



# DFA OF CALIFORNIA

AN ASSOCIATION OF DRIED FRUIT AND TREE NUT PROCESSORS

303 Brokaw Road • P. O. Box 270A • Santa Clara, California 95052 • (408) 727-9302

Reply To: P. O. Box 86 • Fresno, California 93707 • (209) 233-7249 • Lab. (209) 233-0604

November 27, 1989

Project No. 88-P15

Cooperator:

DFA of California  
Post Office Box 270-A  
303 Brokaw Road  
Santa Clara, California 95052

Research Administrator: Frank A. Mosebar

Project Leader:

Paul C. Bolin  
Edward D. Steffen, Ph. D.  
DFA of California  
Post Office Box 86  
1855 So. Van Ness Avenue  
Fresno, California 93721

Project: Tree and Crop Research  
Aflatoxin Monitoring Program

Objective: (1) To continue the programs of monitoring aflatoxins in various almond projects which have been in effect since 1973. (2) To continue participation in an aflatoxin analytical check program carried out by the American Oil Chemist Society and the World Health Organization.

Part 1 - Aflatoxin Monitoring

Progress: The monitoring program, which has been continued since 1973, is intended to demonstrate the concern of the almond industry in policing itself and, more importantly, monitoring the yearly trend of removing aflatoxins from edible products intended for human consumption. This monitoring program, as always, remains extremely important to: (1) demonstrate the industry's concern for maintaining a high quality product free of aflatoxins and (2) provide regulatory officials with the opportunity to direct their resources to more likely areas of food contamination.

<u>Type of Sample</u>	<u>Samples Collected</u>	<u>Number Contaminated</u>
Select Nuts	97	1 (154 ppb)
Mfg. Stock	44	3 (6,11,13 ppb)
Hulls	20	0
Oil Stock	21	19 (6,8,14,15,16,18,18,20,21,23,23,25,26,26,27,33,34,36,95)

	<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	86	0/20	0
1987	0/105	0	0/38	0	9/10	90	4/22	18
1988	1/97	1.0	3/44	6.8	19/21	90	0/20	0

NS = No Samples Taken

\* = Reject Nuts, Not Press Cake Meal



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April 21, 1989

Project No. 88-P15

Cooperator:

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Post Office Box 270-A  
303 Brokaw Road  
Santa Clara, California 95052

Research Administrator: Frank A. Mosebar

Project Leader: Paul C. Bolin  
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<u>Type of Sample</u>	<u>Samples Collected</u>	<u>Number Contaminated</u>
Select Nuts	91	1 (154 ppb)
Mfg. Stock	45	4 (6,8,11,13 ppb)
Hulls	20	0
Oil Stock	14	14 (6,15,16,18,18, 20,21,23,23,26, 26, 33,36,95 ppb)

	<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	86	0/20	0
1987	0/105	0	0/38	0	9/10	90	4/22	18
1988	1/91	1.1	4/45	8.9	14/14	100	0/20	0

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Reply to: P. O. Box 86 • Fresno, California 93707 • (209) 233-7249

December 28, 1988

Project No. 88-P15

Cooperator:

DFA of California  
Post Office Box 270-A  
303 Brokaw Road  
Santa Clara, California 95052

Research Administrator: Frank A. Mosebar

Project Leader: Paul C. Bolin  
Edward D. Steffen, Ph. D.  
DFA of California  
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Progress: The monitoring program, which has been continued since 1973, and more importantly, monitoring the yearly trend of removing aflatoxins from edible products intended for human consumption. This monitoring program, as always, remains extremely important to: (1) demonstrate the industry's concern for maintaining a high quality product free of aflatoxins and (2) provide regulatory officials with the opportunity to direct their resources to more likely areas of food contamination.

<u>Type of Sample</u>	<u>Samples Collected</u>	<u>Number Contaminated</u>
Select Nuts	40	1 (154 ppb)
Mfg. Stock	18	1 (13 ppb)
Hulls	13	0
Oil Stock* (1987-88)	8	8 (95, 26, 36, 23, 15, 18, 21, 20 ppb)

	<u>SELECT NUTS</u>		<u>MFG. STOCK</u>		<u>OIL STOCK</u>		<u>HULLS</u>	
	<u># Contaminated</u> <u># Sampled</u>	%	<u># Contaminated</u> <u># Sampled</u>	%	<u># Contaminated</u> <u># Sampled</u>	%	<u># Contaminated</u> <u># Sampled</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
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1985	0/104	0	2/36	5.6	2/ 2	100	0/25	0
1986	0/95	0	3/44	6.8	6/ 7	86	0/20	0
1987	0/105	0	0/38	0	9/10	90	4/22	18
1988	1/ 40	2.5	1/18	5.5	8/ 8	100	0/13	0

NS = No Samples Taken

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January 19, 1990

RECEIVED  
JAN 22 1990  
ALMOND BOARD

Susan McCloud  
Almond Board of California  
P. O. Box 15920  
Sacramento, CA 95852

Sue:

Your memorandum of January 10, 1990, is a request for the comprehensive project report.

Our report is the same as the report given at the research meeting. A copy is enclosed.

Sincerely,

Paul C. Bolin  
Laboratory Director

PCB:bg

Enclosure

P15



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April 21, 1989

RECEIVED  
APR 24 1989

ALMOND BOARD

Susan McCloud  
Director of Research  
Almond Board of California  
P. O. Box 15920  
Sacramento, CA 95813

Dear Susan:

Enclosed is the report of our progress on the Aflatoxin Monitoring Program, 88-P15.

Congratulations on your selection as the Research Director. I am looking forward to meeting you. If you are ever in the Fresno Area, please visit our laboratory.

Sincerely,

Paul C. Bolin  
Laboratory Director

PCB:bg

Enclosure





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December 28, 1988

RECEIVED  
DEC 29 1988

ALMOND BOARD

Director of Research  
Almond Board of California  
P O Box 15920  
Sacramento, CA 95813

Dear Sir/Ma'am:

Enclosed is the report on our progress on the Aflatoxin  
Monitoring Program 88-P15.

Sincerely,

Paul C. Bolin  
Laboratory Director

PCB:bg

Enclosure