APPENDIX 1a – SUMMARY OF APPLICATION METHOD ADJUSTMENT FACTORS AND METHOD USE FRACTIONS

Table A1 - 1. Application Method Adjustment Factors for 2004 - 2007.

	AMAF					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam**	**Dazomet**	**Na Tetrathio carbonate**
Shallow injection w/ high permeability tarp or no tarp-broadcast	61*	64*	74*	not applicable	not applicable	not applicable
Shallow injection w/ low permeability tarp-broadcast	not applicable	44	48	not applicable	not applicable	not applicable
Shallow injection w/ high permeability tarp or no tarp-bed	not applicable	64*	100*	77*	not applicable	not applicable
Shallow injection w/ low permeability tarp-bed	not applicable	64*	100*	not applicable	not applicable	not applicable
Shallow injection w/ water treatments	41	20	not applicable	21	not applicable	not applicable
Shallow injection w/ soil cap	not applicable	not applicable	not applicable	14	not applicable	not applicable
Deep injection w/ high permeability tarp or no tarp-broadcast	41	64*	74*	not applicable	not applicable	not applicable
Deep injection w/ low permeability tarp-broadcast	not applicable	44	48	not applicable	not applicable	not applicable
Deep injection w/ water treatments	27	20	not applicable	not applicable	not applicable	not applicable
Rotovate/rototill	not applicable	not applicable	not applicable	14	17	not applicable
Sprinkler	not applicable	not applicable	not applicable	77*	not applicable	10
Sprinkler w/ water treatments	not applicable	not applicable	not applicable	21	not applicable	not applicable
Flood	not applicable	not applicable	not applicable	77*	not applicable	10
Drip w/ high permeability tarp or no tarp	29	not applicable	not applicable	9	not applicable	10
Drip w/ low permeability tarp	not applicable	15	not applicable	9	not applicable	not applicable
Non-field soil (structural/post-harvest)	not applicable	100	100	not applicable	not applicable	not applicable

* These are considered "high-emission" fumigation methods and are prohibited within the San Joaquin Valley, Southeast Desert, and Ventura NAAs during May-October.

Table A1 - 2. 1990 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D[2]**	**Chloropicrin**	**Methyl Bromide**	**Metam[3]**	**Dazomet**	**Na Tetrathio carbonate[4]**
Shallow injection w/ high permeability tarp or no tarp-broadcast		42	37			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		42	36	3		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast		16	14			
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill				2	100	
Sprinkler				55		33
Sprinkler w/ water treatments						
Flood				10		33
Drip w/ high permeability tarp or no tarp				10		34
Drip w/ low permeability tarp				5		
Non-field soil (structural/post-harvest)			13			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] Use of 1,3-D was suspended in early 1990.
[3] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[4] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 3. 1990 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D[2]**	**Chloropicrin**	**Methyl Bromide**	**Metam[3]**	**Dazomet**	**Na Tetrathio carbonate[4]**
Shallow injection w/ high permeability tarp or no tarp-broadcast		29	29			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		29	29	8		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				25		
Deep injection w/ high permeability tarp or no tarp-broadcast		42	42			
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill				3	100	
Sprinkler				60		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp				2		34
Drip w/ low permeability tarp				2		
Non-field soil (structural/post-harvest)						

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] Use of 1,3-D was suspended in early 1990.
[3] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[4] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 4. 1990 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D[2]**	**Chloropicrin**	**Methyl Bromide**	**Metam[3]**	**Dazomet**	**Na Tetrathio carbonate[4]**
Shallow injection w/ high permeability tarp or no tarp-broadcast		50	35			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		50	34	10		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				30		33
Sprinkler w/ water treatments						
Flood				50		33
Drip w/ high permeability tarp or no tarp				5		34
Drip w/ low permeability tarp				5		
Non-field soil (structural/post-harvest)			31			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] Use of 1,3-D was suspended in early 1990.
[3] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[4] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 5. 1990 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D[2]**	**Chloropicrin**	**Methyl Bromide**	**Metam[3]**	**Dazomet**	**Na Tetrathio carbonate[4]**
Shallow injection w/ high permeability tarp or no tarp-broadcast		50	49			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		50	49	20		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				50		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp				15		34
Drip w/ low permeability tarp				15		
Non-field soil (structural/post-harvest)			3			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] Use of 1,3-D was suspended in early 1990.
[3] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[4] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 6. 1990 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D[2]**	**Chloropicrin**	**Methyl Bromide**	**Metam[3]**	**Dazomet**	**Na Tetrathio carbonate[4]**
Shallow injection w/ high permeability tarp or no tarp-broadcast		50	3			
Shallow injection w/ low permeability tarp-broadcast						
Shallow injection w/ high permeability tarp or no tarp-bed		50	3	20		
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				50		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp				15		34
Drip w/ low permeability tarp				15		
Non-field soil (structural/post-harvest)			95			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] Use of 1,3-D was suspended in early 1990.
[3] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[4] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 7. 2005 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		56.0	11.3			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed		33.0	6.3			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast	99					
Deep injection w/ low permeability tarp-broadcast			11.4			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				45		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	1			9		34
Drip w/ low permeability tarp		11.0		10		
Non-field soil (structural/post-harvest)			70.9			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 8. 2005 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	2					
Shallow injection w/ low permeability tarp-broadcast		97.0	79.5			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed			0.6			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				20		
Deep injection w/ high permeability tarp or no tarp-broadcast	97	1.0				
Deep injection w/ low permeability tarp-broadcast		1.0	16.3			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				35		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	1			14		34
Drip w/ low permeability tarp				10		
Non-field soil (structural/post-harvest)		1.0	3.7			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 9. 2005 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		88	77.1			
Shallow injection w/ high permeability tarp or no tarp-bed				6		
Shallow injection w/ low permeability tarp-bed			18.9			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	10					
Deep injection w/ low permeability tarp-broadcast			1.1			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				75		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	90	5		7		34
Drip w/ low permeability tarp		5		12		
Non-field soil (structural/post-harvest)		2	2.9			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 10. 2005 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	1					
Shallow injection w/ low permeability tarp-broadcast		67	100.0			
Shallow injection w/ high permeability tarp or no tarp-bed						
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments				25		
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	4					
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler						33
Sprinkler w/ water treatments				20		
Flood						33
Drip w/ high permeability tarp or no tarp	95			5		34
Drip w/ low permeability tarp		33		50		
Non-field soil (structural/post-harvest)						

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 11. 2005 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		40	60.9			
Shallow injection w/ high permeability tarp or no tarp-bed				25		
Shallow injection w/ low permeability tarp-bed		36	30.8			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	2					
Deep injection w/ low permeability tarp-broadcast			0.5			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				20		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	98			5		34
Drip w/ low permeability tarp		24		50		
Non-field soil (structural/post-harvest)			7.8			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 12. 2006 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	3					
Shallow injection w/ low permeability tarp-broadcast		56.0	11.3			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed		33.0	6.3			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast	95					
Deep injection w/ low permeability tarp-broadcast			11.4			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				45		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	2			9		34
Drip w/ low permeability tarp		11.0		10		
Non-field soil (structural/post-harvest)			70.9			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 13. 2006 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	2					
Shallow injection w/ low permeability tarp-broadcast		97.0	79.5			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed			0.6			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				20		
Deep injection w/ high permeability tarp or no tarp-broadcast	97	1.0				
Deep injection w/ low permeability tarp-broadcast		1.0	16.3			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				35		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	1			14		34
Drip w/ low permeability tarp				10		
Non-field soil (structural/post-harvest)		1.0	3.7			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 14. 2006 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		88.0	77.1			
Shallow injection w/ high permeability tarp or no tarp-bed				6		
Shallow injection w/ low permeability tarp-bed			18.9			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	16					
Deep injection w/ low permeability tarp-broadcast		0.2	1.1			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				75		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	84	5.0		7		34
Drip w/ low permeability tarp		5.0		12		
Non-field soil (structural/post-harvest)		2.0	2.9			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 15. 2006 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		67.0	100.0			
Shallow injection w/ high permeability tarp or no tarp-bed						
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments				25		
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	7					
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler						33
Sprinkler w/ water treatments				20		
Flood						33
Drip w/ high permeability tarp or no tarp	93			5		34
Drip w/ low permeability tarp		33.0		50		
Non-field soil (structural/post-harvest)						

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 16. 2006 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		40.0	60.9			
Shallow injection w/ high permeability tarp or no tarp-bed				25		
Shallow injection w/ low permeability tarp-bed		36.0	30.8			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast			0.5			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				20		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	100			5		34
Drip w/ low permeability tarp		24.0		50		
Non-field soil (structural/post-harvest)			7.8			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 17. 2007 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	0.0					
Shallow injection w/ low permeability tarp-broadcast		56.0	11.3			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed		33.0	6.3			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				15		
Deep injection w/ high permeability tarp or no tarp-broadcast	99.9					
Deep injection w/ low permeability tarp-broadcast			11.4			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				45		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	0.1			9		34
Drip w/ low permeability tarp		11.0		10		
Non-field soil (structural/post-harvest)			70.9			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 18. 2007 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	0.3					
Shallow injection w/ low permeability tarp-broadcast		97.0	79.5			
Shallow injection w/ high permeability tarp or no tarp-bed				21		
Shallow injection w/ low permeability tarp-bed			0.6			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap				20		
Deep injection w/ high permeability tarp or no tarp-broadcast	99.3	1.0				
Deep injection w/ low permeability tarp-broadcast		1.0	16.3			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				35		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	0.4			14		34
Drip w/ low permeability tarp				10		
Non-field soil (structural/post-harvest)		1.0	3.7			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 19. 2007 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast	0.4					
Shallow injection w/ low permeability tarp-broadcast		88.0	77.1			
Shallow injection w/ high permeability tarp or no tarp-bed				6		
Shallow injection w/ low permeability tarp-bed			18.9			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	0.0					
Deep injection w/ low permeability tarp-broadcast		0.2	1.1			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				75		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	99.6	5.0		7		34
Drip w/ low permeability tarp		5.0		12		
Non-field soil (structural/post-harvest)		2.0	2.9			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 20. 2007 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		67.0	100.0			
Shallow injection w/ high permeability tarp or no tarp-bed						
Shallow injection w/ low permeability tarp-bed						
Shallow injection w/ water treatments				25		
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast	5.0					
Deep injection w/ low permeability tarp-broadcast						
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler						33
Sprinkler w/ water treatments				20		
Flood						33
Drip w/ high permeability tarp or no tarp	94.9			5		34
Drip w/ low permeability tarp		33.0		50		
Non-field soil (structural/post-harvest)						

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 21. 2007 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.

	% of Amount Applied					
Fumigation Method[1]	**1,3-D**	**Chloropicrin**	**Methyl Bromide**	**Metam[2]**	**Dazomet**	**Na Tetrathio-carbonate[3]**
Shallow injection w/ high permeability tarp or no tarp-broadcast						
Shallow injection w/ low permeability tarp-broadcast		40.0	60.9			
Shallow injection w/ high permeability tarp or no tarp-bed				25		
Shallow injection w/ low permeability tarp-bed		36.0	30.8			
Shallow injection w/ water treatments						
Shallow injection w/ soil cap						
Deep injection w/ high permeability tarp or no tarp-broadcast						
Deep injection w/ low permeability tarp-broadcast			0.5			
Deep injection w/ water treatments						
Rotovate/rototill					100	
Sprinkler				20		33
Sprinkler w/ water treatments						
Flood						33
Drip w/ high permeability tarp or no tarp	100.0			5		34
Drip w/ low permeability tarp		24.0		50		
Non-field soil (structural/post-harvest)			7.8			

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 22. Application Method Adjustment Factors for 2008.

		AMAF						
Fumigation Method	**Code**	**1,3-D**	**Chloro -picrin**	**Methyl Bromide**	**Metam Na**	**Metam K**	**Dazomet**	**Na Tetrathio-carbonate**
Chemigation (Drip System)/Tarpaulin	1209	19	12					
Chemigation (Drip)	1601							10
Chemigation (mini-sprinkler)	1602							10
Day Chemigation (Drip System) Nontarpaulin	1408				9	9		
Day Chemigation (Drip System) Tarpaulin	1407				9	9		
Day Drench	1413				100	100		
Day Nontarpaulin/Shallow/ Broadcast or Bed /Two Water Treatments	1405				28			
Day Nontarpaulin/Shallow/ Broadcast or Bed/Three Water Treatments	1406				21	21		
Day Power Mulcher	1410				14	14		
Day Rotary Tiller	1409					14		
Day Soil Capping	1411				14	14		
Day Sprinkler/Broadcast or Bed/One Water Treatment	1401				77	77		
Day Sprinkler/Broadcast or Bed/Three Water Treatments	1403				21	21		
Day Sprinkler/Broadcast or Bed/Two Water Treatments	1402				28	28		
Day or Night Flood	1412				77			
Night 4 A.M. Start/Sprinkler/ Broadcast or Bed/Two Water treatments	1472				35			
Night Nontarpaulin/Shallow/	1455				13	13		

Broadcast or Bed/Two Water Treatments								
Night Sprinkler/Broadcast or Bed/Two Water Treatments	1452				77			
Nontarpaulin/Deep/ Broadcast or Bed	1206	26	64					
Other label method - Methyl Bromide	1190		100	100				
Tarpaulin/Deep/Bed	1208	26						
Tarpaulin/Deep/ Broadcast	1207	26						
Tarpaulin/Shallow/Bed	1106							10
Tarpaulin/Deep/Broad cast	1107			48				
Tarpaulin/Shallow/ Broadcast – Nobel Plow	1103		44	48				

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 23. 2008 frequency of fumigation methods used (method use fractions) in the Sacramento Metro nonattainment area.

		% of Amount Applied						
Fumigation Method	**Code**	**1,3-D**	**Chloro -picrin**	**Methyl Bromide**	**Metam Na**	**Metam K**	**Dazomet**	**Na Tetrathio-carbonate**
Chemigation (Drip System)/Tarpaulin	1209	3.0	9.6					
Day Chemigation (Drip System) Nontarpaulin	1408					16.5		
Day Chemigation (Drip System) Tarpaulin	1407				83.2			
Day Rotary Tiller	1409				16.8	83.5		
Nontarpaulin/Deep/ Broadcast or Bed	1206	97.0	55.7					
Tarpaulin/Deep/ Broadcast	1107			74.8				
Tarpaulin/Shallow/ Broadcast – Nobel Plow	1103		34.8	25.2				
Chemigation (Drip System)/Tarpaulin	1209	3.0	9.6					

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 24. 2008 frequency of fumigation methods used (method use fractions) in the San Joaquin Valley nonattainment area.

		% of Amount Applied						
Fumigation Method	**Code**	**1,3-D**	**Chloro -picrin**	**Methyl Bromide**	**Metam Na**	**Metam K**	**Dazomet**	**Na Tetrathio-carbonate**
Chemigation (Drip)	1601							97.1
Chemigation (mini-sprinkler)	1602							2.9
Day Chemigation (Drip System) Nontarpaulin	1408				1.3	10.5		
Day Chemigation (Drip System) Tarpaulin	1407				0.1	0.2		
Day Drench	1413					5.1		
Day Nontarpaulin/Shallow/ Broadcast or Bed /Two Water Treatments	1405				0.2			
Day Nontarpaulin/Shallow/ Broadcast or Bed/Three Water Treatments	1406				9.4	2.4		
Day Power Mulcher	1410				3.5	42.5		
Day Rotary Tiller	1409					5.2		
Day Soil Capping	1411				3.0	1.3		
Day Sprinkler/Broadcast or Bed/One Water Treatment	1401				1.4	7.6		
Day Sprinkler/Broadcast or Bed/Three Water Treatments	1403				14.3	0.7		
Day Sprinkler/Broadcast or Bed/Two Water Treatments	1402				7.7	7.1		
Day or Night Flood	1412							
Night 4 A.M. Start/Sprinkler/Broadcast or Bed/Two Water treatments	1472							
Night Nontarpaulin/Shallow/ Broadcast or Bed/Two Water Treatments	1455				58.7	17.4		

Night Sprinkler/Broadcast or Bed/Two Water Treatments	1452				0.3			
Nontarpaulin/Deep/ Broadcast or Bed	1206	98.0	19.5					
Other label method - Methyl Bromide	1190		0.4	0.3				
Tarpaulin/Deep/Bed	1208	1.2						
Tarpaulin/Deep/ Broadcast	1207	0.9						
Tarpaulin/Shallow/ Broadcast – Nobel Plow	1103		80.1	99.7				

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 25. 2008 frequency of fumigation methods used (method use fractions) in the Southeast Desert nonattainment area.

		% of Amount Applied						
Fumigation Method	**Code**	**1,3-D**	**Chloro -picrin**	**Methyl Bromide**	**Metam Na**	**Metam K**	**Dazomet**	**Na Tetrathio-carbonate**
Chemigation (Drip System)/Tarpaulin	1209	88.3	100.0					
Day Chemigation (Drip System) Nontarpaulin	1408				57.1			
Day Sprinkler/Broadcast or Bed/Three Water Treatments	1403				34.2			
Day Sprinkler/Broadcast or Bed/Two Water Treatments	1402				1.3			
Night 4 A.M. Start/Sprinkler/ Broadcast or Bed/Two Water treatments	1472				7.4			
Nontarpaulin/Deep/ Broadcast or Bed	1206	11.7						
Tarpaulin/Deep/ Broadcast	1107			37.4				
Tarpaulin/Shallow/Bed	1106							100.0

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 26. 2008 frequency of fumigation methods used (method use fractions) in the Ventura nonattainment area.

		% of Amount Applied						
Fumigation Method	**Code**	**1,3-D**	**Chloro -picrin**	**Methyl Bromide**	**Metam Na**	**Metam K**	**Dazomet**	**Na Tetrathio-carbonate**
Chemigation (Drip System)/Tarpaulin	1209	99.5	89.1					
Chemigation (mini-sprinkler)	1602							100.0
Day Chemigation (Drip System) Nontarpaulin	1408				0.2			
Day Chemigation (Drip System) Tarpaulin	1407				99.8	100.0		
Nontarpaulin/Deep/ Broadcast or Bed	1206	0.5	0.1					
Tarpaulin/Shallow/ Broadcast – Nobel Plow	1103		10.8	100.0				

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.

Table A1 - 27. 2008 frequency of fumigation methods used (method use fractions) in the South Coast nonattainment area.

		% of Amount Applied						
Fumigation Method	**Code**	**1,3-D**	**Chloro -picrin**	**Methyl Bromide**	**Metam Na**	**Metam K**	**Dazomet**	**Na Tetrathio-carbonate**
Chemigation (Drip System)/Tarpaulin	1209	100.0	63.4					
Other label method - Methyl Bromide	1190		0.9	2.3				
Tarpaulin/Deep/ Broadcast	1107		0.5	4.8				
Tarpaulin/Shallow/ Broadcast – Nobel Plow	1103		35.2	92.9				

[1] Fumigation methods are described in detail in the memo Bary et al., 2007.
[2] DPR assumes 100% conversion of metam to MITC and percentages are relative to the amount of MITC applied.
[3] DPR assumes 100% conversion of sodium (Na) tetrathiocarbonate to carbon disulfide and percentages are relative to the amount of carbon disulfide applied.