For EPA Use Only	
ID#	

#### Worksheet 1. Contact and Methyl Bromide Request Information

The following information will be used to determine the amount of methyl bromide requested and the contact person for this
request. It is important that we know whom to contact in case we need additional information during the review of the
application.

1	-	ocation	١

(Enter the state, region, or county. Provide more detail about the location if relevant to the feasibility of alternatives to methyl bromide.)

#### California

#### 2. Crop/commodity

(Include all crops/commodities that benefit from the application of methyl bromide in a fumigation cycle. A fumigation cycle is the period of time between methyl bromide fumigations.)

Stone fruit (nectarine, peach, cherry, plum, prune) - replant

#### Climate

(Individual users should enter their climate zone designation by reviewing the U.S. climate zone map. If a consortium is submitting this application, please indicate the estimated percentage of consortium users in each climate zone. This map is located at the end of this workbook or it can be reviewed online at http://www.usna.usda.gov/ Hardzone/ushzmap.html).

9a (50%), 9b (54%)

**4. Soil type** Check the box(es) for the soil types and percent organic matter that apply to your area. If a consortium is submitting this application, please indicate the estimated percentage of consortium users in each soil type.

 Soil Type:
 Light 33%
 Medium 33%
 Heavy 33%

 Organic Matter:
 0 to 2%
 X
 2 to 5 %
 over 5%

5. Other geographic factors that may affect crop/commodity yield (e.g., water table).

6. Consortium name California Grape & Tree Fruit League Specialty (check one)

7. Contact name Alexander J. Ott agronomic X

8. Address 1540 E. Shaw, Suite 120 economic

Fresno, CA93710-8000

**9. Daytime phone** 559.226.6330 **10. FAX** 559.222.8326

11. E-mail Aott@cgtf.com

List an additional contact person if available. Specialty (check one)

12. Contact name Gary Obenauf agronomic X

 13. Address
 144 Peace River Drive
 economic

Fresno, CA 93711-6953

**14. Daytime phone** 559.447.2127 **15. FAX** 559.436.0692

16. E-mail <u>qobenauf@agresearch.nu</u>

## Worksheet 1. Contact and Methyl Bromide Request Information

17.	How much active in	gredien	t (ai) of methyl bromide are you r	equesting for 2005?	1,579,500 <b>lbs.</b>
	If a consortium is submit	ting this a	pplication, the data for question 17 and 1	7a. should be the total for the c	consortium.
	In the question below, ar structural applications.	ea is defii	ned as follows for each user: acres for gro	owers, cubic feet for post harve	est operations, and square feet for
	17a. How much are	a will th	is be applied to? Please list unit	<b>s.</b> 8100	Ac_units
8.	Are you requesting	methyl	bromide for additional years bey	ond 2005? Ye	s X No
	authorization for n Current alterna effectively deli period, during occur with the Replant Proble	nultiple ye atives and iver mat the life loss of em and lessements	re not as effective as MeBr and serial. One application of methyl of an orchard. It has been estimated that the methyl bromide (Dr. Mike McKen Its Management". (See comments this application, the data below should be	ome lack commercially a bromide will provide ben- ated that a 25% loss in pr ry, University of Californ t in 20a)	vailable means to efits over a 20 - 25 year roduction efficiency will ia, Riverside; "The
	In the table below structural applicat		defined as follows for each user: acres fo	r growers, cubic feet for post h	arvest operations, and square feet fo
		Year	Quantity ai (lb.) of Methyl Bromide	Area to be Treated	Unit of Area Treated
		2006	1,579,500	8100	acres
		2007	1,579,500	8100	acres
			rne spp.), Ring nematode (Criconemell		les (Xiphinema spp.),
20.	issues such as size of th structural applications), v only when pest reaches	e operation whether the a threshold		growers, cubic feet for post-ha and or operation, intensity of m	rvest operations, and square feet fo nethyl bromide use (treat regularly o
			n which any particular stone fruit com	modity is planted on only a p	ortion. Methyl bromide is used
	when replanting trees	or orchar	ds, the life of which is 20 - 25 years.		
			represents the typical user in the California Cooperative Extension samp		orchards.
	COMMENT. PUR data	does not	appear to accurately report normal us	e rates. Methyl Bromide requ	uest based on following:
		810	0 acres X 65% treated area (strip fumic	nated) X 300 lbs. per acre = 1	579 500 lbs

### Worksheet 2-A. Methyl Bromide - Use 1997-2000

If a consortium is submitting this application, all	data should i	eflect the ac	<b>tual</b> data for tl	he consortiun	n.							
Col A: Formulation of Methyl Bromide	averages fo	Enter the appropriate data in Col B-M for each formulation, if known, and/or the totals and averages for all formulations. If you enter only the total and averages for all formulations in the last row of the table, please describe in the comments section the formulations typically used, or the approximate proportions of the formulations used.										
Col B, E, H, K: Actual Area Treated		Enter the total actual area treated. Note: This number should be the total actual area treated by the individual user or total actual area for the entire consortium, for the year indicated.										
Col C, F, I, L: Actual Total lbs. ai of Methyl Bromide Applied		•	inds active ing ire consortium		•	ide applied. 1	Note: This nu	mber should b	oe the total po	unds ai applie	ed by the	
Col D, G, J, M: Actual Average lbs. ai Applied per Area	The averag	e application	rates in pound	ds ai of methy	/I bromide per	area are auto	matically cal	culated from th	ne previous 2	columns.		
Area is defined below as follows for each use	er: acres for g	rowers, cubic	feet for post-h	narvest opera	tions, and squ	are feet for st	tructural appli	cations.				
Α	В	С	D	Е	F	G	Н	I	J	K	L	М
Formulation of Methyl Bromide		1997			1998			1999			2000	
	Total Actual Area Treated	Actual Total lbs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area	Total Actual Area Treated	Actual Total lbs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area	Total Actual Area Treated	Actual Total lbs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area	Total Actual Area Treated	Actual Total lbs. ai of Methyl Bromide Applied	Average Ibs. ai Applied per Area
over 95% methyl bromide	8489.19	645057	75.9856947	6956.41	480934	69.135373	8703.79	514872	59.1549199	4256.79	117678	27.64
75% methyl bromide, 25% chloropicrin												
67% methyl bromide, 33% chloropicrin												
50% methyl bromide, 50% chloropicrin												
% methyl bromide,% chloropicrin												
% methyl bromide,% chloropicrin												
All formulations of methyl bromide			75 9856947			69 135373			59 1549199			27 64

Comments: Source - California Pesticide Use Report. Above reflects combined data for peach (freestone), nectarine, cherry, plum and prune.

NOTE: The rate is typically 300 to 350 lbs per acre. The PUR does not appear to accurately report actual useage.

1998   Peach (freestone)   Tons   9.8   \$ 316.00   \$ 3,096.8     1999   Peach (freestone)   Tons   10.2   \$ 320.00   \$ 3,264.0     2000   Peach (freestone)   Tons   10.27   \$ 314.00   \$ 3,224.7										
torm to accommodate differences in operations when providing gross revenue data.  Col. A: Year  Be sure to enter the year. Use as many rows as needed for each year for all the crops/commodities in the funigation cycle is the year methyl bromide was applied.  Col. B: Crop/Commodity  Enter all crops/commodities that benefit from methyl bromide in each funigation cycle. (For example, if normally methyl bromide is applied and tomatoes are grown and harvested followed by peppers without an additional methyl bromide, then both tomatoes and peppers would be part of the same funigation cycle. (For example, if normally methyl bromide in the funigation cycle without an additional methyl bromide, then both tomatoes and peppers would be part of the same funigation cycle. See the Funigation Cycle Worksternet for an opprehensive definition of the funigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.  Col. C: Unit of Sender the unit of measurement for each crop/commodity.  Col. B: Crop/Commodity Yeld  Col. E: Treftc  Enter the unit of measurement for each crop/commodities produced per area.  Col. E: Treftc  Enter the unit of measurement for each crop/commodity indicated (1997-2000).  Col. E: Revenue  This number is calculated automatically using the values you entered in Cols. D and E. You may override the formula to enter a different revenue. Please explain why the revenue amount is different in the comment section below.  Average Revenue per Year:  The average revenue per year is saidling the values you entered in Cols. D and E. You may override the formula to enter a different revenue. Please explain why the revenue amount is different in the comment section below.  Total Revenue for 1997-2000  Enter the total revenue per year is calculated automatically using the summary data you enter for each year.  Average Revenue per Year:  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operation	If a consortium is su	ubmitting this ap	oplication, the data for thi	is table should reflect the a	ctual averages for the co	onsortium.				
2000. If a furnigation cycle overlaps more than one calendary year, then the year of the furnigation cycle is the year methyl bromide was applied.    For each project property than the application provides in applied.   For example, if normally methyl bromide is applied and furnations are grown and harvested followed by peppers without an additional trend of methyl bromide, then both tomatoes and peppers would be part of the same furnigation cycle.) See the Furnigation Cycle Worksheet for a comprehensive definition of the furnigation cycle.   If someone other than the applicant benefits from the application of methyl bromide in the furnigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.    For intermitted than the applicant benefits from the application of methyl bromide in the furnigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.    Col. D: Crop/Commodity			· ·		using methyl bromide. Pe	ost-harvest and structural users may	work with EPA to modify this			
and tomatoes are grown and harvested followed by peppers without an additional treatment of methyl bromide, then both tomatoes and peppers would be part of the same furnigation cycle.) See the Furnigation Cycle Worksheet for a comprehensive definition of the furnigation cycle.  If someone other than the applicant benefits from the application of methyl bromide in the furnigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.  Col. C: Unit of Crop/Commodity  Col. D: Crop/Commodity Yield  Enter the unit of measurement for each crop/commoditivs.  Col. E: Price  Enter the average prices received by the users for the year and crop/commodity indicated (1997-2000).  Col. F: Revenue  This number is calculated automatically using the values you entered in Cols. D and E. You may override the formula to enter a different revenue. Please explain why the revenue amount is different in the comment section below.  Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.  A B C D E F  Year  Year  Crop/Commodity  Unit of Crop/Commodity  (Porp/Commodity (Units per acre)  1997 Peach (freestone)  Tons 10.5 \$ 266.00 \$ 2,793.0  1998 Peach (freestone)  Tons 10.2 \$ 320.00 \$ 3,224.7  1998 Peach (freestone)  Tons 10.2 \$ 320.00 \$ 3,224.0  \$ 5.00  \$ 5.	Col. A: Year		2000. If a fumigation cycle overlaps more than one calendar year, then the year of the fumigation cycle is the year methyl bromide was applied.							
Crop/Commodity Col. D: Crop/Commodity Yield Col. E: Price Enter the average prices received by the users for the year and crop/commodity indicated (1997-2000).  Col. F: Revenue This number is calculated automatically using the values you entered in Cols. D and E. You may override the formula to enter a different revenue. Please explain why the revenue amount is different in the comment section below.  Total Revenue for 1997-2000 Enter the total revenue per year by adding the revenue for all crops for that year.  Average Revenue per Year: The average revenue per year is calculated automatically using the summary data you enter for each year.  Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.  A B C D E F  Year  Year  Crop/Commodity  (e.g., pounds, bushels)  1999 Peach (freestone) Tons 10.5 10.5 266.00 2.793.00	and tomatoes are grown and harvested followed by peppers without an additional treatment of methyl bromide, then both tomat peppers would be part of the same fumigation cycle.) See the Fumigation Cycle Worksheet for a comprehensive definition of the cycle.  If someone other than the applicant benefits from the application of methyl bromide in the fumigation cycle and you do not have									
Col. D: Crop/Commodity Yield Col. E: Price Enter the average prices received by the users for the year and crop/commodity indicated (1997-2000).  Col. F: Revenue This number is calculated automatically using the values you entered in Cols. D and E. You may override the formula to enter a different revenue. Please explain why the revenue amount is different in the comment section below.  Total Revenue for 1997-2000 Enter the total revenue per year by adding the revenue for all crops for that year.  Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.  A B C D E F  Year  Year  Year  Methyl Bromide  was Applied  Tons  1997 Peach (freestone) Tons  1998 Peach (freestone) Tons  10.5 \$ 266.00 \$ 2.793.0  1998 Peach (freestone) Tons  10.2 \$ 320.00 \$ 3.284.0  2000 Peach (freestone) Tons  10.2 \$ 320.00 \$ 3.284.0  \$ 0.00			Enter the unit of measu	urement for each crop/com	imodity.					
This number is calculated automatically using the values you entered in Cols. D and E. You may override the formula to enter a different revenue. Please explain why the revenue amount is different in the comment section below.  Total Revenue for 1997-2000  Enter the total revenue per year is calculated automatically using the summary data you enter for each year.  Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.  A B C D E F  Year  Year  Crop/Commodity (e.g., pounds, bushels)  1997 Peach (freestone)  Tons 10.5  \$ 266.00  \$ 2,793.0  1998 Peach (freestone)  Tons 10.2  \$ 316.00  \$ 3,264.0  \$ 0.0		modity Yield	Enter the number of ur	nits of crop/commodities pr	oduced per area.					
Total Revenue for 1997-2000  Enter the total revenue per year by adding the revenue for all crops for that year.  Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.  A B C D E F  Year Crop/Commodity Unit of Crop/Commodity (e.g., pounds, bushels) (Units per acre)  1997 Peach (freestone) Tons 10.5 \$266.00 \$2.793.0 \$3.906.8 \$1999 Peach (freestone) Tons 9.8 \$316.00 \$3.096.8 \$1999 Peach (freestone) Tons 10.2 \$320.00 \$3.294.7 \$0.00 \$0	Col. E: Price		Enter the average price	es received by the users for	or the year and crop/com	modity indicated (1997-2000).				
Average Revenue per Year:  The average revenue per year is calculated automatically using the summary data you enter for each year.  Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.  A B C D E F  Year  Year  Methyl Bromide (Crop/Commodity (e.g., pounds, bushels))  1997 Peach (freestone)  1998 Peach (freestone)  1998 Peach (freestone)  1008  1999 Peach (freestone)  1009 Peach (free	Col. F: Revenue						ormula to enter a different			
Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.           A         B         C         D         E         F           Year         Crop/Commodity was Applied         Unit of Crop/Commodity (e.g., pounds, bushels)         Crop/Commodity Yield (Units per acre)         Price (per unit of crop/commodity)         Revenue (per acre)           1997 Peach (freestone)         Tons         10.5         \$ 266.00         \$ 2,793.0           1998 Peach (freestone)         Tons         9.8         \$ 316.00         \$ 3,096.8           1999 Peach (freestone)         Tons         10.2         \$ 320.00         \$ 3,284.0           2000 Peach (freestone)         Tons         10.27         \$ 314.00         \$ 3,224.7           9         10.27         \$ 314.00         \$ 2,793.0         \$ 0.0           9         10.27         \$ 314.00         \$ 3,224.7           9         10.27         \$ 314.00         \$ 0.0           9         10.27         \$ 314.00         \$ 0.0           9         10.20         \$ 0.0         \$ 0.0           9         10.20         \$ 0.0         \$ 0.0           9         10.20         \$ 0.0         \$ 0.0	Total Revenue for	1997-2000	Enter the total revenue	per year by adding the re	venue for all crops for tha	at year.				
Name	Average Revenue	per Year:	The average revenue p	per year is calculated autor	matically using the summ	nary data you enter for each year.				
Year Methyl Bromide was Applied         Crop/Commodity (e.g., pounds, bushels)         Crop/Commodity (units per acre)         Price (per unit of crop/commodity)         Revenue (per acre)           1997 Peach (freestone)         Tons         10.5         \$ 266.00         \$ 2,793.0           1998 Peach (freestone)         Tons         9.8         \$ 316.00         \$ 3,096.8           1999 Peach (freestone)         Tons         10.2         \$ 320.00         \$ 3,224.7           2000 Peach (freestone)         Tons         10.27         \$ 314.00         \$ 3,224.7           4         10.27         \$ 314.00         \$ 3,096.8         \$ 0.0           5         0.0         \$ 0.0         \$ 0.0         \$ 0.0           6         10.27         \$ 314.00         \$ 3,096.8         \$ 0.0           9         10.27         \$ 314.00         \$ 3,096.8         \$ 0.0           9         10.00         \$ 0.0         \$ 0.0         \$ 0.0           10         10.00         \$ 0.0         \$ 0.0         \$ 0.0           10         10.00         \$ 0.0         \$ 0.0         \$ 0.0           10         10.00         \$ 0.0         \$ 0.0         \$ 0.0         \$ 0.0           10         10.00         \$ 0.0	Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications									
Methyl Bromide was Applied         Crop/Commodity (e.g., pounds, bushels)         Yield (Units per acre)         (per unit of crop/commodity)         (per acre)           1997 Peach (freestone)         Tons         10.5         \$ 266.00         \$ 2,793.0           1998 Peach (freestone)         Tons         9.8         \$ 316.00         \$ 3,096.8           1999 Peach (freestone)         Tons         10.2         \$ 320.00         \$ 3,224.7           2000 Peach (freestone)         Tons         10.27         \$ 314.00         \$ 3,224.7           2000 Peach (freestone)         Tons         10.27         \$ 314.00         \$ 3,224.7           4         Image: Company of the peach (freestone)         Tons         10.27         \$ 314.00         \$ 3,224.7           5         Image: Company of the peach (freestone)         Tons         10.27         \$ 314.00         \$ 3,224.7           6         Image: Company of the peach (freestone)         Image: Company of the peach (freestone)         \$ 0.0         \$ 0.0           6         Image: Company of the peach (freestone)         Image: Company of the peach (freestone)         \$ 0.0         \$ 0.0           9         Image: Company of the peach (freestone)         Image: Company of the peach (freestone)         \$ 0.0         \$ 0.0           1         Image: Com	Area is defined be	low as follows:	for each user: acres for g	prowers, cubic feet for post	-harvest operations, and	square feet for structural applications				
1998   Peach (freestone)   Tons   9.8   \$ 316.00   \$ 3,096.8     1999   Peach (freestone)   Tons   10.2   \$ 320.00   \$ 3,264.0     2000   Peach (freestone)   Tons   10.27   \$ 314.00   \$ 3,224.7		low as follows			D	· · · · · · · · · · · · · · · · · · ·				
1999   Peach (freestone)   Tons   10.2   \$ 320.00   \$ 3,264.00	A Year Methyl Bromide		В	C Unit of Crop/Commodity	D Crop/Commodity Yield	E Price	F Revenue			
Total Revenue for 1997   \$ 3,224.7   \$ 3,094.6   \$ 3	A Year Methyl Bromide was Applied	Crop	B p/Commodity	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons	D Crop/Commodity Yield (Units per acre)	E Price (per unit of crop/commodity) \$ 266.00	F Revenue (per acre) \$ 2,793.00			
\$ 0.0 \$ 0.0	A Year Methyl Bromide was Applied	Crop Peach (freesto Peach (freesto	B p/Commodity	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons	D Crop/Commodity Yield (Units per acre)  10.5 9.8	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00	F Revenue (per acre) \$ 2,793.00 \$ 3,096.80			
\$ 0.0 \$ 0.0	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00			
\$ 0.0 \$ 0.0	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78			
\$ 0.0 \$ 0.0	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00			
\$ 0.0 \$ 0.0	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00			
\$ 0.0 \$ 0.0 \$ 0.0  Total Revenue for 1997 \$ 2,793.0  Total Revenue for 1998 \$ 3,096.8  Total Revenue for 1999 \$ 3,264.0  Total Revenue for 2000 \$ 3,224.7  Average Revenue Per Year \$ 3,094.6	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
\$ 0.0  Total Revenue for 1997 \$ 2,793.0  Total Revenue for 1998 \$ 3,096.8  Total Revenue for 1999 \$ 3,264.0  Total Revenue for 2000 \$ 3,224.7  Average Revenue Per Year \$ 3,094.6	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Total Revenue for 1997 \$ 2,793.0  Total Revenue for 1998 \$ 3,096.8  Total Revenue for 1999 \$ 3,264.0  Total Revenue for 2000 \$ 3,224.7  Average Revenue Per Year \$ 3,094.6	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Total Revenue for 1998         \$ 3,096.8           Total Revenue for 1999         \$ 3,264.0           Total Revenue for 2000         \$ 3,224.7           Average Revenue Per Year         \$ 3,094.6	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Total Revenue for 2000 \$ 3,224.7  Average Revenue Per Year \$ 3,094.6	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00 \$ 314.00	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Average Revenue Per Year \$ 3,094.6	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00 \$ 314.00  Total Revenue for 1997	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	E Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00 \$ 314.00  Total Revenue for 1997 Total Revenue for 1998	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 2,793.00 \$ 2,793.00 \$ 3,096.80 \$ 3,264.00			
Comments: Source - NASS	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00 \$ 314.00  Total Revenue for 1997 Total Revenue for 1998 Total Revenue for 1999 Total Revenue for 2000	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 3,096.80 \$ 3,096.80 \$ 3,264.00 \$ 3,264.00 \$ 3,224.78			
	A Year Methyl Bromide was Applied  1997 1998 1999	Crop Peach (freesto Peach (freesto Peach (freesto	B p/Commodity  nne) nne) nne) nne)	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  10.5 9.8 10.2	Price (per unit of crop/commodity)  \$ 266.00 \$ 316.00 \$ 320.00 \$ 314.00  Total Revenue for 1997 Total Revenue for 1998 Total Revenue for 1999 Total Revenue for 2000	F Revenue (per acre)  \$ 2,793.00 \$ 3,096.80 \$ 3,264.00 \$ 3,224.78 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 2,793.00 \$ 2,793.00 \$ 3,096.80 \$ 3,264.00			

if a consortium is st	ubmitting this a	oplication, the data for th	is table should reflect thea	ctual averages for the co	onsortium.				
		•	enue for 1997 - 2000 when ding gross revenue data.	using methyl bromide. Po	ost-harvest and structural users may w	ork with EPA to modify this			
Col. A: Year		Be sure to enter the year. Use as many rows as needed for each year for all the crops/commodities in the fumigation cycles from 1997 2000. If a fumigation cycle overlaps more than one calendar year, then the year of the fumigation cycle is the year me							
Col. B: Crop/Com	modity				gation cycle. (For example, if normally iditional treatment of methyl bromide, the				
					bromide in the fumigation cycle and you in the comments section below.	ou do not have the			
Col. C: Unit of Crop/Commodity		Enter the unit of meas	urement for each crop/com	nmodity.					
Col. D: Crop/Com	modity Yield	Enter the number of ur	nits of crop/commodities pr	oduced per area.					
Col. E: Price		Enter the average pric	es received by the users for	or the year and crop/comr	modity indicated (1997-2000).				
Col. F: Revenue			ated automatically using the ain why the revenue amour		ols. D and E. You may override the for lent section below.	mula to enter a different			
Total Revenue for	1997-2000	Enter the total revenue	e per year by adding the re	venue for all crops for tha	t year.				
Average Revenue	per Year:	The average revenue	per year is calculated auto	matically using the summ	ary data you enter for each year.				
Area is defined be	low as follows	for each upor: garag for a	growers subjected for post						
		ioi eacii user. acres ioi g	growers, cubic reet for post	-harvest operations, and	square feet for structural applications.				
A		B	C	-harvest operations, and D	square feet for structural applications.	F			
A Year Methyl Bromide was Applied			•		•	F Revenue (per area)			
Year Methyl Bromide was Applied		В	C Unit of Crop/Commodity	D Crop/Commodity Yield	E Price	<b>Revenue</b> (per area) \$ 3,508.80			
Year Methyl Bromide was Applied 1997 1998	Cro Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons	D Crop/Commodity Yield (Units per acre) 2.72 0.82	E Price (per unit of crop/commodity) \$ 1,290.00 \$ 1,550.00	Revenue (per area) \$ 3,508.80 \$ 1,271.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area) \$ 3,508.80 \$ 1,271.00 \$ 3,637.20			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons	D Crop/Commodity Yield (Units per acre) 2.72 0.82	E Price (per unit of crop/commodity) \$ 1,290.00 \$ 1,550.00	Revenue (per area) \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area) \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area) \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00 \$ 1,570.00	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00 \$ 1,570.00  Total Revenue for 1997	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 3,508.80			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00 \$ 1,570.00  Total Revenue for 1997 Total Revenue for 1998	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 1,271.00			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00 \$ 1,570.00  Total Revenue for 1997 Total Revenue for 1998 Total Revenue for 1999	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 1,271.00 \$ 3,508.80 \$ 1,271.00 \$ 3,637.20			
Year Methyl Bromide was Applied 1997 1998 1999	Cro Cherry Cherry Cherry	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  2.72 0.82 4.2	E Price (per unit of crop/commodity)  \$ 1,290.00 \$ 1,550.00 \$ 866.00 \$ 1,570.00  Total Revenue for 1997 Total Revenue for 1998	Revenue (per area)  \$ 3,508.80 \$ 1,271.00 \$ 3,637.20 \$ 3,375.50 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 1,271.00			

If a consortium is submitting this application, the data for this table should reflect the actual averages for the consortium.  The purpose of this worksheet is to estimate the gross revenue for 1997 - 2000 when using methyl bromide. Post-harvest and structural users may work with EPA to modify this										
		o estimate the gross reve in operations when provi		using methyl bromide. Pe	ost-harvest and structural users may w	ork with EPA to modify this				
Col. A: Year			Be sure to enter the year. Use as many rows as needed for each year for all the crops/commodities in the fumigation cycles from 1997 to 2000. If a fumigation cycle overlaps more than one calendar year, then the year of the fumigation cycle is the year me							
Col. B: Crop/Com	modity	Enter all crops/commodities that benefit from methyl bromide in each fumigation cycle. (For example, if normally methyl bromide is an and tomatoes are grown and harvested followed by peppers without an additional treatment of methyl bromide, then bo								
			• •		I bromide in the fumigation cycle and y o in the comments section below.	ou do not have the				
Col. C: Unit of Crop/Commodity		Enter the unit of meas	urement for each crop/com	imodity.						
Col. D: Crop/Com	modity Yield	Enter the number of ur	nits of crop/commodities pr	oduced per area.						
Col. E: Price		Enter the average price	es received by the users for	or the year and crop/com	modity indicated (1997-2000).					
Col. F: Revenue			ated automatically using the ain why the revenue amour	•	Cols. D and E. You may override the fo nent section below.	rmula to enter a different				
Total Revenue for	1997-2000	Enter the total revenue	e per year by adding the re	venue for all crops for tha	at year.					
Average Revenue	per Year:	The average revenue	per year is calculated autor	matically using the summ	nary data you enter for each year.					
Area is defined be	low as follows	for each user: acres for g	prowers, cubic feet for post	-harvest operations, and	square feet for structural applications.					
А		В	С	D	Е	F				
Year Methyl Bromide was Applied	Cro	p/Commodity	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per acre)	Price (per unit of crop/commodity)	Revenue (per area)				
	Plum		Tons	5.86	\$ 312.00	\$ 1,828.32				
	Plum Plum		Tons Tons	4.48 4.72	\$ 529.00 \$ 419.00	\$ 2,369.92 \$ 1,977.68				
	Plum		Tons	5.18	\$ 442.00	\$ 2,289.56				
						\$ 0.00				
						\$ 0.00				
				+	+	\$ 0.00 \$ 0.00				
						\$ 0.00				
						\$ 0.00				
						\$ 0.00				
				<del></del>	Total Revenue for 1997	\$ 0.00 \$ 1,828.32				
					Total Revenue for 1998	\$ 2,369.92				
					Total Revenue for 1999	\$ 1,977.68				
					Total Revenue for 2000	\$ 2,289.56				
				L	Average Revenue Per Year	\$ 2,116.37				
Comments:	Source - NAS	.S								

If a consortium is su	ubmitting this a	pplication, the data for th	is table should reflect the a	ctual averages for the co	nsortium.		
• •		o estimate the gross reve in operations when provi		using methyl bromide. Po	ost-harvest and structural users may w	ork with EPA to modify this	
Col. A: Year					all the crops/commodities in the fumigate year of the fumigation cycle is the year		
Col. B: Crop/Commodity  Enter all crops/commodities that benefit from methyl bromide in each fumigation cycle. (For example, if normally methyl bromide i and tomatoes are grown and harvested followed by peppers without an additional treatment of methyl bromide, then bo							
					I bromide in the fumigation cycle and yo in the comments section below.	ou do not have the	
Col. C: Unit of Crop/Commodity		Enter the unit of measu	urement for each crop/com	imodity.			
Col. D: Crop/Com	modity Yield	Enter the number of ur	nits of crop/commodities pr	oduced per area.			
Col. E: Price		Enter the average price	es received by the users for	or the year and crop/comm	modity indicated (1997-2000).		
Col. F: Revenue			ated automatically using the ain why the revenue amour	•	ols. D and E. You may override the fo nent section below.	rmula to enter a different	
Total Revenue for	1997-2000	Enter the total revenue	e per year by adding the rev	venue for all crops for tha	it year.		
Average Revenue	per Year:	The average revenue p	per year is calculated autor	matically using the summ	ary data you enter for each year.		
Area is defined be	low as follows	for each user: acres for g	rowers, cubic feet for post	-harvest operations, and	square feet for structural applications.		
Α		В	С	D	Е	F	
Year Methyl Bromide was Applied	Cro	p/Commodity	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per acre)	Price (per unit of crop/commodity)	Revenue (per area)	
	Prune		Tons	2.07	\$ 883.00	\$ 1,827.81	
	Prune		Tons	0.99	\$ 764.00 \$ 861.00	\$ 756.36 \$ 1,463.70	
	Prune Prune		Tons Tons	1.7 2.17	\$ 861.00 \$ 770.00	\$ 1,463.70 \$ 1,670.90	
			10110			\$ 0.00	
						\$ 0.00	
						\$ 0.00 \$ 0.00	
			+			\$ 0.00	
						\$ 0.00	
_						\$ 0.00	
					Total Payonus for 1997	\$ 0.00 \$ 1.827.81	
				-	Total Revenue for 1997 Total Revenue for 1998	\$ 1,827.81	
					Total Revenue for 1999	\$ 1,463.70	
					Total Revenue for 2000	\$ 1,670.90	
					Average Revenue Per Year	\$ 1,429.69	
Comments:	Source - NAS	S					

If a consortium is submitting this application, the data for this table should reflect theactual averages for the consortium.										
The purpose of this worksheet is to estimate the gross revenue for 1997 - 2000 when using methyl bromide. Post-harvest and structural users may work with EPA to modify this form to accommodate differences in operations when providing gross revenue data.										
Col. A: Year			Be sure to enter the year. Use as many rows as needed for each year for all the crops/commodities in the fumigation cycles from 1997 to 2000. If a fumigation cycle overlaps more than one calendar year, then the year of the fumigation cycle is the year me							
Col. B: Crop/Com	modity	Enter all crops/commodities that benefit from methyl bromide in each fumigation cycle. (For example, if normally methyl bromide is appeared tomatoes are grown and harvested followed by peppers without an additional treatment of methyl bromide, then bo								
		quantitative data for th	ne crops grown on the same	e land, please indicate s	I bromide in the fumigation cycle and o in the comments section below.	you do not have the				
Col. C: Unit of Crop/Commodity		Enter the unit of meas	urement for each crop/com	modity.						
Col. D: Crop/Com	modity Yield		nits of crop/commodities pr	•						
Col. E: Price		٠.	•		modity indicated (1997-2000).					
Col. F: Revenue			ated automatically using the ain why the revenue amour		ols. D and E. You may override the f nent section below.	ormula to enter a different				
Total Revenue for	1997-2000	Enter the total revenue	e per year by adding the re	venue for all crops for tha	at year.					
Average Revenue	per Year:	The average revenue	per year is calculated auto	matically using the summ	nary data you enter for each year.					
A !	I f - II									
Area is defined be	iow as follows	for each user: acres for o	growers, cubic feet for post	-harvest operations, and	square feet for structural applications	S				
Α		В	С	D	E	F				
				•						
A Year Methyl Bromide was Applied	Cro Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons	D Crop/Commodity Yield (Units per acre) 7.33	E Price (per unit of crop/commodity) \$ 375.00	F Revenue (per area) \$ 2,748.75				
A Year Methyl Bromide was Applied 1997	Cro Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons	D Crop/Commodity Yield (Units per acre) 7.33 6.31	E Price (per unit of crop/commodity) \$ 375.00 \$ 471.00	F Revenue (per area) \$ 2,748.75 \$ 2,972.01				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons	D Crop/Commodity Yield (Units per acre) 7.33 6.31	E Price (per unit of crop/commodity) \$ 375.00 \$ 471.00	F Revenue (per area) \$ 2,748.75 \$ 2,972.01				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00 \$ 0.00 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00 \$ 0.00 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00 \$ 398.00	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00 \$ 398.00  Total Revenue for 1997	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00 \$ 398.00  Total Revenue for 1997 Total Revenue for 1998	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	E Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00 \$ 398.00  Total Revenue for 1997	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00				
A Year Methyl Bromide was Applied  1997 1998 1999	Cro Nectarines Nectarines Nectarines	В	C Unit of Crop/Commodity (e.g., pounds, bushels) Tons Tons Tons Tons	Crop/Commodity Yield (Units per acre)  7.33 6.31 7.72	Price (per unit of crop/commodity)  \$ 375.00 \$ 471.00 \$ 411.00 \$ 398.00  Total Revenue for 1997 Total Revenue for 1998 Total Revenue for 1999	F Revenue (per area)  \$ 2,748.75 \$ 2,972.01 \$ 3,172.92 \$ 2,992.96 \$ 0.00				

If a consortium is submitting this application, the data for this table should reflect the representative user for the consortium.

The purpose of this worksheet is to estimate the gross revenue for 2001when using methyl bromide. Post-harvest users may modify this form to accommodate differences when providing gross revenue data. If 2001 was not a typical year for the individual or for the representative user of a consortium, the applicant may provide additional data for a different year. However, all applicants must complete this worksheet for the year 2001 regardless. Please explain in the comment section at the bottom of the worksheet why 2001 is not considered a typical year, if that is the case.

Col. A: Crop/Commodity	Enter all crops/commodities that benefit from methyl bromide in the fumigation cycle (interval between fumigations) beginning with the treatment of methyl bromide in 2001. If multiple crops are grown during the interval between fumigations (e.g. tomatoes followed by peppers in a single growing season, or strawberries followed by lettuce over 2 or 3 years) include all of the crops during the entire interval. See the Fumigation Cycle Worksheet for a comprehensive definition of the fumigation cycle.
	If someone other than the applicant benefits from the application of methyl bromide in the fumigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below.
Col. B: Price Factors	Enter factors that determine prices (e.g., grade, time, market). If you received different prices for your crop/commodity as a result of quality, grade, market (e.g. fresh or processing), timing of harvest, etc., you may itemize by using more than one row. Itemize or aggregate these factors to the extent appropriate in making the case that the use of methyl bromide affects these price factors.
Col. C: Unit of Crop/Commodity	Enter the unit of measurement for each crop/commodity.
Col. D: Crop/Commodity Yield	Enter the number of units of crop/commodity produced per area for that price factor.
Col. E: Price	Enter average 2001 prices received by the users for that crop/commodity and price factor.
Col. F: Revenue	Revenue is automatically calculated using the data you entered for yield and price. If revenue is not equal to yield times price, you may override the formula and enter a different revenue amount. Please explain why this revenue amount is different in the comment section below.

Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.

Α	В	С	D	Е	F
Crop/Commodity (1)	Price Factors (grade, time, market)	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per acre)	Price (per unit of crop/commodity)	Revenue (per acre)
Peach (freestone)	Grade, Market (ave. price)	Tons	9.91	\$ 352.00	\$ 3,488.32
Cherry	Grade, Market (ave. price)	Tons	2.217	\$ 1,560.00	\$ 3,458.52
Plum	Grade, Market (ave. price)	Tons	5.68	\$ 316.00	\$ 1,794.88
Prune	Grade, Market (ave. price)	Tons	1.53	\$ 750.00	\$ 1,147.50
Nectarine	Grade, Market (ave. price)	Tons	7.53	\$ 464.00	\$ 3,493.92
					\$ 0.00
					\$ 0.00
					\$ 0.00
					\$ 0.00
					\$ 0.00
					\$ 0.00
					\$ 0.00
				Total Revenue (2)	\$ 2,676.63

Comments: Source: NASS (est.)

(1) Commodities are itemized to determine mean Total Revenue per acre for stone fruit; these are not presented as commodities benefitting from a single MeBr application.

(2) Represents average revenue per acre for stone fruit.

### Worksheet 2-D. Methyl Bromide - Use and Costs for 2001

If a consortium is submitting this application, the data in Cols. B, C, D, and E should reflect the representative user in the consortium. The data in Col. F should reflect the actual area treated by all users in the consortium. If the methyl bromide is custom applied then put the cost per area in Column G and fill in the average lb ai of methyl bromide applied per area (Col B) and the Total Actual Area Treated (Col F). If 2001 was not a typical year for the individual or for the representative user of a consortium, the applicant may provide additional data for a different year. However, all applicants must complete this worksheet for the year 2001 regardless. If you provide an additional year's data, please explain in the comment section at the bottom of the worksheet why 2001 is not considered a typical year. Col. A: Formulation of Methyl Bromide Enter the appropriate data in Col B-G for each formulation, if known, and/or the totals and averages for all formulations of methyl bromide. If you just enter data in the bottom row in the table (All formulations of methyl bromide), please describe in the comments, the relative usage of the various formulations, to the extent known. Col B: Average lbs. active ingredient (ai) of Enter the average pounds active ingredient (ai) of methyl bromide applied per area. Methyl Bromide Applied per Area Cols. C, D, E, G: Prices and Costs Enter the average price per pound active ingredient (ai) of methyl bromide in Col. C and the average cost of applying methyl bromide per area treated in Col. D. In Col. E, enter the average other costs per area associated with applying methyl bromide (e.g., tarps). Column G will be calculated automatically using the values you entered in columns B-E. If methyl bromide is custom applied, enter the cost per area in Col. G and fill in Cols. B and F. Col. F: Actual Area Treated Enter the actual area treated. Note: This number should be the total area treated by all users in the consortium. Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications. В С D Ε F Α G Formulation of Methyl Bromide Lb. ai of Methyl Price per lb. ai of Cost Other Total Actual Area | Cost per Area Bromide Applied **Methyl Bromide** of Applying MBr Costs (e.g. tarps, Treated in the per Area (2001 Average) Pesticide per Area etc.) per Area Consortium (2001 Average) (2001 Average) (2001 Average) over 95% methyl bromide 200 \$ 4.00 \$ 200.00 \$ 1.000.00 75% methyl bromide, 25% chloropicrin \$ 0.00 67% methyl bromide, 33% chloropicrin \$ 0.00 50% methyl bromide, 50% chloropicrin \$ 0.00 \_\_\_% methyl bromide, \_\_\_% chloropicrin \$ 0.00 \_\_% methyl bromide, \_\_% chloropicrin \$ 0.00 \$ 0.00 All formulations of methyl bromide \$ 1.000.00 Comments:

#### Worksheet 2-E. Methyl Bromide - Other Operating Costs for 2001

Do not include methyl bromide costs
-------------------------------------

If a consortium is submitting this application, the data for this table should reflect a representative user.

Enter all operating costs except methyl bromide costs incurred during the fumigation cycle (interval between fumigations) beginning in 2001. See the Fumigation Cycle Worksheet for a comprehensive definition of the fumigation cycle. Enter these costs in Col B for custom operations, or in Col C and D for operations done by user.

Submit crop budgets for each crop, if available. You may submit crop budgets electronically or in hard copy. If your costs are significantly different than the crop budgets, please explain in the comments.

Col A: Operation	Identify in Col A the operations (except methyl bromide) to which the costs apply. For growers, these operations should include but are not limited to (1) prepare soil, (2) fertilize, (3) irrigate, (4) plant, (5) harvest, (6) other pest controls, etc. You must include all other operating costs.
Col B: Custom Operation Cost	If you incur custom operation costs, enter those costs in Col. B.
Col C: Material Cost per Area	If you do not incur custom operation costs, enter the material cost per area.
Col D: Labor Cost per Area	If you do not incur custom operation costs, enter the labor cost per area.
Col E: Total Cost per Area	The total cost per area is calculated automatically from the values you enter in Cols. C and D.
Col F: Typical Equipment Used	Identify the typical equipment used for operations done by user. Please be specific, such as tractor horsepower. No cost data is required in this column.

Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications.

А	Ь	C	U	E	Г
Operation	Custom		Operation D	one by User	
	Operation Cost per Area	Material Cost per Area	Labor Cost per Area	Total Cost per Acre	Typical Equipment Used
Planting		\$ 974.00	\$ 577.00	\$ 1,551.00	
Cultural				\$ 367.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
				\$ 0.00	
Total Custom per Area	\$ 0.00		User Total per area	\$ 1,918.00	

Peach/Nectarine operating costs are used as representative of stone fruit establishment costs. Source: University of California Cooperative Extension

NOTE: THESE ARE FIRST YEAR COSTS ONLY, NOT FOR FUMIGATION CYCLE WHICH CAN BE FOR A 20 YEAR PERIOD.

METHYL BROMIDE USED ONLY PRIOR TO PLANTING.

## Worksheet 2-F. Methyl Bromide Fixed and Overhead Costs in 2001

If a consortium is submitting thi	is application, the data for this table should reflec	ct a representative user.		
Enter <b>all</b> fixed and overhead co		l between fumigations) beginning in 2001. See the Fumigation	Cycle Worksheet	
Col A: Cost Item	Identify in Col. A the cost items. These items should include, but are not limited to: (1) land rent, (2) interest, (3) depreciation, (4) management, and (5) overhead such as office and administration.)			
Col B: Description	Please describe the cost in more detail.			
Col C: Allocation Method	Please describe how you estimated the portion of total fixed cost of the farm or entity that applies to this crop/commodity.			
Col D: Cost per Area	Enter the cost per area of methyl bromide treated.			
Area is defined below as follo	ws for each user: acres for growers, cubic feet for	or post-harvest operations, and square feet for structural applica	ations.	
•	D	^	Б	
Α	В	C	D	
Cost Item	Description	Allocation Method	Cost per Area	
	1		Cost per Area \$199.00	
Cost Item	Description	Allocation Method	Cost per Area \$199.00	
Cost Item Interest	Description Operating Capital	Allocation Method	Cost per Area	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	Cost per Area \$199.00 \$182.00	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	Cost per Area \$199.00 \$182.00	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	Cost per Area \$199.00 \$182.00	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	Cost per Area \$199.00 \$182.00	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	Cost per Area \$199.00 \$182.00	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	Cost per Area \$199.00 \$182.00	
Cost Item Interest Cash Overhead	Description Operating Capital Office, Insurance, taxes,	Allocation Method 10.71% Actual costs	\$199.00 \$182.00 \$515.00	

#### Comments:

Peach/Nectarine operating costs are used as representative of stone fruit establishment costs. Source: University of California Cooperative Extension

NOTE: THESE ARE FIRST YEAR COSTS ONLY, NOT FOR FUMIGATION CYCLE WHICH CAN BE FOR A 20 YEAR PERIOD.

METHYL BROMIDE USED ONLY PRIOR TO PLANTING.

	st management strategy on the list (see previous page) is or is questions. You must complete one copy of worksheet 3-A for
For worksheet 3-A you must complete one worksheet for each the worksheets as follows. For the same alternative, first resulternative,	th alternative, for each research study addressed. Please number earch study, label the worksheet 3-A(1)(a). For the same
When completing Section II, if you cite a study that is on the	EPA website, you only need to complete questions 1, 5, and 8.
Summarize each of the research studies you cite in the Rese	arch Summary Worksheet.
If you prefer, you may provide the information requested in the research reports. The narrative review must reply to Section Worksheet	his worksheet in a narrative review of one or more relevant I and questions 1 through 8 in Section II. A Research Summary
BACKGROUND	
EPA must consider whether alternative pest control measures (pe successfully instead of methyl bromide by crop and circumstance	
There are three major ways you can provide the Agency with prod (1) Conduct and submit your own research (2) Cite research that has been conducted by others (3) Cite research listed on the EPA website	of of your investigative work.
Whether you conduct the research yourself or cite studies develo scientifically sound manner. The studies should include a descrip	
The Agency has posted many research studies on a variety of cro EPA will add studies to its website as they become publicly availa	ops on its website and knows of more studies currently in progress. Ible. You are encouraged to review the EPA website and othe
In addition, EPA acknowledges that, for certain circumstances, so has been conducted (i.e. solarization may not be feasible in Seatt	ome alternatives are not technically feasible and therefore no researcle). You should look at the list of alternatives pro
Use additional	pages as needed.
	The Replant Problem and
Alternative: 1,3-D	Study: <u>Its Management</u>
Section I. Initial Screening on Technical F	Feasibility of Alternatives
1. Are there any location-specific restrictions that inhibit the	use of this alternative on your site?
1a. Full use permitted	
1b. Township caps	X
1c. Alternative not acceptable in consuming country	
1d. Other (Please describe)	
If use of this alternative is precluded by regulatory restrict	tion for all users covered by this application, the
applicant should not complete Section II.	For EPA Use Only

## Section II. Existing Research Studies on Alternatives to Methyl Bromide

1. Is the study on EPA's website?	? Yes	No Can be found at www.uckac.edu/nematode/
1a. If not on the EPA we	ebsite, please attach a copy.	
2. Author(s) or researcher(s)	Michael V. McKenry, Ph.D.	
3. Publication and Date of Public	ation The Replant Problem	n and Its Management; July 1999
4. Location of research study	California	
5. Name of alternative(s) in study 1,3-D	. If more than one alternative, lis	•
6. Was crop yield measured in th	e study? Yes	No X
7. Describe the effectiveness of t  Lowest rate for success is 40 GF	• •	ts in the study. reducing use rate, but this is in conflict with
		when applied to soils with high moisture content
as required by regulations. Thes	se restrictions limit effective use of	1,3-D to coarser textured soils.
8. Discuss how the results of the		Nould you expect similar results? Are there
other factors that would affect	your adoption of this tool?	
other factors that would affect	•	re content requirements) limits the widespread

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In this worksheet, you should address why an alternative pest management strategy on the list (see previous page) is or is not effective for your conditions. This worksheet contains 9 questions. You must complete one copy of worksheet 3-A for each research study you use to evaluate a single methyl bromide alternative. Use additional pages as need.

For worksheet 3-A you must complete one worksheet for each alternative, for each research study addressed. Please number the worksheets as follows. For the same alternative, first research study, label the worksheet 3-A(1)(a). For the same alternative, second research study, label the worksheet 3-A(1)(b). For the first alternative, third research study, label the worksheet 3-A(1)(c). For the second alternative, first research study, label the worksheet 3-(A)(2)(a). For the second alternative, second research study, label the worksheet 3-(A)(2)(b).

When completing Section II, if you cite a study that is on the EPA website, you only need to complete questions 1, 5, and 8.

Summarize each of the research studies you cite in the Research Summary Worksheet.

If you prefer, you may provide the information requested in this worksheet in a narrative review of one or more relevant research reports. The narrative review must reply to Section I and questions 1 through 8 in Section II. A Research Summary Worksheet of relevant treatments should be provided for each study reviewed.

#### **BACKGROUND**

EPA must consider whether alternative pest control measures (pesticide and non-pesticidal, and their combination) could be used successfully instead of methyl bromide by crop and circumstance (geographic area.) The Agency has developed a list of possible alternative pest control regimens for various crops, which can be found at http://www.epa.gov/ozone/mbr or by calling 1-800-296-1996.

There are three major ways you can provide the Agency with proof of your investigative work.

- (1) Conduct and submit your own research
- (2) Cite research that has been conducted by others
- (3) Cite research listed on the EPA website

Whether you conduct the research yourself or cite studies developed by others, it is important that the studies be conducted in a scientifically sound manner. The studies should include a description of the experimental methodology used, such as application rates, application intervals, pest pressure, weather conditions, varieties of the crop used, etc. All results should be included, regardless of outcome. You must submit copies of each study to EPA unless they are listed on the Agency website.

The Agency has posted many research studies on a variety of crops on its website and knows of more studies currently in progress. EPA will add studies to its website as they become publicly available. You are encouraged to review the EPA website and other websites for studies that pertain to your crop and geographic area.

In addition, EPA acknowledges that, for certain circumstances, some alternatives are not technically feasible and therefore no research has been conducted (i.e. solarization may not be feasible in Seattle). You should look at the list of alternatives provided by the Agency and explain why they cannot be used for your crop and in your geographic area.

Use additional pages as needed.

Section I. Initial Screening on Technical Feasibility of Alternatives  1. Are there any location-specific restrictions that inhibit the use of this alternative on your site?  1a. Full use permitted  1b. Township caps  1c. Alternative not acceptable in consuming country  1d. Other (Please describe)	Alternative:	1,3-D, Chloropicrin	Study:	Its Management
1a. Full use permitted  1b. Township caps  1c. Alternative not acceptable in consuming country	Section I.	Initial Screening on Technical F	easibility of Alt	ternatives
1b. Township caps X  1c. Alternative not acceptable in consuming country	1. Are there a	any location-specific restrictions that inhibit the	use of this alternative	on your site?
1c. Alternative not acceptable in consuming country	1a.	Full use permitted		
·	1b.	Township caps	X	
1d. Other (Please describe)	1c.	Alternative not acceptable in consuming country		
	1d.	Other (Please describe)		
	•			

If use of this alternative is precluded by regulatory restriction for all users covered by this application, the applicant should not complete Section II.

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## Section II. Existing Research Studies on Alternatives to Methyl Bromide

1. Is the study on EPA's website?		Yes	No_C	Can be found at www.uckac.edu/nematode/
1a. If not on the EPA we	osite, pleas	e attach a copy.		
2. Author(s) or researcher(s)	Michael V. I	McKenry		
3. Publication and Date of Publica	tion	The Replant Probl	em and Its Ma	anagement; July 1999
4. Location of research study	California			
5. Name of alternative(s) in study.	If more tha	ın one alternative,	list the ones	you wish to discuss.
1,3-D, Chloropicrin (Telone C17,	Telone C35)			
Was crop yield measured in the     Describe the effectiveness of the Premix formulations of 1.3-D and	ne alternativ	0.	ests in the stu	
(35 GPA) as described in Worksh	•			
nematode control.				
Discuss how the results of the other factors that would affect y			. Would you e	expect similar results? Are there
See Worksheet 3-A. Removing u	use restrictio	ons (remove townsh	nip caps, increa	ease use rates and remove soil
moisture requirement) would incre	ease the add	option of this alterna	ative.	

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# Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl Bromide

In this worksheet, you should address why an alternative pesson of effective for your conditions. This worksheet contains 9 ceach resear	
For worksheet 3-A you must complete one worksheet for each the worksheets as follows. For the same alternative, first resealternative,	n alternative, for each research study addressed. Please numbearch study, label the worksheet 3-A(1)(a). For the same
When completing Section II, if you cite a study that is on the E	EPA website, you only need to complete questions 1, 5, and 8.
Summarize each of the research studies you cite in the Resea	rch Summary Worksheet.
If you prefer, you may provide the information requested in the research reports. The narrative review must reply to Section Worksheet	is worksheet in a narrative review of one or more relevant I and questions 1 through 8 in Section II. A Research Summary
BACKGROUND	
EPA must consider whether alternative pest control measures (pessuccessfully instead of methyl bromide by crop and circumstance of the control measures (pessuccessfully instead of methyl bromide by crop and circumstance of the control measures (pessuccessfully instead of methyl bromide by crop and circumstance of the control measures (pessuccessfully instead of methyl bromide by crop and circumstance of the control measures (pessuccessfully instead of methyl bromide by crop and circumstance of the control measures).	
There are three major ways you can provide the Agency with proo (1) Conduct and submit your own research (2) Cite research that has been conducted by others (3) Cite research listed on the EPA website	f of your investigative work.
Whether you conduct the research yourself or cite studies develop scientifically sound manner. The studies should include a description	
The Agency has posted many research studies on a variety of crop EPA will add studies to its website as they become publicly available.	
has been conducted (i.e. solarization may not be feasible in Seattle	
Use additional p	pages as needed.
Alternative: 1,3 -D, Metam Sodium	The Replant Problem and Study: Its Management
Section I. Initial Screening on Technical F  1. Are there any location-specific restrictions that inhibit the	•
<ul><li>1a. Full use permitted</li><li>1b. Township caps</li></ul>	
Township caps     Consuming country	X
1d. Other (Please describe)	
If use of this alternative is precluded by regulatory restricti applicant should not complete Section II.	on for all users covered by this application, the  For EPA Use Only

## Section II. Existing Research Studies on Alternatives to Methyl Bromide

1. Is the study on EPA's website?	Yes	No C	can be found at www.uckac.edu/nematode/
1a. If not on the EPA we	bsite, please attach a cop	oy.	
2. Author(s) or researcher(s)	Michael V. McKenry		
3. Publication and Date of Publication	The Replant F	Problem and Its Ma	nagement; July 1999
4. Location of research study	California		
5. Name of alternative(s) in study	. If more than one alterna	tive. list the ones	vou wish to discuss.
,			,
1,3-D, metam sodium			
6. Was crop yield measured in the	e study? Yes	No	x
7. Describe the effectiveness of t	he alternative in controlli	ng pests in the stu	udy.
1,3-D (shanked or drenched) at 3	5 GPA followed by a sprink	kler application of m	netam sodium at a rate of 250 ppm
has been shown to be as effective	e as methyl bromide (tarpe	d).	
			expect similar results? Are there
other factors that would affect	-		
Having sprinkler lines in place du		-	
Amount of water used during spr			
make sprinkler applications of me	etam sodium, requiring purc	chase or lease of ed	quipment.

ID#

## Worksheet 3-A. Alternatives - Technical Feasibility of Alternatives to Methyl Bromide

	•
In this worksheet, you should address why an alternative pest not effective for your conditions. This worksheet contains 9 q each resear	
For worksheet 3-A you must complete one worksheet for each the worksheets as follows. For the same alternative, first reseaternative,	
When completing Section II, if you cite a study that is on the E	PA website, you only need to complete questions 1, 5, and 8.
Summarize each of the research studies you cite in the Resear	rch Summary Worksheet.
If you prefer, you may provide the information requested in thi research reports. The narrative review must reply to Section I Worksheet	
BACKGROUND	
EPA must consider whether alternative pest control measures (pes successfully instead of methyl bromide by crop and circumstance (g	
There are three major ways you can provide the Agency with proof (1) Conduct and submit your own research (2) Cite research that has been conducted by others (3) Cite research listed on the EPA website	of your investigative work.
Whether you conduct the research yourself or cite studies develope scientifically sound manner. The studies should include a description	
The Agency has posted many research studies on a variety of crop EPA will add studies to its website as they become publicly available.	
In addition, EPA acknowledges that, for certain circumstances, som has been conducted (i.e. solarization may not be feasible in Seattle	
Use additional p	-
Alternative: Metam Sodium	The Replant Problem and Study: Its Management
Alternative. Metani Soulum	Study: <u>Its Management</u>
Section I. Initial Screening on Technical Fe	easibility of Alternatives
1. Are there any location-specific restrictions that inhibit the u	se of this alternative on your site?
1a. Full use permitted	
1b. Township caps	
1c. Alternative not acceptable in consuming country	
1d. Other (Please describe)	
If use of this alternative is precluded by regulatory restriction applicant should not complete Section II.	on for all users covered by this application, the
	For EPA Use Only

## Section II. Existing Research Studies on Alternatives to Methyl Bromide

I. Is the study on EPA's website?	Yes	No Can be found at www.uckac.edu/nematode/
1a. If not on the EPA we	bsite, please attach a copy.	
2. Author(s) or researcher(s)	Michael V. McKenry	
3. Publication and Date of Publica	The Replant Prob	em and Its Management; July 1999
I. Location of research study	California	
5. Name of alternative(s) in study.  Metam Sodium	If more than one alternative	list the ones you wish to discuss.
S. Was crop yield measured in the	e study? Yes	
5. Was crop yield measured in the		<u> </u>
7. Describe the effectiveness of the	ne alternative in controlling p	<u> </u>
7. Describe the effectiveness of the Metam sodium performs erratical	ne alternative in controlling p ly and inconsistently due to its	ests in the study.
7. Describe the effectiveness of the Metam sodium performs erratical at 250 ppm by drenching. Metam	ne alternative in controlling p ly and inconsistently due to its n sodium can be as effective as	ests in the study.  boor fumigant attributes. It does kill shallow roots
7. Describe the effectiveness of the Metam sodium performs erratical at 250 ppm by drenching. Metam	ne alternative in controlling p ly and inconsistently due to its n sodium can be as effective as	ests in the study.  poor fumigant attributes. It does kill shallow roots  methyl bromide when applied at twice the label
7. Describe the effectiveness of the Metam sodium performs erratical at 250 ppm by drenching. Metam rate, which is not legal. New delight availability is limited.	ne alternative in controlling p ly and inconsistently due to its a sodium can be as effective as very systems are being investig	ests in the study.  poor fumigant attributes. It does kill shallow roots  methyl bromide when applied at twice the label
Metam sodium performs erratical at 250 ppm by drenching. Metam rate, which is not legal. New delibut availability is limited.  B. Discuss how the results of the other factors that would affect	ne alternative in controlling ply and inconsistently due to its a sodium can be as effective as very systems are being investiguation study apply to your situation your adoption of this tool?	ests in the study. Door fumigant attributes. It does kill shallow roots methyl bromide when applied at twice the label lated to deliver metam sodium through soil in water,
7. Describe the effectiveness of the Metam sodium performs erratical at 250 ppm by drenching. Metam rate, which is not legal. New delimited but availability is limited.  3. Discuss how the results of the other factors that would affect Erratic results and difficulty of obtaining the metal of the other factors.	ne alternative in controlling p ly and inconsistently due to its a sodium can be as effective as very systems are being investion study apply to your situation your adoption of this tool?	ests in the study. Door fumigant attributes. It does kill shallow roots methyl bromide when applied at twice the label lated to deliver metam sodium through soil in water,  . Would you expect similar results? Are there

#### Worksheet 3-B. Alternatives - Pest Control Regimen Costs for Alternative:

If a consortium is submitting this application, the data for this table should reflect a representative user. Col. A: Name of Product and Enter all alternatives and non-chemical pest control that would replace one treatment of methyl bromide throughout the fumigation cycle. See the Fumigation Cycle Non-chemical Control Worksheet for a comprehensive definition of the fumigation cycle. If multiple crops are grown during the interval between fumigations (e.g. tomatoes followed by peppers in a single growing season, or strawberries followed by lettuce over 2 or 3 years) include all of the pesticides that replace methyl bromide for the entire interval. Do not include pesticides that are used along with methyl bromide--enter only the additional pest control if methyl bromide were not available. If someone other than the applicant previously benefited from the application of methyl bromide in the fumigation cycle and you do not have the quantitative data for the crops grown on the same land, please indicate so in the comments section below. Col. B: Target Pests Be as specific as possible regarding the species or classes of pests controlled by the active ingredient or pesticide product. Col. C: Active Ingredients Use one row for each active ingredient (ai). For example, if a product contains 2 ai's use 2 rows for that product. Once a row is completed for a given product, then only Col. B (if applicable), C, and E need to be completed for additional rows regarding the same product. Col. D: Formulation Enter the formulation or the % of active ingredient. As a cross check, EPA is requesting both the amount of active ingredient in Col. E and product applied per area in Col. F. Indicate the unit of the product in Col. G. Col. E, F, G: Application Rate Col. H, I, J: Prices and Costs Use 2001 prices and costs. If the product is custom applied you may enter the total cost in the last column (Col. M) and override the formula. If a pesticide is applied by the user, enter the price of the product in Col. H and the cost of applying it in Col. I. Enter any other costs associated with applying this product in Col. J, specifying what they are in the comments section at the bottom of this sheet. Col. K: Area Treated Enter the area receiving at least one application of the pesticide. Enter the number of applications in a fumigation cycle comparable to methyl bromide for this alternative pest control regimen. Since this number is an average, it does not Col. L: # of Applications per need to be a whole number. Col. M: Cost per Area in 2001 Enter the cost per area in 2001 dollars. Col. M will be calculated automatically using the data you have entered for a chemical pest control, or, the formula in Col. M can be Dollars overridden if the cost per area is known because the product was custom applied. Non-chemical Control Enter data near the bottom of the form. Identify the control in Col. A. Enter the target pests in Col. B. Describe the non-chemical pest control Col. B-L. Enter the costs in Col. M in 2001 dollars. Area is defined below as follows for each user: acres for growers, cubic feet for post-harvest operations, and square feet for structural applications. В Ε М С D F G J K L Α Н - 1 Name of Product Target Pests Active Formulation of Application Rate Price per Cost of Other Area # of Cost per Ingredients Unit of the Costs per Treated Applications Area (2001\$) Product Applying lbs. ai per Units of Product Unit Product Pesticide Application at Least (ai) in per Year Area per product per (e.g., lbs., Product per Area Once Application Area per gals) Application \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 **Target Pests** Description Cost/area **Non-Chemical Pest Control** Total \$ 0.00 Not available at this time. Some costs are unknown because delivery systems required to apply alternatives are still in the research stage and currently theoretical.

### Worksheet 3-C. Alternatives - Crop/Commodity Yield and Gross Revenue for Alternativ

**Unknown (see comments)** 

ross revenue for units (cr n to accommodate difference or to accommodate difference or to accommodate difference or to accommodate that continues a grown on the same lands col. B any factors that de grade, market (e.g., freshot the extent appropriate in a unit of measurement for	an be grown/treated during to the contract of	nen using an alternative compared viding gross revenue data. The same interval of time comprisir mments. See the Fumigation Cycle on of methyl bromide in the fumigation	ng a methyl bromide fumigation with the worksheet for a comprehent ation cycle and you do not have the prices for your crop/coming more than one row. Itemize	on cycle. Please discuss usive definition of the ve the quantitative data formodity as a result of
r to accommodate difference or to accommodate difference or to commodities that or in crop cycles resulting from cycle.  The other than the applicate grown on the same land Col. B any factors that degrade, market (e.g., freshot the extent appropriate in a unit of measurement for	an be grown/treated during to the contract of	viding gross revenue data.  the same interval of time comprisir mments. See the Fumigation Cycle on of methyl bromide in the fumigation omments section below.  ime, market). If you received differvest, etc., you may itemize by usin	ng a methyl bromide fumigation with the worksheet for a comprehent ation cycle and you do not have the prices for your crop/coming more than one row. Itemize	on cycle. Please discuss isive definition of the ve the quantitative data formodity as a result of
in crop cycles resulting fron cycle.  ne other than the applicate grown on the same land Col. B any factors that degrade, market (e.g., freshothe extent appropriate in a unit of measurement for	nt benefits from the application, please indicate so in the contermine prices (e.g., grade, to processing), timing of hammaking the case that the user your crop/commodity.	on of methyl bromide in the fumigation on of methyl bromide in the fumigation omments section below.  ime, market). If you received differvest, etc., you may itemize by usin	e Worksheet for a comprehen ation cycle and you do not have trent prices for your crop/coming more than one row. Itemize	ve the quantitative data fo
s grown on the same land Col. B any factors that de grade, market (e.g., fresh the extent appropriate in a unit of measurement for	I, please indicate so in the contermine prices (e.g., grade, to processing), timing of harm making the case that the use your crop/commodity.	omments section below. ime, market). If you received diffe vest, etc., you may itemize by usin	erent prices for your crop/coming more than one row. Itemize	modity as a result of
grade, market (e.g., fresh to the extent appropriate in a unit of measurement for	or processing), timing of ham n making the case that the us your crop/commodity.	vest, etc., you may itemize by usin	ng more than one row. Itemize	
number of units of crop/				
	commodity produced per are	ea for that price factor identified.		
average 2001 prices rec	ceived by the users for that co	rop/commodity and price factor.		
acres for growers, cubic	feet for post-harvest operation	ons, and square feet for structural	applications.	
В	С	D	E	F
Price Factors rade, time, market)	Unit of Crop/Commodity (e.g., pounds, bushels)	Crop/Commodity Yield (Units per area)	Price (per unit of crop/commodity)	Revenue (per area)
				\$ 0.00
				\$ 0.00
				\$ 0.00
				\$ 0.00
				\$ 0.00
				\$ 0.00
				\$ 0.00 \$ 0.00
	+			\$ 0.00
				\$ 0.00
				\$ 0.00
				\$ 0.00
				\$ 0.00
	•		Total Revenue	\$ 0.00
ı	u may override the formu acres for growers, cubic B	u may override the formula and enter a different rever acres for growers, cubic feet for post-harvest operation B C  Price Factors Unit of crop/Commodity	u may override the formula and enter a different revenue amount. Please explain why to acres for growers, cubic feet for post-harvest operations, and square feet for structural B C D  Price Factors Unit of Crop/Commodity Yield rade, time, market) Crop/Commodity (Units per area)	Price Factors I Unit of Crop/Commodity (e.g., pounds, bushels)  Crop/Commodity (e.g., pounds, bushels)  Crop/Commodity (units per area)  Crop/Commodity (per unit of crop/commodity)  Crop/commodity (units per area)

It is estimated that use of alternatives will result in a 25% loss in production efficiency at this time (M. McKenry, The Replant Problem and Its Management

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### Worksheet 4. Alternatives - Future Research Plans

Please describe future plans to test alternatives to methyl bromide. (All available methyl bromide alternatives from the alternatives list should have been tested or have future tests planned.) There is no need to complete a separate worksheet for future research plans for each alternative - you may use this worksheet to describe <u>all</u> future research plans.

1.	Name of study:	See Below			
2	Researcher(s):				
۷.	Researcher(s).				
3.	Your test is plan	ned for:			
	Location:				
5.	Name of alternat	tive to be tested:			
6.	Will crop yield b	e measured in the study?	Yes	No	
7.	alternatives have	ing is not planned, please ex e been tested and found uns ed for this crop, available alte	uitable, an al	ternative has been id	dentified but is
	Research efforts will	continue, but are not fully defined a	at this time. Rese	earch programs and fundi	ng are discussed
	during the fall and wi	into a manualla a			•
	during the fair and wi	inci monuis.			

\$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00 \$ 0.00

\$ 0.00

# **Worksheet 3-D. Alternatives - Changes in Other Costs for Alternative:**

\$ 0.00

Not available

If a consortium is submitting this ap	oplication, the data for this table	should reflect a represe	entative user.		
Enter data only for costs (other that just the incremental changes. Enter					ide. Enter the whole cost, no
Col. A: Operation or Cost Item	Identify the operations or cos	st items that change as a	a result of not using meth	yl bromide.	
Col. B: Custom Operation Cost	Enter custom operation costs	s that change in Col. B.			
Col. C, D, E: Costs per Area	Enter in Col. C and D, mate automatically from the value:			ations done by user. The to	tal cost per area is calculate
Col. F: Typical Equipment Used	Identify changes in the typica horsepower. No cost data a			ising methyl bromide. Pleas	e be specific such as tractor
Area is defined below as follows f	or each user: acres for growers	s, cubic feet for post-har	vest operations, and squ	are feet for structural applica	itions.
A	В	С	D	E	F
Operation or Cost Item	Custom		Operation Done by Us	er	Typical Equipment Used
	Operation Cost per Area	Material Cost per Area	Labor Cost per Area	Total Cost per Area	Equipment Osea
				\$ 0.00	
				\$ 0.00 \$ 0.00	
				\$ 0.00	
				\$ 0.00	
				00.00	

User Total per area

Comments:

Not known at this time.

Total Custom per Area

## **Worksheet 5. Additional Information**

1.	How will you minimize your use a	nd/or emissions of methyl bro	omide?	
	1a. Check all methods you will use X	Nothing		
		Tarpaulin (high density polyethylene	9)	
		Virtually impermeable film (VIF)		
		Cultural practices (please specify)		
	<del></del>	Cultural practices (please openly)	-	_
	1b. Will you use other pesticides to reduce	e use of methyl bromide?	Yes <u>X</u> No	
	If yes please specify. When a	available and industry learns how and	d has the capability to use them.	
	1c. Other non-chemical methods: (please	specify):		
2.	Do you have access to recycled m	nethyl bromide?	Yes No _X	
	If yes, how many pounds?	lbs.		
2	Do you anticipate that you will have	vo any mothyl bromide in sto	rago on	
Э.	January 1, 2005?	re any memyi bromide in Sto	Yes No X	
	If yes, how many pounds?	lbs.	165 <u> </u>	
4.	What is the cumulative amount sp	_		
	on research to develop alternative 1992)?	s to metnyi bromide (beginn	_	
	1932):		\$ >\$250,000	
5.	Other investments, if any, made to		thyl bromide. Describe each	
	investment and its associated cos	it.		
6.	Identify what factors would allow		•	
	(e.g. registration of particular pes	•	• , •	
	Effective alternatives that can be implement	nted into current practices, or with mi	inimal expense.	
	When do you expect these to occur?	Unknown		
	•	OTIMIOWIT		
7.	Range of acres farmed by growers	s included in this application	?	
	(insert number of users in each cate	gory)		
	<b>1%</b> 0-10 acres			
	4% 10-25 acres			
	<b>25%</b> 25-50 acres			
	<b>35%</b> 50-100 acres			
	20% 100-200 acres			
	10% 200-400 acres			
	5% over 400 acres			

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## **Worksheet 5. Additional Information (continued)**

Range of square feet of the area to which ap this application will apply methyl bromide? each category)	· <del>-</del>
0 - 5,000 sq. ft. 5,001 - 10,000 sq. ft. 10,001 - 20,000 sq. ft.	
20,001 - 40,000 sq. ft. 40,001 - 80,000 sq. ft.	
80,001 - 160,000 sq. ft. over 160,000 sq. ft.	
I certify that all information contained in this document  Signature	·
Print Name	
States government to justify claims in the national nom considered "critical" and authorized for an exemption b crucial to making compelling arguments in favor of criticals.	information from other applications and used by the United ination package that a particular use of methyl bromide be eyond the 2005 phaseout. Use of aggregate data will be cal use exemptions. <b>By signing below</b> , you agree not to disclosure by EPA of aggregate information based in part or
Signature	Date
Print Name	Title

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information is estimated to average 324 hours per response and assumes a large portion of applications will be submitted by consortia on behalf of many individual users of methyl bromide. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a current OMB control number.

#### **Worksheet 6. Application Summary**

This worksheet will be posted on the web to notify the	e public of requests for critical us	se exemptions beyond the 2005 phase out for meth	hyl bromide Therefore	this worksheet cannot be claimed as CBI

1. Name of Applicant:	California Grape & Tree Fruit League		
2. Location:	Fresno, CA		
3. Crop:	Stone fruit (peach, nectarine, cherry, plum,	, prune)	
4. Pounds of Methyl Bromide Request	ted 2005 1,579,5	500	
5. Area Treated with Methyl Bromide	<b>2005</b> 8,1	100 acres units	
6. If methyl bromide is requested for additional years, reason for request:			
Alternatives have use limitations and deliver	ery tecnology has not been commercially designed	d or developed.	
<b>2006</b> 1,579,500 lbs.	Area Treated 8100	acres units	
<b>2007</b> 1,579,500 <b>lbs</b> .	Area Treated 8100	acresunits	

Place an "X" in the column(s) labeled "Not Technically Feasible" and/or "Not Economically Feasible" where appropriate. Use the "Reasons" column to describe why the potential alternative is not feasible.

Potential Alternatives	Not Technically Feasible	Not Economically Feasible	Reasons
1,3-D	X		Township caps and other use restrictions (use rates and high soil moisture content requirements) limits widespread use and long lasting benefits. These restrictions limit effective use to coarser textured soils.
1,3-D, chloropicrin	Х		See above. Addition of chloropicrin does not appear to provide additonal nematode control.
1,3-D, metam sodium	Х		See 1,3-D above. Treatment combination is promising, but continued research is required to learn how to deliver material in an efficaceous and economical manner that can fit into commercial production practices.
Metam sodium	Х		Erratic results and difficulty of obtaining good distribution in soil is a limiting factor. Availability of economical and commercial delivery equipment that can distribute the material throughout the soil must occur for widespread use of metam sodium.