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ASEAN in the Future Global Organic Trade

July 24, 2015 | Bangkok, Thailand | André Leu, President

IFOAM – Organics International

The only global umbrella body for the organic sector.

People

800 member organizations in over 125 countries worldwide.

2 million certified organic farmers and substantially more uncertified organic farmers.

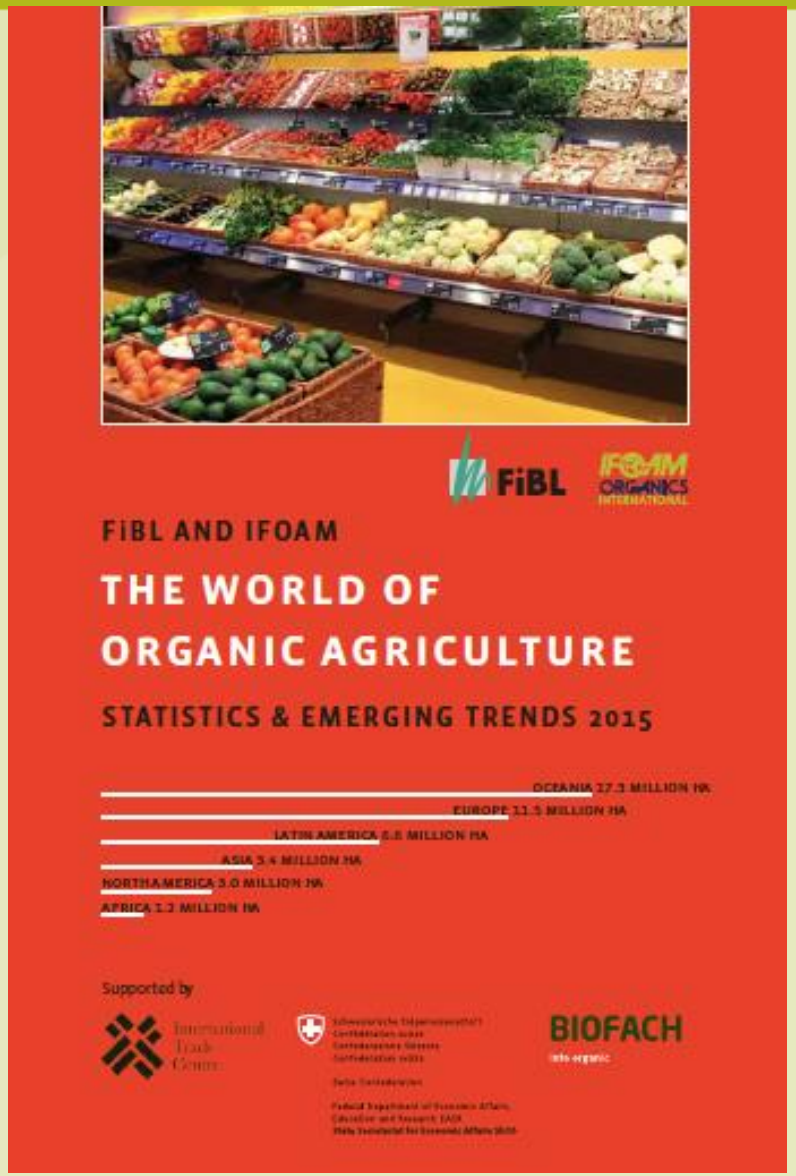
The Rapid Growth of Organic Sales

The organic sector is the fastest growing area in multi- product food trade, with sustained rates of growth of around the world.

Despite the global slowdown the trade in organic products continues to grow.

Growth can be attributed to both *Grower Push* and *Market Pull*

FiBL and IFOAM collect and publish data annually



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The Rapid Growth of Organic Sales

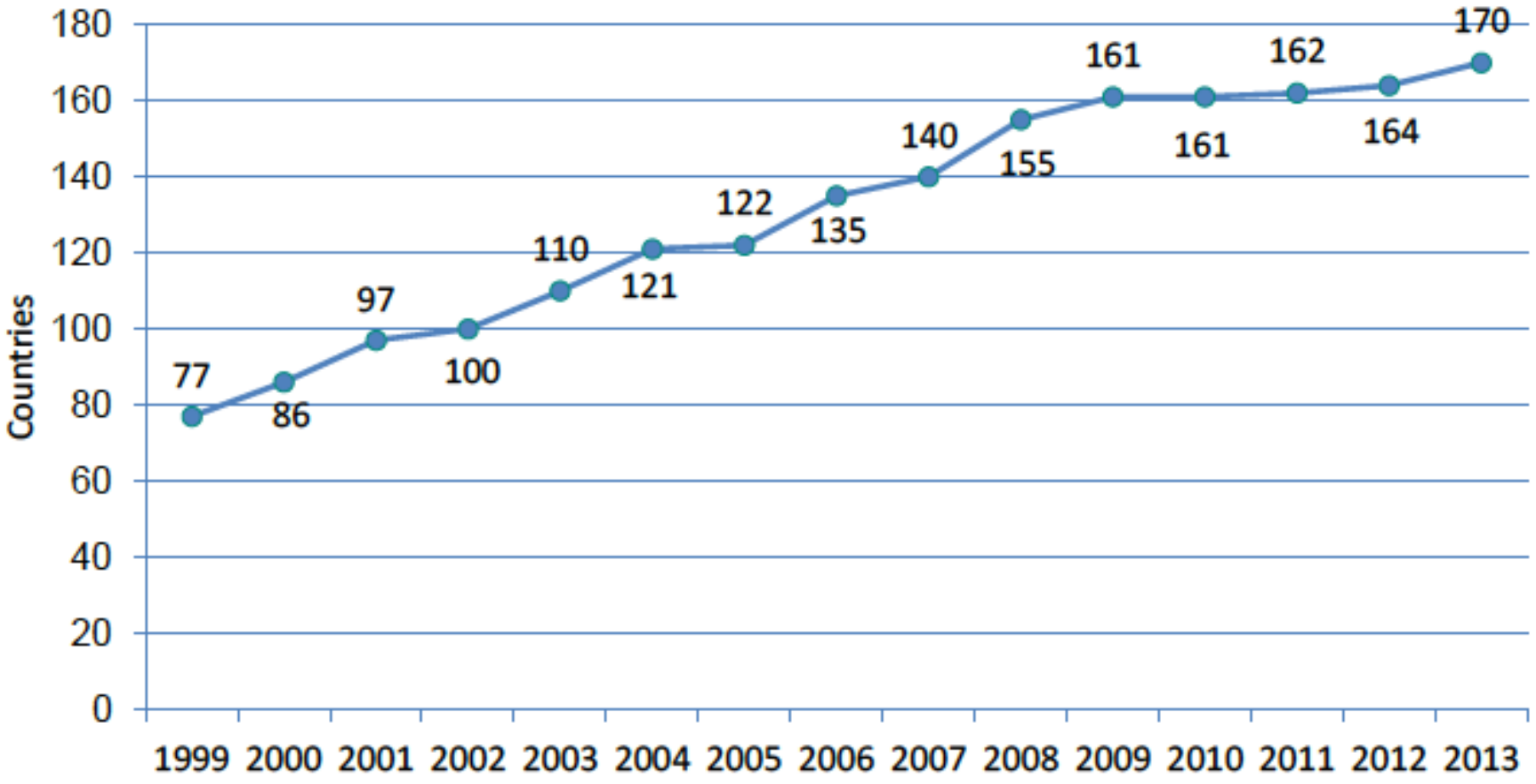
The certified organic sector was worth over:

- US $72 billion globally in 2013
- US $59.1 billion in 2010.
- US $54.9 billion in 2009
- US $33.2 billion in 2005
- US $15.2 billion in 1999
- Shows a consistent trend of a high rate of growth
- High value premium export markets

The Worlds Fastest Growing Multi – Product Ag Based Sector

Development of the number of countries with data on organic agriculture

Source: FiBL-IFOAM-SOEL surveys 1999-2015



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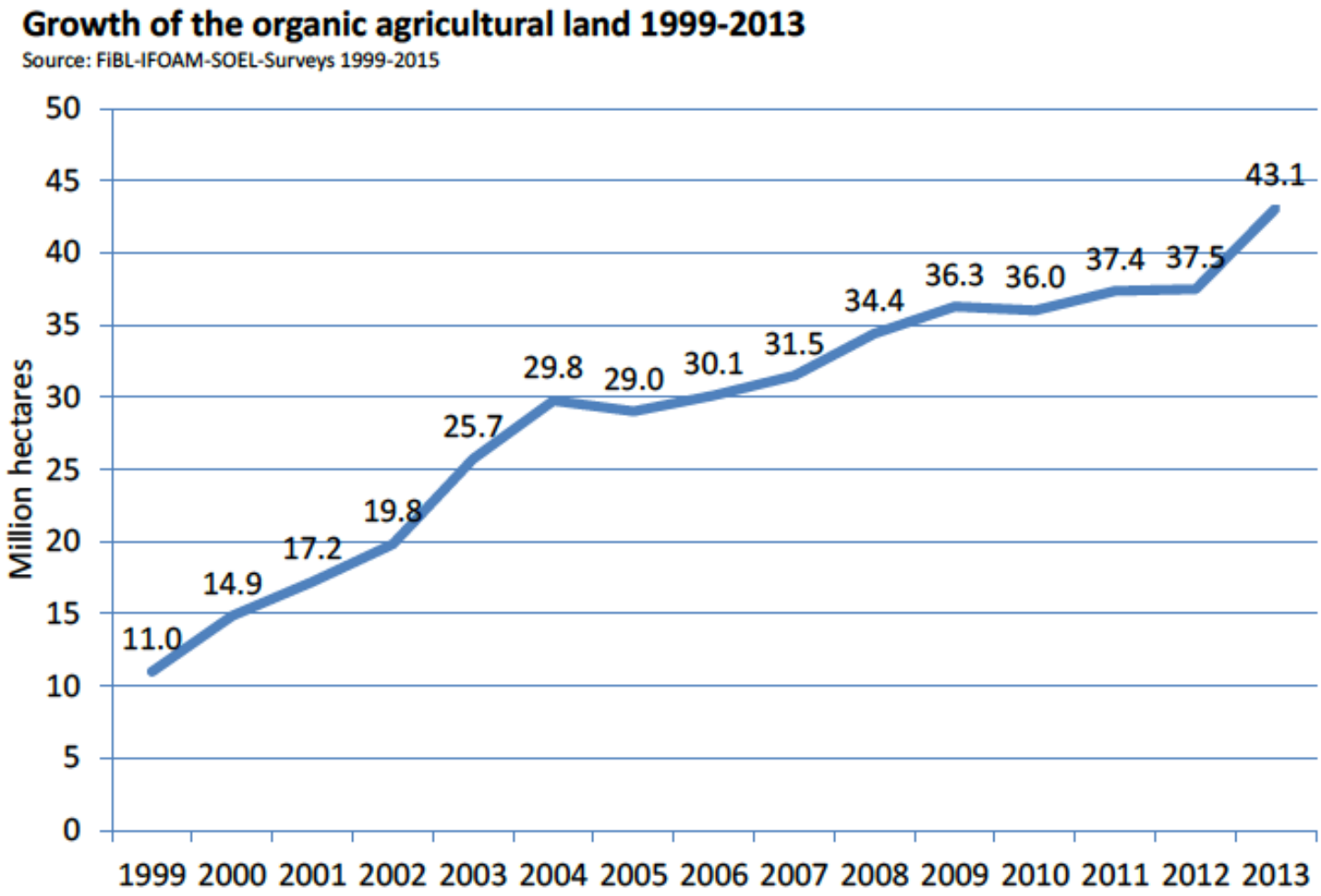

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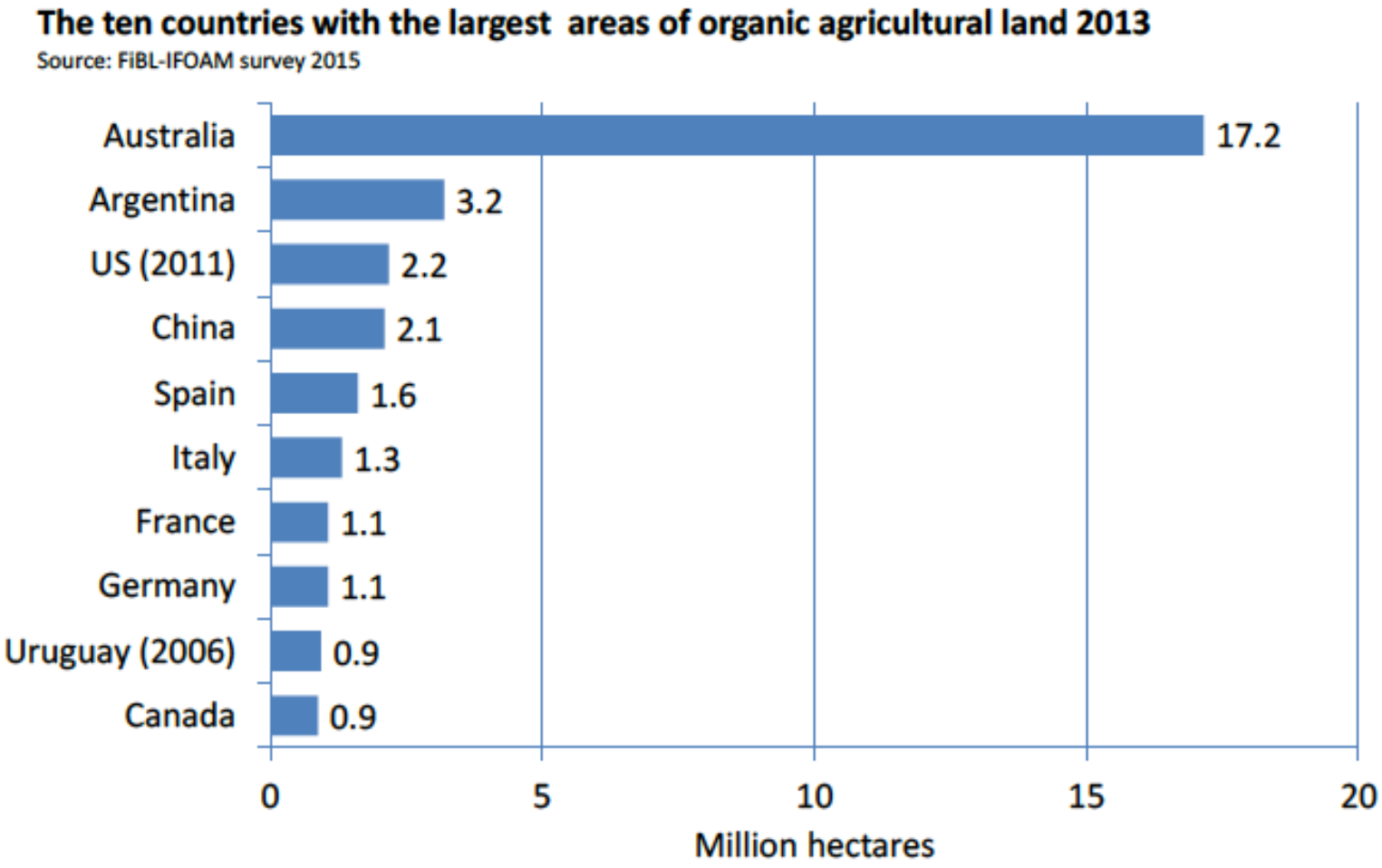

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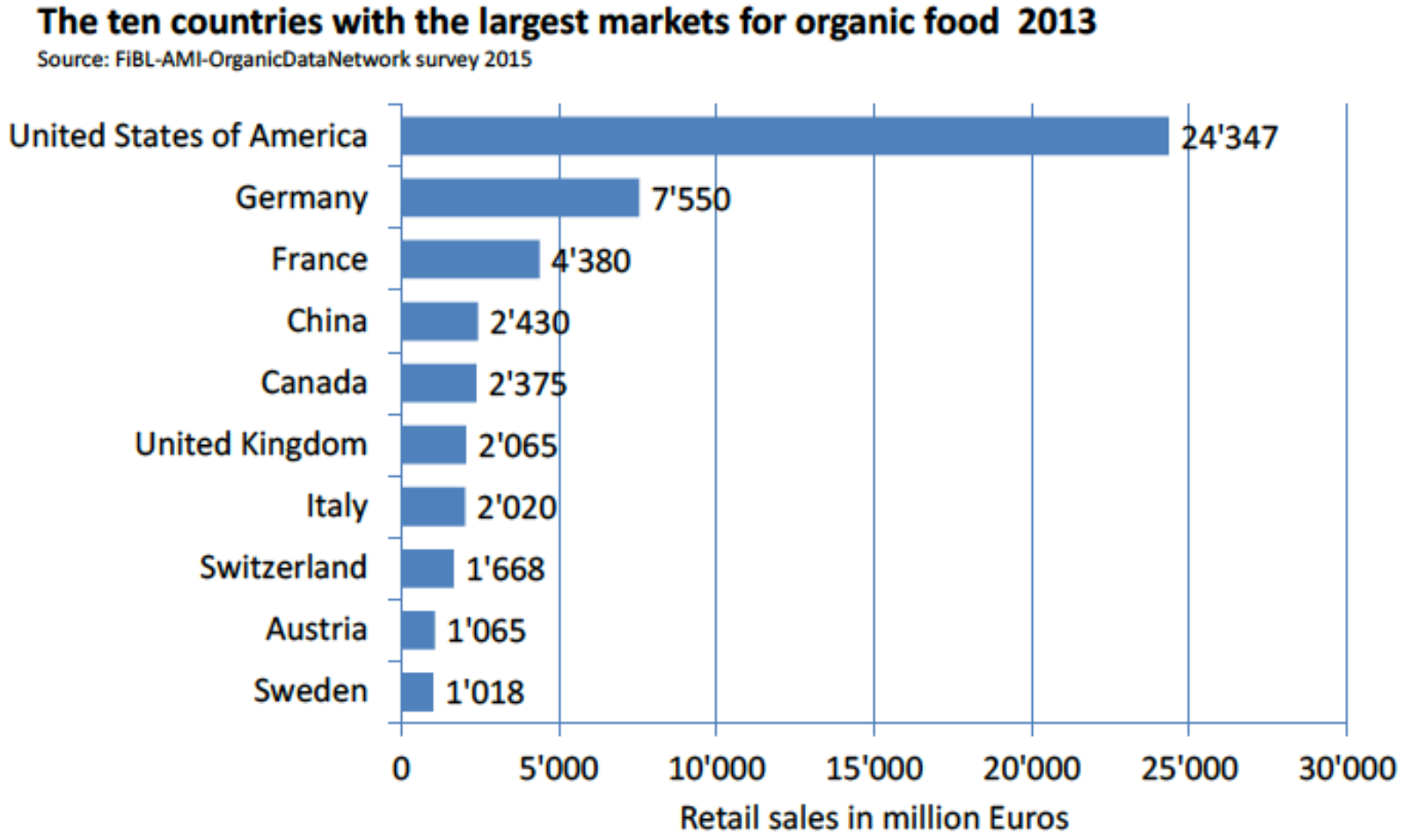
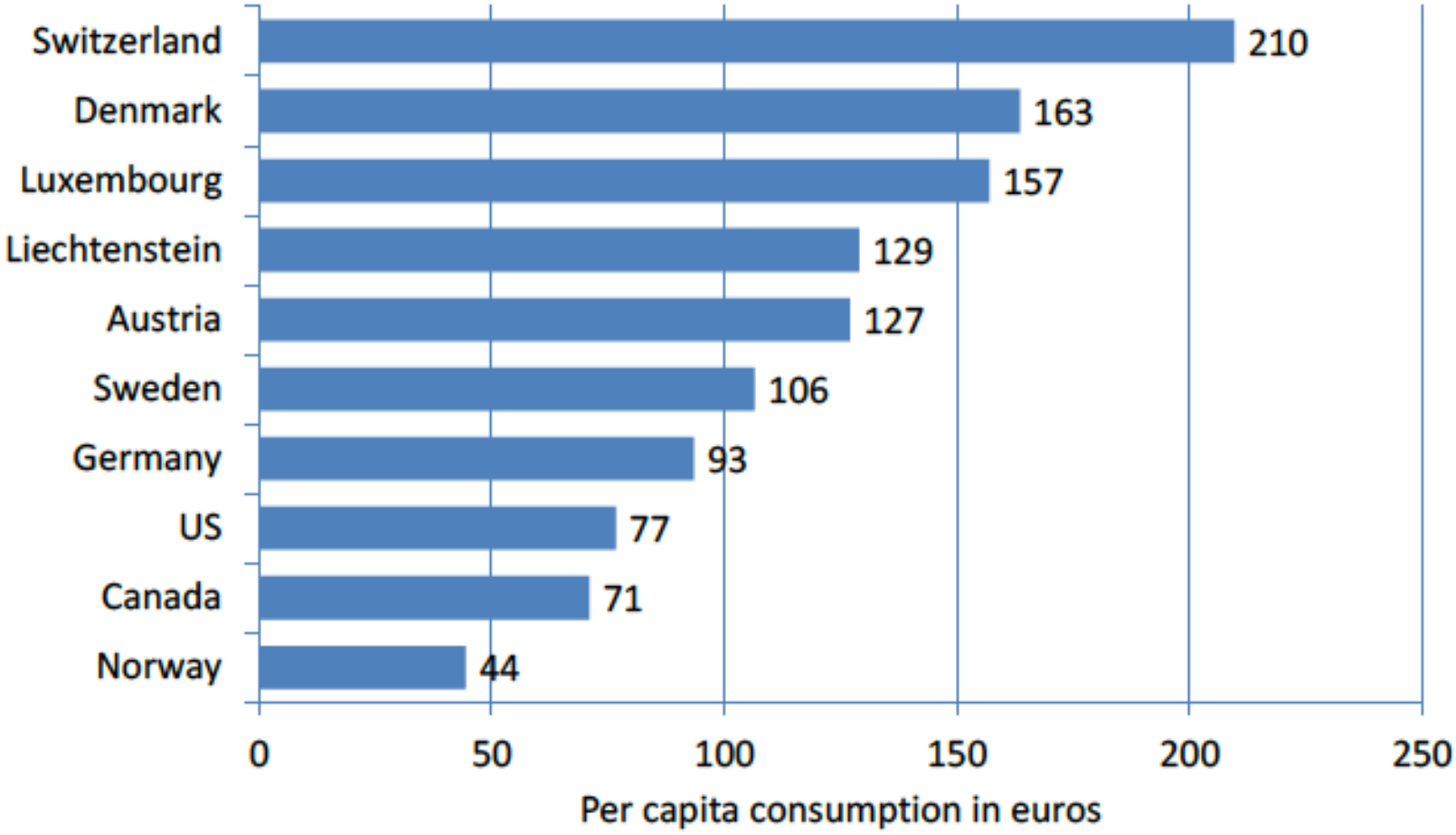


The Worlds Fastest Growing Multi – Product Ag Based Sector

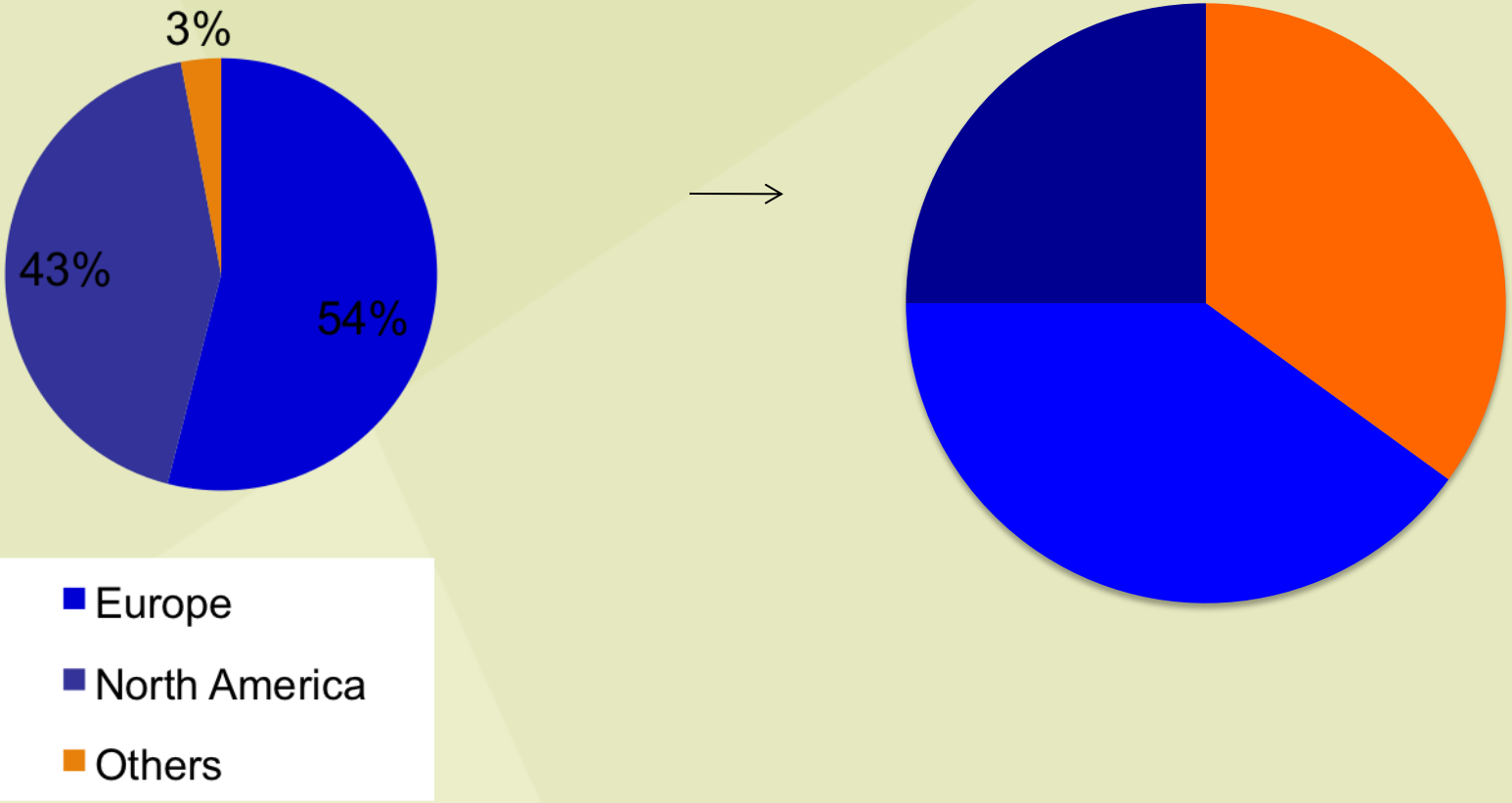
The ten countries with the highest per capita consumption 2013

Source: FiBL-AMI-OrganicDataNetwork survey 2015



Anticipating the Future

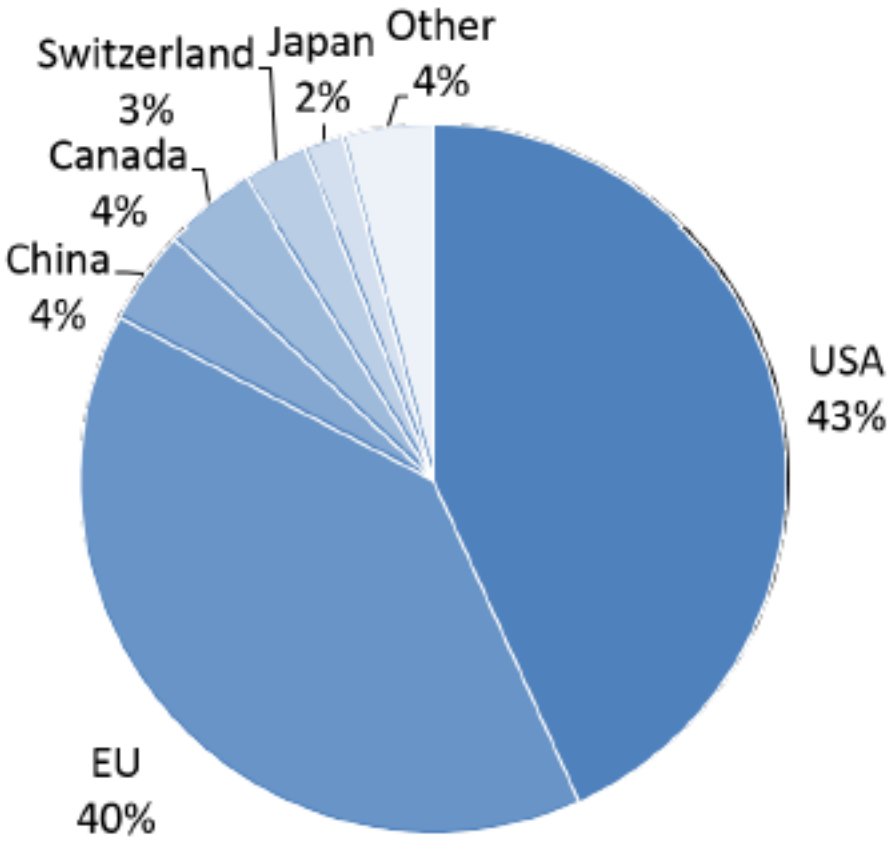
The Trend from 2010 shows the rest of the world is increasing



The Worlds Fastest Growing Multi – Product Ag Based Sector

Global market: Distribution of retail sales value by single markets 2013

Source: FiBL-AMI-OrganicDataNetwork survey 2015, based on retail sales with organic food



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ASEAN – How to Engage

The ASEAN Economic Community - many opportunities:

- Implement the ASEAN Organic Standard and regulation
- ASEAN Secretariat negotiate equivalence with Major Markets – EU, USA, Canada, China, Japan and Korea
- Bring ASEAN Organic Products to major international trade shows –Biofach Nuremberg, Biofach Shanghai, Expo West and others
- Meet buyers to negotiate what they want – don't assume that just because you can grow it that people will buy it
- Work with farmers and agents to develop orderly supply chains

ASEAN Organic Products

Possible Products:

- There is a shortage of organic rice
- Consumers want a range of different rices
- Brown rice for the health conscious
- Long, short grain, Basmati, Jasmine, sticky etc
- Specialty rices – Red and Black Rice
- Organic rice always get a premium on conventional, however this premium has to be negotiated with the market – based on type, quality, quantity and reliability of supply
- Spices, essential oils, tropical fruits, coconut products, sugar, noodles, sauces, palm oil, bamboo products, flowers, aquaculture etc.

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The Drivers of Growth – Grower Push

The Organic Sector is Grower Driven

What are the Major Drivers?

- The number of PGS and 3rd party certified organic farms continue to increase every year
- This is the opposite of the general trend of millions of farmers exiting the industry in most countries in the world.
- Demand outstrips supply in most organic sectors, most of the time – ensures market premiums
- The farming system is more resilient to adverse events such as drought and heavy rain
- The new organic systems are high yielding with lower costs
- Published studies show that organic farmers have better net incomes than conventional or traditional farmers

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Climate Change - Greater Resilience to Adverse Conditions

Organic Higher Yields in Climate Extremes

- Organic systems have higher yields than conventional farming systems in weather extremes such as heavy rains and droughts. (Drinkwater, Wagoner and Sarrantonio 1998; Welsh, 1999; Lotter 2004)
- The Wisconsin Integrated Cropping Systems Trials found that organic yields were higher in drought years and the same as conventional in normal weather years. *(Posner et al. 2008)*
- The Rodale FST showed that the organic systems produced 30 per cent more corn than the conventional system in drought years. *(Pimentel D 2005, La Salle and Hepperly 2008)*

2015 International Year of Soils
Improved Efficiency-Water Use, Erosion

Organic Practices Increase Infiltration and Soil Stability

Organic **Conventional**

Picture: FiBL DOK Trials

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Improved Soil Structure

Soil Organic Matter Multiple Benefits

- Higher water infiltration
- Higher water holding cap
- Higher microbial activity
- Increased stability

- Higher corn and soybean yields in drought years
- Increased soil C and N

Source: Rodale Institute

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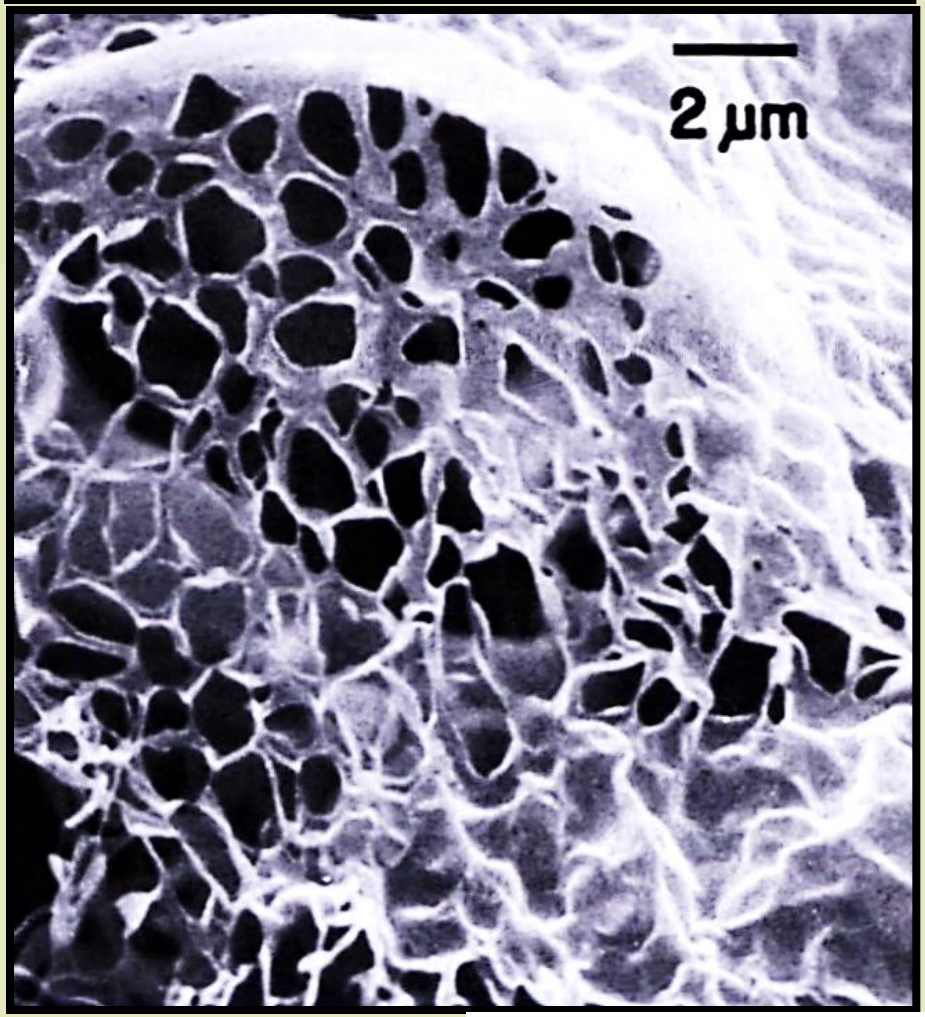
Soil Organic Matter
Living Carbon-Humus

- Holds up to 30X its weight in water
- Cements soil particles and reduces soil erosion
- Increases nutrient storage & availability
- Humus can last 2000 years in the soil

Electron micrograph of soil humus



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The RODALE INSTITUTE

Improved Efficiency of Water Use

Research Shows that Organic Systems use Water More Efficiently

Volume of Water Retained /ha (to 30 cm) in relation to soil organic matter (SOM)

- **0.5% SOM = 80,000 litres (common level Africa, Asia)**
- **1 % SOM = 160,000 litres (common level Africa, Asia)**
- **2 % SOM = 320,000 litres**
- **3 % SOM = 480,000 litres**
- **4 % SOM = 640,000 litres (levels pre farming)**
- **5 % SOM = 800,000 litres (levels pre farming)**

Adapted from Morris, 2004.

Organic Corn - 1995 Drought - Resilience

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High Yield Organic Agriculture in Droughts

The average corn yields during the drought years were from 28% to 34% higher in the two organic systems.

The yields were 6,938 and 7,235 kg per ha in the organic animal and the organic legume systems, respectively, compared with 5,333 kg per ha in the conventional system (Pimentel, 2005)

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The Drivers of Growth

The Organic Sector is Consumer Driven

- Most surveys in the main global markets show that between 60 to 80% of people but some organic products
- Organic is the best known and most credible of all the sustainability brands
- Demand outstrips supplies in most organic sectors, most of the time
- There are no major differences in economic or educational demographics of the organic consumer. The ‘organic’ is only for the rich educated elite is a myth
- The vast majority of new consumers are first time parents
- They want the best for their children

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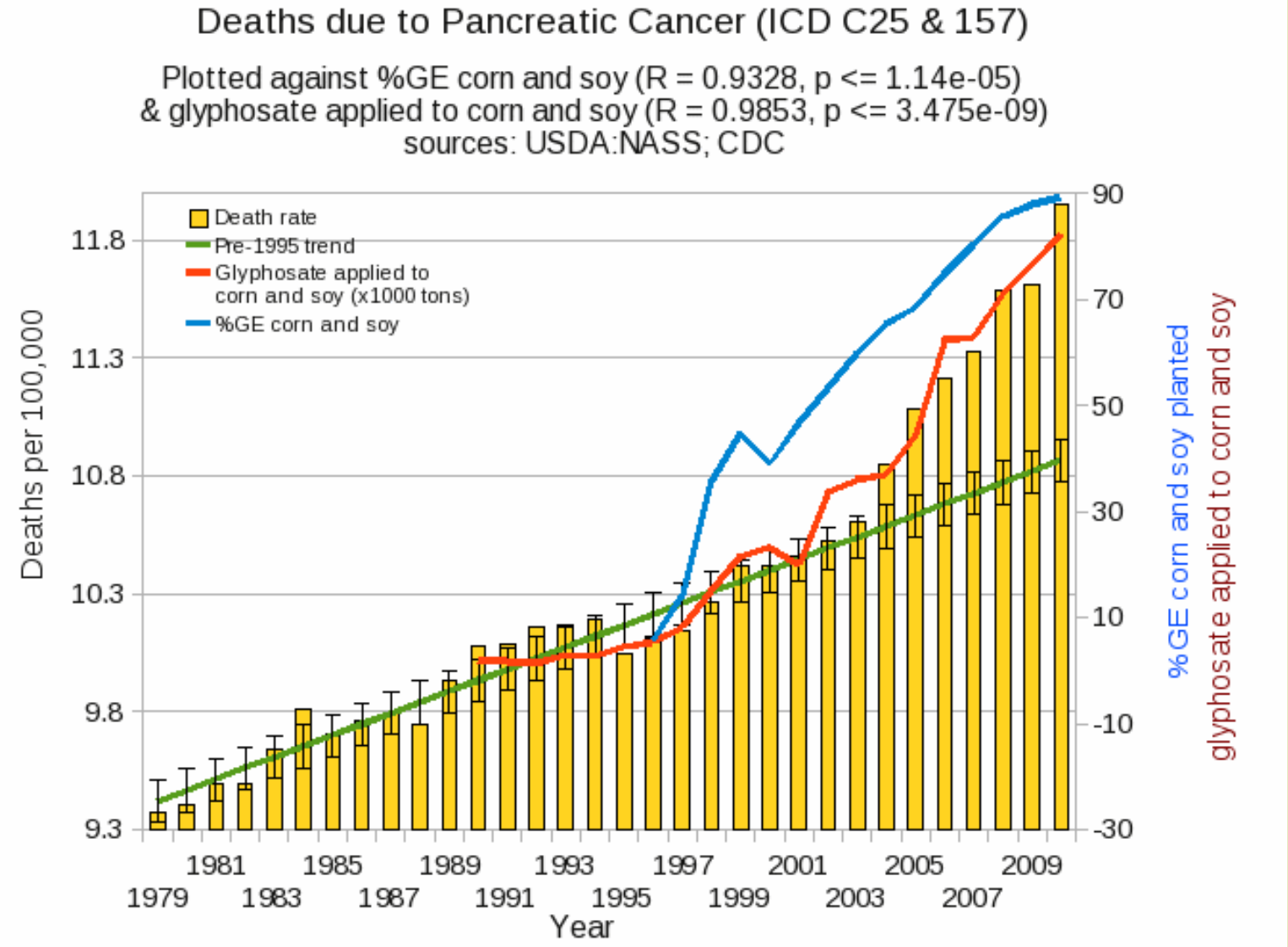
The Drivers of Growth – Consumer Pull

The Organic Sector is Consumer Driven

- All surveys show that ***Health*** is the main driver for purchasing organic food – rather than environment, taste etc.

- Avoiding ***Pesticides*** followed by food additives, synthetic chemicals and GMOs are the main health concerns – rather than nutrition

Are the current pesticide residues in food safe?



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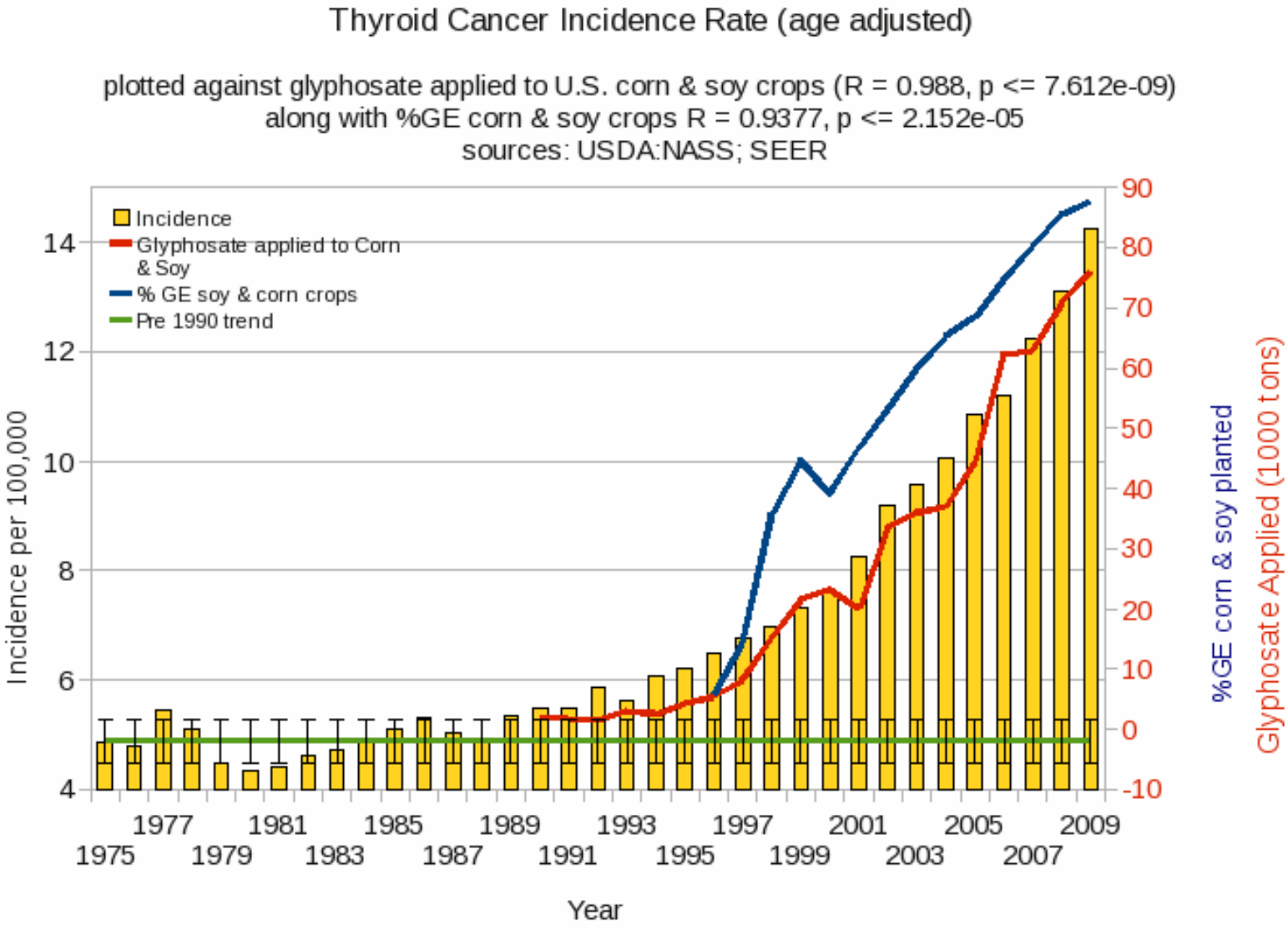

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The Reality

The World Health Organization's International Agency for Research on Cancer (IARC) gave glyphosate (the active ingredient in Roundup) the second highest classification of:

Group 2A: Probably carcinogenic to humans

Group 2A is for substances where there is sufficient evidence of causing cancer in animals and limited studies in humans.

According to IARC, the 2A classification was because: *'strong mechanistic evidence; for malathion and glyphosate, the mechanistic evidence provided independent support of the 2A classification based on evidence of carcinogenicity in humans and experimental animals.'*

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The Myths of Safe Pesticides

The US President's Cancer Panel

80% of cancers caused by environmental factors, especially from pesticides and other chemicals

'Children also can be harmed by genetic or other damage resulting from environmental exposures sustained by the mother (and in some cases, the father).'

'There is a critical lack of knowledge and appreciation of environmental threats to children's health and a severe shortage of researchers and clinicians trained in children's environmental health.'

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The Myths of Safe Pesticides

The Rigorously Tested Myth

Exposure to chemical cocktails

The US President's Cancer Panel (USPCP):

'Some of these chemicals are found in maternal blood, placental tissue, and breast milk samples from pregnant women and mothers who recently gave birth.'

'These findings indicate that chemical contaminants are being passed on to the next generation, both prenatally and during breastfeeding.'

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The Myths of Safe Pesticides

The Rigorously Tested Myth

Exposure to chemical cocktails

'…Leukemia rates are consistently elevated among children who grow up on farms, among children whose parents used pesticides in the home or garden, and among children of pesticide applicators.'

'Yet over the same period (1975–2006), cancer incidence in U.S. children under 20 years of age has increased.'

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The Myths of Safe Pesticides

Children, newborn and the fetus

There is no specific testing for children

Pesticide damage in developing children causes:

- Lower IQs
- ADHD
- Autism spectrum disorders
- Lack of physical coordination
- Loss of temper – anger management issues
- Bipolar/schizophrenia spectrum of illnesses
- Depression
- Childhood obesity

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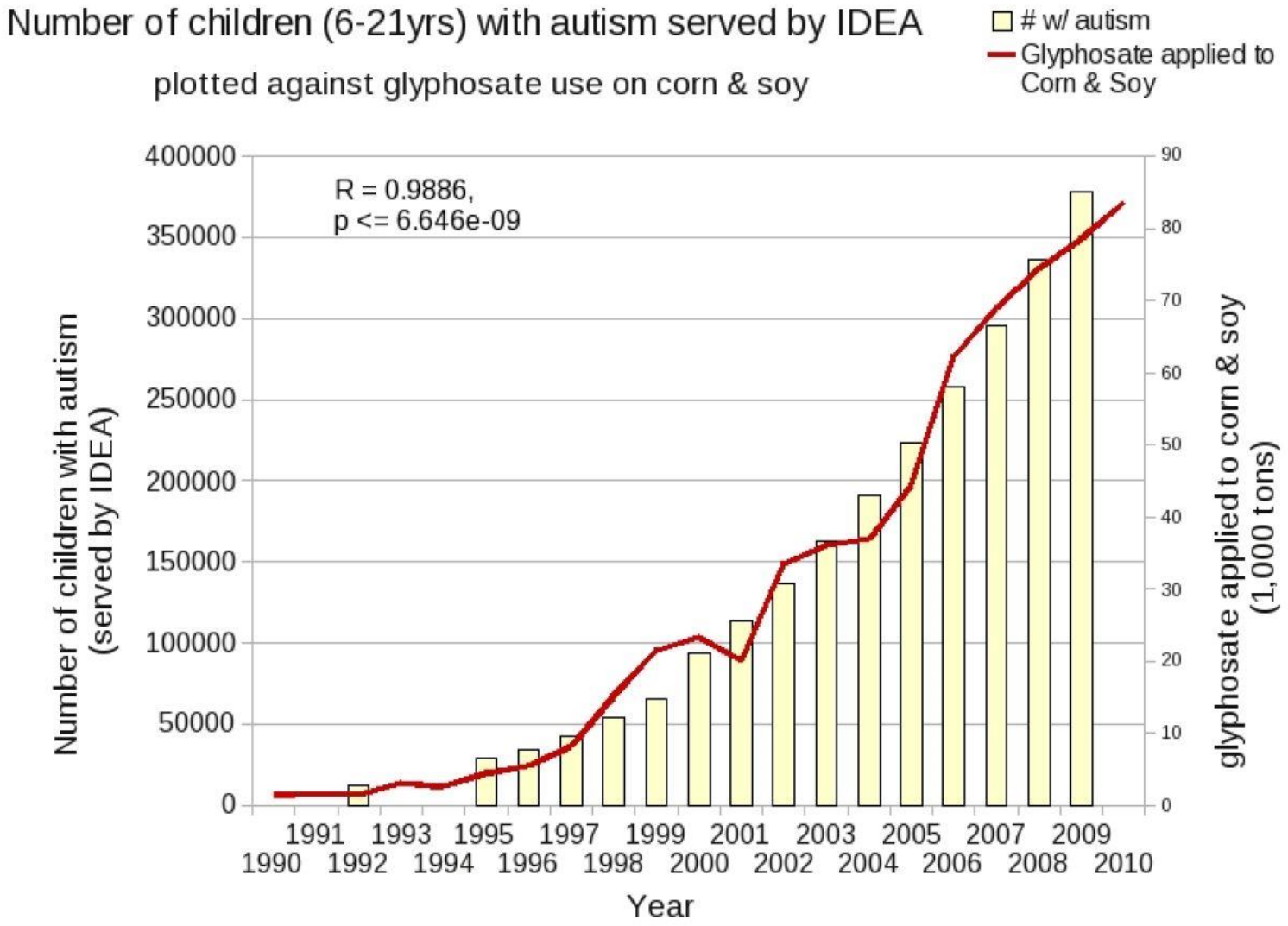
The Myths of Safe Pesticides



The Myths of Safe Pesticides

The Rigorously Tested Myth

Exposure to chemical cocktails

- In experiments conducted by Warren Porter et al. at the University of Wisconsin-Madison, mice were given drinking water with combinations of pesticide, herbicide and nitrate, at concentrations currently found in groundwater in the USA

- They exhibited altered immune, endocrine and nervous system functions (Porter 1999).

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The Myths of Safe Pesticides

The Rigorously Tested Myth

Exposure to chemical cocktails

- Porter showed that pesticide, herbicide and fertilizer mixtures effected the endocrine (hormone) system
- Causes changes in the immune system and affects fetal brain development

The Myths of Safe Pesticides

The Rigorously Tested Myth

Exposure to chemical cocktails

- Of particular concern was thyroid disruption in animals
- This has multiple consequences including effects on brain development, sensitivity to stimuli, ability or motivation to learn and an altered immune function

The Myths of Safe Pesticides

The Rigorously Tested Myth

Children, newborn and the fetus

•Scientific research shows that pesticides effect the normal development of the nervous system in the fetus and children

•The brain is the largest collection of nerve cells

'These results indicate that chlorpyrifos and other organophosphates such as diazinon have immediate, direct effects on neural cell replication.' (Qiao 2001)

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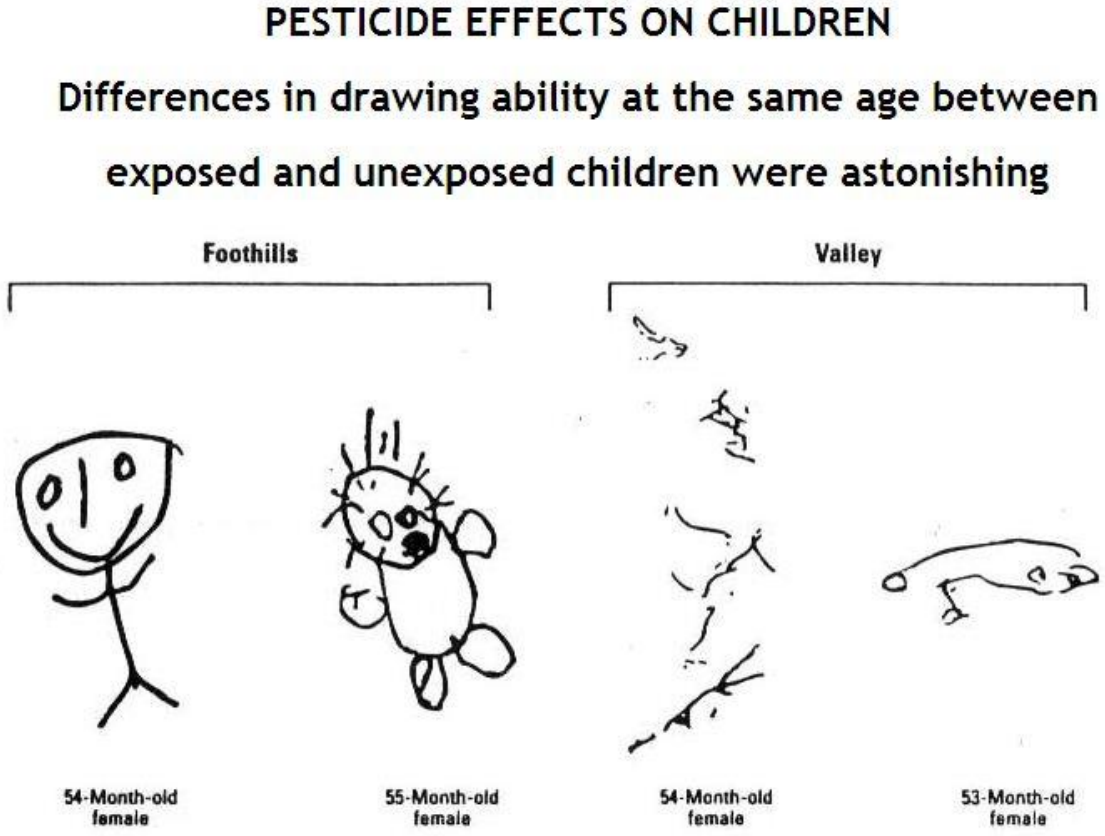
The Myths of Safe Pesticides

The Rigorously Tested Myth

Children, newborn and the fetus

‘In light of the protective effect of serum proteins, the fact that the fetus and newborn possess lower concentrations of these proteins suggests that greater neurotoxic effects may occur at blood levels of chlorpyrifos that are nontoxic to adult.’ (Qiao 2001)

The Myths of Safe Pesticides



1. Representative drawings of a person by 4-year-old Yaqui children from the valley and foothills of Sonora, Mexico.

E. A. Guillette et al, "An Anthropological Approach to the Evaluation of Preschool Children Exposed to Pesticides in Mexico," Environmental Health Perspectives, 106(6):347-53, June 1998.

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The Myths of Safe Pesticides

The Rigorously Tested Myth

Children, newborn and the fetus

- Four recent studies show that prenatal exposure to organophosphate insecticides (OPs) adversely affects the neurological development of children.

  (Rauh et al., 2011, Rauh et al., 2012, Bouchard et al., 2011, Engel et al., 2011)

- Each study was conducted independently; however they all came up with very similar results.
- This was that fetal exposure to small amounts of OPs will reduce the IQ of children.

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The Myths of Safe Pesticides

The Rigorously Tested Myth

Children, newborn and the fetus

- Parents should have considerable concern that the Columbia University study found that there was no evidence of a minimum level of exposure in the observed adverse impact on intelligence.
- This means that very low levels of exposure could lead to reductions in a child's intelligence
- ***Most people get their exposure from residues in food***

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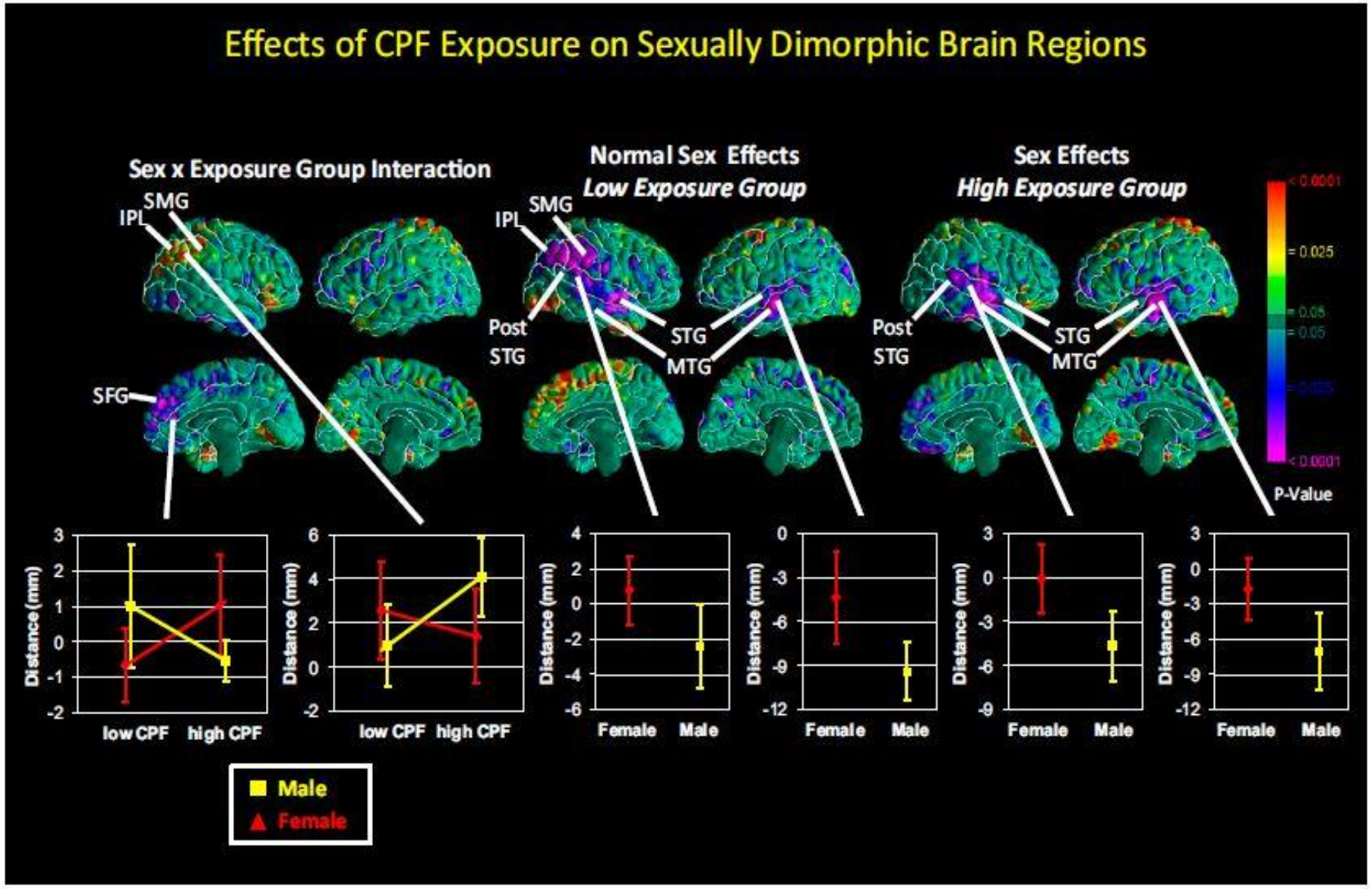
The Myths of Safe Pesticides

The Rigorously Tested Myth
Children, newborn and the fetus

- The scientific study published in the peer reviewed journal Proceedings of the National Academy of Sciences of the United States of America in March 2012 has confirmed the finding of previous studies. (Rauh et al., 2012)

- Shows a large range of brain abnormalities in children who were exposed to chlorpyrifos in utero through normal non occupational uses.

The Myths of Safe Pesticides



Thank You

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