

Project 87-P14 - Tree and Crop Research
Aflatoxin Monitoring Program

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Objectives: (1) Continue the program of monitoring aflatoxins in various almond products, hulls, and presscake; (2) Continue with the USDA, FDA and various independent laboratories; (3) Determine if aflatoxin is associated with apparently sound kernels from stockpiles of in-hull almonds, particularly those which have either been stacked too wet or have been rained on. Apparently sound kernels are defined as those which would not normally be picked out as rejects with mold and/or worm damage.

Interpretive Summary: During the last fourteen years, the following almond samples have been analyzed for aflatoxin contamination.

| <u>Grade</u> | <u>#Contaminated/ # Sampled</u> | <u>Percent</u> |
|--------------|---------------------------------|----------------|
| Select Nuts | 21/1044 | 2 |
| Mfg. Stock | 56/666 | 8 |
| Oil Stock | 149/193 | 77 |
| Hull * | 16/212 | 8 |

* Analyzed for only the last eleven years.

In general, the level of contamination has been below 20 ppb which is the level of tolerance in the United States.

** The samples for Project No. 87-P14 are presently being collected for analysis after the first of the year.

| | <u>SELECT NUTS</u> | | <u>MFG. STOCK</u> | | <u>OIL STOCK</u> | | <u>HULLS</u> | |
|------|---|----------|---|----------|---|----------|---|----------|
| | <u># Contaminated</u> <u># Sampled</u> | <u>%</u> | <u># Contaminated</u> <u># Sampled</u> | <u>%</u> | <u># Contaminated</u> <u># Sampled</u> | <u>%</u> | <u># Contaminated</u> <u># Sampled</u> | <u>%</u> |
| 1973 | NS | 0 | 11/50 | 22 | NS | NS | NS | NS |
| 1974 | 0/34 | 0 | 7/50 | 14 | 22/34* | 64.7 | NS | NS |
| 1975 | NS | NS | 13/100 | 13 | 16/16 | 100 | NS | NS |
| 1976 | NS | NS | 7/55 | 12.7 | 30/51* | 59 | 1/15 | 6.7 |
| 1977 | 1/100 | 1.0 | 1/40 | 2.5 | 10/10 | 100 | 5/20 | 25 |
| 1978 | 5/100 | 5.0 | 2/41 | 4.9 | 10/10 | 100 | 3/20 | 15 |
| 1979 | 1/100 | 1.0 | 2/40 | 5 | 10/10 | 100 | 0/20 | 0 |
| 1980 | 2/100 | 2.0 | 1/41 | 2.4 | 10/10 | 100 | 2/21 | 9.5 |
| 1981 | 3/114 | 2.6 | 2/41 | 4.9 | 10/10 | 100 | 2/14 | 14 |
| 1982 | 4/ 93 | 4.3 | 2/41 | 4.9 | 6/ 9 | 67 | 2/19 | 11 |
| 1983 | 3/100 | 3.0 | 1/40 | 2.5 | 9/10 | 90 | 1/21 | 4.8 |
| 1984 | 2/107 | 1.9 | 1/40 | 2.5 | 8/13 | 62 | 4/16 | 25 |
| 1985 | 0/104 | 0 | 2/36 | 5.6 | 2/ 2 | 100 | 0/25 | 0 |
| 1986 | 0/95 | 0 | 3/44 | 6.8 | 6/7 4/6 ? | 86 | 0/20 | 0 |

NS = No Samples Taken

* = Reject Nuts, Not Press Cake Meal



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ALMOND BOARD

Robert K. Curtis
Research Director
Almond Board of California
P. O. Box 15920
Sacramento, CA 95852

Dear Bob:

Attached is a fourteen year summary of the Aflatoxin Monitoring Program. If you have any questions we will be glad to answer them.

Have a nice New Year.

Sincerely,

Paul C. Bolin
Paul C. Bolin
Laboratory Director

PCB:bg

cc: Rich Novy