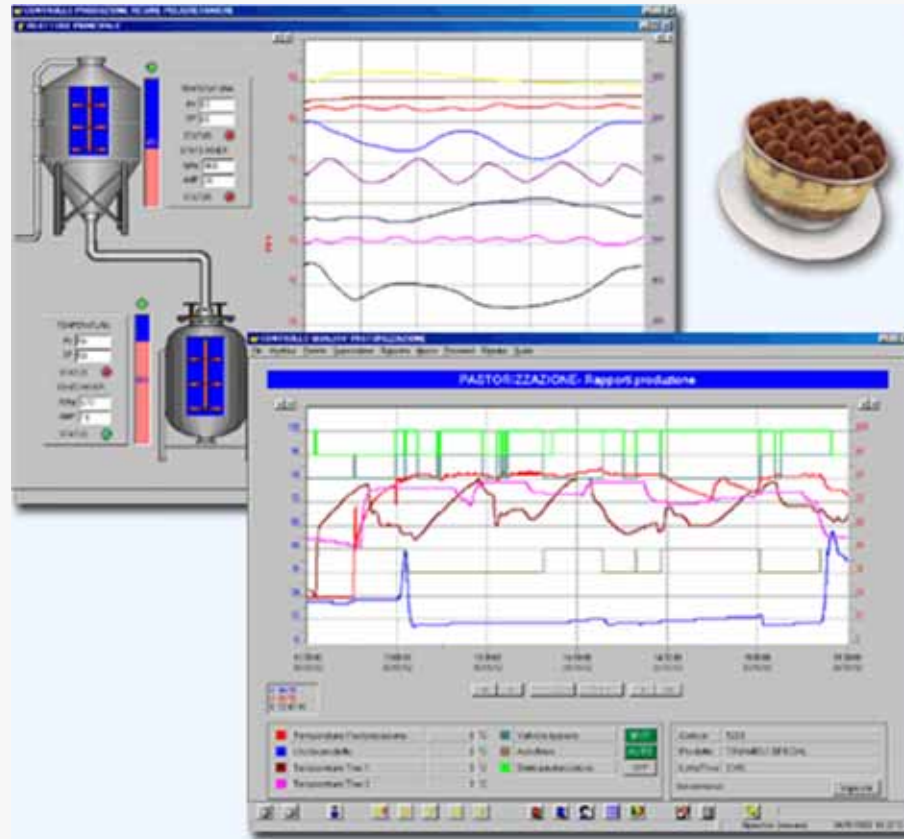
The emphasis has to be on prevention

Role of Measurement?

- 1. Establish priorities**
- 2. Monitor trends**
- 3. Detect non compliances**
- 4. Evaluate interventions**



Process Monitoring



Quality Control: laboratory testing

- **Validation**
- **Tests on product**
- **Verification of compliance**



Rapid Testing Methods V Conventional Microbiology

- **Indicator organisms V Pathogens**
- **High risk area V low risk areas**
- **Environmental monitoring**
 - Non food contact surfaces**
 - Food contact**
 - Raw product**
 - Finished product**

Which indicators?

➤ **Aerobic Plate Count**

➤ **Coliforms**

➤ **E coli**

➤ **Enterococcus**

➤ **Yeast and Molds**

Relationship between presence of indicators and presence of pathogens??

Low level intermittent contamination challenging

No absolute guarantee of absence

One tool in the armoury of the Food Safety professionals

The 10 ‘P’s’

How MOCON can help with at least 5 of them

- Plant and Equipment
 - Test for bacteria across large and small plants with GreenLight™
- Product
 - Test all kinds of food products with one instrument, GreenLight™
- Process
 - Test PRODUCTS and SANITARY swabs to pinpoint the weak points of your process
- Protocols
 - run the same protocols, quicker and with less consumables
- Profit
 - GreenLight is more cost-effective than plates or films

GreenLight™ - makes plates and film obsolete!

➤ Model 910

- Fast time-to-result
 - 10x faster than film
- Compact



➤ Model 930

- High throughput
 - Up to 432 concurrent test
 - Fast time-to-result



GreenLight™ Food Safety Video



www.mocon.com/foodsafety.php

Thank You!

Questions??

If you need a pdf copy of today's webinar visit our website at www.mocon.com & view our new On Demand Webinars page.

Additional questions?

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