9/17/71

Subject: PCB Guidelines for MHA and Santoquin

As you are aware, detectable levels of PCB have been found in commercial grade MHA and Santoquin. An evaluation is currently underway by Production to see if these contaminants can be eliminated. Jim Connaughton and Frank Eakin have established sampling procedures to help pin-point the source of the contamination, as well as to monitor levels of PCB in the products as they are produced. To date, progress has been slow because of pressure on the analytical laboratory from Ralston Purina, FDA and USDA for results of analysis requested on tissues, eggs, feeds, etc.

Immediate steps taken at the plant to eliminate PCB from feed additive products were:

1. Replace heat exchange medium in the Santoquin distillation furnace from Therminol 1 to Therminol 66.
2. Check raw materials used in the MHA and Santoquin processes for PCB content.

Analytical results of some samples are as follows:

A. Santoquin Shift Samples

Date	Shift	PCB (PPM)
7/22	7-3	0.42
	3-11	0.41
	11-7	0.42
7/22	3-11	0.73
7/23	7-2	2.47

B. Santoquin Composite Samples (24 hr. Production)

Date	PCB (PPM)
7/25	2.23
7/25	1.52
7/26	1.92
7/30	.03-.5

C. MHA

July	NA07-065	0.10
July	NA07-094	.033

Assuming an average level of 0.1 PPM of PCB in MHA, a feed containing 5 lbs. of this material would have .25 PPB of the contaminant contributed by MHA. Furthermore, Santoquin containing a level of 2.5 PPM would add about .5 PPB of the material to the complete feed. Since both MHA and Santoquin are added to some feeds, a total of .55 PPB of PCB could be contributed to the final feed if each product contained the indicated level of contamination.

Although no "official" document exists wherein specific guidelines are spelled out by FDA and/or USDA, such guidelines are from time to time discussed in Food Chemical News and other publications. We understand that some of these guidelines are as follows:

Food fish - 5.0 PPM - PCB

Poultry tissues and fat - 5.0 PPM - PCB

Eggs - 0.5 PPM - PCB

Milk - 0.2 PPM - PCB (considering down to .05 ppm)

We have also read of 3.0 PPM in catfish feed and heard talk of "more" in animal feeds and feedstuffs. We do not think that this "more tolerance" is being used and feel that there is no real tolerance or guideline.

As you are aware, we are continuing to ship MHA/Santoquin on a routine basis. Until something definite is published and/or agreed upon, we need your guidance and suggestions on what our action should be on MHA/Santoquin and PCB. We need, for example, "maximum" levels at which shipments should be held up, re-sampled, re-blended, etc.

It is our opinion that the above should be done as soon as possible.