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This DER was originally prepared under contract by Dynamac Corporation (20440 Century Boulevard, Suite 100; Germantown, MD 20874; submitted 02/26/2004). The DER has been reviewed by the HED and revised to reflect current OPP policies.

STUDY REPORT:

45645803 Kukel, C., Wofford, J., Abdel-Baky, S. (2002) The Magnitude of BAS 500 F and BAS 510 F Residues in Pome Fruit: Final Report: Lab Project Number: 2002/5002108:BASF Study Number 66898. Unpublished study prepared by BASF Agro Research. 116 p.

EXECUTIVE SUMMARY:

BASF Corporation has submitted field trial data for residues of pyraclostrobin and its metabolite BF 500-3 in/on apples and pears, the representative commodities of the pome fruits group. A total of 26 pome fruit field trials were conducted during the 2001 growing season. Sixteen trials were conducted on apples encompassing Regions 1 (NY and PA; 3 trials), 1A (NS; 1 trial), 2 (VA; 1 trial), 5 (MI and ON; 2 trials), 5B (QC; 2 trials), 9 (CO; 1 trial), 10 (CA, 2 trials), and 11 (ID, OR, and WA; 4 trials); and ten trials were conducted on pears encompassing Regions 1 (NY; 1 trial), 1A (NS; 1 trial), 5 (MI and ON; 3 trials), 10 (CA, 2 trials), and 11 (ID, OR, and WA; 3 trials). The number and locations of field trials are in accordance with OPPTS Guideline 860.1500.

At each test location, a total of six broadcast foliar applications of the 20% BAS 500 F WG formulation were made to pome fruit trees (apple and pear) at ~0.15 lb ai/A/application with 6- to 8-day retreatment intervals, for a total seasonal application rate of ~0.9 lb ai/A. Applications were made to two test plots at each trial using ground equipment. One treatment plot received applications in concentrate spray volumes (20-100 gal/A) and the other treatment plot received applications in dilute spray volumes (100-400 gal/A); all applications were made with a spray adjuvant added to the spray mixture. The 20% BAS 500 F WG formulation used in the pome fruit field trials also contained another experimental active ingredient (BAS 510 F) as part of the tank-mix; data for the BAS 510 active ingredient are not reviewed herein.

Mature whole fruit samples of apple and pear were collected on the day (0-day PHI) of the last application. In addition, four subsamples of preharvest treated apples and pears (concentrate and dilute spray treatments) from six trial sites also received a postharvest treatment of the 20% BAS 500 F WG formulation as either (i) a spray, (ii) dip, (iii) dip plus spray, or (iv) drench treatment to simulate packing house treatments. Each postharvest application was made at 0.56 lb ai/100 gal

of water; the dip plus spray postharvest treatment received two postharvest applications at 0.56 lb ai/100 gal of water.

Samples of pome fruits (apple and pear) were analyzed by BASF Agro Research (Research Triangle Park, NC) for residues of pyraclostrobin and its metabolite BF 500-3 using LC/MS/MS, BASF Method Number D9908. The method limit of quantitation (LOQ) was 0.02 ppm for each analyte (pyraclostrobin and BF 500-3) in/on all pome fruit matrices. This method is adequate for data collection based on acceptable concurrent method recovery data.

The maximum storage intervals of crop samples from harvest to analysis were 183 days (6.0 months) for apples and 197 days (6.5 months) for pears. No apples and pear (pome fruits) storage stability data have been submitted. Available storage stability data indicated that residues of pyraclostrobin and its metabolite BF 500-3 are relatively stable under frozen storage conditions in/on fortified samples of grape juice, sugar beet tops and roots, tomatoes, and wheat grain and straw for up to 25 months, and in/on fortified samples of peanut nutmeat and processed oil for up to 19 months. The storage stability data can be translated to support the storage intervals for apples and pears samples for this study (D269668, etc., L. Cheng, 11/28/2001).

The maximum combined residues of pyraclostrobin and its metabolite BF 500-3 in/on pome fruits from the submitted field trials are reported in the table below. No significant differences in residue levels were observed in pome fruit samples treated with concentrate versus dilute spray volumes.

Commodity	PHI (days)	Maximum Combined Residue Levels (ppm)	
		Concentrate Spray Volume	Dilute Spray Volume
Six preharvest foliar applications of the 20% WG formulation for a total seasonal rate of ~0.9 lb ai/A.			
Apple	0	0.80	0.49
Pear	0	0.82	0.93
Six preharvest foliar applications of the 20% WG formulation for a total seasonal rate of ~0.9 lb ai/A plus a single postharvest spray application at 0.56 lb ai/100 gal.			
Apple	0	1.81	1.23
Pear	0	2.67	3.63
Six preharvest foliar applications of the 20% WG formulation for a total seasonal rate of ~0.9 lb ai/A plus a single postharvest dip application at 0.56 lb ai/100 gal.			
Apple	0	2.72	3.61
Pear	0	3.63	3.76
Six preharvest foliar applications of the 20% WG formulation for a total seasonal rate of ~0.9 lb ai/A plus a postharvest dip application followed by a postharvest spray application each at 0.56 lb ai/100 gal.			
Apple	0	3.22	2.48
Pear	0	3.80	4.26
Six preharvest foliar applications of the 20% WG formulation for a total seasonal rate of ~0.9 lb ai/A plus a single postharvest drench application at 0.56 lb ai/100 gal.			

Commodity	PHI (days)	Maximum Combined Residue Levels (ppm)	
		Concentrate Spray Volume	Dilute Spray Volume
Apple	0	1.42	1.31
Pear	0	4.31	3.85

STUDY/WAIVER ACCEPTABILITY/DEFICIENCIES/CLARIFICATIONS:

Under the conditions and parameters used in the study, the field trial residue data are classified as scientifically acceptable. The acceptability of this study for regulatory purposes is addressed in the forthcoming U.S. EPA Residue Chemistry Summary Document, DP Barcode D290342.

COMPLIANCE:

Signed and dated GLP, Quality Assurance and Data Confidentiality statements were provided. No deviations from regulatory requirements were reported.

A. BACKGROUND INFORMATION

Pyraclostrobin is a fungicide that is structurally related to the naturally occurring strobilurins, compounds derived from some fungal species. Pyraclostrobin is also in the same chemical class as azoxystrobin (PC 128810), registered for many crops and turf/lawn, and trifloxystrobin (PC 129112) which recently was granted a “reduced risk” status as a fungicide on many crops. The biochemical mode of action of these compounds is inhibition of electron transport in pathogenic fungi.

TABLE A.1. Test Compound Nomenclature	
Compound	Chemical Structure
Common name	Pyraclostrobin
Company experimental name	BAS 500 F

IUPAC name	methyl *N*-{2-[1-(4-chlorophenyl)-1*H*-pyrazol-3-yloxymethyl]phenyl}(*N*-methoxy)carbamate
CAS name	methyl [2-[[[1-(4-chlorophenyl)-1*H*-pyrazol-3-yl]oxy]methyl]phenyl]methoxycarbamate
CAS #	175013-18-0
End-use product/EPs	20% water dispersible granular formulation (WG; product name: Cabrio™ EG Fungicide; EPA Reg. No. 7969-187/EPA File Symbol 7969-RIT).

Pyraclostrobin technical is a white to light beige solid.

TABLE A.2. Physicochemical Properties

Parameter	Value	Reference[1]
Melting point	63.7-65.2 °C	D269848 & D274191
Density	1.285g/cm^3 at 20°C	D269848 & D274191
Water solubility (20°C)	2.41 mg/L in deionized water at 20°C 1.9 mg/L in buffer system pH 7 at 20°C 2.3 mg/L in buffer system pH 4 at 20°C 1.9 mg/L in buffer system pH 9 at 20°C	D269848 & D274191
Solvent solubility (mg/L at 20°C)	acetone (≥160 mg/L); methanol (11 mg/L); 2-propanol (3.1 mg/L); ethyl acetate (≥160 mg/L); acetonitrile (≥76 mg/L); dichloromethane (≥110 mg/L); toluene (≥100 mg/L); n-heptane (0.36 mg/L); 1-octanol (2.4 mg/L); olive oil (2.9 mg/L); DMF (≥62 mg/L).	D269848 & D274191
Vapour pressure at 25°C	2.6 x 10^{-10} hPa (at 20°C); 6.4 x 10^{-10} hPa	D269848 & D274191
Dissociation constant (pK_a)	Does not dissociate in water. There are no dissociable moieties.	D269848 & D274191
Octanol/water partition coefficient Log(K_{ow})	n-Octanol/water partition coefficient (K_{ow}) at room temperature (=K_{ow} of 3.80, pH 6.2; =log K_{ow} 4.18, pH 6.5).	D269848 & D274191

[1] Product Chemistry data were reviewed by the Registration Division (D269848 and D274191, 5/3/01, 5/15/01, and 6/7/01, S. Malak)

B. EXPERIMENTAL DESIGN

B.1. Study Site Information

TABLE B.1.1. Trial Site Conditions.

Trial Identification (City, State/Province; Year)	Soil characteristics				Meteorological data	
	Type	%OM	pH	CEC	Overall monthly rainfall range (inches)	Overall temperature range (°C) [1]
Apple field trials						
Hereford, PA; 2001	Gravelly silt loam	Not applicable			Not reported	14-28

TABLE B.1.1. Trial Site Conditions.

Trial Identification (City, State/Province; Year)	Soil characteristics				Meteorological data	
	Type	%OM	pH	CEC	Overall monthly rainfall range (inches)	Overall temperature range (°C) [1]
Dundee, NY; 2001	Gravelly loam	Not applicable			Not reported	9-24
Alton, NY; 2001	Sandy loam	Not applicable			Not reported	11-21
Berwick, NS; 2001	Loam	Not applicable			Not reported	11-33
Covesville, VA; 2001	Clay loam	Not applicable			Not reported	28-35
Conklin, MI; 2001	Loam	Not applicable			Not reported	12-26
St. George, ON; 2001	Loam	Not applicable			Not reported	14-24
St-Paul-d'Abbotsford, QC; 2001	Sandy gravelly loam	Not applicable			Not reported	14-33
Granby, QC; 2001	Gravelly sandy loam	Not applicable			Not reported	18-31
Eckert, CO; 2001	Sandy loam	Not applicable			Not reported	21-32
Yuba City, CA; 2001	Loam	Not applicable			Not reported	24-32
Porterville, CA; 2001	Loam	Not applicable			Not reported	19-36
Ephrata, WA; 2001	Sandy loam	Not applicable			Not reported	16-33
Ephrata, WA; 2001	Coarse sandy loam	Not applicable			Not reported	18-39
Hood River, OR; 2001	Silt loam	Not applicable			Not reported	14-22
Caldwell, ID; 2001	Silt loam	Not applicable			Not reported	16-27
Pear field trials						
Alton, NY; 2001	Sandy loam	Not applicable			Not reported	19-26
Berwick, NS; 2001	Sandy loam	Not applicable			Not reported	16-26
Conklin, MI; 2001	Loam	Not applicable			Not reported	16-28
Kent City, MI; 2001	Loam	Not applicable			Not reported	14-29
St. George, ON; 2001	Loam	Not applicable			Not reported	20-33
Yuba City, CA; 2001	Loam	Not applicable			Not reported	19-37
Porterville, CA; 2001	Loam	Not applicable			Not reported	19-33
Soap Lake, WA; 2001	Silt loam	Not applicable			Not reported	23-33
Hood River, OR; 2001	Loam	Not applicable			Not reported	14-22
Greenleaf, ID; 2001	Silt loam	Not applicable			Not reported	19-30

[1] Air temperature was only provided for days of application.

The petitioner did not include any information pertaining to weather conditions over the course of the field trials except to describe the conditions which occurred during application of the test substance. For future field trial submissions, the petitioner is reminded that they are required to provide a summary of the weather conditions for the growing season for each trial, stating whether conditions were normal or whether any unusual conditions were observed.

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
Apple field trials								
Hereford, PA; 2001	20% WG	2	1: Broadcast foliar; 50-70 mm diameter	54.39	0.15	--	0.90	X-77
			2: Broadcast foliar; 50-70 mm diameter	54.87	0.15	7		X-77
			3: Broadcast foliar; ripening	54.36	0.15	8		X-77
			4: Broadcast foliar; 50-80 mm diameter	53.62	0.15	6		X-77
			5: Broadcast foliar; 60-80 mm diameter	54.60	0.15	7		X-77
			6: Broadcast foliar; harvest	56.32	0.15	8		X-77
	20% WG	3	1: Broadcast foliar; 50-70 mm diameter	382.65	0.15	--	0.90	X-77
			2: Broadcast foliar; 50-70 mm diameter	381.54	0.15	7		X-77
			3: Broadcast foliar; ripening	395.42	0.15	8		X-77
			4: Broadcast foliar; 50-80 mm diameter	383.75	0.15	6		X-77
			5: Broadcast foliar; 60-80 mm diameter	386.88	0.15	7		X-77
			6: Broadcast foliar; harvest	333.63	0.15	8		X-77
Dundee, NY; 2001	20% WG	2	1: Broadcast foliar; BBCH 81	49.83	0.15	--	0.90	LI 700
			2: Broadcast foliar; BBCH 81	50.59	0.15	7		LI 700
			3: Broadcast foliar; BBCH 85	50.06	0.15	6		LI 700
			4: Broadcast foliar; BBCH 87	49.89	0.15	8		LI 700
			5: Broadcast foliar; BBCH 87	49.91	0.15	7		LI 700
			6: Broadcast foliar; harvest	50.10	0.15	7		LI 700
	20% WG	3	1: Broadcast foliar; BBCH 81	150.20	0.15	--	0.90	LI 700
			2: Broadcast foliar; BBCH 81	150.08	0.15	7		LI 700
			3: Broadcast foliar; BBCH 85	150.51	0.15	6		LI 700
			4: Broadcast foliar; BBCH 87	148.92	0.15	8		LI 700
			5: Broadcast foliar; BBCH 87	148.14	0.15	7		LI 700
			6: Broadcast foliar; harvest	150.89	0.15	7		LI 700
Alton, NY; 2001 [5]	20% WG	2	1: Broadcast foliar; 5 cm diameter	80.42	0.15	--	0.90	LI 700
			2: Broadcast foliar; 5.5 cm diameter	80.06	0.15	7		LI 700

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			3: Broadcast foliar; 6 cm diameter	80.66	0.15	7		LI 700
			4: Broadcast foliar; 7 cm diameter	79.73	0.15	7		LI 700
			5: Broadcast foliar; 7.5 cm diameter	80.71	0.15	7		LI 700
			6: Broadcast foliar; harvest	80.48	0.15	7		LI 700
	20% WG	3	1: Broadcast foliar; 5 cm diameter	150.72	0.15	--	0.90	LI 700
			2: Broadcast foliar; 5.5 cm diameter	150.72	0.15	7		LI 700
			3: Broadcast foliar; 6 cm diameter	149.94	0.15	7		LI 700
			4: Broadcast foliar; 7 cm diameter	150.19	0.15	7		LI 700
			5: Broadcast foliar; 7.5 cm diameter	150.08	0.15	7		LI 700
			6: Broadcast foliar; harvest	152.52	0.15	7		LI 700
Berwick, NS; 2001	20% WG	2	1: Broadcast foliar; 75 mm diameter	44.12	0.16	--	0.89	Agral 90
			2: Broadcast foliar; 80 mm diameter	42.94	0.15	7		Agral 90
			3: Broadcast foliar; 85 mm diameter	44.78	0.15	7		Agral 90
			4: Broadcast foliar; BBCH 79	43.21	0.13	6		Agral 90
			5: Broadcast foliar; BBCH 81	42.55	0.15	7		Agral 90
			6: Broadcast foliar; harvest	44.03	0.15	7		Agral 90
	20% WG	3	1: Broadcast foliar; 75 mm diameter	107.84	0.16	--	0.89	Agral 90
			2: Broadcast foliar; 80 mm diameter	104.51	0.15	7		Agral 90
			3: Broadcast foliar; 85 mm diameter	109.65	0.15	7		Agral 90
			4: Broadcast foliar; BBCH 79	103.08	0.13	6		Agral 90
			5: Broadcast foliar; BBCH 81	103.35	0.15	7		Agral 90
			6: Broadcast foliar; harvest	105.93	0.15	7		Agral 90
Covesville,	20%	2	1: Broadcast foliar; BBCH 73	53.33	0.16	--	0.91	Biosurf

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			2: Broadcast foliar; BBCH 75	52.81	0.15	7		Biosurf
			3: Broadcast foliar; BBCH 77	53.83	0.15	7		Biosurf
			4: Broadcast foliar; BBCH 81	55.18	0.15	7		Biosurf
			5: Broadcast foliar; BBCH 85	55.69	0.15	7		Biosurf
			6: Broadcast foliar; harvest	55.34	0.15	7		Biosurf
	20% WG	3	1: Broadcast foliar; BBCH 73	116.36	0.15	--	0.90	Biosurf
			2: Broadcast foliar; BBCH 75	120.47	0.15	7		Biosurf
			3: Broadcast foliar; BBCH 77	121.24	0.15	7		Biosurf
			4: Broadcast foliar; BBCH 81	121.65	0.15	7		Biosurf
			5: Broadcast foliar; BBCH 85	122.69	0.15	7		Biosurf
			6: Broadcast foliar; harvest	124.05	0.15	7		Biosurf
Conklin, MI; 2001	20% WG	2	1: Broadcast foliar; 2.375" diameter	85.21	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2.5" diameter	84.95	0.15	7		Latron B-1956
			3: Broadcast foliar; 2.625" diameter	85.45	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5" diameter	81.37	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.625" diameter	85.45	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	85.10	0.15	7		Latron B-1956
	20% WG	3	1: Broadcast foliar; 2.375" diameter	202.23	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2.5" diameter	201.93	0.15	7		Latron B-1956
			3: Broadcast foliar; 2.625" diameter	209.22	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5" diameter	196.69	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.625" diameter	206.36	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	205.07	0.15	7		Latron B-1956
St. George,	20%	2	1: Broadcast foliar; 5 cm diameter	51.14	0.15	--	0.90	Agral 90

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			2: Broadcast foliar; 6 cm diameter	49.88	0.15	7		Agral 90
			3: Broadcast foliar; 6 cm diameter	51.52	0.15	7		Agral 90
			4: Broadcast foliar; fruit ripening	49.43	0.15	7		Agral 90
			5: Broadcast foliar; early maturity	49.96	0.15	7		Agral 90
			6: Broadcast foliar; harvest	50.38	0.15	7		Agral 90
	20% WG	3	1: Broadcast foliar; 5 cm diameter	148.49	0.15	--	0.90	Agral 90
			2: Broadcast foliar; 6 cm diameter	146.56	0.15	7		Agral 90
			3: Broadcast foliar; 6 cm diameter	150.42	0.15	7		Agral 90
			4: Broadcast foliar; fruit ripening	145.14	0.15	7		Agral 90
			5: Broadcast foliar; early maturity	147.94	0.15	7		Agral 90
			6: Broadcast foliar; harvest	149.48	0.15	7		Agral 90
St-Paul-d'Abbotsford, QC; 2001	20% WG	2	1: Broadcast foliar; enlarged	41.85	0.15	--	0.92	Surf 92
			2: Broadcast foliar; enlarged	43.41	0.15	7		Surf 92
			3: Broadcast foliar; enlarged	42.44	0.15	7		Surf 92
			4: Broadcast foliar; ripening	44.18	0.16	7		Surf 92
			5: Broadcast foliar; mature	44.37	0.16	6		Surf 92
			6: Broadcast foliar; harvest	43.48	0.15	6		Surf 92
	20% WG	3	1: Broadcast foliar; enlarged	184.59	0.15	--	0.90	Surf 92
			2: Broadcast foliar; enlarged	185.74	0.15	7		Surf 92
			3: Broadcast foliar; enlarged	186.02	0.15	7		Surf 92
			4: Broadcast foliar; maturation	169.64	0.14	7		Surf 92
			5: Broadcast foliar; mature	190.66	0.16	6		Surf 92
			6: Broadcast foliar; harvest	188.20	0.15	6		Surf 92
Granby, QC; 2001	20% WG	2	1: Broadcast foliar; enlarged	46.62	0.15	--	0.89	Surf 92
			2: Broadcast foliar; enlarged	44.05	0.14	8		Surf 92
			3: Broadcast foliar; enlarged	47.08	0.15	7		Surf 92
			4: Broadcast foliar; enlarged	45.28	0.15	7		Surf 92
			5: Broadcast foliar; enlarged	47.41	0.15	6		Surf 92
			6: Broadcast foliar; harvest	45.09	0.15	7		Surf 92
	20% WG	3	1: Broadcast foliar; enlarged	236.29	0.15	--	0.90	Surf 92
			2: Broadcast foliar; enlarged	227.57	0.15	8		Surf 92
			3: Broadcast foliar; enlarged	232.92	0.15	7		Surf 92

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			4: Broadcast foliar; enlarged	236.17	0.15	7		Surf 92
			5: Broadcast foliar; enlarged	230.57	0.15	6		Surf 92
			6: Broadcast foliar; harvest	236.09	0.15	7		Surf 92
Eckert, CO; 2001	20% WG	2	1: Broadcast foliar; 80% of final size	50.04	0.16	--	0.91	X-77
			2: Broadcast foliar; 80-90% final size	50.04	0.15	7		X-77
			3: Broadcast foliar; BBCH 81, ripening	50.08	0.15	7		X-77
			4: Broadcast foliar; ripening	50.00	0.15	7		X-77
			5: Broadcast foliar; ripening	50.02	0.15	7		X-77
			6: Broadcast foliar; harvest	50.03	0.15	7		X-77
	20% WG	3	1: Broadcast foliar; 80% of final size	149.92	0.16	--	0.91	X-77
			2: Broadcast foliar; 80-90% final size	150.00	0.15	7		X-77
			3: Broadcast foliar; BBCH 81, ripening	150.08	0.15	7		X-77
			4: Broadcast foliar; ripening	150.00	0.15	7		X-77
			5: Broadcast foliar; ripening	149.90	0.15	7		X-77
			6: Broadcast foliar; harvest	149.97	0.15	7		X-77
Yuba City, CA; 2001	20% WG	2	1: Broadcast foliar; fruit development	30.03	0.15	--	0.90	Adwet
			2: Broadcast foliar; fruit development	29.77	0.15	7		Adwet
			3: Broadcast foliar; fruit development	29.77	0.15	7		Adwet
			4: Broadcast foliar; fruit development	29.96	0.15	7		Adwet
			5: Broadcast foliar; ripening	30.72	0.15	7		Adwet
			6: Broadcast foliar; harvest	30.39	0.15	7		Adwet
	20% WG	3	1: Broadcast foliar; fruit development	128.33	0.15	--	0.90	Adwet
			2: Broadcast foliar; fruit development	128.28	0.15	7		Adwet
			3: Broadcast foliar; fruit development	127.84	0.15	7		Adwet
			4: Broadcast foliar; fruit development	128.52	0.15	7		Adwet
			5: Broadcast foliar; ripening	127.99	0.15	7		Adwet
			6: Broadcast foliar; harvest	128.90	0.15	7		Adwet
Porterville, CA; 2001 [5]	20% WG	2	1: Broadcast foliar; 2-2.5"	55.87	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2-3"	57.65	0.15	7		Latron B-1956

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			3: Broadcast foliar; 2-3"	58.30	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5-3.5"	57.73	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.75-3.5"	57.66	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	57.81	0.15	7		Latron B-1956
	20% WG	3	1: Broadcast foliar; 2-2.5"	321.20	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2-3"	334.25	0.15	7		Latron B-1956
			3: Broadcast foliar; 2-3"	332.90	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5-3.5"	333.32	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.75-3.5"	332.55	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	332.34	0.15	7		Latron B-1956
Ephrata, WA; 2001 [5]	20% WG	2	1: Broadcast foliar; 60% mature	50.34	0.16	--	0.91	Induce
			2: Broadcast foliar; 70% mature	50.38	0.15	7		Induce
			3: Broadcast foliar; 70% mature	50.16	0.15	7		Induce
			4: Broadcast foliar; 80% mature	50.60	0.15	7		Induce
			5: Broadcast foliar; 90% mature	50.47	0.15	7		Induce
			6: Broadcast foliar; harvest	50.09	0.15	7		Induce
	20% WG	3	1: Broadcast foliar; 60% mature	200.44	0.16	--	0.91	Induce
			2: Broadcast foliar; 70% mature	201.29	0.15	7		Induce
			3: Broadcast foliar; 70% mature	200.50	0.15	7		Induce
			4: Broadcast foliar; 80% mature	200.12	0.15	7		Induce
			5: Broadcast foliar; 90% mature	200.21	0.15	7		Induce
			6: Broadcast foliar; harvest	200.36	0.15	7		Induce
Ephrata, WA; 2001	20% WG	2	1: Broadcast foliar; 35 days before harvest (DBH)	50.34	0.15	--	0.90	Induce
			2: Broadcast foliar; 28 DBH	50.07	0.15	7		Induce
			3: Broadcast foliar; 21 DBH	50.07	0.15	7		Induce

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			4: Broadcast foliar; 14 DBH	50.29	0.15	7		Induce
			5: Broadcast foliar; 7 DBH	50.29	0.15	7		Induce
			6: Broadcast foliar; harvest	50.32	0.15	7		Induce
	20% WG	3	1: Broadcast foliar; 35 (DBH)	390.02	0.15	--	0.90	Induce
			2: Broadcast foliar; 28 DBH	389.25	0.15	7		Induce
			3: Broadcast foliar; 21 DBH	387.55	0.15	7		Induce
			4: Broadcast foliar; 14 DBH	389.23	0.15	7		Induce
			5: Broadcast foliar; 7 DBH	389.01	0.15	7		Induce
			6: Broadcast foliar; harvest	389.38	0.15	7		Induce
Hood River, OR; 2001	20% WG	2	1: Broadcast foliar; 35 days before harvest (DBH), 2"	81.27	0.15	--	0.93	Latron B-1956
			2: Broadcast foliar; 28 DBH, 2.5"	83.09	0.15	7		Latron B-1956
			3: Broadcast foliar; 21 DBH	74.97	0.16	7		Latron B-1956
			4: Broadcast foliar; 14 DBH	80.10	0.16	7		Latron B-1956
			5: Broadcast foliar; 7 DBH	74.33	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	73.11	0.16	7		Latron B-1956
	20% WG	3	1: Broadcast foliar; 35 DBH, 2"	225.76	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 28 DBH, 2.5"	223.44	0.15	7		Latron B-1956
			3: Broadcast foliar; 21 DBH	226.36	0.15	7		Latron B-1956
			4: Broadcast foliar; 14 DBH	225.48	0.15	7		Latron B-1956
			5: Broadcast foliar; 7 DBH	219.78	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	222.45	0.15	7		Latron B-1956
Caldwell, ID; 2001	20% WG	2	1: Broadcast foliar; 3-3.5"	76.08	0.15	--	0.90	X-77
			2: Broadcast foliar; 2.5-3"	68.70	0.15	8		X-77
			3: Broadcast foliar; 3-3.5"	68.67	0.15	6		X-77

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			4: Broadcast foliar; 3.25-3.5"	66.14	0.15	7		X-77
			5: Broadcast foliar; 3-4"	61.95	0.15	7		X-77
			6: Broadcast foliar; harvest	58.79	0.15	7		X-77
	20% WG	3	1: Broadcast foliar; 3-3.5"	303.92	0.15	--	0.96	X-77
			2: Broadcast foliar; 2.5-3"	302.77	0.15	8		X-77
			3: Broadcast foliar; 3-3.5"	305.04	0.15	6		X-77
			4: Broadcast foliar; 3.25-3.5"	284.66	0.15	7		X-77
			5: Broadcast foliar; 3-4"	285.93	0.15	7		X-77
			6: Broadcast foliar; harvest	300.18	0.21	7		X-77
Pear field trials								
Alton, NY; 2001 [5]	20% WG	2	1: Broadcast foliar; 4.5 cm diameter	80.31	0.15	--	0.90	LI 700
			2: Broadcast foliar; 4.9 cm diameter	80.08	0.15	7		LI 700
			3: Broadcast foliar; 5.2 cm diameter	80.02	0.15	7		LI 700
			4: Broadcast foliar; 5.4 cm diameter	80.84	0.15	7		LI 700
			5: Broadcast foliar; 6 cm diameter	80.81	0.15	7		LI 700
			6: Broadcast foliar; harvest	80.61	0.15	7		LI 700
	20% WG	3	1: Broadcast foliar; 4.5 cm diameter	150.46	0.15	--	0.90	LI 700
			2: Broadcast foliar; 4.9 cm diameter	151.26	0.15	7		LI 700
			3: Broadcast foliar; 5.2 cm diameter	150.68	0.15	7		LI 700
			4: Broadcast foliar; 5.4 cm diameter	149.55	0.15	7		LI 700
			5: Broadcast foliar; 6 cm diameter	150.96	0.15	7		LI 700
			6: Broadcast foliar; harvest	151.65	0.15	7		LI 700
Berwick, NS; 2001	20% WG	2	1: Broadcast foliar; 40 mm diameter	53.80	0.17	--	0.93	Agral 90
			2: Broadcast foliar; 43 mm diameter	51.25	0.15	6		Agral 90
			3: Broadcast foliar; 45 mm diameter	50.11	0.15	7		Agral 90
			4: Broadcast foliar; 65 mm diameter	49.36	0.15	7		Agral 90
			5: Broadcast foliar; 70 mm diameter	47.87	0.15	7		Agral 90
			6: Broadcast foliar; harvest	47.58	0.16	7		Agral 90
	20% WG	3	1: Broadcast foliar; 40 mm diameter	130.48	0.17	--	0.92	Agral 90
			2: Broadcast foliar; 43 mm diameter	124.46	0.15	6		Agral 90
			3: Broadcast foliar; 45 mm diameter	121.95	0.15	7		Agral 90
			4: Broadcast foliar; 65 mm diameter	120.01	0.15	7		Agral 90

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			5: Broadcast foliar; 70 mm diameter	115.87	0.15	7		Agral 90
			6: Broadcast foliar; harvest	119.24	0.15	7		Agral 90
Conklin, MI; 2001	20% WG	2	1: Broadcast foliar; 2" diameter	87.01	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2.125" diameter	86.73	0.15	7		Latron B-1956
			3: Broadcast foliar; 2.25" diameter	82.18	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5" diameter	84.22	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.5" diameter	85.11	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	80.14	0.15	7		Latron B-1956
	20% WG	3	1: Broadcast foliar; 2" diameter	209.47	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2.125" diameter	209.18	0.15	7		Latron B-1956
			3: Broadcast foliar; 2.25" diameter	197.97	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5" diameter	201.83	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.5" diameter	209.37	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	193.69	0.15	7		Latron B-1956
Kent City, MI; 2001	20% WG	2	1: Broadcast foliar; 2" diameter	77.96	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 2.125" diameter	77.95	0.15	7		Latron B-1956
			3: Broadcast foliar; 2.25" diameter	74.42	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5" diameter	75.83	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.75" diameter	77.33	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	72.57	0.15	7		Latron B-1956
	20%							Latron

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
	WG	3	1: Broadcast foliar; 2" diameter	188.59	0.15	--	0.90	B-1956
			2: Broadcast foliar; 2.125" diameter	189.84	0.15	7		Latron B-1956
			3: Broadcast foliar; 2.25" diameter	179.60	0.15	7		Latron B-1956
			4: Broadcast foliar; 2.5" diameter	182.57	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.75" diameter	185.37	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	173.87	0.15	7		Latron B-1956
St. George, ON; 2001	20% WG	2	1: Broadcast foliar; 7 cm diameter	48.71	0.15	--	0.91	Agral 90
			2: Broadcast foliar; 7 cm diameter	49.91	0.15	7		Agral 90
			3: Broadcast foliar; 7cm diameter	50.54	0.15	7		Agral 90
			4: Broadcast foliar; 7 cm diameter	51.31	0.15	7		Agral 90
			5: Broadcast foliar; 7 cm diameter	50.48	0.15	6		Agral 90
			6: Broadcast foliar; harvest	51.73	0.16	7		Agral 90
	20% WG	3	1: Broadcast foliar; 7 cm diameter	147.98	0.15	--	0.91	Agral 90
			2: Broadcast foliar; 7 cm diameter	145.62	0.15	7		Agral 90
			3: Broadcast foliar; 7cm diameter	152.12	0.16	7		Agral 90
			4: Broadcast foliar; 7 cm diameter	148.29	0.15	7		Agral 90
			5: Broadcast foliar; 7 cm diameter	147.80	0.15	6		Agral 90
			6: Broadcast foliar; harvest	150.34	0.15	7		Agral 90
Yuba City,	20%	2	1: Broadcast foliar; fruit development	45.89	0.15	--	0.90	Kinetic

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			2: Broadcast foliar; fruit development	45.32	0.15	6		Kinetic
			3: Broadcast foliar; fruit development	46.05	0.15	6		Kinetic
			4: Broadcast foliar; fruit development	44.74	0.15	6		Kinetic
			5: Broadcast foliar; fruit development	45.48	0.15	6		Kinetic
			6: Broadcast foliar; harvest	46.06	0.15	6		Kinetic
	20% WG	3	1: Broadcast foliar; fruit development	157.69	0.15	--	0.90	Kinetic
			2: Broadcast foliar; fruit development	158.89	0.15	6		Kinetic
			3: Broadcast foliar; fruit development	158.97	0.15	6		Kinetic
			4: Broadcast foliar; fruit development	158.37	0.15	6		Kinetic
			5: Broadcast foliar; fruit development	158.59	0.15	6		Kinetic
			6: Broadcast foliar; harvest	160.32	0.15	6		Kinetic
Porterville, CA; 2001 [5]	20% WG	2	1: Broadcast foliar; nearing maturity	55.96	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; nearing maturity	54.42	0.15	7		Latron B-1956
			3: Broadcast foliar; nearing maturity	57.67	0.15	7		Latron B-1956
			4: Broadcast foliar; nearing maturity	58.22	0.15	7		Latron B-1956
			5: Broadcast foliar; nearing maturity	57.56	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	57.74	0.15	7		Latron B-1956
	20% WG	3	1: Broadcast foliar; nearing maturity	326.63	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; nearing maturity	324.25	0.15	7		Latron B-1956
			3: Broadcast foliar; nearing maturity	323.83	0.15	7		Latron B-1956
			4: Broadcast foliar; nearing maturity	340.84	0.15	7		Latron B-1956
			5: Broadcast foliar; nearing maturity	332.55	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	335.17	0.15	7		Latron B-1956
Soap Lake, WA; 2001 [5]	20% WG	2	1: Broadcast foliar; 35 days before harvest (DBH)	76.18	0.15	--	0.90	Induce

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			2: Broadcast foliar; 28 DBH	76.44	0.15	7		Induce
			3: Broadcast foliar; 21 DBH	76.30	0.15	7		Induce
			4: Broadcast foliar; 14 DBH	76.07	0.15	7		Induce
			5: Broadcast foliar; 7 DBH	76.44	0.15	7		Induce
			6: Broadcast foliar; harvest	75.94	0.15	7		Induce
	20% WG	3	1: Broadcast foliar; 35 DBH	200.92	0.15	--	0.90	Induce
			2: Broadcast foliar; 28 DBH	201.91	0.15	7		Induce
			3: Broadcast foliar; 21 DBH	201.87	0.15	7		Induce
			4: Broadcast foliar; 14 DBH	201.79	0.15	7		Induce
			5: Broadcast foliar; 7 DBH	202.34	0.15	7		Induce
			6: Broadcast foliar; harvest	204.39	0.15	7		Induce
Hood River, OR; 2001	20% WG	2	1: Broadcast foliar; 1.75"	88.39	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 1.75"	91.97	0.15	6		Latron B-1956
			3: Broadcast foliar; 1.80"	85.82	0.15	7		Latron B-1956
			4: Broadcast foliar; 2"	83.30	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.75"	71.62	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	73.65	0.15	7		Latron B-1956
	20% WG	3	1: Broadcast foliar; 1.75"	232.24	0.15	--	0.90	Latron B-1956
			2: Broadcast foliar; 1.75"	244.72	0.15	6		Latron B-1956
			3: Broadcast foliar; 1.80"	231.78	0.15	7		Latron B-1956
			4: Broadcast foliar; 2"	228.82	0.15	7		Latron B-1956
			5: Broadcast foliar; 2.75"	201.46	0.15	7		Latron B-1956
			6: Broadcast foliar; harvest	196.67	0.15	7		Latron B-1956
Greenleaf, ID;	20%	2	1: Broadcast foliar; 2.25-2.75"	67.35	0.15	--	0.90	X-77

TABLE B.1.2. Study Use Pattern.

Location (City, State/Province; Year)	EP [1]	Preharvest Application						Tank Mix Adjuvants
		Treatment type [2]	Method; Timing	Vol. (GPA [3])	Rate (lb ai/A)	RTI [4] (days)	Total Rate (lb ai/A)	
			2: Broadcast foliar; 2.25-2.75"	70.95	0.15	7		X-77
			3: Broadcast foliar; 2.5-2.75"	75.48	0.15	7		X-77
			4: Broadcast foliar; 2.5-3"	67.07	0.15	8		X-77
			5: Broadcast foliar; 2.75-3.25"	69.91	0.15	6		X-77
			6: Broadcast foliar; harvest	64.48	0.15	7		X-77
	20% WG	3	1: Broadcast foliar; 2.25-2.75"	297.79	0.15	--	0.90	X-77
			2: Broadcast foliar; 2.25-2.75"	294.01	0.15	7		X-77
			3: Broadcast foliar; 2.5-2.75"	305.00	0.15	7		X-77
			4: Broadcast foliar; 2.5-3"	305.16	0.15	8		X-77
			5: Broadcast foliar; 2.75-3.25"	299.57	0.15	6		X-77
			6: Broadcast foliar; harvest	293.16	0.15	7		X-77

[1] EP = End-use Product
[2] Treatment Type 2: Applications were made in a concentrate spray volume (20-100 GPA). Treatment Type 3: Applications were made in a dilute spray volume (100-400 GPA).
[3] GPA = Gallons per acre
[4] RTI = Retreatment Interval
[5] Six trials were selected for postharvest treatments of treated pome fruits (apples and pears). Separate subsamples (concentrate and dilute spray volumes) received the following postharvest treatments: (i) Treatment 4: postharvest spray; (ii) Treatment 5: postharvest dip; (iii) Treatment 6: postharvest dip and spray; and (iv) Treatment 7: drench treatment. Each postharvest application was made at 0.56 lb ai/100 gal of water.

TABLE B.1.3. Trial Numbers and Geographical Locations.

NAFTA Growing Region	Apple			Pear		
	Submitted	Requested		Submitted	Requested	
		Canada	US [1]		Canada	US [1]
1	3		3	1		1
1A	1			1		
2	1		1			
5	2		2	3		
5B	2					
9	1		1			
10	2		1	2		2
11	4		4	3		3
Total	16		12	10		6

[1] As required under OPPTS 860.1500, Tables 2 and 5 for apple and pear as the representative crops of the Pome Fruits crop group.

B.2. Sample Handling and Preparation

One untreated and one treated sample of pome fruits (apple and pear) were harvested on the day (0-day PHI) of the last application from each plot. Specific harvesting procedures were not described. Samples were bagged and stored frozen (temperature not specified) on the day of harvest.

In addition, six sites were selected for postharvest treatments of treated fruit (apples and pears). Separate subsamples of preharvest treated fruit (concentrate and dilute) received the following postharvest treatments: (i) spray; sprayed to saturation; (ii) dip; placed in onion mesh bags and immersed in a container with the test substance solution for at least 2 minutes (not to exceed 2.5 minutes); (iii) dip plus spray; dipped first, allowed to dry, and then sprayed as described previously; or (iv) drench; placed in an open-bottomed bin and flooded with a steady stream of test substance solution for at least 5 minutes (not to exceed 6 minutes). Each posttreatment application was made at 2,000 ppm total active ingredient, where the ratio of pyraclostrobin:BAS 510 was 1:2; therefore, the total postharvest pyraclostrobin application rate was 0.56 lb ai/100 gal of water, except for the dip plus spray postharvest treatment which received two postharvest applications at 0.56 lb ai/100 gal of water. Treated samples selected to receive additional postharvest applications were treated on the day of the last foliar spray application (i.e., the day of harvest) at the field site. Postharvest samples were allowed to dry, then were bagged, and frozen (temperature not specified). All samples of pome fruits were shipped frozen within 0-66 days of harvest to BASF Agro Research (Research Triangle Park, NC) for analysis.

B.3. Analytical Methodology

Samples of pome fruits (apple and pear) were analyzed for residues of pyraclostrobin and its metabolite BF 500-3 using LC/MS/MS, BASF Method Number D9908. A brief description of the method was included in the submission. BASF Method Number D9908 is similar to the proposed enforcement method (LC/MS/MS BASF Method Number D9808) submitted in conjunction with a previous pyraclostrobin petition (PP#0F06139; DP Barcodes D269668, etc., L. Cheng, 11/28/01). Method D9908 used an alternate extraction option: pome fruits were extracted with methanol:water:2 N HCl (7:2.5:0.5; v:v:v) instead of methanol:water (7:3; v:v). Residues of pyraclostrobin and its metabolite BF 500-3 are analyzed by LC/MS/MS. For quantitation, the product/daughter ion for the transition *m/z* 388 → 194 for pyraclostrobin (BAS 500 F) and *m/z* 358 → 164 for BAS 500-3 are measured. The method limit of quantitation (LOQ) was 0.02 ppm for each analyte (pyraclostrobin and BF 500-3) in/on all pome fruit matrices. The limit of detection (LOD), defined as the lowest standard level injected with an analysis set, was 0.01 ppm for each analyte.

C. RESULTS AND DISCUSSION

Sample storage conditions and intervals are summarized in Table C.2. The maximum storage intervals of crop samples from harvest to analysis were 183 days (6.0 months) for apples and 197 days (6.5 months) for pears. No apples and pear (pome fruits) storage stability data have been submitted. Available storage stability data indicated that residues of pyraclostrobin and its metabolite BF 500-3 are relatively stable under frozen storage conditions in/on fortified samples of grape juice, sugar beet tops and roots, tomatoes, and wheat grain and straw for up to 25 months, and in/on fortified samples of peanut nutmeat and processed oil for up to 19 months. The storage stability data can be translated to support the storage intervals for apples and pears samples for this study (D269668, etc., L. Cheng, 11/28/2001).

Concurrent method recovery data are presented in Table C.1. Samples of pome fruits (apple and pear) were analyzed for residues of pyraclostrobin and its metabolite BF 500-3 using LC/MS/MS, BASF Method Number D9908. The method LOQ was 0.02 ppm for each analyte. This method is adequate for data collection based on acceptable concurrent method recovery data. Apparent residues of pyraclostrobin and its metabolite BF 500-3 were each below the method LOQ (<0.02 ppm) in/on all untreated samples of apple and pear.

Residue data from the pome fruit field trials are reported in Table C.3. A summary of residue data for pome fruits (apple and pear) following treatment with the 20% WG formulation is presented in Table C.4. The combined residues of pyraclostrobin and its metabolite BF 500-3 were 0.12-0.80 ppm in/on apples and 0.19-0.82 ppm in/on pears harvested at the 0-day PHI following the last of six broadcast foliar applications of the 20% WG formulation for a total rate of 0.89-0.93 lb ai/A made in concentrate spray volumes (**Treatment 2**). The combined residues of pyraclostrobin and its metabolite BF 500-3 were 0.10-0.49 ppm in/on apples and 0.19-0.93 ppm in/on pears harvested at the 0-day PHI following the last of six broadcast foliar applications of the 20% WG formulation for a total rate of 0.89-0.96 lb ai/A made in dilute spray volumes

(**Treatment 3**). No significant differences in residue levels were observed in pome fruit samples treated with concentrate versus dilute spray volumes.

The following residues were observed in samples of pome fruits harvested at the 0-day PHI following the last of six broadcast foliar (preharvest) applications of the 20% WG formulation for a total rate of 0.90-0.91 lb ai/A made in either concentrate or dilute spray volumes, which subsequently received postharvest treatments of pyraclostrobin on the day of harvest. The combined residues of pyraclostrobin and BF 500-3 were 0.55-1.81 ppm in/on apples and 0.94-3.63 ppm in/on pears receiving a single postharvest spray application at 0.56 lb ai/100 gal of water (**Treatment 4**). The combined residues of pyraclostrobin and BF 500-3 were 1.31-3.61 ppm in/on apples and 1.32-3.76 ppm in/on pears receiving a single postharvest dip application at 0.56 lb ai/100 gal of water (**Treatment 5**). The combined residues of pyraclostrobin and BF 500-3 were 1.63-3.22 ppm in/on apples and 2.20-4.26 ppm in/on pears receiving sequential postharvest dip and spray applications each at 0.56 lb ai/100 gal of water (**Treatment 6**). The combined residues of pyraclostrobin and BF 500-3 were 0.80-1.42 ppm in/on apples and 1.29-4.31 ppm in/on pears receiving a single postharvest drench application at 0.56 lb ai/100 gal of water (**Treatment 7**).

A total of 26 pome fruit field trials were conducted during the 2001 growing season. Sixteen trials were conducted on apples in Regions 1 (NY and PA; 3 trials), 1A (NS; 1 trial), 2 (VA; 1 trial), 5 (MI and ON; 2 trials), 5B (QC; 2 trials), 9 (CO; 1 trial), 10 (CA, 2 trials), and 11 (ID, OR, and WA; 4 trials); and ten trials were conducted on pears encompassing Regions 1 (NY; 1 trial), 1A (NS; 1 trial), 5 (MI and ON; 3 trials), 10 (CA, 2 trials), and 11 (ID, OR, and WA; 3 trials).

TABLE C.1. Summary of Concurrent Recoveries of Pyraclostrobin and its Metabolite BF 500-3 from Pome Fruits.

Matrix	Spike level (ppm)	Sample size (n)	Recoveries (%)	Mean ± std dev(%)
Pyraclostrobin				
Apple	0.02	6	65, 70, 80, 85, 105, 110	90 ± 17
	1.0	5	77, 82, 83, 106, 119	
	5.0	1	88	
	100.0	1	106	
Pear	0.02	4	65, 85, 105, 125	109 ± 24
	1.0	1	120	
	5.0	3	106, 127, 136	
BF 500-3				
Apple	0.02	6	70, 75, 75, 90, 105, 110	91 ± 17
	1.0	5	74, 82, 85, 112, 121	
	5.0	1	88	

TABLE C.1. Summary of Concurrent Recoveries of Pyraclostrobin and its Metabolite BF 500-3 from Pome Fruits.

Matrix	Spike level (ppm)	Sample size (n)	Recoveries (%)	Mean ± std dev(%)
	100.0	1	99	
Pear	0.02	4	65, 85, 85, 110	103 ± 22
	1.0	1	123	
	5.0	3	105, 124, 125	

TABLE C.2. Summary of Storage Conditions.

Matrix (RAC or Extract)	Storage Temp. (°C)	Actual Storage Duration [1]	Interval of Demonstrated Storage Stability [2]
Apple	<-10	96-183 days (3.2-6.0 months)	The available storage stability data indicate that residues of pyraclostrobin and its metabolite BF 500-3 are relatively stable under frozen storage conditions in/on fortified samples of grape juice, sugar beet tops and roots, tomatoes, and wheat grain and straw for up to 25 months, and in/on fortified samples of peanut nutmeat and processed oil for up to 19 months. The storage stability data can be translated to support the storage intervals for apples and pears samples for this study (D269668, etc., L. Cheng, 11/28/2001).
Pear	<-10	133-197 days (4.4-6.5 months)	

[1] All pome fruit samples were analyzed within 0-2 days of extraction.
[2] Refer to storage stability data reviewed in conjunction with a previous pyraclostrobin petition (PP#0F06139; DP Barcode D269668, etc., L. Cheng, 11/28/01).

TABLE C.3. Residue Data from Pome Fruit Field Trials with Pyraclostrobin.

Trial ID (City, State/Province; Year)	Region	Crop; Variety	Commodity or Matrix	Total Rate (lb ai/A)	Spray Vol. [1]	PHI (days)	Residues (ppm)		
							Pyraclostrobin	BF 500-3	Total
Apple field trials									
Preharvest Foliar; Treatments 2 (concentrate spray volume) and 3 (dilute spray volume)									
Hereford, PA; 2001	1	Apple; Starkrimson Red Delicious	fruit	0.90	Conc.	0	0.42	<0.02	<0.44
				0.90	Dilute	0	0.25	<0.02	<0.27
Dundee, NY; 2001	1	Apple; Empire	fruit	0.90	Conc.	0	0.42	0.02	0.44
				0.90	Dilute	0	0.41	<0.02	<0.43
Alton, NY; 2001	1	Apple; Red Delicious	fruit	0.90	Conc.	0	0.22	0.02	0.24
				0.90	Dilute	0	0.22	0.03	0.25
Berwick, NS; 2001	1A	Apple; McIntosh	fruit	0.89	Conc.	0	0.35	<0.02	<0.37
				0.89	Dilute	0	0.36	<0.02	<0.38
Covesville, VA; 2001	2	Apple; Earligold	fruit	0.91	Conc.	0	0.18	<0.02	<0.20
				0.90	Dilute	0	0.08	<0.02	<0.10

TABLE C.3. Residue Data from Pome Fruit Field Trials with Pyraclostrobin.

Trial ID (City, State/Province; Year)	Region	Crop; Variety	Commodity or Matrix	Total Rate (lb ai/A)	Spray Vol. [1]	PHI (days)	Residues (ppm)		
							Pyraclostrobin	BF 500-3	Total
Conklin, MI; 2001	5	Apple; Empire	fruit	0.90	Conc.	0	0.16	<0.02	<0.18
				0.90	Dilute	0	0.12	<0.02	<0.14
St. George, ON; 2001	5	Apple; Spartan	fruit	0.90	Conc.	0	0.62 [2]	0.03 [2]	0.65 [2]
				0.90	Dilute	0	0.19	<0.02	<0.21
St-Paul-d'Abbotsford, QC; 2001	5B	Apple; Vista Bella	fruit	0.92	Conc.	0	0.17	<0.02	<0.19
				0.90	Dilute	0	0.22	<0.02	<0.24
Granby, QC; 2001	5B	Apple; Spartan	fruit	0.89	Conc.	0	0.25	<0.02	<0.27
				0.90	Dilute	0	0.21	<0.02	<0.23
Eckert, CO; 2001	9	Apple; Red Delicious	fruit	0.91	Conc.	0	0.27	<0.02	<0.29
				0.91	Dilute	0	0.36	0.02	0.38
Yuba City, CA; 2001	10	Apple; Light Red Fuji	fruit	0.90	Conc.	0	0.10	<0.02	<0.12
				0.90	Dilute	0	0.46	0.03	0.49
Porterville, CA; 2001	10	Apple; Granny Smith	fruit	0.90	Conc.	0	0.21	<0.02	<0.23
				0.90	Dilute	0	0.27	0.02	0.29
Ephrata, WA; 2001	11	Apple; Red Delicious	fruit	0.91	Conc.	0	0.35	0.03	0.38
				0.91	Dilute	0	0.35	0.02	0.37
Ephrata, WA; 2001	11	Apple; Gala	fruit	0.90	Conc.	0	0.74 [2]	0.06 [2]	0.80 [2]
				0.90	Dilute	0	0.30	<0.02	<0.32
Hood River, OR; 2001	11	Apple; Jonagold	fruit	0.93	Conc.	0	0.20	<0.02	<0.22
				0.90	Dilute	0	0.19	<0.02	<0.21
Caldwell, ID; 2001	11	Apple; Red Delicious	fruit	0.90	Conc.	0	0.17	<0.02	<0.19
				0.96	Dilute	0	0.13	<0.02	<0.15
Preharvest Foliar + Postharvest Spray; Treatment 4									
Alton, NY; 2001	1	Apple; Red Delicious	fruit	0.90 + 0.56 lb ai/100 gal	Conc.	0	0.53	<0.02	<0.55
					Dilute	0	0.73	0.03	0.76
Porterville, CA; 2001	10	Apple; Granny Smith	fruit	0.90 + 0.56 lb ai/100 gal	Conc.	0	1.79	0.02	1.81
					Dilute	0	1.21	<0.02	<1.23
Ephrata, WA; 2001	11	Apple; Red Delicious	fruit	0.91 + 0.56 lb ai/100 gal	Conc.	0	1.58	<0.02	<1.60
					Dilute	0	1.18	<0.02	<1.20
Preharvest Foliar + Postharvest Dip; Treatment 5									
Alton, NY; 2001	1	Apple; Red Delicious	fruit	0.90 + 0.56 lb ai/100 gal	Conc.	0	2.70	<0.02	<2.72
					Dilute	0	3.57	0.037	3.607
Porterville, CA; 2001	10	Apple; Granny Smith	fruit	0.90 + 0.56 lb ai/100 gal	Conc.	0	1.37	<0.02	<1.39
					Dilute	0	2.25	<0.02	<2.27