APPENDIX 3

REVISED MARGINS OF EXPOSURE FOR ACETYLCHOLINESTERASE INHIBITION

APPENDIX 3

Revised Margins of Exposure for Acetylcholinesterase Inhibition

Introduction

Chlorpyrifos first entered the comprehensive human health risk assessment process after being given a "High" priority status by the California Department of Pesticide Regulation (DPR) in 2011. Human health concerns originally focused on potential neurodevelopmental and neurobehavioral effects, genotoxicity and reproductive toxicity in rats, probable human exposure due to spray drift, possible children hand-to-mouth exposure, and exposure through food and drinking water. The first draft comprehensive human health risk assessment was published in December 2015 (DPR, 2015).

In its December 2015 draft risk assessment, the Human Health Assessment (HHA) Branch of DPR initially adopted the points of departure (PoD) from the 2014 US EPA Revised Human Health Risk Assessment for Chlorpyrifos (US EPA, 2014) which utilized an acetylcholinesterase (AChE) inhibition endpoint. The PoDs were human estimates derived from physiologically based pharmacokinetic-pharmacodynamic (PBPK-PD) modeling of 10% AChE inhibition in red blood cells. It was in the December 2015 draft that the potential human exposure to spray drift (via inhalation or deposition) first became a concern. As such, chlorpyrifos entered the formal process to evaluate the scientific evidence for listing as a pesticide Toxic Air Contaminant (TAC) (CA Food & Agricultural Code §14021-14027). The first draft TAC evaluation was published by DPR in August 2017 (DPR, 2017a). A subsequent revision was published in December 2017 (DPR, 2017b), which has been reviewed by the Scientific Review Panel (SRP) on Toxic Air Contaminants.

Findings from the December 2017 Analysis of the Acetylcholinesterase Inhibition Endpoint

In the December 2017 Draft Evaluation of Chlorpyrifos as a Toxic Air Contaminant,[1] the critical no-observed-effect level (NOEL) for evaluating oral, dermal, and inhalation exposure to chlorpyrifos was a point of departure (PoD) based on inhibition of AChE in red blood cells. The classical mechanism of chlorpyrifos-mediated toxicity is associated with binding and inhibition of the enzyme AChE. As detailed in the December 2017 draft, the PoDs were originally adopted from the US EPA 2014 Revised Human Health Risk Assessment for Chlorpyrifos and are physiologically-based pharmacokinetic-pharmacodynamic (PBPK-PD) model derived human equivalent doses based on 10% inhibition of AChE activity after acute (single day, 24 hr) or steady-state (21-day) exposure. The PBPK-PD model includes parameters that account for human-specific physiology and metabolism and can be used to derive age, exposure duration, and route specific PoDs. Risks were calculated as margins of exposure (MOE) for infants, children, youths, and non-pregnant adults. The MOE equals the critical PoD divided by the estimated human exposure level. DPR considers a MOE of 100 to be protective of human health for all exposure scenarios. The target of 100 included uncertainty factors (UF) of 1x for

[1] The December 2017 Draft Evaluation of Chlorpyrifos as a Toxic Air Contaminant may be found in full at either https://www.cdpr.ca.gov/docs/whs/pdf/chlorpyrifos_draft_evaluation_as_tac.pdf or in Appendix 6 of this document.

interspecies sensitivity, 10x for intraspecies variability, and 10x for potential neurodevelopmental effects. Exposures resulting in MOEs lower than the target of 100 are considered to be of potential health risk to humans. Using the 10% AChE inhibition endpoint and exposures estimated from spray drift following aerial applications of chlorpyrifos, human health risks were identified from hand-to-mouth exposure to children, from inhalation exposure to children and women of childbearing age, and from various aggregate exposures. However, the air component of the exposure contributed up to 95% of the total aggregate exposure risk.

Refinements to the Acetylcholinesterase Inhibition Endpoint

HHA subsequently revised its PBPK-PD modeling outputs for the steady-state (21 day) PoDs for inhalation exposure for children 1-2 years old. HHA initiated the review of the modeling outputs as published in the August 2017 draft TAC evaluation (DPR, 2017a) following receipt of comments from Dow AgroSciences LLC (DAS). In those comments (available at https://www.cdpr.ca.gov/docs/whs/pdf/chlorpyrifos_comments_dow_draft_eval_tac.pdf), DAS commented that the steady state (21 day) inhalation PoD for children 1-2 years old presented in the US EPA 2014 Revised Human Health Risk Assessment (2.37 mg/m^3), and on which HHA initially based the PBPK-PD derived PoDs, would not achieve a 10% reduction in RBC AChE. In a separate analysis requested by HHA, DAS used the HHA default physiological parameters for children 1-2 years old (e.g., 13 kg; Andrews and Patterson, 2000) and an estimated air concentration of 3.0 mg/m^3 that will result in 10% RBC AChE inhibition at 1 hour per day for 21 days (Poet, 2017a). Given that HHA adopted all PoD values from the US EPA 2014 risk assessment into the August 2017 DPR draft risk assessment, the updated inhalation PoD value needs to be consistent with the physiological parameters US EPA used for generating other PoD values (e.g., dietary) for children 1-2 years old (e.g., 11 kg rather than 13 kg used previously). Therefore, HHA re-estimated a separate 21-day (steady state) PoD value for inhalation using the latest version of the CPF PBPK/PD model (Poet et al., 2017b) and the model input parameters as specified in the US EPA 2014 Revised Human Health Risk Assessment (US EPA 2014). The resulting PoD was 2.85 mg/m^3, which is similar to that generated by DAS but slightly higher than the 2014 US EPA PoD value (Table1). **Note**: The complete set of revised PoDs and MOEs not previously published and that reflect these PBPK-PD modeling refinement are found herein.

Table 1. Comparison of PBPK Modeled 21-Day PoD for Inhalation Exposure of Children (1-2 years old) by US EPA, DAS, and DPR

Inhalation Concentration (mg/m^3)	Exposure Hours per Day for 21 Days	Percent Control RBC AChE Activity	Source
2.37	1	<<10%	US EPA (2014) and DPR (August 2017)
3.0	1	~10%	DAS
2.85	1	~10%	DPR (December 2017)

Using the Acetylcholinesterase Inhibition Endpoint to Protect Against Developmental Neurotoxicity

Identification of a rigorous neurodevelopmental point of departure for chlorpyrifos would be strengthened by elucidation of a potential mechanism. Mammalian neurodevelopment is

multifactorial and there are likely multiple pathways involved, some of which may be mediated via the classical cholinesterase toxicity pathway of binding and inhibiting AChE. Other potential mechanisms maybe covariates of this pathway, or may involve other key events at the molecular, cellular, and tissue level. While an adverse outcome pathway has not been elucidated at this time, with further investigation it may be revealed that AChE inhibition plays a direct or indirect role in the pathway of chlorpyrifos-mediated developmental neurotoxicity. For the AChE inhibition endpoint, a target MOE of 100 was considered protective of human health for all exposure scenarios. The target of 100 included uncertainty factors (UF) of 1 for interspecies sensitivity and 10 for intraspecies variability. Because of the unknowns in the adverse outcome pathway of chlorpyrifos-induced developmental neurotoxicity, HHA set an uncertainty factor (UF) of 10 to protect against developmental neurotoxicity. This was intended to protect human populations from potential impacts on neurological or neurodevelopmental parameters that are not easily measured and may occur at doses lower than those necessary to elicit AChE inhibition. The magnitude of the UF was well supported by recent in vivo animal data that showed developmental neurotoxic effects occurring at doses approximately 10-fold lower than those known to inhibition red blood cell AChE.

After further review of the PBPK-PD model, and in consultation with the SRP, DPR revised the interspecies UF from 1 to 3, thus increasing the target MOE from 100 to 300 for the PBPK-PD derived AChE inhibition PoD. By increasing the total UF to 300, the protection factor and the conservativeness inherent in the chlorpyrifos proposed target RfCs and RfDs is further increased. The summary of PoDs and RfCs/RfDs from a total UF of 100 and 300 is summarized in Table 2.

Table 2. Points of Departure, Reference Doses, or Concentrations used to evaluate the Risk from Exposure to Chlorpyrifos in Selected Population Subgroups for Acetylcholinesterase Inhibition

Route	10% Acetylcholinesterase Inhibition[b]		
	PBPK-PD PoD[a]	RfD or RfC[c] (PoD/UF of 100)	RfD or RfC (PoD/UF of 300)
Uncertainty Factors (UF)		**1 interspecies 10 intraspecies 10 DNT**	**3 interspecies 10 intraspecies 10 DNT**
Acute Oral [mg/kg/day]			
Infants	0.600	0.006	0.002
Children 1-2	0.581	0.006	0.002
Children 6-12	0.530	0.005	0.002
Females 13-49	0.469	0.005	0.002
Acute Dermal [mg/kg/day]			
Children 1-2	134.3	1.34	0.448
Females 13-49	23.6	0.24	0.079
Acute Inhalation [mg/m^3]			
Children 1-2	2.85	0.0285	0.0095
Females 13-49	6.15	0.0615	0.0205

[a] PoD, Point of Departure (PoD): a starting dose point for low-dose extrapolation.
[b] The PoDs are Physiologically-Based Pharmacokinetic-Pharmacodynamic (PBPK-PD) model derived human equivalent doses based on 10% inhibition of acetylcholinesterase (AChE) in red blood cells after an acute (single day, 24 hr) or steady-state (21-day) exposure to chlorpyrifos. PBPK-derived PoDs were used in the DPR December 2017 Draft Evaluation of Chlorpyrifos as a Toxic Air Contaminant to derive RfDs/RfCs and to calculate risk from exposure to chlorpyrifos.

[c] RfD, Reference Dose or Reference Concentration (RfC): As defined by US EPA, RfC or RfD is an estimate of the concentration or dose of a substance to which a human populations can be exposed (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime; derived by dividing the appropriate PoD by the product of all uncertainty factors (UF).

Conclusion

DPR applied an uncertainty factor of 10X to the AChE inhibition endpoint to account for the possibility of developmental neurotoxicity effects, thus increasing the protection factor of the estimated reference concentrations / reference doses (RfCs, RfDs) for chlorpyrifos. In addition, in the final TAC evaluation of chlorpyrifos and based on the recommendation of the SRP, DPR added an additional 3x uncertainty factor for PBPK-PD model insufficiencies which further increased the protectiveness in the proposed target RfCs and RfDs. The database is robust, covering many hundreds of research papers over several decades, with consistency across laboratories and studies for the level of chlorpyrifos that inhibits AChE in red blood cells in both animals and humans. Additionally, the magnitude of the 10x UF to account for possible developmental effects is well supported by existing data that demonstrate effects occurring at levels below those that inhibit AChE.

References

Andrews and Patterson, 2000. Interim Guidance for Selecting Default Inhalation Rates for Children and Adults. California Department of Pesticide Regulation Memorandum, Chuck Andrews (Worker Health & Safety Branch) and Gary Patterson (Medical Toxicology Branch). Memo No. HSM-00010, December 1, 2000.

DPR 2015. Draft Chlorpyrifos Risk Characterization Document: Spray Drift, Dietary and Aggregate Exposures to Residential Bystanders. December 31, 2015.

DPR 2017a. Draft Evaluation of Chlorpyrifos as a Toxic Air Contaminant: Risk Characterization of Spray Drift, Dietary, and Aggregate Exposures to Residential Bystanders. Human Health Assessment Branch. August 18, 2017.

DPR 2017b. Revised Draft Evaluation of Chlorpyrifos as a Toxic Air Contaminant: Risk Characterization of Spray Drift, Dietary, and Aggregate Exposures to Residential Bystanders. Human Health Assessment Branch. December 11, 2017.

Poet, T. S., Timchalk, C., Bartels, M. J., Smith, J. N., McDougal, R., Juberg, D. R., and Price, P. S. 2017a. Use of a probabilistic PBPK/PD model to calculate Data Derived Extrapolation Factors for chlorpyrifos. *Regulatory Toxicology and Pharmacology* 86:59-73.

Poet, T. S. 2017b. Chlorpyrifos PBPK-WebEx C.A. Department of Pesticide Regulation & Dow AgroSciences. DPR Vol. 342-1029 Rec No. 304288 and DPR Vol. 342-1030 Rec No 304289.

US EPA. 2014. Chlorpyrifos: Revised Human Health Risk Assessment for Registration Review. Office of Chemical Safety and Pollution Prevention. EPA-HQ-OPP-2008-0850-0195, December 29, 2014.

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Aerial Estimates - Children 1 - 2 y.o.

Drift-Modeling AirCraft	Drift-Modeling AppVolume	Drift-Modeling AppRate (lb-ai/A)	Buffer Distance Buffer Distance (feet)	Dermal MOE	H-to-M MOE	O-to-Mouth MOE	Soil MOE	Combined-MOE Deposit-ALL	Inhalation MOE	CD + I Combined-MOE Deposit-ALL-Inhalation	CD + I + D Combined MOE Deposit-Inhalation-Food (Children)	CD + I + D + DW-EMON Combined MOE DIF-DW (PDP)-Children	CD + I + D + DW-EMON Combined MOE DIF-DW (DPR)-Children
AT 802A	2	1	25	4440	161	5230	21515	149	98	59	57	57	53
AT 802A	2	1	50	5641	204	6645	27335	190	108	69	66	65	61
AT 802A	2	1	100	8374	303	9864	40578	282	130	89	83	83	76
AT 802A	2	1	250	16063	581	18922	77842	541	177	133	122	121	107
AT 802A	2	1	500	26951	975	31747	130601	907	244	192	168	168	142
AT 802A	2	1	1000	50532	1827	59526	244877	1701	438	349	278	276	212
AT 802A	2	1	1320	77411	2799	91188	375131	2606	621	501	367	363	261
AT 802A	2	1	2608	428039	15479	504218	2074252	14408	1770	1576	734	717	404
Bell 205 Helicopter	2	1	25	4686	169	5519	22706	158	85	55	53	53	50
Bell 205 Helicopter	2	1	50	7652	277	9013	37079	258	104	74	70	70	65
Bell 205 Helicopter	2	1	100	12589	455	14830	61007	424	130	100	93	93	84
Bell 205 Helicopter	2	1	250	19720	713	23230	95562	664	186	145	132	131	115
Bell 205 Helicopter	2	1	500	33227	1202	39140	161015	1118	279	224	192	191	158
Bell 205 Helicopter	2	1	1000	68006	2459	80109	329554	2289	491	405	313	309	232
Bell 205 Helicopter	2	1	1320	97022	3509	114289	470164	3266	636	532	384	379	269
Bell 205 Helicopter	2	1	2608	606389	21928	714309	2938524	20411	1397	1308	670	656	384
AT 802A	2	2	25	2218	80	2613	10751	75	58	33	32	32	31
AT 802A	2	2	50	2829	102	3333	13710	95	65	39	38	38	36
AT 802A	2	2	75	3456	125	4071	16747	116	72	44	43	43	41
AT 802A	2	2	100	4236	153	4989	20525	143	81	52	50	50	47
AT 802A	2	2	150	5663	205	6671	27444	191	92	62	59	59	56
AT 802A	2	2	200	7253	262	8544	35147	244	105	73	70	70	65
AT 802A	2	2	250	8461	306	9967	41003	285	120	85	80	79	73
AT 802A	2	2	300	10614	384	12503	51437	357	134	97	91	91	83
AT 802A	2	2	500	15548	562	18316	75347	523	186	137	125	124	110
AT 802A	2	2	1000	39547	1430	46585	191643	1331	396	305	250	248	195
AT 802A	2	2	1320	67377	2436	79368	326503	2268	579	461	345	342	250
AT 802A	2	2	2608	363833	13157	428585	1763114	12247	1748	1530	724	708	401
Bell 205 Helicopter	2	2	25	2312	84	2723	11201	78	49	30	29	29	29
Bell 205 Helicopter	2	2	50	3755	136	4423	18195	126	62	42	40	40	39
Bell 205 Helicopter	2	2	75	4707	170	5545	22810	158	72	50	48	48	45
Bell 205 Helicopter	2	2	100	6034	218	7108	29239	203	83	59	56	56	53
Bell 205 Helicopter	2	2	150	7541	273	8884	36545	254	98	71	67	67	63
Bell 205 Helicopter	2	2	200	9365	339	11032	45384	315	114	84	79	79	73
Bell 205 Helicopter	2	2	250	10893	394	12832	52788	367	133	97	91	91	83
Bell 205 Helicopter	2	2	300	13133	475	15471	63643	442	147	110	102	102	92
Bell 205 Helicopter	2	2	500	21277	769	25063	103106	716	219	168	150	149	128
Bell 205 Helicopter	2	2	1000	48511	1754	57145	235082	1633	419	334	268	266	207
Bell 205 Helicopter	2	2	1320	75799	2741	89289	367315	2551	571	467	348	345	251
Bell 205 Helicopter	2	2	2608	454791	16446	535732	2203893	15309	1301	1199	640	628	374

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Aerial Estimates - Chldren 1 - 2 y.o.

Drift-Modeling AirCraft	Drift-Modeling AppVolume	Drift-Modeling AppRate (lb-ai/A)	Buffer Distance Buffer Distance (feet)	Dermal MOE	H-to-M MOE	O-to-Mouth MOE	Soil MOE	Combined-MOE Deposit-ALL	Inhalation MOE	CD + I Combined-MOE Deposit-ALL-Inhalation	CD + I + D Combined MOE Deposit-Inhalation-Food (Children)	CD + I + D + DW-EMON Combined MOE DIF-DW (PDP)-Children	CD + I + D + DW-EMON Combined MOE DIF-DW (DPR)-Children
AT 802A	2	2.3	25	1930	70	2274	9354	65	54	30	29	29	28
AT 802A	2	2.3	50	2464	89	2903	11940	83	61	35	34	34	33
AT 802A	2	2.3	100	3696	134	4354	17911	124	77	47	46	46	44
AT 802A	2	2.3	250	7392	267	8708	35821	249	114	78	74	74	68
AT 802A	2	2.3	500	13937	504	16418	67539	469	180	130	119	118	105
AT 802A	2	2.3	1000	35952	1300	42350	174221	1210	382	290	240	238	189
AT 802A	2	2.3	1320	63275	2288	74537	306629	2130	559	443	335	331	244
AT 802A	2	2.3	2608	287615	10401	338803	1393766	9681	1696	1443	704	689	395
Bell 205 Helicopter	2	2.3	25	2009	73	2366	9734	68	47	28	27	27	26
Bell 205 Helicopter	2	2.3	50	3262	118	3842	15806	110	59	38	37	37	36
Bell 205 Helicopter	2	2.3	100	5229	189	6160	25341	176	79	54	52	52	49
Bell 205 Helicopter	2	2.3	250	9646	349	11362	46742	325	128	92	86	86	79
Bell 205 Helicopter	2	2.3	500	19174	693	22587	92918	645	214	161	144	143	124
Bell 205 Helicopter	2	2.3	1000	44560	1611	52491	215936	1500	415	325	263	261	203
Bell 205 Helicopter	2	2.3	1320	70306	2542	82818	340698	2367	565	456	343	339	248
Bell 205 Helicopter	2	2.3	2608	351530	12712	414092	1703492	11833	1267	1144	624	612	368
AT 802A	15	1	25	5164	187	6084	25026	174	69	49	48	48	45
AT 802A	15	1	50	6457	233	7606	31289	217	73	55	53	52	50
AT 802A	15	1	100	9651	349	11368	46767	325	82	65	62	62	58
AT 802A	15	1	250	18803	680	22149	91117	633	99	85	80	80	74
AT 802A	15	1	500	30319	1096	35715	146926	1021	117	105	98	97	88
AT 802A	15	1	1000	40652	1470	47887	196996	1368	150	135	123	123	108
AT 802A	15	1	1320	44918	1624	52912	217668	1512	174	156	140	139	121
AT 802A	15	1	2608	151597	5482	178577	734631	5103	317	299	245	244	193
Bell 205 Helicopter	15	1	25	5187	188	6110	25133	175	48	38	37	37	35
Bell 205 Helicopter	15	1	50	8939	323	10530	43320	301	55	47	45	45	43
Bell 205 Helicopter	15	1	100	15417	558	18160	74708	519	64	57	54	54	51
Bell 205 Helicopter	15	1	250	22185	802	26133	107507	747	78	70	67	67	62
Bell 205 Helicopter	15	1	500	29580	1070	34844	143343	996	99	90	84	84	77
Bell 205 Helicopter	15	1	1000	45197	1634	53240	219020	1521	141	129	118	117	104
Bell 205 Helicopter	15	1	1320	56408	2040	66447	273351	1899	191	173	154	153	131
Bell 205 Helicopter	15	1	2608	346508	12531	408177	1679156	11664	356	345	276	274	211

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Aerial Estimates - Children 1 - 2 y.o.

Drift-Modeling AirCraft	Drift-Modeling AppVolume	Drift-Modeling AppRate (lb-ai/A)	Buffer Distance Buffer Distance (feet)	Dermal MOE	H-to-M MOE	O-to-Mouth MOE	Soil MOE	Combined-MOE Deposit-ALL	Inhalation MOE	CD + I Combined-MOE Deposit-ALL-Inhalation	CD + I + D Combined MOE Deposit-Inhalation-Food (Children)	CD + I + D + DW-EMON Combined MOE DIF-DW (PDP)-Children	CD + I + D + DW-EMON Combined MOE DIF-DW (DPR)-Children
AT 802A	15	2	25	2472	89	2912	11978	83	41	27	27	27	26
AT 802A	15	2	50	3068	111	3614	14866	103	43	30	30	30	29
AT 802A	15	2	100	4503	163	5304	21821	152	49	37	36	36	35
AT 802A	15	2	250	8561	310	10084	41485	288	61	50	49	48	46
AT 802A	15	2	500	13426	486	15815	65060	452	75	64	61	61	57
AT 802A	15	2	1000	18469	668	21756	89498	622	102	88	83	82	76
AT 802A	15	2	1320	21277	769	25063	103106	716	125	107	99	99	89
AT 802A	15	2	2608	88740	3209	104533	430028	2987	276	253	214	212	173
Bell 205 Helicopter	15	2	25	2490	90	2934	12068	84	34	24	24	24	23
Bell 205 Helicopter	15	2	50	4182	151	4926	20266	141	40	31	30	30	29
Bell 205 Helicopter	15	2	100	7065	255	8322	34235	238	47	39	38	38	36
Bell 205 Helicopter	15	2	250	10106	365	11905	48975	340	58	50	48	48	46
Bell 205 Helicopter	15	2	500	14212	514	16742	68872	478	76	66	63	63	59
Bell 205 Helicopter	15	2	1000	23473	849	27651	113749	790	113	99	92	92	84
Bell 205 Helicopter	15	2	1320	30833	1115	36321	149416	1038	138	122	112	111	99
Bell 205 Helicopter	15	2	2608	173254	6265	204088	839578	5832	248	238	203	202	166
AT 802A	15	2.3	25	2138	77	2518	10359	72	37	24	24	24	23
AT 802A	15	2.3	50	2650	96	3121	12840	89	39	27	27	27	26
AT 802A	15	2.3	100	3891	141	4584	18858	131	45	33	33	33	31
AT 802A	15	2.3	250	7375	267	8687	35738	248	56	45	44	44	42
AT 802A	15	2.3	500	11589	419	13651	56159	390	69	58	56	56	53
AT 802A	15	2.3	1000	15979	578	18822	77431	538	95	81	77	76	71
AT 802A	15	2.3	1320	18945	685	22316	91805	638	118	100	93	93	84
AT 802A	15	2.3	2608	77165	2790	90898	373937	2597	268	243	206	205	168
Bell 205 Helicopter	15	2.3	25	2149	78	2532	10415	72	31	22	21	21	21
Bell 205 Helicopter	15	2.3	50	3599	130	4240	17442	121	36	28	27	27	26
Bell 205 Helicopter	15	2.3	100	6061	219	7140	29371	204	42	35	34	34	33
Bell 205 Helicopter	15	2.3	250	8740	316	10295	42352	294	54	45	44	44	42
Bell 205 Helicopter	15	2.3	500	12456	450	14673	60360	419	71	61	58	58	55
Bell 205 Helicopter	15	2.3	1000	20544	743	24200	99555	692	106	92	86	86	79
Bell 205 Helicopter	15	2.3	1320	27041	978	31853	131038	910	130	114	105	105	94
Bell 205 Helicopter	15	2.3	2608	150656	5448	177468	730068	5071	225	215	186	185	154

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Aerial Estimates - Females 13 - 49 y.o.

Drift-Modeling Groundboom	Drift-Modeling AirCraft	Drift-Modeling AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal MOE	Inhalation MOE	Combined-MOE Deposit-ALL-Inhalation	Combined MOE Dermal-Inhalation-Food (Females)	Combined MOE DIF-DW (PDP)-Females	Combined MOE DIF-DW (DPR)-Females
Aircraft	GPA	AppRate (lb-ai/A)	Buffer Distance (feet	Dermal-MOE	Inhalation-MO	MOE-Deposit-Inhalation	MOE-D-I-Food-Females	MOE-DIF-DW(PDP)-Females	MOE-DIF-DW(DPR)-Females
AT 802A	2	1	25	1173	282	227	212	211	177
AT 802A	2	1	50	1491	317	261	241	240	197
AT 802A	2	1	100	2213	377	322	292	290	230
AT 802A	2	1	250	4246	521	464	404	400	294
AT 802A	2	1	500	7123	724	657	542	536	362
AT 802A	2	1	1000	13356	1309	1192	862	845	480
AT 802A	2	1	1320	20460	1864	1708	1103	1075	547
AT 802A	2	1	2608	113132	5125	4903	1904	1824	691
Bell 205 Helicopter	2	1	25	1238	256	212	199	198	168
Bell 205 Helicopter	2	1	50	2022	312	270	249	247	202
Bell 205 Helicopter	2	1	100	3327	389	348	313	311	243
Bell 205 Helicopter	2	1	250	5212	554	501	431	427	309
Bell 205 Helicopter	2	1	500	8782	831	759	610	602	391
Bell 205 Helicopter	2	1	1000	17974	1464	1354	944	923	505
Bell 205 Helicopter	2	1	1320	25643	1922	1788	1136	1107	555
Bell 205 Helicopter	2	1	2608	160270	4100	3998	1750	1682	670
AT 802A	2	2	25	586	168	130	125	125	112
AT 802A	2	2	50	748	192	153	146	145	128
AT 802A	2	2	100	1119	237	196	184	184	158
AT 802A	2	2	250	2236	353	305	278	276	221
AT 802A	2	2	500	4109	554	488	422	418	304
AT 802A	2	2	1000	10452	1183	1062	792	778	458
AT 802A	2	2	1320	17808	1708	1559	1039	1014	531
AT 802A	2	2	2608	96162	5125	4866	1899	1818	691
Bell 205 Helicopter	2	2	25	611	152	122	117	117	106
Bell 205 Helicopter	2	2	50	992	191	160	152	152	134
Bell 205 Helicopter	2	2	100	1595	250	216	202	201	170
Bell 205 Helicopter	2	2	250	2879	399	351	315	313	244
Bell 205 Helicopter	2	2	500	5624	661	592	497	492	341
Bell 205 Helicopter	2	2	1000	12822	1255	1143	836	820	472
Bell 205 Helicopter	2	2	1320	20034	1704	1570	1044	1019	532
Bell 205 Helicopter	2	2	2608	120203	3868	3747	1701	1636	663

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Aerial Estimates - Females 13 - 49 y.o.

Drift-Modeling Groundboom	Drift-Modeling AirCraft	Drift-Modeling AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal MOE	Inhalation MOE	Combined-MOE Deposit-ALL-Inhalation	Combined MOE Dermal-Inhalation-Food (Females)	Combined MOE DIF-DW (PDP)-Females	Combined MOE DIF-DW (DPR)-Females
Aircraft	GPA	AppRate (lb-ai/A)	Buffer Distance (feet	Dermal-MOE	Inhalation-MO	MOE-Deposit-Inhalation	MOE-D-I-Food-Females	MOE-DIF-DW(PDP)-Females	MOE-DIF-DW(DPR)-Females
AT 802A	2	2.3	25	510	156	120	115	115	104
AT 802A	2	2.3	50	651	180	141	135	135	120
AT 802A	2	2.3	100	977	224	182	172	171	148
AT 802A	2	2.3	250	1954	336	287	263	261	211
AT 802A	2	2.3	500	3684	535	467	406	402	296
AT 802A	2	2.3	1000	9502	1139	1017	767	753	449
AT 802A	2	2.3	1320	16724	1662	1512	1018	994	525
AT 802A	2	2.3	2608	76018	5125	4801	1889	1809	689
Bell 205 Helicopter	2	2.3	25	531	141	112	108	108	98
Bell 205 Helicopter	2	2.3	50	862	178	148	141	141	125
Bell 205 Helicopter	2	2.3	100	1382	237	202	190	189	161
Bell 205 Helicopter	2	2.3	250	2549	384	334	302	300	236
Bell 205 Helicopter	2	2.3	500	5068	641	569	481	476	333
Bell 205 Helicopter	2	2.3	1000	11777	1230	1114	820	805	467
Bell 205 Helicopter	2	2.3	1320	18582	1662	1526	1024	1000	527
Bell 205 Helicopter	2	2.3	2608	92910	3844	3691	1689	1625	661
AT 802A	15	1	25	1365	201	175	166	165	144
AT 802A	15	1	50	1707	214	190	179	179	154
AT 802A	15	1	100	2551	240	220	205	204	173
AT 802A	15	1	250	4970	290	274	252	250	204
AT 802A	15	1	500	8014	347	333	301	299	236
AT 802A	15	1	1000	10744	446	428	376	373	279
AT 802A	15	1	1320	11872	517	495	427	423	307
AT 802A	15	1	2608	40068	946	924	713	701	430
Bell 205 Helicopter	15	1	25	1371	144	131	125	125	112
Bell 205 Helicopter	15	1	50	2363	165	154	147	146	129
Bell 205 Helicopter	15	1	100	4075	189	181	171	170	148
Bell 205 Helicopter	15	1	250	5864	231	222	208	207	174
Bell 205 Helicopter	15	1	500	7818	294	284	260	258	210
Bell 205 Helicopter	15	1	1000	11946	418	404	358	355	269
Bell 205 Helicopter	15	1	1320	14909	569	548	466	461	326
Bell 205 Helicopter	15	1	2608	91583	961	951	728	716	436

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Aerial Estimates - Females 13 - 49 y.o.

Drift-Modeling Groundboom	Drift-Modeling AirCraft	Drift-Modeling AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal MOE	Inhalation MOE	Combined-MOE Deposit-ALL-Inhalation	Combined MOE Dermal-Inhalation-Food (Females)	Combined MOE DIF-DW (PDP)-Females	Combined MOE DIF-DW (DPR)-Females
Aircraft	GPA	AppRate (lb-ai/A)	Buffer Distance (feet	Dermal-MOE	Inhalation-MO	MOE-Deposit-Inhalation	MOE-D-I-Food-Females	MOE-DIF-DW(PDP)-Females	MOE-DIF-DW(DPR)-Females
AT 802A	15	2	25	653	118	100	97	96	89
AT 802A	15	2	50	811	127	110	106	106	97
AT 802A	15	2	100	1190	144	129	124	123	111
AT 802A	15	2	250	2263	180	167	158	158	138
AT 802A	15	2	500	3548	221	208	195	194	165
AT 802A	15	2	1000	4881	304	287	262	261	211
AT 802A	15	2	1320	5624	373	350	314	312	244
AT 802A	15	2	2608	23454	820	792	632	622	399
Bell 205 Helicopter	15	2	25	658	103	89	87	87	80
Bell 205 Helicopter	15	2	50	1105	119	108	104	104	95
Bell 205 Helicopter	15	2	100	1867	139	129	124	124	111
Bell 205 Helicopter	15	2	250	2671	174	164	155	155	136
Bell 205 Helicopter	15	2	500	3756	228	215	201	200	170
Bell 205 Helicopter	15	2	1000	6204	336	319	289	287	228
Bell 205 Helicopter	15	2	1320	8149	410	390	347	344	263
Bell 205 Helicopter	15	2	2608	45792	741	729	591	583	383
AT 802A	15	2.3	25	565	106	89	87	87	80
AT 802A	15	2.3	50	700	115	99	96	95	88
AT 802A	15	2.3	100	1029	131	116	112	112	102
AT 802A	15	2.3	250	1949	164	151	144	144	127
AT 802A	15	2.3	500	3063	203	190	179	179	154
AT 802A	15	2.3	1000	4223	283	266	245	243	200
AT 802A	15	2.3	1320	5007	351	328	297	295	233
AT 802A	15	2.3	2608	20395	799	769	616	608	393
Bell 205 Helicopter	15	2.3	25	568	93	80	78	78	73
Bell 205 Helicopter	15	2.3	50	951	108	97	94	94	87
Bell 205 Helicopter	15	2.3	100	1602	127	118	113	113	103
Bell 205 Helicopter	15	2.3	250	2310	160	149	143	142	126
Bell 205 Helicopter	15	2.3	500	3292	211	199	187	186	159
Bell 205 Helicopter	15	2.3	1000	5430	315	298	272	270	218
Bell 205 Helicopter	15	2.3	1320	7147	387	367	328	326	252
Bell 205 Helicopter	15	2.3	2608	39819	668	657	543	536	362

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Airblast Estimates - Children 1 - 2 y.o.

Orchard Airblast - Dormant Apples - 60 Swath	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal	H-to-M	O-to-Mouth	Soil	Combined-MOE	Inhalation	Combined-MOE	Combined MOE	Combined MOE	Combined MOE
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	MOE	MOE	MOE	MOE	Deposit-ALL	MOE	Deposit-ALL-Inhalation	Deposit-Inhalation-Food (Children)	DIF-DW (PDP)-Children	DIF-DW (DPR)-Children
AT 802A	2	1	25	13147	475	15486	63708	443	98	80	76	75	70
AT 802A	2	1	50	34552	1249	40701	167437	1163	108	99	92	92	84
AT 802A	2	1	100	123964	4483	146026	600720	4173	130	126	115	115	102
AT 802A	2	1	250	921096	33309	1085027	4463580	31005	177	176	156	155	133
AT 802A	2	1	500	5197616	187958	6122650	25187346	174955	244	243	207	205	168
AT 802A	2	1	1000	28294133	1023185	33329716	137111735	952399	438	438	332	329	243
AT 802A	2	1	1320	56593576	2046561	66665687	274249203	1904977	620	620	427	421	289
AT 802A	2	1	2608	310315816	11221775	365543555	1503772517	10445432	1781	1781	776	757	416
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	2	25	6573	238	7743	31854	221	58	46	44	44	42
AT 802A	2	2	75	35221	1274	41489	170679	1186	74	70	66	56	62
AT 802A	2	2	100	61982	2241	73013	300360	2086	81	78	74	74	68
AT 802A	2	2	250	460548	16655	542513	2231790	15502	120	119	110	109	98
AT 802A	2	2	500	2598808	93979	3061325	12593673	87478	186	186	164	163	138
AT 802A	2	2	1000	14147067	511592	16664858	68555868	476199	396	396	307	304	229
AT 802A	2	2	1320	28296788	1023281	33332844	137124601	952488	582	582	409	403	281
AT 802A	2	2	2608	155157908	5610888	182771777	751886259	5222716	1781	1781	776	757	416
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	4	25	3287	119	3872	15927	111	36	27	27	27	26
AT 802A	2	4	50	8638	312	10175	41859	291	41	36	35	35	34
AT 802A	2	4	100	30991	1121	36506	150180	1043	54	52	50	50	47
AT 802A	2	4	250	230274	8327	271257	1115895	7751	91	89	84	84	77
AT 802A	2	4	500	1299404	46990	1530662	6296837	43739	162	162	145	144	125
AT 802A	2	4	1000	7073533	255796	8332429	34277934	238100	373	372	293	290	221
AT 802A	2	4	1320	14148394	511640	16666422	68562301	476244	557	557	396	391	275
AT 802A	2	4	2608	77578954	2805444	91385889	375943129	2611358	1524	1524	722	706	401
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	6	25	2191	79	2581	10618	74	27	20	20	20	19
AT 802A	2	6	50	5759	208	6784	27906	194	32	28	27	27	26
AT 802A	2	6	100	20661	747	24338	100120	695	44	41	40	40	38
AT 802A	2	6	250	153516	5552	180838	743930	5167	82	81	76	76	70
AT 802A	2	6	500	866269	31326	1020442	4197891	29159	159	158	142	141	123
AT 802A	2	6	1000	4715689	170531	5554953	22851956	158733	370	369	291	288	220
AT 802A	2	6	1320	9432263	341094	11110948	45708200	317496	548	548	392	387	273
AT 802A	2	6	2608	51719303	1870296	60923926	250628753	1740905	1425	1425	699	684	393

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION

Airblast Estimates - Children 1 - 2 y.o.

Orchard Airblast - Sparse Orchard - 60 Swath	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal	H-to-M	O-to-Mouth	Soil	Combined-MOE	Inhalation	Combined-MOE	Combined MOE	Combined MOE
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	MOE	MOE	MOE	MOE	Deposit-ALL	MOE	Deposit-ALL-Inhalation	Deposit-Inhalation-Food (Children)	DIF-DW (DPR)-Children
AT 802A	2	1	25	16214	586	19099	78570	546	98	83	78	78	72
AT 802A	2	1	50	35600	1287	41936	172516	1198	108	99	92	92	84
AT 802A	2	1	100	99272	3590	116940	481068	3342	130	125	114	114	101
AT 802A	2	1	250	481898	17427	567663	2335251	16221	177	175	155	155	132
AT 802A	2	1	500	1837605	66452	2164648	8904928	61855	244	243	206	205	168
AT 802A	2	1	1000	8854701	320208	10430596	42909371	298055	438	438	332	329	242
AT 802A	2	1	1320	18978636	686314	22356314	91969372	638833	620	620	427	421	289
AT 802A	2	1	2608	356180069	12880338	419570392	1726028038	11989252	1781	1781	776	757	416
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child	MOE-DI-F-DW(DPR)-Child
AT 802A	2	2	25	8107	293	9550	39285	273	58	48	46	46	44
AT 802A	2	2	50	17800	644	20968	86258	599	65	59	56	56	53
AT 802A	2	2	100	49636	1795	58470	240534	1671	81	78	73	73	68
AT 802A	2	2	250	240949	8713	283831	1167625	8111	120	118	109	109	97
AT 802A	2	2	500	918802	33226	1082324	4452464	30927	186	185	163	162	138
AT 802A	2	2	1000	4427351	160104	5215298	21454685	149027	396	395	307	304	229
AT 802A	2	2	1320	9489318	343157	11178157	45984686	319417	582	582	409	403	281
AT 802A	2	2	2608	178090034	6440169	209785196	863014019	5994626	1781	1781	776	757	416
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child	MOE-DI-F-DW(DPR)-Child
AT 802A	2	4	25	4053	147	4775	19643	136	36	28	28	28	27
AT 802A	2	4	50	8900	322	10484	43129	300	41	36	35	35	34
AT 802A	2	4	100	24818	897	29235	120267	835	54	51	49	49	47
AT 802A	2	4	250	120475	4357	141916	583813	4055	91	89	83	83	76
AT 802A	2	4	500	459401	16613	541162	2226232	15464	162	160	144	143	124
AT 802A	2	4	1000	2213675	80052	2607649	10727343	74514	373	371	292	290	221
AT 802A	2	4	1320	4744659	171578	5589079	22992343	159708	557	557	396	390	275
AT 802A	2	4	2608	89045017	3220085	104892598	431507010	2997313	1524	1524	722	706	401
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child	MOE-DI-F-DW(DPR)-Child
AT 802A	2	6	25	2702	98	3183	13095	91	27	21	21	21	20
AT 802A	2	6	50	5933	215	6989	28753	200	32	28	27	27	26
AT 802A	2	6	100	16545	598	19490	80178	557	44	41	39	39	38
AT 802A	2	6	250	80316	2904	94610	389208	2704	82	79	75	75	69
AT 802A	2	6	500	306267	11075	360775	1484155	10309	159	157	141	140	122
AT 802A	2	6	1000	1475784	53368	1738433	7151562	49676	370	367	290	287	219
AT 802A	2	6	1320	3163106	114386	3726052	15328229	106472	548	548	392	386	273
AT 802A	2	6	2608	59363345	2146723	69928399	287671340	1998209	1425	1425	699	684	393

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Airblast Estimates - Females 13 - 49 y.o.

Drift-Modeling Orchard Airblast - Dormant Apples - 60 Swath	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal MOE	Inhalation MOE	Combined-MOE Deposit-ALL-Inhalation	Combined MOE D-I-food (Females)	Combined MOE D-F-DW (PDP)-Females	Combined MOE D-I-F-DW (DPR)-Females
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	1	25	3475	282	261	241	239	197
AT 802A	2	1	50	9132	317	306	279	277	222
AT 802A	2	1	100	32764	377	373	333	331	255
AT 802A	2	1	250	243449	521	520	446	441	316
AT 802A	2	1	500	1373746	724	723	587	579	381
AT 802A	2	1	1000	7478229	1309	1308	921	902	498
AT 802A	2	1	1320	14957862	1852	1852	1161	1131	561
AT 802A	2	1	2608	82017454	5302	5301	1961	1876	699
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	2	25	1737	168	153	146	145	128
AT 802A	2	2	50	4566	192	184	174	173	150
AT 802A	2	2	100	16382	237	234	218	217	181
AT 802A	2	2	250	121724	353	352	317	314	245
AT 802A	2	2	500	686873	554	554	470	465	328
AT 802A	2	2	1000	3739115	1183	1182	857	840	479
AT 802A	2	2	1320	7478931	1708	1708	1103	1075	547
AT 802A	2	2	2608	41008727	5125	5124	1937	1853	696
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	4	25	869	103	92	90	89	83
AT 802A	2	4	50	2283	122	116	112	112	101
AT 802A	2	4	100	8191	158	155	148	147	130
AT 802A	2	4	250	60862	267	266	245	244	200
AT 802A	2	4	500	343437	482	481	417	413	301
AT 802A	2	4	1000	1869557	1114	1113	820	805	467
AT 802A	2	4	1320	3739465	1662	1661	1083	1057	542
AT 802A	2	4	2608	20504364	4556	4555	1849	1773	684
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	6	25	579	79	69	68	68	64
AT 802A	2	6	50	1522	96	90	87	87	81
AT 802A	2	6	100	5461	128	125	121	120	109
AT 802A	2	6	250	40575	243	242	224	223	186
AT 802A	2	6	500	228958	473	472	410	406	298
AT 802A	2	6	1000	1246372	1118	1117	822	807	468
AT 802A	2	6	1320	2492977	1618	1617	1064	1039	537
AT 802A	2	6	2608	13669576	4393	4391	1822	1748	680

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Airblast Estimates - Females 13 - 49 y.o.

Orchard Airblast - Sparse Orchard - 60 Swath	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal MOE	Inhalation MOE	Combined-MOE Deposit-ALL-Inhalation	Combined MOE D-I-food (Females)	Combined MOE D-I-F-DW (DPR)-Females	
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	1	25	4285	282	265	244	243	199
AT 802A	2	1	50	9409	317	307	279	277	222
AT 802A	2	1	100	26238	377	372	332	330	254
AT 802A	2	1	250	127367	521	519	445	440	316
AT 802A	2	1	500	485685	724	722	586	579	381
AT 802A	2	1	1000	2340326	1309	1308	921	902	498
AT 802A	2	1	1320	5016114	1852	1852	1161	1131	561
AT 802A	2	1	2608	94139522	5302	5301	1961	1876	699
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	2	25	2143	168	155	148	148	130
AT 802A	2	2	50	4705	192	185	174	174	150
AT 802A	2	2	100	13119	237	233	217	216	181
AT 802A	2	2	250	63684	353	351	316	314	245
AT 802A	2	2	500	242842	554	553	469	464	328
AT 802A	2	2	1000	1170163	1183	1181	856	840	479
AT 802A	2	2	1320	2508057	1708	1707	1103	1075	547
AT 802A	2	2	2608	47069761	5125	5124	1937	1853	696
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	4	25	1071	103	94	91	91	84
AT 802A	2	4	50	2352	122	116	112	112	102
AT 802A	2	4	100	6559	158	154	147	147	129
AT 802A	2	4	250	31842	267	265	244	243	199
AT 802A	2	4	500	121421	482	480	416	412	301
AT 802A	2	4	1000	585081	1114	1112	819	804	467
AT 802A	2	4	1320	1254028	1662	1660	1083	1056	542
AT 802A	2	4	2608	23534880	4556	4555	1849	1773	684
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
AT 802A	2	6	25	714	79	71	69	69	65
AT 802A	2	6	50	1568	96	90	88	87	81
AT 802A	2	6	100	4373	128	125	120	120	108
AT 802A	2	6	250	21228	243	240	223	222	185
AT 802A	2	6	500	80947	473	470	409	405	297
AT 802A	2	6	1000	390054	1118	1115	821	806	467
AT 802A	2	6	1320	836019	1618	1615	1064	1038	537
AT 802A	2	6	2608	15689920	4393	4392	1822	1748	680

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Children 1 - 2 y.o.

Ground Boom - High Boom 40 swath/50th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal	H-to-M	O-to-Mouth	Soil	Combined-MOE	Inhalation	Combined-MOE	Combined MOE	Combined MOE	Combined MOE
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	MOE	MOE	MOE	MOE	Deposit-ALL	MOE	Deposit-ALL-Inhalation	Deposit-Inhalation-Food (Children)	DIF-DW (PDP)-Children	DIF-DW (DPR)-Children
AT 802A	2	1	25	76596	2770	90229	371182	2578	98	94	88	88	80
AT 802A	2	1	50	115503	4177	136059	559719	3888	108	105	98	97	88
AT 802A	2	1	100	196667	7112	231668	953035	6620	130	127	116	116	103
AT 802A	2	1	250	428039	15479	504218	2074252	14408	177	175	155	154	132
AT 802A	2	1	500	1001662	36223	1179931	4853998	33717	244	242	206	204	167
AT 802A	2	1	1000	3328948	120383	3921410	16131890	112055	438	437	331	328	242
AT 802A	2	1	1320	6130433	221691	7221483	29707725	206354	620	620	427	420	289
AT 802A	2	1	2608	41436008	1498427	48810485	200796500	1394763	1781	1781	776	757	416
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	2	25	38298	1385	45114	185591	1289	58	55	53	53	50
AT 802A	2	2	50	57751	2088	68029	279859	1944	65	63	60	60	57
AT 802A	2	2	100	98333	3556	115834	476517	3310	81	79	75	75	69
AT 802A	2	2	250	214019	7739	252109	1037126	7204	120	118	109	87	97
AT 802A	2	2	500	500831	18111	589965	2426999	16858	186	184	162	162	138
AT 802A	2	2	1000	1664474	60191	1960705	8065945	56027	396	393	306	303	228
AT 802A	2	2	1320	3065217	110846	3610741	14853862	103177	582	582	409	402	281
AT 802A	2	2	2608	20718004	749213	24405243	100398250	697381	1781	1781	776	756	416
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	4	25	19149	692	22557	92795	645	36	34	33	33	32
AT 802A	2	4	50	28876	1044	34015	139930	972	41	40	39	39	37
AT 802A	2	4	100	49167	1778	57917	238259	1655	54	52	51	50	48
AT 802A	2	4	250	107010	3870	126055	518563	3602	91	88	83	83	76
AT 802A	2	4	500	250416	9056	294983	1213500	8429	162	159	143	142	123
AT 802A	2	4	1000	832237	30096	980352	4032972	28014	373	368	290	288	219
AT 802A	2	4	1320	1532608	55423	1805371	7426931	51589	557	557	396	388	275
AT 802A	2	4	2608	10359002	374607	12202621	50199125	348691	1524	1524	722	705	401
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	6	25	12766	462	15038	61864	430	27	26	25	25	25
AT 802A	2	6	50	19250	696	22676	93286	648	32	31	30	30	29
AT 802A	2	6	100	32778	1185	38611	158839	1103	44	42	41	41	39
AT 802A	2	6	250	71340	2580	84036	345709	2401	82	79	75	75	69
AT 802A	2	6	500	166944	6037	196655	809000	5619	159	155	139	138	120
AT 802A	2	6	1000	554825	20064	653568	2688648	18676	372	364	288	285	218
AT 802A	2	6	1320	1021739	36949	1203580	4951287	34392	546	546	391	382	272
AT 802A	2	6	2608	6906001	249738	8135081	33466083	232460	1451	1451	706	688	395

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Children 1 - 2 y.o.

Ground Boom - Low Boom 40 swath/50th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal	H-to-M	O-to-Mouth	Soil	Combined-MOE	Inhalation	Combined-MOE	Combined MOE	Combined MOE	Combined MOE
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	MOE	MOE	MOE	MOE	Deposit-ALL	MOE	Deposit-ALL-Inhalation	Deposit-Inhalation-Food (Children)	DIF-DW (PDP)-Children	DIF-DW (DPR)-Children
AT 802A	2	1	25	145533	5263	171434	705246	4899	98	96	89	89	81
AT 802A	2	1	50	214019	7739	252109	1037126	7204	108	106	99	98	89
AT 802A	2	1	100	363833	13157	428585	1763114	12247	130	128	117	117	104
AT 802A	2	1	250	727666	26314	857171	3526229	24494	177	176	156	155	133
AT 802A	2	1	500	1412875	51093	1664329	6846713	47558	244	242	206	205	168
AT 802A	2	1	1000	3729404	134864	4393136	18072474	125534	438	437	331	328	242
AT 802A	2	1	1320	6108803	220909	7196003	29602905	205626	620	620	427	420	289
AT 802A	2	1	2608	28619013	1034933	33712416	138686085	963335	1781	1781	776	756	416
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	2	25	72767	2631	85717	352623	2449	58	56	54	54	51
AT 802A	2	2	50	107010	3870	126055	518563	3602	65	64	61	61	57
AT 802A	2	2	100	181917	6579	214293	881557	6123	81	80	76	76	70
AT 802A	2	2	250	363833	13157	428585	1763114	12247	120	119	110	109	98
AT 802A	2	2	500	706438	25547	832164	3423356	23779	186	185	163	162	138
AT 802A	2	2	1000	1864702	67432	2196568	9036237	62767	396	393	306	303	228
AT 802A	2	2	1320	3054401	110455	3598001	14801453	102813	582	582	409	402	281
AT 802A	2	2	2608	14309507	517467	16856208	69343042	481667	1781	1781	776	756	416
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	4	25	36383	1316	42859	176311	1225	36	35	34	34	33
AT 802A	2	4	50	53505	1935	63027	259282	1801	41	40	39	39	38
AT 802A	2	4	100	90958	3289	107146	440779	3062	54	53	51	51	49
AT 802A	2	4	250	181917	6579	214293	881557	6123	91	89	84	84	77
AT 802A	2	4	500	353219	12773	416082	1711678	11890	162	160	143	143	124
AT 802A	2	4	1000	932351	33716	1098284	4518119	31384	373	369	291	288	220
AT 802A	2	4	1320	1527201	55227	1799001	7400726	51407	557	557	396	388	275
AT 802A	2	4	2608	7154753	258733	8428104	34671521	240834	1524	1524	722	704	401
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	6	25	24256	877	28572	117541	816	27	26	26	26	25
AT 802A	2	6	50	35670	1290	42018	172854	1201	32	31	31	31	30
AT 802A	2	6	100	60639	2193	71431	293852	2041	44	43	42	42	40
AT 802A	2	6	250	121278	4386	142862	587705	4082	82	80	76	76	70
AT 802A	2	6	500	235479	8516	277388	1141119	7926	159	156	140	139	121
AT 802A	2	6	1000	621567	22477	732189	3012079	20922	372	365	289	286	218
AT 802A	2	6	1320	1018134	36818	1199334	4933818	34271	546	546	391	382	272
AT 802A	2	6	2608	4769836	172489	5618736	23114347	160556	1451	1451	706	687	395

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Children 1 - 2 y.o.

Ground Boom - High Boom 40 swath/90th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal	H-to-M	O-to-Mouth	Soil	Combined-MOE	Inhalation	Combined-MOE	Combined MOE	Combined MOE	Combined MOE
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	MOE	MOE	MOE	MOE	Deposit-ALL	MOE	Deposit-ALL-Inhalation	Deposit-Inhalation-Food (Children)	DIF-DW (PDP)-Children	DIF-DW (DPR)-Children
AT 802A	2	1	25	53901	1949	63494	261202	1814	98	93	87	87	79
AT 802A	2	1	50	75017	2713	88368	363529	2525	108	104	96	96	87
AT 802A	2	1	100	121278	4386	142862	587705	4082	130	126	115	115	102
AT 802A	2	1	250	242555	8771	285724	1175410	8165	177	173	154	153	131
AT 802A	2	1	500	425916	15402	501717	2063963	14337	244	240	204	203	166
AT 802A	2	1	1000	762324	27567	897997	3694177	25660	438	431	328	325	240
AT 802A	2	1	1320	966030	34934	1137957	4681325	32517	620	620	427	416	289
AT 802A	2	1	2608	1739360	62899	2048918	8428836	58548	1781	1781	776	747	416
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	2	25	26951	975	31747	130601	907	58	54	52	52	49
AT 802A	2	2	50	37509	1356	44184	181764	1263	65	62	59	59	56
AT 802A	2	2	100	60639	2193	71431	293852	2041	81	78	74	74	68
AT 802A	2	2	250	121278	4386	142862	587705	4082	120	117	108	107	96
AT 802A	2	2	500	212958	7701	250859	1031981	7168	186	182	160	160	136
AT 802A	2	2	1000	381162	13784	448998	1847089	12830	396	384	300	297	225
AT 802A	2	2	1320	483015	17467	568978	2340663	16259	582	582	409	394	281
AT 802A	2	2	2608	869680	31450	1024459	4214418	29274	1781	1781	776	738	416
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	4	25	13475	487	15874	65301	454	36	33	32	32	31
AT 802A	2	4	50	18754	678	22092	90882	631	41	39	38	38	36
AT 802A	2	4	100	30319	1096	35715	146926	1021	54	51	50	50	47
AT 802A	2	4	250	60639	2193	71431	293852	2041	91	87	82	81	75
AT 802A	2	4	500	106479	3851	125429	515991	3584	162	155	139	139	121
AT 802A	2	4	1000	190581	6892	224499	923544	6415	373	353	281	278	214
AT 802A	2	4	1320	241507	8733	284489	1170331	8129	557	557	396	373	275
AT 802A	2	4	2608	434840	15725	512230	2107209	14637	1524	1524	722	674	401
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	6	25	8984	325	10582	43534	302	27	25	25	25	24
AT 802A	2	6	50	12503	452	14728	60588	421	32	30	29	29	28
AT 802A	2	6	100	20213	731	23810	97951	680	44	41	40	40	38
AT 802A	2	6	250	40426	1462	47621	195902	1361	82	77	73	73	68
AT 802A	2	6	500	70986	2567	83620	343994	2389	159	149	135	134	117
AT 802A	2	6	1000	127054	4595	149666	615696	4277	370	341	273	271	209
AT 802A	2	6	1320	161005	5822	189659	780221	5420	548	548	392	361	273
AT 802A	2	6	2608	289893	10483	341486	1404806	9758	1425	1425	699	640	393

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Children 1 - 2 y.o.

Ground Boom - Low Boom 40 swath/90th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal	H-to-M	O-to-Mouth	Soil	Combined-MOE	Inhalation	Combined-MOE	Combined MOE		Combined MOE
AirCraft used for Air Conc 1 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	MOE	MOE	MOE	MOE	Deposit-ALL	MOE	Deposit-ALL-Inhalation	Deposit-Inhalation-Food (Children)		DIF-DW (DPR)-Children
AT 802A	2	1	25	85608	3096	100844	414850	2882	98	94	88	88	80
AT 802A	2	1	50	117366	4244	138253	568747	3951	108	105	98	97	88
AT 802A	2	1	100	186581	6747	219787	904161	6280	130	127	116	116	103
AT 802A	2	1	250	363833	13157	428585	1763114	12247	177	174	155	154	132
AT 802A	2	1	500	602535	21789	709770	2919851	20282	244	241	205	203	167
AT 802A	2	1	1000	1050319	37982	1237247	5089785	35354	438	433	329	326	241
AT 802A	2	1	1320	1321467	47787	1556652	6403752	44481	620	620	427	417	289
AT 802A	2	1	2608	2350825	85012	2769208	11391964	79130	1781	1781	776	750	416
AirCraft used for Air Conc 2 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	2	25	42804	1548	50422	207425	1441	58	56	53	53	50
AT 802A	2	2	50	58683	2122	69127	284373	1975	65	63	60	60	57
AT 802A	2	2	100	93291	3374	109894	452081	3140	81	79	75	75	69
AT 802A	2	2	250	181917	6579	214293	881557	6123	120	118	109	108	97
AT 802A	2	2	500	301268	10895	354885	1459925	10141	186	183	161	161	137
AT 802A	2	2	1000	525160	18991	618624	2544893	17677	396	387	302	299	226
AT 802A	2	2	1320	660733	23894	778326	3201876	22241	582	582	409	396	281
AT 802A	2	2	2608	1175413	42506	1384604	5695982	39565	1781	1781	776	743	416
AirCraft used for Air Conc 4 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	4	25	21402	774	25211	103713	720	36	34	33	33	32
AT 802A	2	4	50	29341	1061	34563	142187	988	41	40	39	39	37
AT 802A	2	4	100	46645	1687	54947	226040	1570	54	52	50	50	48
AT 802A	2	4	250	90958	3289	107146	440779	3062	91	88	83	82	76
AT 802A	2	4	500	150634	5447	177442	729963	5070	162	157	141	140	122
AT 802A	2	4	1000	262580	9496	309312	1272446	8839	373	358	284	281	216
AT 802A	2	4	1320	330367	11947	389163	1600938	11120	557	557	396	378	275
AT 802A	2	4	2608	587706	21253	692302	2847991	19783	1524	1524	722	682	401
AirCraft used for Air Conc 6 lb/ac ai	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)	Dermal-MOE	H-to-M-MOE	O-to-Mouth-MOE	Soil-MOE	Deposit-ALL-MOE	Inhalation-MOE	MOE-Deposit-Inhalation	MOE-DI-Food-Child		MOE-DI-F-DW(DPR)-Child
AT 802A	2	6	25	14268	516	16807	69142	480	27	26	25	25	25
AT 802A	2	6	50	19561	707	23042	94791	658	32	31	30	30	29
AT 802A	2	6	200	50532	1827	59526	244877	1701	69	66	63	41	59
AT 802A	2	6	250	60639	2193	71431	293852	2041	82	79	74	74	69
AT 802A	2	6	500	100423	3632	118295	486642	3380	159	152	137	136	119
AT 802A	2	6	1000	175053	6330	206208	848298	5892	370	348	278	275	212
AT 802A	2	6	1320	220244	7965	259442	1067292	7414	548	548	392	368	273
AT 802A	2	6	2608	391804	14169	461535	1898661	13188	1425	1425	699	651	393

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Females 13-49 y.o.

Drift-Modeling

Ground Boom - High Boom 40 swath/50th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal MOE	Inhalation MOE	Combined-MOE MOE-Deposit-Inhalation	Combined MOE MOE-D-I-Food-Females	Combined MOE MOE-DIF-DW(PDP)-Females	Combined MOE MOE-DIF-DW(DPR)-Females
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
1 lb/ac ai									
AT 802A	2	1	25	20245	282	278	255	254	207
AT 802A	2	1	50	30528	317	314	285	283	226
AT 802A	2	1	100	51980	377	375	334	332	256
AT 802A	2	1	250	113132	521	519	445	440	315
AT 802A	2	1	500	264743	724	722	586	578	380
AT 802A	2	1	1000	879852	1309	1307	920	901	498
AT 802A	2	1	1320	1620293	1852	1850	1161	1130	561
AT 802A	2	1	2608	10951668	5302	5299	1961	1876	699
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
2 lb/ac ai									
AT 802A	2	2	25	10122	168	165	157	156	137
AT 802A	2	2	50	15264	192	190	179	178	154
AT 802A	2	2	100	25990	237	235	219	218	182
AT 802A	2	2	250	56566	353	351	316	313	245
AT 802A	2	2	500	132371	554	552	469	464	327
AT 802A	2	2	1000	439926	1183	1180	855	839	478
AT 802A	2	2	1320	810146	1708	1705	1102	1074	547
AT 802A	2	2	2608	5475834	5125	5120	1936	1853	696
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
4 lb/ac ai									
AT 802A	2	4	25	5061	103	101	98	98	90
AT 802A	2	4	50	7632	122	120	116	116	105
AT 802A	2	4	100	12995	158	156	149	148	131
AT 802A	2	4	250	28283	267	265	244	243	199
AT 802A	2	4	500	66186	482	478	415	411	300
AT 802A	2	4	1000	219963	1114	1109	817	802	466
AT 802A	2	4	1320	405073	1662	1655	1081	1054	542
AT 802A	2	4	2608	2737917	4556	4548	1848	1772	684
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
6 lb/ac ai									
AT 802A	2	6	25	3374	79	77	75	75	70
AT 802A	2	6	50	5088	96	94	91	91	84
AT 802A	2	6	100	8663	128	127	122	121	109
AT 802A	2	6	250	18855	243	240	223	222	185
AT 802A	2	6	500	44124	473	468	407	403	296
AT 802A	2	6	1000	146642	1118	1110	818	803	467
AT 802A	2	6	1320	270049	1618	1609	1061	1035	537
AT 802A	2	6	2608	1825278	4393	4382	1820	1746	680

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Females 13-49 y.o.

Ground Boom - Low Boom 40 swath/50th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal MOE	Inhalation MOE	Combined-MOE MOE-Deposit-Inhalation	Combined MOE MOE-D-I-Food-Females	Combined MOE MOE-DIF-DW(PDP)-Females	Combined MOE MOE-DIF-DW(DPR)-Females
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
1 lb/ac ai									
AT 802A	2	1	25	38465	282	280	257	255	208
AT 802A	2	1	50	56566	317	315	286	284	227
AT 802A	2	1	100	96162	377	376	335	333	256
AT 802A	2	1	250	192324	521	520	445	441	316
AT 802A	2	1	500	373427	724	722	586	578	381
AT 802A	2	1	1000	985693	1309	1307	920	901	498
AT 802A	2	1	1320	1614576	1852	1850	1161	1130	561
AT 802A	2	1	2608	7564096	5302	5298	1961	1876	699
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
2 lb/ac ai									
AT 802A	2	2	25	19232	168	166	158	157	138
AT 802A	2	2	50	28283	192	191	180	179	154
AT 802A	2	2	100	48081	237	236	220	219	183
AT 802A	2	2	250	96162	353	352	316	314	245
AT 802A	2	2	500	186714	554	552	469	464	328
AT 802A	2	2	1000	492847	1183	1180	856	839	479
AT 802A	2	2	1320	807288	1708	1705	1102	1074	547
AT 802A	2	2	2608	3782048	5125	5118	1936	1853	696
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
4 lb/ac ai									
AT 802A	2	4	25	9616	103	102	99	99	91
AT 802A	2	4	50	14142	122	121	117	116	105
AT 802A	2	4	100	24041	158	157	149	149	131
AT 802A	2	4	250	48081	267	266	245	244	200
AT 802A	2	4	500	93357	482	479	416	412	301
AT 802A	2	4	1000	246423	1114	1109	818	803	466
AT 802A	2	4	1320	403644	1662	1655	1081	1054	542
AT 802A	2	4	2608	1891024	4556	4545	1848	1772	684
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
6 lb/ac ai									
AT 802A	2	6	25	6411	79	78	76	76	71
AT 802A	2	6	50	9428	96	95	92	92	85
AT 802A	2	6	100	16027	128	127	122	122	110
AT 802A	2	6	250	32054	243	241	224	223	186
AT 802A	2	6	500	62238	473	470	408	404	297
AT 802A	2	6	1000	164282	1118	1111	819	803	467
AT 802A	2	6	1320	269096	1618	1609	1061	1035	537
AT 802A	2	6	2608	1260683	4393	4378	1819	1746	680

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Females 13-49 y.o.

Ground Boom - High Boom 40 swath/90th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal MOE	Inhalation MOE	Combined-MOE MOE-Deposit-Inhalation	Combined MOE MOE-D-I-Food-Females	Combined MOE MOE-DIF-DW(PDP)-Females	Combined MOE MOE-DIF-DW(DPR)-Females
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
1 lb/ac ai									
AT 802A	2	1	25	14246	282	277	254	253	206
AT 802A	2	1	50	19827	317	312	284	282	225
AT 802A	2	1	100	32054	377	373	333	330	255
AT 802A	2	1	250	64108	521	517	443	439	315
AT 802A	2	1	500	112571	724	719	584	576	380
AT 802A	2	1	1000	201485	1309	1300	917	898	497
AT 802A	2	1	1320	255325	1852	1839	1156	1126	560
AT 802A	2	1	2608	459718	5302	5241	1953	1868	698
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
2 lb/ac ai									
AT 802A	2	2	25	7123	168	164	156	155	136
AT 802A	2	2	50	9914	192	189	178	177	153
AT 802A	2	2	100	16027	237	234	218	217	181
AT 802A	2	2	250	32054	353	350	314	312	244
AT 802A	2	2	500	56285	554	549	466	461	326
AT 802A	2	2	1000	100742	1183	1169	850	833	477
AT 802A	2	2	1320	127662	1708	1686	1094	1067	545
AT 802A	2	2	2608	229859	5125	5013	1921	1839	694
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
4 lb/ac ai									
AT 802A	2	4	25	3562	103	100	97	97	89
AT 802A	2	4	50	4957	122	119	115	115	104
AT 802A	2	4	100	8014	158	155	148	147	130
AT 802A	2	4	250	16027	267	263	242	241	198
AT 802A	2	4	500	28143	482	474	411	407	298
AT 802A	2	4	1000	50371	1114	1090	807	792	463
AT 802A	2	4	1320	63831	1662	1620	1066	1040	538
AT 802A	2	4	2608	114930	4556	4382	1820	1746	680
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
6 lb/ac ai									
AT 802A	2	6	25	2374	79	76	74	74	70
AT 802A	2	6	50	3305	96	93	90	90	83
AT 802A	2	6	100	5342	128	125	121	120	108
AT 802A	2	6	250	10685	243	238	221	220	183
AT 802A	2	6	500	18762	473	461	402	398	293
AT 802A	2	6	1000	33581	1118	1082	803	788	462
AT 802A	2	6	1320	42554	1618	1559	1039	1014	531
AT 802A	2	6	2608	76620	4393	4155	1780	1709	674

EAS EXPOSURE ESTIMATES AND REVISED MOEs FOR AChE INHIBITION
Ground Boom Estimates - Females 13-49 y.o.

Ground Boom - Low Boom 40 swath/90th Percentile	Drift-Modeling	Drift-Modeling	Buffer Distance	Dermal MOE	Inhalation MOE	Combined-MOE MOE-Deposit-Inhalation	Combined MOE MOE-D-I-Food-Females	Combined MOE MOE-DIF-DW(PDP)-Females	Combined MOE MOE-DIF-DW(DPR)-Females
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
1 lb/ac ai									
AT 802A	2	1	25	22626	282	279	256	254	207
AT 802A	2	1	50	31020	317	314	285	283	226
AT 802A	2	1	100	49314	377	374	334	332	256
AT 802A	2	1	250	96162	521	518	444	440	315
AT 802A	2	1	500	159252	724	720	585	577	380
AT 802A	2	1	1000	277603	1309	1302	918	899	497
AT 802A	2	1	1320	349268	1852	1843	1158	1127	560
AT 802A	2	1	2608	621331	5302	5257	1955	1870	698
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
2 lb/ac ai									
AT 802A	2	2	25	11313	168	165	157	156	137
AT 802A	2	2	50	15510	192	190	179	178	154
AT 802A	2	2	100	24657	237	235	219	218	182
AT 802A	2	2	250	48081	353	351	315	313	244
AT 802A	2	2	500	79626	554	550	468	463	327
AT 802A	2	2	1000	138801	1183	1173	852	835	477
AT 802A	2	2	1320	174634	1708	1692	1096	1069	545
AT 802A	2	2	2608	310665	5125	5042	1925	1842	694
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
4 lb/ac ai									
AT 802A	2	4	25	5657	103	101	98	98	90
AT 802A	2	4	50	7755	122	120	116	116	105
AT 802A	2	4	100	12328	158	156	149	148	131
AT 802A	2	4	250	24041	267	264	244	242	199
AT 802A	2	4	500	39813	482	476	413	409	299
AT 802A	2	4	1000	69401	1114	1097	811	796	464
AT 802A	2	4	1320	87317	1662	1631	1070	1044	539
AT 802A	2	4	2608	155333	4556	4426	1828	1753	681
AirCraft used for Air Conc	GPA (gal/arce)	AppRate (lb-ai/A)	Buffer Distance (feet)						
6 lb/ac ai									
AT 802A	2	6	25	3771	79	77	75	75	70
AT 802A	2	6	50	5170	96	94	91	91	84
AT 802A	2	6	200	8219	128	126	121	121	109
AT 802A	2	6	250	16027	243	239	222	221	185
AT 802A	2	6	500	26542	473	465	404	401	295
AT 802A	2	6	1000	46267	1118	1092	808	793	463
AT 802A	2	6	1320	58211	1618	1575	1046	1021	533
AT 802A	2	6	2608	103555	4393	4214	1791	1719	676