Comments and proposals submitted by consumer group and NGO representatives on the committee

At the Eleventh meeting of Drinks and Carbonated Beverages Sectional Committee (FAD 14), Hyderabad, May 27, 2005

The sugar issue: An excuse to delay and prevaricate

Pesticide standards for soft drinks have not been finalised so far because of just one issue: how much pesticide comes from sugar in soft drinks and therefore what should be the final product standard for pesticides in soft drinks. It has been almost two years since the soft drinks companies have raised this issue. It is their contention that since they have no control over the pesticide residue in sugar, they should not be asked to maintain pesticide standards in soft drinks. Similar reason was given by the industry (including PepsiCo and Coca Cola) when BIS wanted to set pesticide residue standards for bottled water. At that time too the industry stated that since they have no control over the pesticide residues in the ground water, there is no need to set pesticide residue standard for the bottled water. But the fact of the matter is that there is a pesticide residue standard for bottled water today and the same companies are meeting the standards, irrespective of whatever may be the variations in the ground water quality.

It is important to trace the debate on pesticide residues in sugar vis-à-vis soft drink since its inception to understand the issues, their importance and the intention of industry in raising this matter.

August 2003: CSE test results on pesticide residues in soft drink published. Soon after this, BIS FAD 14 committee starts working on revising the standards for soft drinks.

October 2003: Soft drink companies raise issue of sugar for the first time during the Joint Parliamentary Committee (JPC) set up to investigate the pesticide residues in soft drinks. They inform JPC that the pesticide in their drinks comes from sugar, on which they have little control.

December 2004: Written submission to JPC by companies says that they have a full-proof system of procuring high quality sugar and an extensive system to treat the sugar syrup by hot carbon process during which pesticide residues are also eliminated. JPC asks soft drink companies to supply data on pesticide residues in sugar.

January 2004: JPC asks Ministry of Health and Family Welfare (MOHFW) and other government ministries like Ministry of Food Processing Industries (MOFPI) to give information on the issue of pesticide residues in sugar.

January 2004: Ministry of Health in their response to JPC says: "*The pesticide residue in sugar and the quantity of sugar used in soft drinks is so small that it is not likely to increase the pesticide residue in the final product*" (see Annexure: 1).
They also present data on pesticide residues in sugar to JPC, which shows little presence of pesticides in the sugar samples.

The Ministry, in this written submission, also makes it clear that the methodology to be followed in standard setting would be to take the proportion of sugar in the final product.

January 2004: Soft drinks companies also submit data on pesticide residues in sugar samples. Data shows little presence of pesticides in sugar. The data is for 3700/03/VLL/PIH/06 and 5029/03/VLL/PIH/02, tested by VIMTA Labs on 03.10.2003 and 10.10.2003 respectively.

February 2004: JPC asks its experts to research the issue and deliberate on it with the sugar industry. Based on the opinion of the experts and the data on pesticide residue in sugar given by various agencies, including the soft drink companies, JPC rejects the assertion of the industry that sugar is the major source of pesticide in soft drinks. JPC made the following comments regarding the pesticide residues in sugar:

JPC-2.177 Though it has been stated by some manufacturers of soft drinks that there is a possibility of pesticides entering into the beverages through sugar, the Committee are not inclined to accept the same and desire that this require to be investigated in detail. The following may be considered while investigating:

According to the Package of Practices provided by Extension Departments, most of the sugarcane farmers are using only three to five types of pesticides. Most of the pesticides in sugarcane cultivation are used at the time of pre-planting stage, planting stage and first six months of crop growth (February to June). In case there is any insect or disease attack on the crop, two or three types of pesticides are used till harvesting. This time gap between spray of pesticide and sugar extraction only results in degradation of pesticides. According to Current Science Vol. 85, No.10 25th Nov. 2003, under tropical conditions microbial activities in soil are high, hence degradation of pesticides is also faster. According to sugar technologists, the refining process of sugar from sugarcane juice involves boiling, clarification by lime, sulphur dioxide gas, centrifugation of massecuite to remove molasses and sugar crystal. Sugar produced by crystalization is a process, which itself ensures the purity of the product and reduces impurities like dust, dirt and pesticide residues.

According to United States Department of Agriculture's Pesticide Data Program (USDA-PDP) supplemented with information from Food and Drug Administration Centre for Food Safety and Applied Nutrition (FDA/CFSAN) on Organophosphorus Chemicals on Food Crops, "a knowledge of highly refined nature of sugar and syrups supported by the limited residues data mentioned above is the basis of assumption that negligible residues of pesticides would be expected to occur in sugar and syrups".

JPC-2.179 Carbonated water manufacturers have already mentioned before JPC that they have foolproof process to select and treat the sugar and this treatment is uniform worldwide to ensure good quality sugar syrup for the products. These companies are already purifying the sugar syrup with Hot Carbon Treatment Process, which is effective in reducing most of the pesticide residues to below detectable level or below 0.1 ppb levels. The Committee feel that sugar, therefore, cannot be the only source of pesticide residues.

March 2004: For the first time, soft drink companies raise this issue in BIS committee (FAD 14). They are asked to submit pesticide residue data for sugar. Meanwhile, also in March 2004, in the Pesticide Residue Sub-Committee meeting (ministry of health), the Chairman of the Indian Sugar Mills Association categorically states on record "there is no report on the presence of pesticide residues in sugar".

July 2004: FAD 14 meets in Kolkata. Industry in spite of repeated requests does not supply any data on pesticide residues in sugar. After discussion, draft standards are issued, which include pesticide residues standard for the final product.

July 2004: Immediately after the meeting, PepsiCo and Coca Cola meet and write to top officials of the Department of Consumer Affairs, complaining against the officials of BIS and raising the issue of sugar again. They enclose copies of two analytical reports by VIMTA, which they say, "confirms the presence of pesticide residues in sugar available in India." The data is for 3700/03/VLL/PIH/06 and 5029/03/VLL/PIH/02, tested by VIMTA Labs on 03.10.2003 and 10.10.2003 respectively. (Please note these are the two samples for which results were submitted to JPC 6 months earlier).

July 2004: FICCI and Coca Cola submit reports of two more samples. (TNO Project number: 010.53033/02.39.01 and Central Analytical Lab number: CD26272).

October 2004: FAD 14 meets in Chennai. At this meeting, consumer and environmental groups submit their analysis of the pesticide residue data of the two sugar samples. The scrutiny of this data shows that in both samples, different pesticides were found and all were below 1 ppb level (except BHC in report number Report No: 5029/03/VLL/PIH/02, which is 1.2 ppb). The sum total pesticide found in report number 3700/03/VLL/PIH/06 was 2.33 ppb and in report number 5029/03/VLL/PIH/02 was 3.19 ppb.

The analysis of the data on sugar was provided by FICCI/ Coca Cola shows similar results. This data in fact, shows that in most case no pesticides were found. For instance, the test done by TNO in February 9, 2004 and Central Analytical Lab on September 9, 2003, shows that hardly any pesticide was even detected.

Therefore, the very basic assertion of PepsiCo, Coca Cola and industry associations (CII, FICCI-CIFTI) that sugar is a major contributor of pesticide in soft drinks does not hold true even from their own supplied data.

The analysis leads to the following conclusion: The soft drink companies say that sugar content in their soft drinks is about 10%. Therefore, if we assume that sugar constitutes 10 per cent of the final soft drink, according to the PepsiCo's own data on sugar, the contribution of sugar to the total pesticide content in the final soft drink is well below 0.1 ppb in case of all individual pesticides and just 0.23 ppb and 0.31 ppb respectively for total pesticide. Both these values are well below the draft standard of 0.1 ppb for individual pesticide and 0.5 ppb for total pesticide. It is further pointed out that these test were done on raw sugar. Both PepsiCo and Coca Cola had submitted to the JPC that they treat sugar through a hot carbon process, which reduces the pesticide content further.

It is also noted in the meeting that "VSI Pune, NSI Kanpur, Nestle and NIN representatives had opined in this meeting as well as in the last meeting that there were no pesticides in the sugar samples"

But industry refuses to accept this evidence (which was provided by them) and wants further review by expert panel of this issue.

January 2005: National institute of nutrition (NIN), Hyderabad submits its data on pesticide residues in sugar. Data of 11 samples of sugar are collected at random from

markets of Hyderabad and Secunderabad. Analysis of this data also shows no presence of pesticide in sugar samples. National Sugar Institute (NSI), Kanpur states its position to FAD 14 of BIS that in their tests they too have not found any pesticide in sugar.

February 2005: Expert panel meets in Ahmedabad to consider this data. It is noted in the meeting that "On examining the pesticide residues in carbonated water, the limits of the residues in water as a constituent have already been laid down and the data from NIN on pesticide residues which was tabled at the meeting showed limited presence of pesticide residues. Letters received from NSI, Vasantdata Sugar Institute confirmed in the tests they had conducted/reviewed had showed no presence of pesticide residues in sugar."

Clearly now with the evidence against them, the companies do not accept this once again. Companies ask for more data. It is now agreed that Vimta lab will supply data on the samples it has tested.

March 2005: Vimta labs submit reports (vide letter VLL/AL/GEN/04-05/422). Data from 135 samples is provided, which have been tested for 50 pesticides.

May 2005: Expert panel meets in Ahmedabad to consider this data. CSE presents a detailed analysis of this data (see Annexure). The analysis of the data shows the following:

a. The mean pesticide residues from sugar (assuming 10% sugar) in soft drinks is 0.06 ppb. This is just 12% of the total pesticide standard of 0.5 ppb, recommended in the draft soft drink standard.
b. The median pesticide residues (median value is used for setting MRL for crops) from sugar (assuming 10% sugar) in soft drink is 0.049 ppb. This is just 10% of the total pesticide standard of 0.5 ppb, recommended in the draft soft drink standard.
c. The median contribution of individual pesticides from sugar in soft drinks is as follows:

2,4-D:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Alachlor:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Atrazine:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
HCH:	0.02 ppb (20% of single pesticide standard of 0.1 ppb)
Chlorpyrifos:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
DDT:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Endosulfan:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Ethion:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Lindane:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Malathion:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Methyl Parathion:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Monocrotophos:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)
Phorate:	0.0 ppb (0% of single pesticide standard of 0.1 ppb)

In summary, except for HCH, the contribution of individual pesticides from sugar to the total pesticides in soft drinks is NIL.

With even this data having gone against their position, industry takes the stand that it is not sufficient. They push committee to agree to the monitoring of sugar residues for a period of two years so that sufficient data can be generated to make standards. Now

they say, they need data from different parts of the country. They want government to conduct an all India survey of sugar to fix pesticide residue standards for soft drinks.

Conclusion:

The fact of the matter is that data after data have shown that there is little pesticide in sugar. Sugar industry association and sugar experts have given their opinion that sugar is not likely to contain any significant amount of pesticide precisely because of the application practice (little pesticide is used and whatever is used it is used only in the beginning of the 12 month cropping period) and because of the natural of the purification process used during sugar manufacturing. But after two years of deliberation, if further more proof is required to see whether sugar contains pesticide or not, then no amount of data will ever satisfy the industry.

The truth is that industry is using sugar as a pretext to delay the standard formulation process and they have been successful in doing so since last 2 years. Because industry has commercial interest in not having the standard, there cannot be any consensus between industry and non-industry members of FAD 14. But we cannot become hostage to a consensus agreement. We will have to take decision on this matter. The current effort of cola companies and some industry association is only to prevaricate and delay the finalisation of standards on the pretext of sugar.

We, environmental and consumer organisations, have the following suggestion in this regard:

We should notify interim standard based on the existing information available with the committee. If industry wants to make changes to the interim standards they will have to generate data on sugar within a year and provide the same to the committee to make its decision. If they fail to do so, the interim standards can then be made the final standard and issued accordingly.