~~R. QUICK~~
M. NELSON
11-3-89

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 3 1989

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: Dietary Exposure Analysis for the use of Iprodione on Strawberries, PP#7F3510

FROM: Richard Griffin
Dietary Risk Evaluation System (DRES) Staff
HED/SACB (H7509C)

THROUGH: J. Robert Tomerlin, Ph.D
Acting DRES Program Manager
HED/SACB (H7509C)

TO: Jim Stone, PM 21
Herbicide - Fungicide Branch
Registration Division (H7505C)

Action Requested

Provide a dietary exposure analysis from published tolerances, pending tolerances on lettuce and fennel, and the proposed tolerance on strawberries.

Discussion

1. Toxicology Endpoint: The routine chronic DRES analysis used a reference dose (ADI) of 0.04 mg/kg body weight/day, based upon a NOEL of 4.2 mg/kg body weight/day and an uncertainty factor of 100 from a 1 year dog feeding study. This value has been approved by HED (12/19/86) and Agency (7/15/87) reference dose committees.

2. Residue Information: Food uses included in this analysis were published tolerances from 40 CFR 180.399, food additive tolerances from 40 CFR 185.3750, pending use on celery and fennel, and the proposed (15ppm) tolerance on strawberries (M.J. Nelson memo, 5/15/87).

Economic Analysis Branch provided percent crop treated data (J. Ferrante to M. Fiol Memo, 3/15/89) for 6 of the 38 analyzed crops, namely grapes, peaches, plums, apricots, lettuce, and carrots. Values used in this analysis were the upper bound of each usage estimate. One hundred percent Iprodione treatment had to be assumed for the remaining 32 crops, for which usage estimates were unavailable.

1/10

Anticipated residue (AR) data derived from field studies were available for 8 crops: grapes, apricots, cherries, nectarines, peaches, plums, milk, and strawberries (J. Smith memo 5/24/89). The anticipated residue value for the milk group was extrapolated from possible cattle feed diets, excluding the recently published rice tolerances. The anticipated residue values for grapes were adjusted to a much lower value using data from commercial plot sampling. A summary of the residue information used in the analysis is attached as Table 1.

3. Exposure Analysis: The DRES chronic exposure analysis uses tolerance level residues and 100 per cent crop treated to estimate the Theoretical Maximum Residue Contribution (TMRC) for the overall U.S. population and 22 population subgroups. The TMRC for the overall U.S. population including published, pending, and new tolerances is 0.048778 mg/kg body weight/day, which represents 122% of the ADI. The most highly exposed DRES population group, non-nursing infants, has a TMRC of 0.145216 mg/kg body weight/day, which represents 363% of the ADI. A TMRC summary for all 23 DRES population groups is attached as Table 2.

The AR and percent crop data described above were used to calculate the Anticipated Residue Contribution (ARC). Estimated exposures following this adjustment were much less than the TMRC. For example, the exposure estimate for children aged 1-6 dropped from 283% of the ADI to 71% of the ADI. The ARC information for the overall U.S. population and the two most highly exposed sub-groups is shown in the following table.

Anticipated Residue Summary

Residue Source	Overall U.S. Population	Non-nursing Infants	Children 1-6 yr
Published	0.012622[a] 31.6[b]	0.043413 108.5	0.025856 64.6
Pending (PP#7F3554)	0.001530 3.8	0.000586 1.5	0.001998 4.9
New (PP#7F3510)	0.000382 1.0	0.000300 0.8	0.000656 1.6
Total	0.014533 36.3	0.044299 110.7	0.028510 71.3

a Exposure in mg/kg body weight/day
b Exposure expressed in percent of the ADI

Dietary Risk Assessment

The AR for the proposed use of Iprodione on strawberries contributes 1% of the ADI to the overall U.S. population, 0.8% of the ADI to the non-nursing infant sub-group, and 1.6% of the ADI to the children 1-6yr sub-group.

The infant population group would be of most concern considering the ARC of published and pending tolerances is 110% of the ADI. An examination of exposure contribution by crop commodity for non-nursing infants shows milk and eggs (35% of the ADI), rice (33%), and stone fruits (18%) being the major contributors. Two of the three groups, milk-eggs, and stone fruits were adjusted for anticipated residue and percent crop treated. No usage data was available for the rice group.

This analysis, using available data, shows non-nursing infants exceeding the ADI by 11%. This fact is mitigated by the presumption that chronic toxic effects are expressed following a lifetime of exposure. Therefore, it does not appear that the current and proposed use of Iprodione poses an unreasonable health hazard. However, Iprodione is a "List B" reregistration chemical, and HED recommends that anticipated residue data for milk, eggs, rice, and stone fruits be provided as part of the reregistration process.

Attachments

cc: DRES, DEB (Loranger), Caswell #470A, TOX (Van Gemert), J. Ellenberger (H7508C)

Table 1

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 470A DATE: 10/26/89 PAGE: 1

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0.040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
01002AA	BLACKBERRIES	10 RAW-FRESH OR NFS	7F3542	P 25.00000	25.000000		100.00	25.000000
01002AA	BLACKBERRIES	21 COOKED-NFS	7F3542	P 25.00000	25.000000		100.00	25.000000
01002AA	BLACKBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	7F3542	P 25.00000	25.000000		100.00	25.000000
01003AA	BOYSENBERRIES	10 RAW-FRESH OR NFS	7F3542	P 25.00000	25.000000		100.00	25.000000
01004AA	DEWBERRIES	00 NOT SPECIFIED	7F3542	P 25.00000	25.000000		100.00	25.000000
01005AA	LOGANBERRIES	00 NOT SPECIFIED	7F3542	P 25.00000	25.000000		100.00	25.000000
01006AA	RASPBERRIES	10 RAW-FRESH OR NFS	7F3542	P 25.00000	25.000000		100.00	25.000000
01006AA	RASPBERRIES	15 RAW-FRESH OR CANNED	7F3542	P 25.00000	25.000000		100.00	25.000000
01006AA	RASPBERRIES	31 COOKED-FRESH OR CANNED	7F3542	P 25.00000	25.000000		100.00	25.000000
01006AA	RASPBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	7F3542	P 25.00000	25.000000		100.00	25.000000
01006AA	RASPBERRIES	70 RAW-FROZEN	7F3542	P 25.00000	25.000000		100.00	25.000000
01007AA	YOUNGBERRIES	00 NOT SPECIFIED	7F3542	P 25.00000	25.000000		100.00	25.000000
01009AA	BLUEBERRIES	10 RAW-FRESH OR NFS	5E3214	P 15.00000	15.000000		100.00	15.000000
01009AA	BLUEBERRIES	21 COOKED-NFS	5E3214	P 15.00000	15.000000		100.00	15.000000
01009AA	BLUEBERRIES	22 COOKED-FRESH-BAKED	5E3214	P 15.00000	15.000000		100.00	15.000000
01009AA	BLUEBERRIES	62 COOKED-FRESH OR FROZEN-BAKED	5E3214	P 15.00000	15.000000		100.00	15.000000
01011AA	CURRANTS	10 RAW-FRESH OR NFS	5E3214	P 15.00000	15.000000		100.00	15.000000
01011AA	CURRANTS	21 COOKED-NFS	5E3214	P 15.00000	15.000000		100.00	15.000000
01011AA	CURRANTS	22 COOKED-FRESH-BAKED	5E3214	P 15.00000	15.000000		100.00	15.000000
01014AA	GRAPES-FRESH	10 RAW-FRESH OR NFS	3F2964	P 60.00000	5.000000	AVG FLD TRIALS	4.20	0.210000
01014AA	GRAPES-FRESH	21 COOKED-NFS	3F2964	P 60.00000	5.000000	AVG FLD TRIALS	4.20	0.210000
01014AA	GRAPES-FRESH	31 COOKED-FRESH OR CANNED	3F2964	P 60.00000	5.000000	AVG FLD TRIALS	4.20	0.210000
01014DA	GRAPES-RAISINS	10 RAW-FRESH OR NFS	4H5415	P 300.0000	11.000000C	AVG FLD TRIALS	4.20	0.462000
01014DA	GRAPES-RAISINS	21 COOKED-NFS	4H5415	P 300.0000	11.000000C	AVG FLD TRIALS	4.20	0.462000
01014DA	GRAPES-RAISINS	22 COOKED-FRESH-BAKED	4H5415	P 300.0000	11.000000C	AVG FLD TRIALS	4.20	0.462000
01014JA	GRAPES-JUICE	10 RAW-FRESH OR NFS	3F2964	P 60.00000	3.000000C	AVG FLD TRIALS	4.20	0.126000
01014JA	GRAPES-JUICE	15 RAW-FRESH OR CANNED	3F2964	P 60.00000	3.000000C	AVG FLD TRIALS	4.20	0.126000
01014JA	GRAPES-JUICE	21 COOKED-NFS	3F2964	P 60.00000	3.000000C	AVG FLD TRIALS	4.20	0.126000
01016AA	STRAWBERRIES	10 RAW-FRESH OR NFS	7F3510	N 15.00000	11.000000	AVG FLD TRIALS	100.00	11.000000
01016AA	STRAWBERRIES	21 COOKED-NFS	7F3510	N 15.00000	11.000000	AVG FLD TRIALS	100.00	11.000000
01016AA	STRAWBERRIES	70 RAW-FROZEN	7F3510	N 15.00000	11.000000	AVG FLD TRIALS	100.00	11.000000
03001AA	ALMONDS	10 RAW-FRESH OR NFS	5F3241	P 0.300000	0.300000		100.00	0.300000
03001AA	ALMONDS	21 COOKED-NFS	5F3241	P 0.300000	0.300000		100.00	0.300000
03001AA	ALMONDS	22 COOKED-FRESH-BAKED	5F3241	P 0.300000	0.300000		100.00	0.300000
05001AA	APRICOTS-FRESH	10 RAW-FRESH OR NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	37.00	5.180000
05001AA	APRICOTS-FRESH	21 COOKED-NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	37.00	5.180000
05001AA	APRICOTS-FRESH	31 COOKED-FRESH OR CANNED	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	37.00	5.180000
05001DA	APRICOTS-DRIED	10 RAW-FRESH OR NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	37.00	5.180000
05001DA	APRICOTS-DRIED	22 COOKED-FRESH-BAKED	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	37.00	5.180000
[illegible]AA	CHERRIES-FRESH	10 RAW-FRESH OR NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000

Table 1, continued

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 470A DATE: 10/26/89 PAGE: 2

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0,040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
05002AA	CHERRIES-FRESH	21 COOKED-NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05002AA	CHERRIES-FRESH	31 COOKED-FRESH OR CANNED	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05002AA	CHERRIES-FRESH	62 COOKED-FRESH OR FROZEN-BAKED	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05002DA	CHERRIES-DRIED	00 NOT SPECIFIED	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05002JA	CHERRIES-JUICE	15 RAW-FRESH OR CANNED	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05002JA	CHERRIES-JUICE	21 COOKED-NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05003AA	NECTARINES	10 RAW-FRESH OR NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	100.00	14.000000
05004AA	PEACHES-FRESH	10 RAW-FRESH OR NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	8.60	1.204000
05004AA	PEACHES-FRESH	21 COOKED-NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	8.60	1.204000
05004AA	PEACHES-FRESH	31 COOKED-FRESH OR CANNED	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	8.60	1.204000
05004AA	PEACHES-FRESH	51 COOKED-CANNED	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	8.60	1.204000
05004DA	PEACHES-DRIED	10 RAW-FRESH OR NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	8.60	1.204000
05004DA	PEACHES-DRIED	21 COOKED-NFS	2F2596	P 20.00000	14.000000	AVG FLD TRIALS	8.60	1.204000
05005AA	PLUMS-FRESH	10 RAW-FRESH OR NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
05005AA	PLUMS-FRESH	31 COOKED-FRESH OR CANNED	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
05005DA	PLUMS-PRUNES	10 RAW-FRESH OR NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
05005DA	PLUMS-PRUNES	21 COOKED-NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
05005DA	PLUMS-PRUNES	31 COOKED-FRESH OR CANNED	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
05005JA	PRUNE-JUICE	10 RAW-FRESH OR NFS	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
05005JA	PRUNE-JUICE	62 COOKED-FRESH OR FROZEN-BAKED	3F2810	P 20.00000	14.000000	AVG FLD TRIALS	14.00	1.960000
06018AA	KIWI	10 RAW-FRESH OR NFS	2F2596	P 10.00000	10.000000		100.00	10.000000
13002AA	CELERY	10 RAW-FRESH OR NFS	7F3554	A 25.00000	25.000000		100.00	25.000000
13002AA	CELERY	21 COOKED-NFS	7F3554	A 25.00000	25.000000		100.00	25.000000
13005AA	BROCCOLI	21 COOKED-NFS	6F3305	P 25.00000	25.000000		100.00	25.000000
13005AA	BROCCOLI	31 COOKED-FRESH OR CANNED	6F3305	P 25.00000	25.000000		100.00	25.000000
13005AA	BROCCOLI	63 COOKED-FRESH OR FROZEN-BOILED	6F3305	P 25.00000	25.000000		100.00	25.000000
13013AA	LETTUCE-LEAFY	10 RAW-FRESH OR NFS	7F3481	P 25.00000	25.000000		12.00	3.000000
13016AA	FENNEL	00 NOT SPECIFIED	7F3554	A 25.00000	25.000000		100.00	25.000000
13020AA	LETTUCE-UNSPEC	10 RAW-FRESH OR NFS		P 25.00000	25.000000		12.00	3.000000
13045AA	LETTUCE-HEAD	10 RAW-FRESH OR NFS	3F2840	P 25.00000	25.000000		12.00	3.000000
13045AA	LETTUCE-HEAD	21 COOKED-NFS	3F2840	P 25.00000	25.000000		12.00	3.000000
14003AA	CARROTS	10 RAW-FRESH OR NFS	7E3474	P 5.000000	5.000000		7.70	0.385000
14003AA	CARROTS	21 COOKED-NFS	7E3474	P 5.000000	5.000000		7.70	0.385000
14003AA	CARROTS	23 COOKED-FRESH-BOILED	7E3474	P 5.000000	5.000000		7.70	0.385000
14003AA	CARROTS	31 COOKED-FRESH OR CANNED	7E3474	P 5.000000	5.000000		7.70	0.385000
14003AA	CARROTS	51 COOKED-CANNED	7E3474	P 5.000000	5.000000		7.70	0.385000
14007AA	GARLIC	10 RAW-FRESH OR NFS	3F2841	P 0.100000	0.100000		100.00	0.100000
14007AA	GARLIC	21 COOKED-NFS	3F2841	P 0.100000	0.100000		100.00	0.100000
14007AA	GARLIC	32 COOKED-FRESH OR CANNED-BAKED	3F2841	P 0.100000	0.100000		100.00	0.100000
14011AA	ONIONS-DRY-BULB	10 RAW-FRESH OR NFS	4F3111	P 0.500000	0.500000		100.00	0.500000

Table 1, continued

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 470A DATE: 10/26/89 PAGE: 3

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0.040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
14011AA	ONIONS-DRY-BULB	21 COOKED-NFS	4F3111	P 0.500000	0.500000		100.00	0.500000
14011AA	ONIONS-DRY-BULB	22 COOKED-FRESH-BAKED	4F3111	P 0.500000	0.500000		100.00	0.500000
14011AA	ONIONS-DRY-BULB	31 COOKED-FRESH OR CANNED	4F3111	P 0.500000	0.500000		100.00	0.500000
14011DA	ONIONS-DRIED	12 RAW-FRESH-DRIED	4F3111	P 0.500000	0.500000		100.00	0.500000
14013AA	POTATO(WH)-WHOLE	10 RAW-FRESH OR NFS	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AA	POTATO(WH)-WHOLE	21 COOKED-NFS	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AA	POTATO(WH)-WHOLE	22 COOKED-FRESH-BAKED	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AB	POTATO(WH)-UNSPE	22 COOKED-FRESH-BAKED	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AC	POTATO(WH)-PULP	21 COOKED-NFS	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AC	POTATO(WH)-PULP	22 COOKED-FRESH-BAKED	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AC	POTATO(WH)-PULP	23 COOKED-FRESH-BOILED	6F3366	P 0.500000	0.500000		100.00	0.500000
14013AC	POTATO(WH)-PULP	25 COOKED-FRESH-FRIED	6F3366	P 0.500000	0.500000		100.00	0.500000
14013DA	POTATO(WH)-DRY	10 RAW-FRESH OR NFS	6F3366	P 0.500000	0.500000		100.00	0.500000
14013DA	POTATO(WH)-DRY	31 COOKED-FRESH OR CANNED	6F3366	P 0.500000	0.500000		100.00	0.500000
14013HA	POTATO(WH)-PEEL	22 COOKED-FRESH-BAKED	6F3366	P 0.500000	0.500000		100.00	0.500000
14017AA	SHALLOTS	00 NOT SPECIFIED	4F3111	P 0.500000	0.500000		100.00	0.500000
15001AA	BEANS-DRY-GRT NO	00 NOT SPECIFIED	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AB	BEANS-DRY-KIDNEY	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AB	BEANS-DRY-KIDNEY	31 COOKED-FRESH OR CANNED	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AC	BEANS-DRY-LIMA	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AD	BEANS-DRY-NAVY	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AD	BEANS-DRY-NAVY	31 COOKED-FRESH OR CANNED	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AE	BEANS-DRY-OTHER	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AE	BEANS-DRY-OTHER	25 COOKED-FRESH-FRIED	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AE	BEANS-DRY-OTHER	31 COOKED-FRESH OR CANNED	4F3150	P 2.000000	2.000000		100.00	2.000000
15001AF	BEANS-DRY-PINTO	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15002AA	BEANS-SUCC-LIMA	10 RAW-FRESH OR NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15002AA	BEANS-SUCC-LIMA	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15003AA	BEANS-SUCC-GREEN	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15003AB	BEANS-SUCC-OTH	10 RAW-FRESH OR NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15003AB	BEANS-SUCC-OTH	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15003AC	BEANS-SUCC-WAX	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15006AA	PEANUTS-WHOLE	10 RAW-FRESH OR NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
15006AA	PEANUTS-WHOLE	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
15006AA	PEANUTS-WHOLE	22 COOKED-FRESH-BAKED	4F3129	P 0.500000	0.500000		100.00	0.500000
15013AA	MUNG BEANS	10 RAW-FRESH OR NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15013AA	MUNG BEANS	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15022AA	BEANS-DRY-BROAD	00 NOT SPECIFIED	4F3150	P 2.000000	2.000000		100.00	2.000000
15022AB	BEANS-SUCC-BROAD	00 NOT SPECIFIED	4F3150	P 2.000000	2.000000		100.00	2.000000
15023AA	BEANS-DRY-PIGEON	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000

Table 1, continued

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 470A DATE: 10/26/89 PAGE: 4

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0.040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
15027AA	BEANS-UNSPEC	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15030AA	BEANS-DRY-HYAC	00 NOT SPECIFIED	4F3150	P 2.000000	2.000000		100.00	2.000000
15030AB	BEANS-SUCC-HYAC	00 NOT SPECIFIED	4F3150	P 2.000000	2.000000		100.00	2.000000
15031AA	BLKEYE PEAS-DRY	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15032AA	BEANS-DRY	21 COOKED-NFS	4F3150	P 2.000000	2.000000		100.00	2.000000
15032AA	BEANS-DRY	31 COOKED-FRESH OR CANNED	6F3443	P 10.00000	10.000000		100.00	10.000000
24004AA	RICE-ROUGH	21 COOKED-NFS	6F3443	P 10.00000	10.000000		100.00	10.000000
24004AA	RICE-ROUGH	23 COOKED-FRESH-BOILED	6F3443	P 10.00000	10.000000		100.00	10.000000
24004AB	RICE-MILLED	21 COOKED-NFS	6F3443	P 10.00000	10.000000		100.00	10.000000
24004AB	RICE-MILLED	22 COOKED-FRESH-BAKED	6F3443	P 10.00000	10.000000		100.00	10.000000
24004AB	RICE-MILLED	23 COOKED-FRESH-BOILED	6F3443	P 10.00000	10.000000		100.00	10.000000
24004AB	RICE-MILLED	31 COOKED-FRESH OR CANNED	4F3129	P 0.500000	0.500000		100.00	0.500000
27007OA	PEANUTS-OIL	18 PROCESSED OIL	3F2964	P 60.00000	3.000000C	AVG FLD TRIALS	4.20	0.126000
43058AA	WINE AND SHERRY	10 RAW-FRESH OR NFS	3F2964	P 60.00000	3.000000C	AVG FLD TRIALS	4.20	0.126000
43058AA	WINE AND SHERRY	21 COOKED-NFS	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000DB	MILK-NON-FAT SOL	10 RAW-FRESH OR NFS	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000DB	MILK-NON-FAT SOL	21 COOKED-NFS	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000DB	MILK-NON-FAT SOL	51 COOKED-CANNED	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000FA	MILK-FAT SOLIDS	10 RAW-FRESH OR NFS	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000FA	MILK-FAT SOLIDS	21 COOKED-NFS	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000FA	MILK-FAT SOLIDS	51 COOKED-CANNED	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000SA	MILK SUG (LACT)	21 COOKED-NFS	4F3129	P 0.500000	0.200000	EXTRAPOLATED	100.00	0.200000
50000SA	MILK SUG (LACT)	51 COOKED-CANNED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001BA	BEEF-MEAT BYP	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001BA	BEEF-MEAT BYP	26 COOKED-FRESH-PICKLED,CORNED,OR CURED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001BB	BEEF-OTH ORGAN	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001BB	BEEF-OTH ORGAN	51 COOKED-CANNED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001DA	BEEF-DRIED	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001FA	BEEF-FAT	10 RAW-FRESH OR NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001FA	BEEF-FAT	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001FA	BEEF-FAT	22 COOKED-FRESH-BAKED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001FA	BEEF-FAT	23 COOKED-FRESH-BOILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001FA	BEEF-FAT	24 COOKED-FRESH-BROILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001FA	BEEF-FAT	25 COOKED-FRESH-FRIED	3F2964	P 3.000000	3.000000		100.00	3.000000
53001KA	BEEF-KIDNEY	21 COOKED-NFS	3F2964	P 3.000000	3.000000		100.00	3.000000
53001LA	BEEF-LIVER	25 COOKED-FRESH-FRIED	3F2964	P 3.000000	3.000000		100.00	3.000000
53001LA	BEEF-LIVER	31 COOKED-FRESH OR CANNED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001MA	BEEF-LEAN	10 RAW-FRESH OR NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001MA	BEEF-LEAN	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53001MA	BEEF-LEAN	22 COOKED-FRESH-BAKED						

Table 1, continued

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 470A DATE: 10/26/89 PAGE: 5

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0.040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
53001MA	BEEF-LEAN	23 COOKED-FRESH-BOILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53001MA	BEEF-LEAN	24 COOKED-FRESH-BROILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53002BA	GOAT-MEAT BYP	00 NOT SPECIFIED	4F3129	P 0.500000	0.500000		100.00	0.500000
53002BB	GOAT-OTH ORGAN	00 NOT SPECIFIED	4F3129	P 0.500000	0.500000		100.00	0.500000
53002FA	GOAT-FAT	23 COOKED-FRESH-BOILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53002FA	GOAT-FAT	25 COOKED-FRESH-FRIED	4F3129	P 0.500000	0.500000		100.00	0.500000
53002KA	GOAT-KIDNEY	00 NOT SPECIFIED	3F2964	P 3.000000	3.000000		100.00	3.000000
53002LA	GOAT-LIVER	00 NOT SPECIFIED	3F2964	P 3.000000	3.000000		100.00	3.000000
53002MA	GOAT-LEAN	23 COOKED-FRESH-BOILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53002MA	GOAT-LEAN	25 COOKED-FRESH-FRIED	4F3129	P 0.500000	0.500000		100.00	0.500000
53003AA	HORSE	00 NOT SPECIFIED	4F3129	P 3.000000	3.000000		100.00	3.000000
53005BA	SHEEP-MEAT BYP	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53005BB	SHEEP-OTH ORGAN	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53005FA	SHEEP-FAT	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53005KA	SHEEP-KIDNEY	21 COOKED-NFS	3F2964	P 3.000000	3.000000		100.00	3.000000
53005LA	SHEEP-LIVER	00 NOT SPECIFIED	3F2964	P 3.000000	3.000000		100.00	3.000000
53005MA	SHEEP-LEAN	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53005MA	SHEEP-LEAN	31 COOKED-FRESH OR CANNED	4F3129	P 0.500000	0.500000		100.00	0.500000
53006BA	PORK-MEAT BYP	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53006BB	PORK-OTH ORGAN	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53006BB	PORK-OTH ORGAN	26 COOKED-FRESH-PICKLED,CORNED,OR CURED	4F3129	P 0.500000	0.500000		100.00	0.500000
53006FA	PORK-FAT	10 RAW-FRESH OR NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53006FA	PORK-FAT	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53006FA	PORK-FAT	23 COOKED-FRESH-BOILED	4F3129	P 0.500000	0.500000		100.00	0.500000
53006FA	PORK-FAT	25 COOKED-FRESH-FRIED	4F3129	P 0.500000	0.500000		100.00	0.500000
53006FA	PORK-FAT	26 COOKED-FRESH-PICKLED,CORNED,OR CURED	4F3129	P 0.500000	0.500000		100.00	0.500000
53006KA	PORK-KIDNEY	21 COOKED-NFS	3F2964	P 3.000000	3.000000		100.00	3.000000
53006LA	PORK-LIVER	21 COOKED-NFS	3F2964	P 3.000000	3.000000		100.00	3.000000
53006LA	PORK-LIVER	25 COOKED-FRESH-FRIED	3F2964	P 3.000000	3.000000		100.00	3.000000
53006MA	PORK-LEAN	21 COOKED-NFS	4F3129	P 0.500000	0.500000		100.00	0.500000
53006MA	PORK-LEAN	25 COOKED-FRESH-FRIED	4F3129	P 0.500000	0.500000		100.00	0.500000
53006MA	PORK-LEAN	26 COOKED-FRESH-PICKLED,CORNED,OR CURED	4F3129	P 0.500000	0.500000		100.00	0.500000
55008BA	TURKEY-BYP	21 COOKED-NFS	6F3443	P 1.000000	1.000000		100.00	1.000000
55008BA	TURKEY-BYP	26 COOKED-FRESH-PICKLED,CORNED,OR CURED	6F3443	P 1.000000	1.000000		100.00	1.000000
55008LA	TURKEY ORGAN	21 COOKED-NFS	6F3443	P 5.000000	5.000000		100.00	5.000000
55008LA	TURKEY ORGAN	25 COOKED-FRESH-FRIED	6F3443	P 5.000000	5.000000		100.00	5.000000
55008MA	TURKEY W/O SKIN	21 COOKED-NFS	6F3443	P 1.000000	1.000000		100.00	1.000000
55008MA	TURKEY W/O SKIN	31 COOKED-FRESH OR CANNED	6F3443	P 1.000000	1.000000		100.00	1.000000
55008MA	TURKEY W/O SKIN	62 COOKED-FRESH OR FROZEN-BAKED	6F3443	P 1.000000	1.000000		100.00	1.000000
55008MB	TURKEY+SKIN	21 COOKED-NFS	6F3443	P 3.500000	3.500000		100.00	3.500000

Table 1, continued

ANTICIPATED RESIDUE INFORMATION FOR CASWELL NUMBER 470A DATE: 10/26/89 PAGE: 6

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0.040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

FOOD CODE	FOOD	FOOD FORM	PET.#	TOLERANCE (ppm)	ANTICIPATED RESIDUE (ppm)	AR STATISTIC TYPE	% CROP TREATED	RES. VALUE USED IN TAS RUN (ppm)
55008MB	TURKEY+SKIN	25 COOKED-FRESH-FRIED	6F3443	P 3.500000	3.500000		100.00	3.500000
55008MC	TURKEY-UNSPEC	21 COOKED-NFS	6F3443	P 1.000000	1.000000		100.00	1.000000
55013BA	POULTRY,OTH-BYP	00 NOT SPECIFIED	6F3443	P 1.000000	1.000000		100.00	1.000000
55013LA	POULTRY,ORGAN	25 COOKED-FRESH-FRIED	6F3443	P 5.000000	5.000000		100.00	5.000000
55013MA	POULTRY,OTHER	21 COOKED-NFS	6F3443	P 3.500000	3.500000		100.00	3.500000
55014AA	EGGS-WHOLE	10 RAW-FRESH OR NFS	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AA	EGGS-WHOLE	21 COOKED-NFS	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AA	EGGS-WHOLE	22 COOKED-FRESH-BAKED	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AA	EGGS-WHOLE	23 COOKED-FRESH-BOILED	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AA	EGGS-WHOLE	25 COOKED-FRESH-FRIED	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AB	EGGS-WHITE ONLY	10 RAW-FRESH OR NFS	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AB	EGGS-WHITE ONLY	21 COOKED-NFS	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AB	EGGS-WHITE ONLY	22 COOKED-FRESH-BAKED	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AB	EGGS-WHITE ONLY	62 COOKED-FRESH OR FROZEN-BAKED	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AB	EGGS-WHITE ONLY	81 COOKED-FROZEN	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AC	EGGS-YOLK ONLY	10 RAW-FRESH OR NFS	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AC	EGGS-YOLK ONLY	21 COOKED-NFS	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AC	EGGS-YOLK ONLY	25 COOKED-FRESH-FRIED	6F3443	P 1.500000	1.500000		100.00	1.500000
55014AC	EGGS-YOLK ONLY	31 COOKED-FRESH OR CANNED	6F3443	P 1.500000	1.500000		100.00	1.500000
55015BA	CHICKEN-BYP	00 NOT SPECIFIED	6F3443	P 1.000000	1.000000		100.00	1.000000
55015LA	CHICKEN-ORGAN	21 COOKED-NFS	6F3443	P 5.000000	5.000000		100.00	5.000000
55015LA	CHICKEN-ORGAN	25 COOKED-FRESH-FRIED	6F3443	P 5.000000	5.000000		100.00	5.000000
55015LA	CHICKEN-ORGAN	26 COOKED-FRESH-PICKLED,CORNED,OR CURED	6F3443	P 5.000000	5.000000		100.00	5.000000
55015MA	CHICKEN-W/O SKIN	21 COOKED-NFS	6F3443	P 1.000000	1.000000		100.00	1.000000
55015MA	CHICKEN-W/O SKIN	22 COOKED-FRESH-BAKED	6F3443	P 1.000000	1.000000		100.00	1.000000
55015MA	CHICKEN-W/O SKIN	25 COOKED-FRESH-FRIED	6F3443	P 1.000000	1.000000		100.00	1.000000
55015MA	CHICKEN-W/O SKIN	31 COOKED-FRESH OR CANNED	6F3443	P 1.000000	1.000000		100.00	1.000000
55015MA	CHICKEN-W/O SKIN	53 COOKED-CANNED-BOILED	6F3443	P 1.000000	1.000000		100.00	1.000000
55015MB	CHICKEN+SKIN	21 COOKED-NFS	6F3443	P 3.500000	3.500000		100.00	3.500000
55015MB	CHICKEN+SKIN	25 COOKED-FRESH-FRIED	6F3443	P 3.500000	3.500000		100.00	3.500000

Table 2

TOLERANCE ASSESSMENT SYSTEM ROUTINE CHRONIC ANALYSIS DATE: 10/27/89 PAGE: 1

CHEMICAL INFORMATION	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Iprodione (Glycophene) Caswell #470A CAS No. 36734-19-7 A.I. CODE: 109801 CFR No. 180.399	1yr feeding- dog NOEL= 4.2000 mg/kg 100.00 ppm LEL= 15.0000 mg/kg 600.00 ppm ONCO: Negative- 2 species	Increased number of RBC Heinz bodies, decreased prostate weights. NOEL based on calc. dose. No evidence of oncogenicity in rats or mice.	ADI UF -->100 OPP RfD= 0.040000 EPA RfD= 0.040000	No data gaps.	HED complete 12/19/86. EPA verified 07/15/87. WHO last reviewed 1977. On IRIS.

POPULATION SUBGROUP	TOTAL TMRC (MG/KG BODY WEIGHT/DAY) CURRENT TMRC*	NEW TMRC**	NEW TMRC AS PERCENT OF RFD	DIFFERENCE AS PERCENT OF RFD	EFFECT OF ANTICIPATED RESIDUES ARC	%RFD
U.S. POPULATION - 48 STATES	0.046728	0.048778	121.944575	5.125463	0.014533	36.33227
U.S. POPULATION - SPRING SEASON	0.044071	0.046763	116.906643	6.730225	0.014788	36.96943
U.S. POPULATION - SUMMER SEASON	0.050750	0.052675	131.687520	4.813475	0.015136	37.84064
U.S. POPULATION - FALL SEASON	0.046339	0.048059	120.147230	4.299863	0.013843	34.60762
U.S. POPULATION - WINTER SEASON	0.045483	0.047321	118.303395	4.595300	0.013868	34.67047
NORTHEAST REGION	0.053382	0.055616	139.039135	5.584163	0.015312	38.27947
NORTH CENTRAL REGION	0.044725	0.046834	117.086090	5.274448	0.013377	33.44294
SOUTHERN REGION	0.035365	0.036936	92.340620	3.929018	0.013276	33.18932
WESTERN REGION	0.060013	0.062529	156.323090	6.289400	0.016670	41.67491
HISPANICS	0.048656	0.050374	125.935078	4.295620	0.018273	45.68275
NON-HISPANIC WHITES	0.048359	0.050569	126.422150	5.525525	0.014017	35.04372
NON-HISPANIC BLACKS	0.034726	0.035746	89.365770	2.550443	0.014072	35.17927
NON-HISPANIC OTHERS	0.046518	0.049533	123.833223	7.539370	0.023571	58.92758
NURSING INFANTS (< 1 YEAR OLD)	0.060176	0.060298	150.744965	0.304580	0.016795	41.98716
NON-NURSING INFANTS (< 1 YEAR OLD)	0.144221	0.145216	363.040708	2.488233	0.044299	110.74712
FEMALES (13+ YEARS, PREGNANT)	0.036387	0.037917	94.793095	3.825168	0.010148	25.37054
FEMALES 13+ YEARS, NURSING	0.053460	0.055849	139.623300	5.974228	0.015284	38.20927
CHILDREN (1-6 YEARS OLD)	0.110419	0.113312	283.279253	7.232568	0.028510	71.27531
CHILDREN (7-12 YEARS OLD)	0.060950	0.063454	158.634125	6.258093	0.019557	48.89300
MALES (13-19 YEARS OLD)	0.032342	0.034061	85.153460	4.297468	0.012882	32.20438
FEMALES (13-19 YEARS OLD, NOT PREG. OR NURSING)	0.031543	0.033208	83.019195	4.160855	0.011303	28.25651
MALES (20 YEARS AND OLDER)	0.034446	0.036268	90.670553	4.555095	0.011579	28.94687
FEMALES (20 YEARS AND OLDER, NOT PREG. OR NURS)	0.037696	0.039739	99.347465	5.108405	0.011386	28.46535

*Current TMRC does not include new or pending tolerances.
**New TMRC includes new, pending, and published tolerances.