SOFT DRINKS HARD TRUTHS -II

Centre for Science and Environment

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Quick recap: Events 2003-2006

- **August 5 2003: CSE releases study on pesticide residues in soft drinks.**
- **August 5 2003: PepsiCo and Coca-Cola do joint press conference. They question CSE lab; dismiss our findings say that there are no pesticides in their drinks. They test regularly. They put out adverts saying they are clean.**
- **August 2003: Joint Parliamentary Committee constituted to investigate the CSE findings and to examine safety standards for beverages.**

JPC and what?

- **February 2004: JPC report tabled in Parliament. It concludes: "The committee recommends that standards for carbonated beverages, which are best suited for Indian conditions need to be fixed in the overall perspective of public health. The reason that other countries have not fixed such limits should not dissuade our law makers in attempting to do so, particularly when a vulnerable section of our population who are young and constitute a vast national asset are consuming soft drinks. *In Committee's view therefore, it is prudent to seek complete freedom from pesticide residues in sweetened aerated waters. 'Unsafe even if trace' should be the eventual goal."***

- **Two processes underway: Bureau of Indian Standards begins revising its standards. The Ministry of Health endorses JPC report. Says it will finalise standards for soft drinks……**

- **Then what?**

What has happened since?

Bureau of Indian Standards (BIS):

Its sectional committee comprises of all relevant parties – top government scientists (NIN, CIFTI, NIOH), government officials (ministry of food processing, ministry of health), Companies (Coca-Cola, PepsiCo – through CIFTI, CII etc) consumer and environmental groups.

Committee meets 20 times in past 3 years.

All issues related to standards discussed.

What it discussed?

- **Caffeine: data on global standards and best practice. Agreed to set standards for cola-drinks only at 145 ppm (200 for all currently). Revised labelling regulations.**

- **pH: data on global practice + data on pH of Indian drinks put before committee. Health ministry wrote saying below 2.5 not acceptable. Committee decided to adopt.**

BIS: pesticide bugbear

Companies say:

- **A. Cannot measure pesticides – not true found the committee.**
- **B. Cannot test complex matrix – product only water and sugar. Governments test in rest of world. Companies test. Say they are safe.**
- **C. Cannot set final product standard – governments have set pesticide residue standards for final product in other products. Consumers need final standards. Input standards cannot be regulated.**

Gurinderpal Singh -Senior Chemist, Kandhari Beverages Limited with his wife Navjot Kaur and nephew Balwinderjeet

"We make soft drinks for millions of people across the globe that include our own family and friends. Would we have offered our products to our loved ones unless we were sure that they are safe for consumption?

As a matter of fact, at every step in the manufacturing process, our products go through a series of stringent tests. All these tests are carried out by a team of highly trained analysts. That apart, we encourage independent tests by accredited international labs. The most recent ones conducted were by the highly reputed TNO of The Netherlands and Britain's prestigious Central Science Lab. Interestingly, the latter was an *Outlook* magazine initiative. And, like all other accredited tests showed, these also proved that our products are safe for consumption. Little wonder, we can offer you our soft drinks without hesitation or fear.

In sum, we take extreme precautions to ensure that only the best is enjoyed by our families. And you."

Quality... Trust... That's Our Promise

Coca-Cola · Thums Up · Sprite · Limca · Gold Spot

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Cannot. Need more data on sugar

- **Cannot set standard because sugar has pesticides. Till sugar is tested across the country and standards revised – Data of over 150 samples checked. Companies supplied info. Pesticides negligible. Refined sugar used. Hot Carbon process. Pesticides not the issue. Only 10% of product sugar. 90% water. Water standard already mandated.**
- **Standard set: 0.5 ppb total pesticides**

  0.1 ppb individual pesticides

Cannot because…

- **Cannot be set because Health ministry does not agree. Has not been consulted – Health ministry officials part of BIS committee. All information given to Ministry regarding standard during past 3 years. This is to delay and prevaricate.**

Standard finalised

- In October 2005, Committee meets in Mysore. Deliberates on all issues. Decides to finalise standard.
- In March 2006: Committee meets again in Delhi. Letter from health secretary dated same day. Says standard must be deferred. Decides to reconfirms minutes. Confirms final standards. BIS to print.
- In April 2006: BIS website says: “standard finalised but not yet under print”.
- **In June 2006: Notice disappears ….**

Health ministry: what is cooking?

- February 2004: Central Committee on Food Standards (CCFS) meets. Endorses JPC report. Says it will set final standards.
- June 2004: Pesticide Residue Sub-Committee of CCFS meets. Decides to do year-long monitoring.
- November 2004: CCFS meets. Decides to set up National Expert Committee to study matter.
- 2005: National Expert Committee meets. Decides to test samples of sugar. This will be pilot study.
- 2006: Still testing. Officials say that as this is pilot study, no timeframe on when final standards will be set. But why test raw sugar, when companies use refined sugar? No answer.

Bottom-line: 2006 no standard

- Department of Consumer Affairs tells BIS not to “rush”. Says health ministry not on board. Companies are objecting.

- Ministry of Health says more research is needed. Says pilot study will be completed soon.

“Good science” is the convenient tool to obstruct action.

Companies win. We lose. Acceptable?

Our Laboratory: 2003

- In 2003 companies tried to discredit it. Said it knew no science. Not capable.
- JPC examined our methodology; equipment, personnel. All questions raised by companies asked and answered. It concludes:
- “The committee finds CSE findings are correct on the presence of pesticides in respect of the 36 samples of 12 brand names analysed by them.”

Our laboratory: 2006

- Laboratory accredited with ISO 9001:2000 quality management system.

- Laboratory adds very expensive equipment – GC-MS – which allows it to reconfirm the presence of pesticide. With this equipment, there is no doubt about the identity of pesticide molecule in the sample analysed. Cannot say we are wrong.

What we check

- We test 57 soft drink samples from 25 different manufacturing plants, spread over 12 states – roughly 30 per cent plants covered.

- We collect samples from different cities – where our reporters travel – from Burnihat in Meghalaya to Ahmedabad in Gujarat, Palakkad in Kerala to Jalandhar in Punjab.

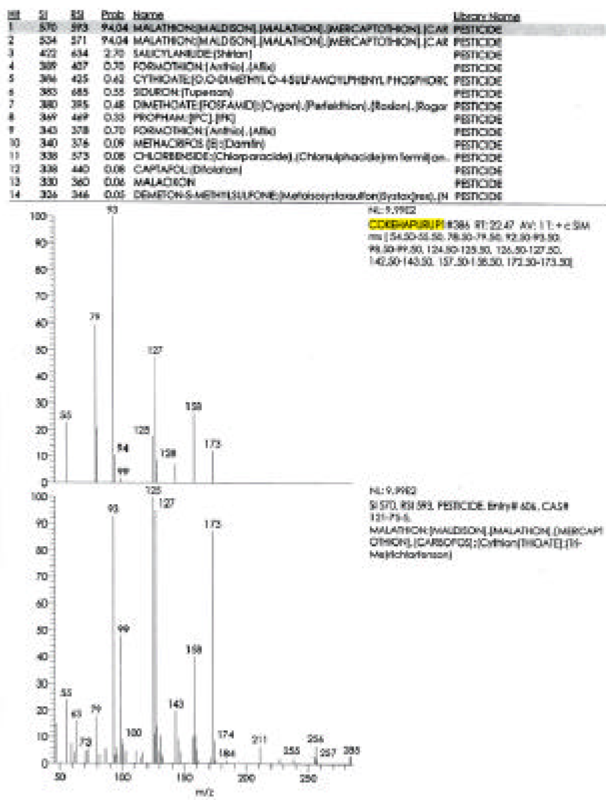
What we find?

- Pesticide residues found in **all** soft drinks tested
- A **cocktail** of 3-6 pesticides was present in all samples.
- Lindane (a confirmed carcinogen) levels were over 54 times above the BIS standard; in one Coca-Cola sample from Kolkata, it was **140 times** higher.
- Chlorpyrifos (a known neurotoxin) levels were on average **47 times** higher; Coca-Cola sample from Mumbai had **200 times** higher level.
- Heptachlor, banned in India, was found in 71 per cent of the samples, at levels 4 times higher than BIS standards.

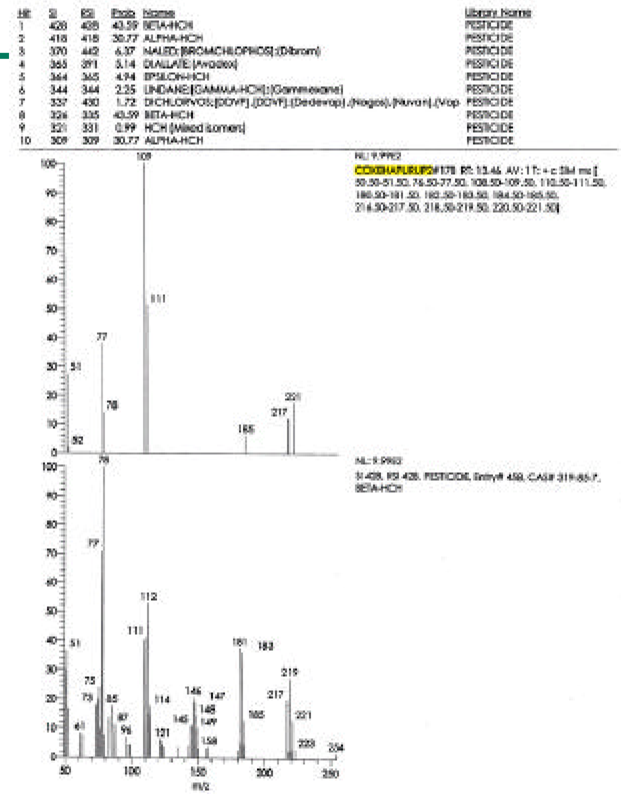
We find

- **Average amount of pesticide residues found in all the samples was 11.85 parts per billion (ppb) — 24 times higher than the BIS standards for total pesticides in soft drinks (0.5 ppb).**

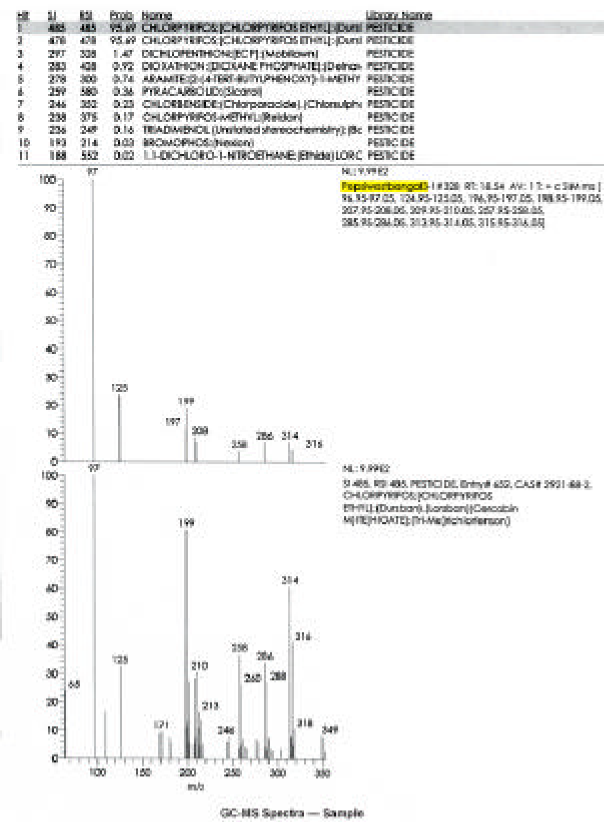
- **Brand drink Pepsi-cola contained 30 times higher residues on an average.**
- **Brand drink Coca-Cola contained 27 times higher residues on an average .**



GC-MS Spectra — Sample



GC-MS Spectra — Sample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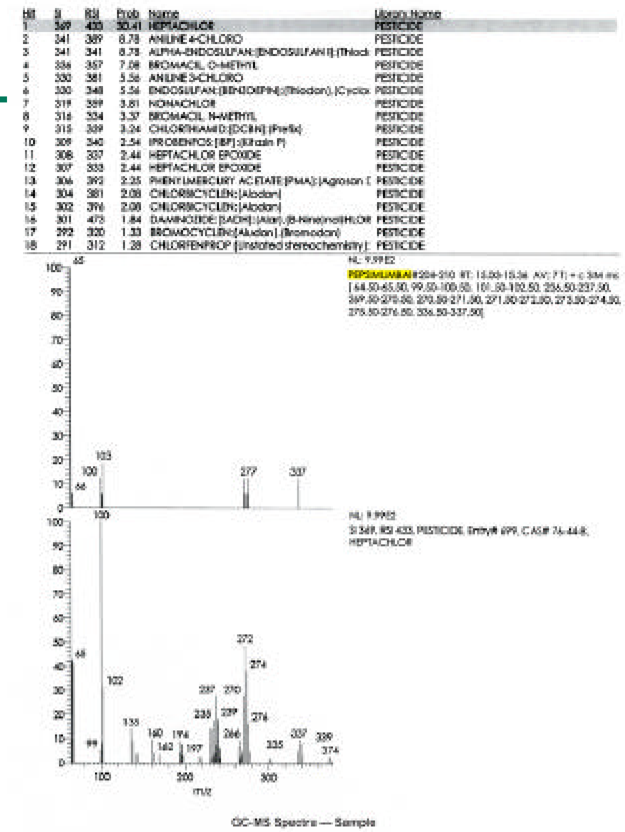
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CHLORTHIAMID
IPROBENFOS
HEPTACHLOR EPOXIDE
PHENYLMERCURY ACETATE
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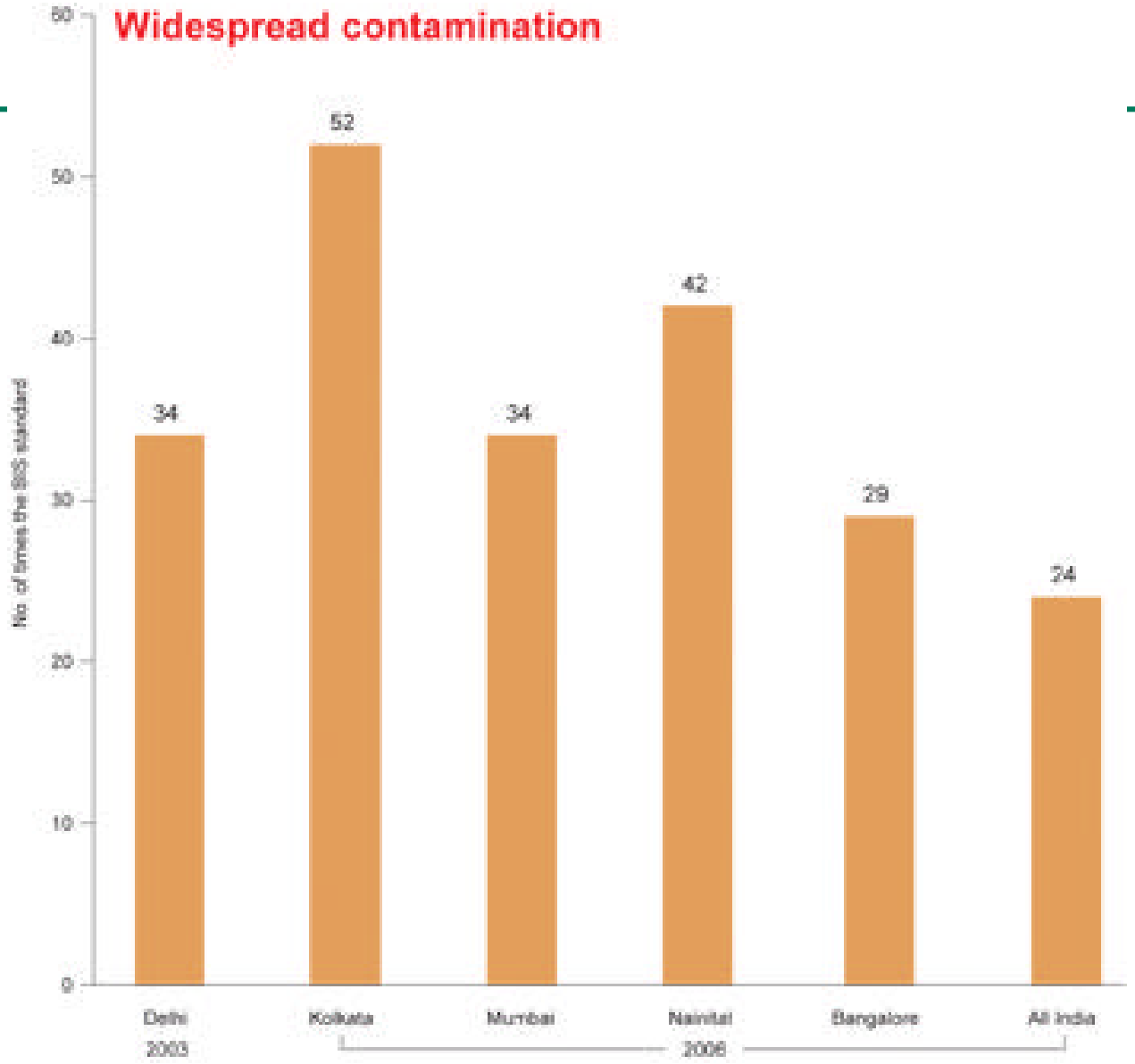
GC-MS Spectra — Sample

Even higher levels than 2003



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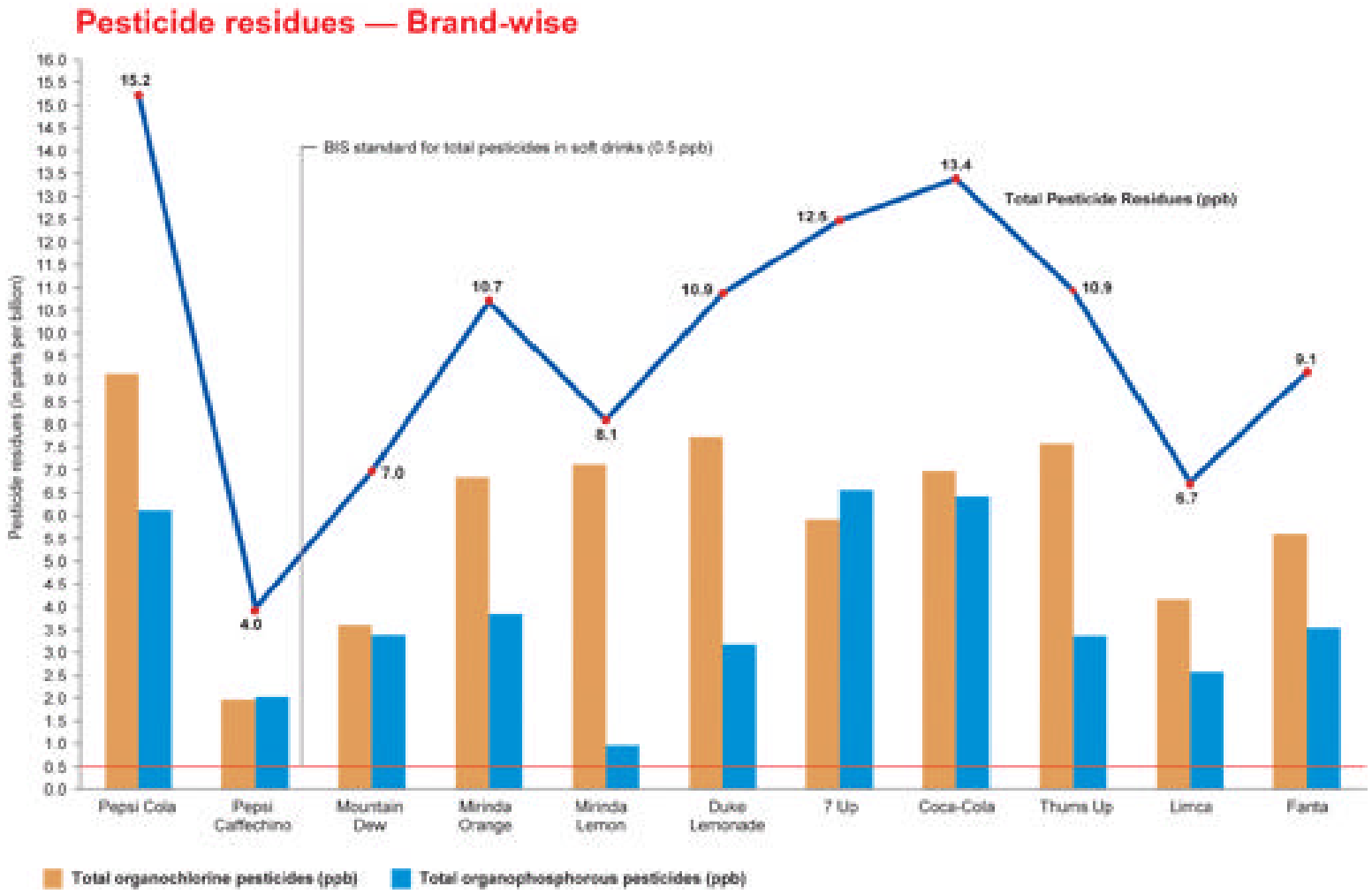
Brand-pest-jacked?



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Why still unsafe?

Companies say: "We are safe"

- **Why?**
- **Pesticides sub-ppb levels – too little to harm you**
- **Pesticides more in other products – how does it matter**

Why this is scientific jugglery

1. Pesticides are tiny toxins – they impact our bodies with tiny but continuous exposure. Called chronic impact.

2. Pesticide regulation is done keeping in mind that exposure has to be kept under safe limits – **acceptable daily intake**. The quota of pesticides is distributed in the food basket. Called nutrition-poison trade-off.

- But non-nutritive foods not included. Soft drinks not included. **Cannot have pesticides**

Safety: adhering to standards

- Safe limits are defined by standards. Standards essential. But companies do not want. Cannot be regulated.

  Cannot be called ‘unsafe’.
- Ministry of Health has regulated input water: 0.1ppb (individual pesticide)

  0.5ppb (total pesticides)
- **All samples checked in 2006 unsafe**. But companies will say: “only input regulated” Government will say: “cannot check”.

Protected by law. Safe.

Why the food bill won't help

- "Unsafe food: by virtue of containing pesticide and other contaminants in excess of quantities specified by regulations."

- As long as there are no regulations, how will this be called unsafe? Can't.

- Worse, there are no provisions for penalties for unsafe food. Therefore, even if unsafe, because it does not meet standards, cannot be penalised easily. Great.

Convoluting safety. Diluting protection

- Contaminant: that which is not added to food but which is present in food as a result of production. Like Pesticide
- Extraneous matter: That which is contained in food, which may be carried from raw material…but such matter does not render article of food unsafe. Pesticide?
- Who will decide if it renders food unsafe? Is pesticide residues in soft drinks contaminants or extraneous matter. Confused. Meant to be.
- **Permanently safe. Protected by law.**

Why should we care?

- Pesticides are toxic. In all drinks we have found levels above the finalised but not notified standard. They are "**unsafe**".

- Cannot be acceptable. Soft drinks are "choice" of millions. Particularly children. Cannot say that this is ok. Will be fixed later. Will set up committee. **Cannot play with our health**.