Appendix K

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) *Interim* Recommended Permit Conditions

Overview

Introduction

These interim recommended permit conditions were developed to mitigate hazards of offsite movement of chloropicrin and apply to all field fumigation applications of chloropicrin. They should be used in addition to the provisions in the California Food and Agricultural Code (FAC), Title 3, California Code of Regulations (3 CCR), and product labeling. These permit conditions do not apply to non-field fumigations, including greenhouses, potting soil, and golf courses.

Any application of either: (1) a product that includes chloropicrin and another fumigant; or (2) simultaneous applications of chloropicrin and another fumigant product are subject to all applicable recommended permit conditions for each fumigant chemical. This pertains to products containing more than 2% chloropicrin.

In this appendix

This appendix contains the following topics.

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Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions

General application information

DPR-approved TIF tarpaulins

The Department of Pesticide Regulation (DPR) has created a California-specific list of totally impermeable films (TIF) that qualify to receive a 60% buffer zone reduction credit for soil fumigant products containing chloropicrin. The approved TIF list is on the DPR website at http://www.cdpr.ca.gov/docs/emon/pubs/tac/chlorop.htm.

County agricultural commissioners may further limit the type of tarpaulin allowed.

Evaluations of proposed applications near sensitive sites using methods that result in high humidity conditions under the tarp, such as drip applications, may indicate the use of either larger buffer zones or use of specific tarp compositions known to be superior under these conditions.

TIF documentation

If TIF will be used, either

1. The NOI must include a copy of the tarp invoice. Confidential business information on the invoice, such as pricing, can be omitted.

–or–

2. The tarp name and lot number must be printed on the tarp in a font size equal to 2-3 inches in height and printed at least 1 foot from each edge and at an interval of 20-30 feet along the length of the tarp.

Tarp combination

An application block shall only be covered with tarps in the same permeability category (e.g., two different brands of TIF may be used in an application block, but an application block cannot be covered with a mix of TIF and other tarps.)

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Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions, Continued

Notice of intent	The notice of intent (NOI) shall be submitted at least 48 hours before the fumigation begins and include the time fumigation is scheduled to begin.
Fumigation time restrictions	Fumigations must start no earlier than one hour after sunrise and must end no later than three hours prior to sunset. The fumigation cannot begin sooner than the time listed on the NOI and must begin within 12 hours of the scheduled time. If fumigation does not begin within the 12-hour period, a new NOI must be submitted. The CAC can determine whether another 48-hour waiting period is needed. These time restrictions do not apply to applications using TIF (including products containing methyl bromide and chloropicrin).
Application block	An application block is a field or the portion of a field treated in a 24-hour period that typically is identified by visible indicators, maps, or other tangible means (3 CCR section 6000).
Application block size limit	For only those chloropicrin applications that do not include methyl bromide and use TIF, application block size is limited to 60 acres. For all non-TIF and all untarped applications, and for any TIF application that includes methyl bromide – the application block size is limited to 40 acres at one location within a 24-hour period.

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Buffer zones for chloropicrin-only products and chloropicrin/ 1,3-D combinations

For chloropicrin-only products and chloropicrin/1,3-D combination products:

Method	Coastal Counties	Inland Counties
TIF broadcast shank injection	Table 1	Table 1
TIF bed injection	Table 2	Table 2
TIF strip deep injection*	Table 3	Table 3
TIF drip	Table 4	Table 4
Non-TIF broadcast shank injection	Table 5	Table 5
Non-TIF bed injection	Table 6a	Table 6b
Non-TIF strip injection	Table 7a	Table 7b
Non-TIF drip	Table 8a	Table 8b
Untarped broadcast shallow injection	Table 9a	Table 9b
Untarped broadcast deep injection	Table 10a	Table 10b
Untarped bed injection	Table 11a	Table 11b
Untarped drip	Table 12	Table 12

*TIF strip *shallow* injection is prohibited.

Similar to labels, the broadcast-equivalent application rate is used to determine the buffer zone requirements. However, labels specify the buffer zone distance based on the broadcast-equivalent application rate for the *product*. The buffer zone tables in these permit conditions specify the distance based on the broadcast-equivalent application rate for the chloropicrin *active ingredient* (lbs AI/ac). The broadcast-equivalent application rate for the AI is calculated using the same procedure as described on the label for bed/strip width and row spacing, then adjusting for the percent of chloropicrin listed on the label. For example, if the broadcast-equivalent application rate for the product is 300 lbs/ac and the product contains 60% chloropicrin, the broadcast-equivalent application rate for chloropicrin is 300 x 0.60 = 180 lbs AI/ac.

Continued on next page

Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations

For products containing methyl bromide and chloropicrin, determine the methyl bromide and chloropicrin buffer zones separately.

1. Determine the chloropicrin buffer zone:

Method	Coastal Counties	Inland Counties
TIF broadcast shank injection	Table 1	Table 1
TIF bed injection	Table 2	Table 2
TIF strip deep injection*	Table 3	Table 3
TIF drip	Table 4	Table 4
Non-TIF broadcast shank injection	Table 5	Table 5
Non-TIF bed injection	Table 6a	Table 6b
Non-TIF strip injection	Table 7a	Table 7b
Non-TIF drip	Table 8a	Table 8b
Untarped broadcast shallow injection	Table 9a	Table 9b
Untarped broadcast deep injection	Table 10a	Table 10b
Untarped bed injection	Table 11a	Table 11b
Untarped drip	Prohibited	

*TIF strip *shallow* injection is prohibited.

The buffer zone tables in these permit conditions specify the distance based on the broadcast-equivalent application rate for the chloropicrin *active ingredient* (lbs AI/ac). The broadcast-equivalent application rate for the AI is calculated using the same procedure as described on the label for bed/strip width and row spacing, then adjusting for the percent of chloropicrin listed on the label. For example, if the broadcast-equivalent application rate for the product is 300 lbs/ac and the product contains 60% chloropicrin, the broadcast-equivalent application rate for chloropicrin is 300 x 0.60 = 180 lbs AI/ac.

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Buffer zones for methyl bromide and chloropicrin combinations (continued)

2. Determine the methyl bromide outer and inner buffer zones distances following the procedure described in Appendix M, *Methyl Bromide Field Fumigation Recommended Permit Conditions*.

3. These determinations will result in three possible scenarios for buffer zone restrictions:

Scenario 1: If the chloropicrin buffer zone is smaller than the methyl bromide inner zone, then there are two buffer zones – a combined methyl bromide inner/chloropicrin buffer zone and a methyl bromide outer buffer zone.

In this case the methyl bromide inner buffer zone distance also functions as the chloropicrin buffer zone distance. Both the chloropicrin buffer zone and methyl bromide inner buffer zone restrictions apply.

All of the methyl bromide outer buffer zone restrictions apply to the methyl bromide outer buffer zone.

For clarity, the combined requirements of the labels and regulations are described on the following page.

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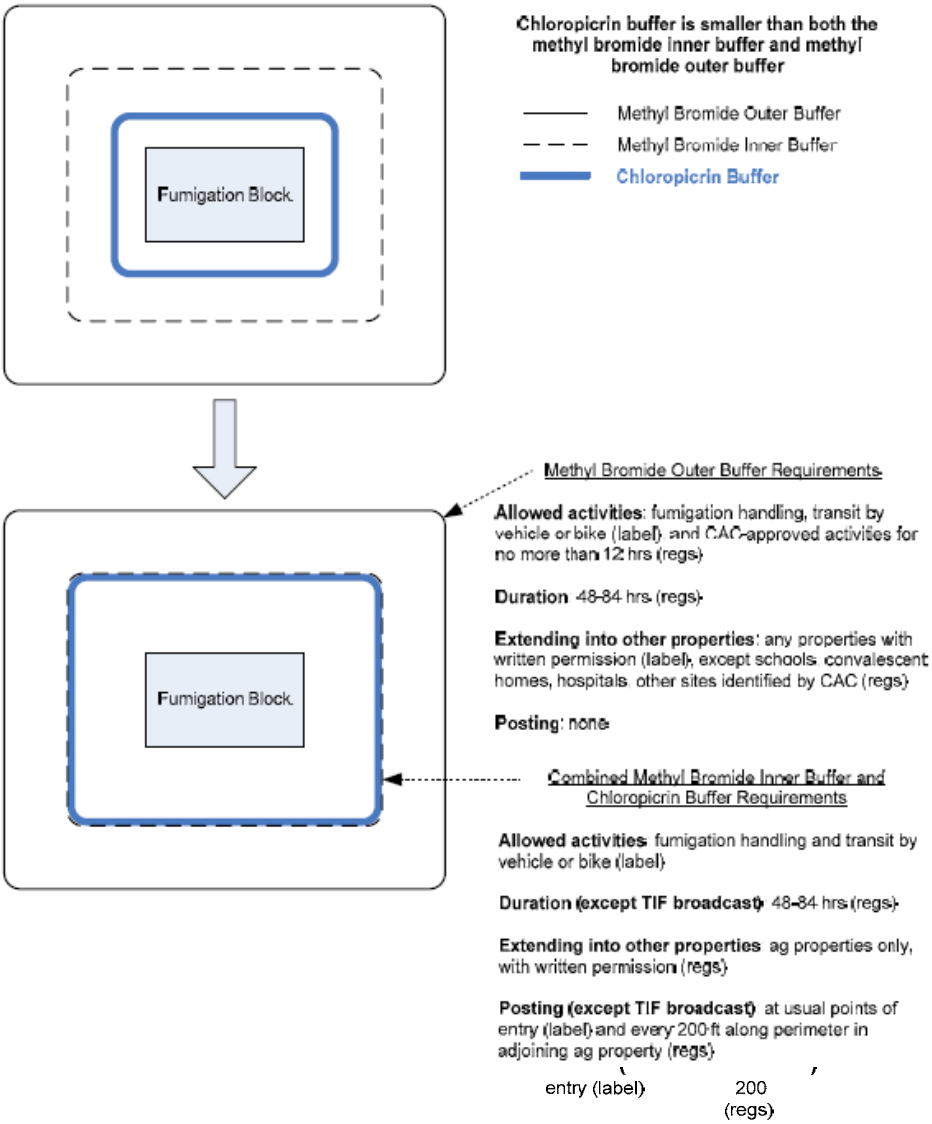
Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

Scenario 1. Buffer Zone Requirements for Methyl Bromide/Chloropicrin Combination Fumigations



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Buffer zones for methyl bromide and chloropicrin combinations (continued)

Scenario 2: If the chloropicrin buffer zone is larger than the methyl bromide inner buffer zone, but smaller than the methyl bromide outer buffer zone, then there are two buffer zones – a combined methyl bromide/chloropicrin buffer zone and a methyl bromide outer buffer zone (same as Scenario 1).

In this case the chloropicrin buffer zone distance also functions as the methyl bromide inner buffer zone distance. Both the chloropicrin buffer zone and methyl bromide inner buffer zone restrictions apply (same as Scenario 1).

All of the methyl bromide outer buffer zone restrictions apply to the methyl bromide outer buffer zone.

For clarity, the combined requirements of the labels and regulations are described on the following page.

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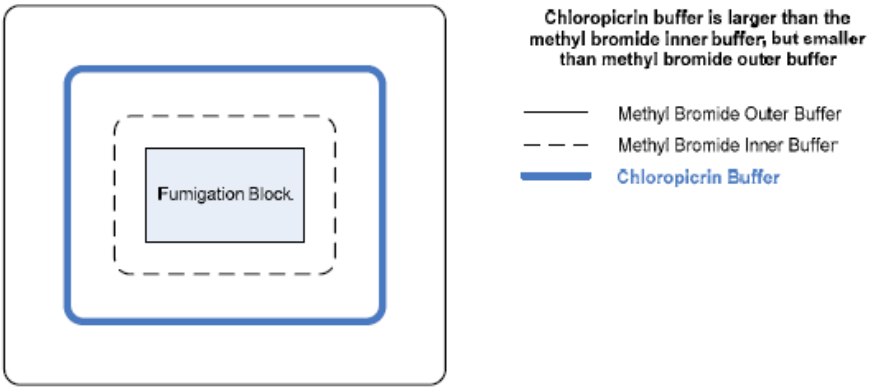
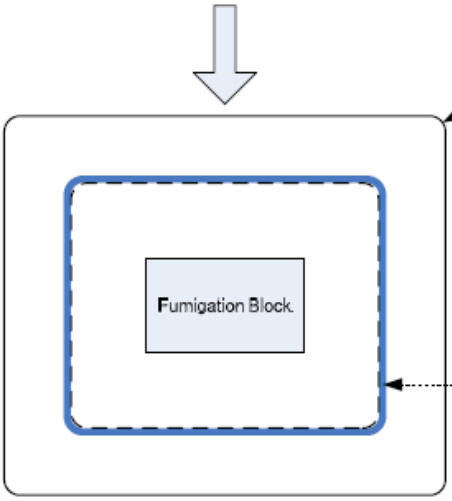
Buffer zones for methyl bromide and chloropicrin combinations (continued)

Scenario 2. Buffer Zone Requirements for Methyl Bromide/Chloropicrin Combination Fumigations



Chloropicrin buffer is larger than the methyl bromide inner buffer, but smaller than methyl bromide outer buffer

Methyl Bromide Outer Buffer
Methyl Bromide Inner Buffer
Chloropicrin Buffer



Methyl Bromide Outer Buffer Requirements

Allowed activities: fumigation handling, transit by vehicle or bike (label), and CAC-approved activities for no more than 12 hrs (regs)

Duration: 48-84 hrs (regs)

Extending into other properties: any properties with written permission (label), except schools, convalescent homes, hospitals, other sites identified by CAC (regs)

Posting: none

Combined Methyl Bromide Inner Buffer and Chloropicrin Buffer Requirements

Allowed activities: fumigation handling and transit by vehicle or bike (label)

Duration (except TIF broadcast): 48-84 hrs (regs)

Extending into other properties: ag properties only, with written permission (regs)

Posting (except TIF broadcast): at usual points of entry (label) and every 200 ft along perimeter in adjoining ag property (regs)

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Buffer zones for <u>methyl bromide and chloropicrin combinations</u> (continued)

Scenario 3: If the chloropicrin buffer zone is larger than the outer methyl bromide buffer zone, then there are two buffer zones – a methyl bromide inner buffer zone and a combined methyl bromide outer/chloropicrin buffer zone.

All of the methyl bromide inner buffer zone restrictions apply to the methyl bromide inner buffer zone.

In this case the chloropicrin buffer zone distance also functions as the methyl bromide outer buffer zone distance. Both the chloropicrin buffer zone and methyl bromide outer buffer zone restrictions apply to the combined buffer zone, consequently no persons are allowed within this buffer zone except to perform fumigation-handling activities or transit by vehicle or bicycle.

For clarity, the combined requirements of the labels and regulation are described on the following page.

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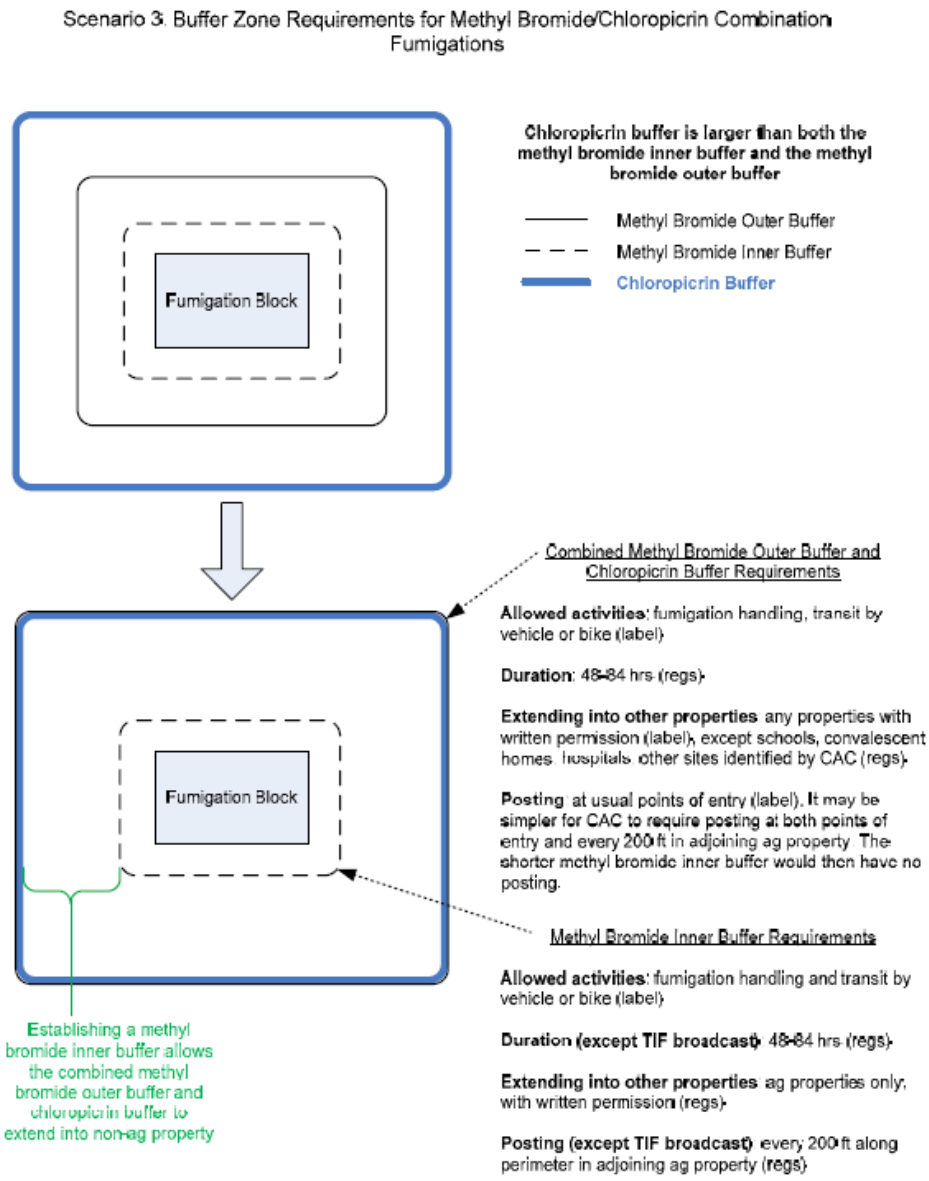
Buffer zones for <u>methyl bromide and chloropicrin combinations</u> (continued)



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Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions, Continued

Buffer zones for methyl bromide and chloropicrin combinations (continued)

For all scenarios, the buffer zone duration for methyl bromide is the same or more restrictive than the duration for chloropicrin. Use the buffer duration specified in Appendix M, *Methyl Bromide Field Fumigation Recommended Permit Conditions*, page M-11.

Minimum buffer zone distances

The minimum buffer zone distances are:

- TIF: 25 feet
- Non-TIF applications less than or equal to 6 acres: 60 feet
- Non-TIF applications greater than 6 acres: 100 feet
- Untarped: 100 feet

For products containing methyl bromide and chloropicrin, the methyl bromide minimum buffer zone may be longer.

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Tree hole limitations

The maximum number of tree holes and acreage allowed to be treated for any site (entire orchard) in a 24-hour period are:

- 50 holes per acre in no more than 40 acres
- 75 holes per acre in no more than 10 acres
- 100 holes per acre in no more than 5 acres
- 200 holes in no more than 1 acre

If any site is fumigated more than once (e.g., sequential applications within a single orchard), at least 36 hours must elapse between fumigations. Elapsed time is measured from the time the earlier application is complete until the start of the later application.

These limits assume that the tree holes are evenly distributed across the site, and may not provide adequate protection for tree holes that are unevenly distributed. To prevent bunching of tree holes, DPR recommends the following spacing between fumigated tree holes:

- At least 30 feet for 50 holes per acre in no more than 40 acres
- At least 25 feet for 75 holes per acre in no more than 10 acres
- At least 20 feet for 100 holes per acre in no more than 5 acres
- At least 15 feet for 200 holes in no more than 1 acre

This recommended minimum spacing does not need to be achieved for each tree hole, but should be achieved for the majority of tree holes, particularly near the borders of an orchard.

A separation of 51 feet between tree holes (i.e., minimum distance for no overlapping buffer zones) is likely insufficient separation between application blocks for this permit condition. The required buffer zone of 25 feet may not provide adequate protection if multiple application blocks within a single orchard (or adjacent orchards) are fumigated with less than 36-hour separation. CAC staff should consult with DPR before allowing these types of fumigations.

For products containing methyl bromide and chloropicrin, the application is limited to 1 acre.

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Overlapping buffer zones

If buffer zones for two or more applications overlap within 36 hours from the time the earlier application is complete until the start of the later application, certain restrictions apply based on the type of tarpaulin used (if any). Labels require a minimum of 12 hours to elapse from the time the earlier application(s) is complete until the start of the later application. An application block is the area of a field treated in a 24-hour period.

The following are additional restrictions when application block buffer zones overlap within the first 36 hours:

Scenario 1: All application blocks use TIF.

TIF conditions:

- Combined TIF acreage shall not exceed 60 acres.
- Buffer distance for each TIF block shall be based on individual method, application rate, and acres.

Scenario 1 example:
Coastal county, two applications, both blocks use TIF.

Block 1:	Block 2:
• TIF	• TIF
• Broadcast shank	• Drip
• 200 lbs AI/ac	• 150 lbs AI/ac
• 10 ac	• 20 ac

Buffer zone determination:

Combined TIF acreage is less than 60 ac (10+20=30).

Block 1 buffer is based on broadcast shank, 200 lbs AI/ac, 10 ac:56 feet (Table1)

Block 2 buffer is based on drip, 150 lbs AI/ac, 20 ac: 45 feet (Table 4)

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Overlapping buffer zones (continued)

Scenario 2: All application blocks use non-TIF or untarped, and use same application method and application rate.

Non-TIF/untarped conditions:

- Combined non-TIF/untarped acreage shall not exceed 40 acres.
- Buffer distance shall be based on combined acreage of all non-TIF/untarped blocks.

Scenario 2 example:
Coastal county, two applications, both blocks use non-TIF, same method and rate.

Block 1:	Block 2:
• Non-TIF	• Non-TIF
• Broadcast shank	• Broadcast shank
• 200 lbs AI/ac	• 200 lbs AI/ac
• 10 ac	• 20 ac

Buffer Zone determination:

Combined non-TIF/untarped acreage is less than 40 ac (10+20=30).

Block 1 and Block 2 buffers are the same distance based on broadcast shank, 200 lbs AI/ac, 10+20=30 ac: 272 feet (Table 5).

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Overlapping buffer zones (continued)

Scenario 3: All application blocks non-TIF or untarped blocks and blocks use different application methods and/or application rates.

Non-TIF/untarped conditions:

- Combined non-TIF/untarped acreage shall not exceed 40 acres.
- Buffer zone distance shall be based on combined acreage of all non-TIF/untarped blocks.
- Use highest non-TIF or untarped application rate.
- Use buffer table with largest buffer.

Alternative: consult with DPR.

Scenario 3 example:
Coastal county, two applications, both blocks use non-TIF, different methods and rates.

Block 1:	Block 2:
• Non-TIF	• Non-TIF
• Broadcast shank	• Drip
• 200 lbs AI/ac	• 150 lbs AI/ac
• 10 ac	• 20 ac

Buffer zone determination:

Combined non-TIF/untarped acreage is less than 40 ac (10+20=30).

Block 1 and Block 2 buffers are the same distance based on non-TIF drip, 200 lbs AI/ac, 10+20=30 ac: 375 feet (Table 8a).

NOTES: Shorter buffer of 272 feet (Table 5) for non-TIF broadcast shank, 200 lbs AI/ac, 30 ac, does not apply.

DPR consultation would be needed if the Block 1 application rate was >225 lbs AI/ac; this exceeds the application rates in Table 8a.

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Overlapping buffer zones (continued)

<u>Scenario 4</u>: Multiple application blocks, at least one TIF application block, other application blocks individually use non-TIF or untarped, and all application blocks use the same application method and rate.

TIF conditions:

- Combined TIF acreage shall not exceed 60 acres.
- Buffer distance for each TIF block shall be based on individual method, application rate, and acres.

Non-TIF/untarped conditions:

- Combined non-TIF/untarped acreage shall not exceed 40 acres.
- Buffer distance shall be based on combined acreage of all non-TIF/untarped blocks.

Scenario 4 example:
Coastal county, four applications, two blocks use TIF, two blocks use non-TIF, all blocks use same application method and rate.

<u>Block 1:</u>	<u>Block 2:</u>	<u>Block 3:</u>	<u>Block 4:</u>
• TIF • Broadcast shank • 200 lbs AI/ac • 10 ac	• TIF • Broadcast shank • 200 lbs AI/ac • 15 ac	• Non-TIF • Broadcast shank • 200 lbs AI/ac • 20 ac	• Non-TIF • Broadcast shank • 200 lbs AI/ac • 5 ac

Buffer zone determination:
Combined TIF acreage is less than 60 ac (10+15=25).

Combined non-TIF/untarped acreage is less than 40 ac (20+5=25).

Block 1 buffer is based on TIF broadcast shank, 200 lbs AI/ac, 10 ac: 56 feet (Table 1).

Block 2 buffer is based on TIF broadcast shank, 200 lbs AI/ac, 15 ac: 69 feet (Table 1).

Block 3 and Block 4 buffers are the same distance, based on non-TIF broadcast shank, 200 lbs AI/ac, 20+5=25 ac: 240 feet (Table 5).

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Overlapping buffer zones (continued)

<u>Scenario 5</u>: Multiple application blocks, at least one TIF application block, other application blocks individually use non-TIF or untarped, and blocks use different application methods and/or application rates.

TIF conditions:

- Combined TIF acreage shall not exceed 60 acres.
- Buffer distance for each TIF block shall be based on individual method, application rate, and acres.

Non-TIF/untarped conditions:

- Combined non-TIF/untarped acreage shall not exceed 40 acres.
- Buffer distance shall be based on combined acreage of all non-TIF/untarped blocks.

Scenario 5 example:
Coastal county, four applications, two blocks use TIF, two blocks use non-TIF, applications methods and rates vary among blocks.

<u>Block 1:</u>	<u>Block 2:</u>	<u>Block 3:</u>	<u>Block 4:</u>
• TIF • Broadcast shank • 200 lbs AI/ac • 10 ac	• TIF • Drip • 175 lbs AI/ac • 15 ac	• Non-TIF • Broadcast shank • 225 lbs AI/ac • 20 ac	• Non-TIF • Drip • 150 lbs AI/ac • 5 ac

Buffer zone determination:

Combined TIF acreage is less than 60 ac (10+15=25).

Combined non-TIF/untarped acreage is less than 40 ac (20+5=25).

Block 1 buffer is based on TIF broadcast shank, 200 lbs AI/ac, 10 ac:
56 feet (Table 1).

Block 2 buffer is based on TIF drip, 175 lbs AI/ac, 15 ac:
48 feet (Table 4).

Block 3 and Block 4 buffers are the same distance based on non-TIF drip, 225 lbs AI/ac, 20+5=25 ac: 435 feet (Table 8a).

NOTES: Shorter buffer of 298 feet (Table 5) for non-TIF broadcast shank, 225 lbs AI/ac, 25 ac, does not apply.

DPR consultation would be needed if the Block 3 application rate was >225 lbs AI/ac; this exceeds the application rates in Table 8a.

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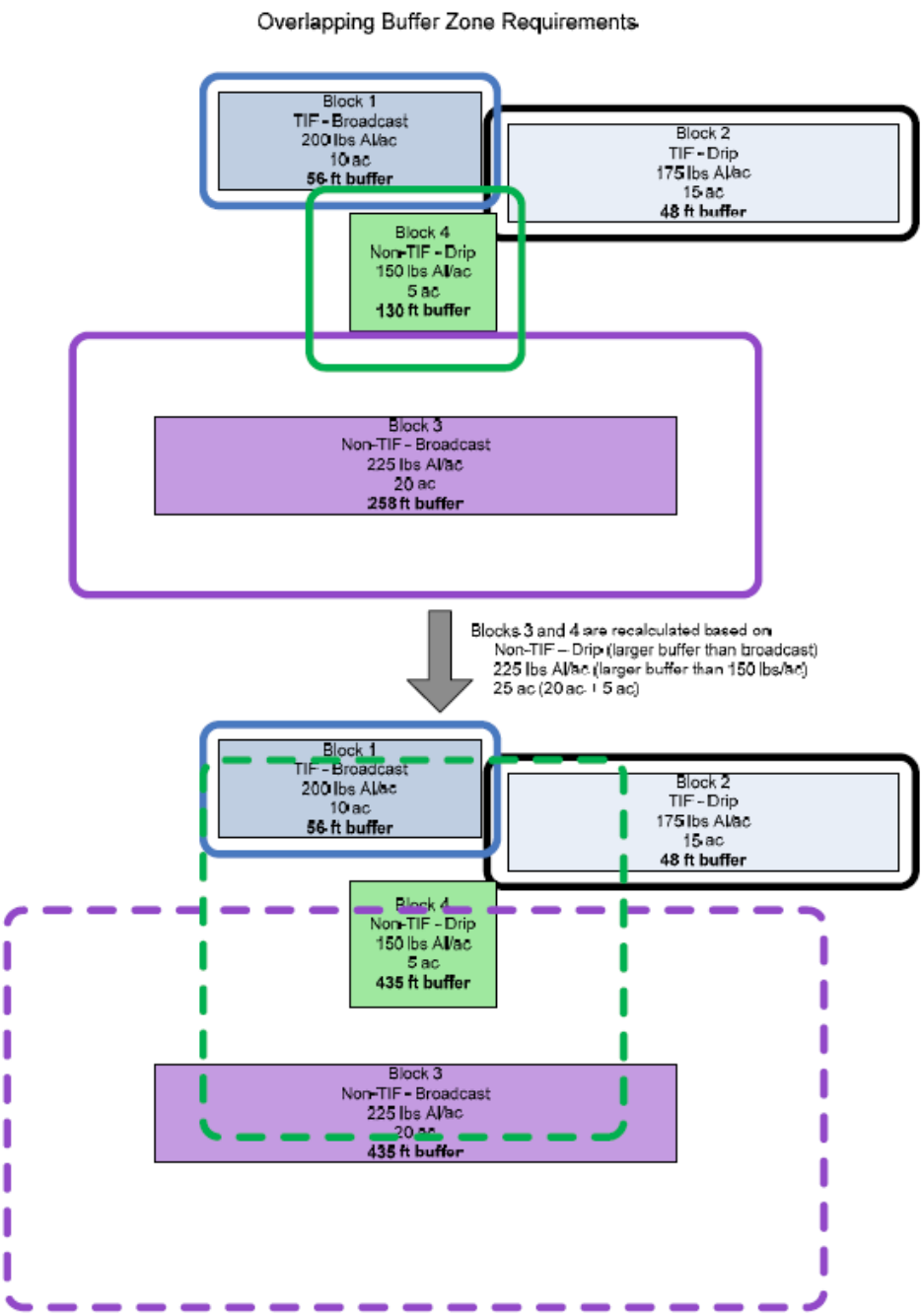
Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions, Continued

Overlapping buffer zones (continued)



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Chloropicrin and Chloropicrin in Combination with Other Products (Field Fumigant) Interim Recommended Permit Conditions, Continued

Tarp perforation and removal

Tarps that qualify for any buffer zone percentage reduction credit (i.e., listed on either http://www2.epa.gov/soil-fumigants/tarps or http://www.cdpr.ca.gov/docs/emon/pubs/tac/chlorop.htm) must not be perforated until a minimum of 9 days (216 hours) have elapsed after the application is complete, and must not be removed until a minimum of 1 day (24 hours) after perforation. Tarps may be perforated or removed earlier if label-specified adverse weather conditions have compromised the integrity of the tarp.

Emergency preparedness and response measures

If the certified applicator uses Fumigant Site Monitoring, then:

- Monitoring for sensory irritation must be done along the outside perimeter of the buffer zone.
- At the start of each label-specified monitoring period, monitors must determine the wind direction. The wind directions and times of determination must be included in the Post-Application Summary.
- Monitoring must be done in at least two different locations along the perimeter, including:
    - Downwind of the application block.
    - In the direction of all residences, businesses, and bystander areas that trigger the Emergency Preparedness and Response Measures.
    - On calm days, monitoring must be done along all buffer zone sides.
- Monitors must have full olfactory capabilities.
- If the monitor experiences sensory irritation triggering the emergency response plan, the monitor must notify the county agricultural commissioner.

If the certified applicator uses Response Information for Neighbors (notification), then it must be in both Spanish and English.

Emergency response plan

The county agricultural commissioner must be notified immediately if the emergency response plan is implemented.

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Table 1. Chloropicrin buffer zone distances (feet) for TIF broadcast shank injection fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)																	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**60**
Broadcast Equivalent Application Rate (lbs AI/acre)	**95**	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	100	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	29
	105	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	34
	110	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	31	42
	115	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27	38	49
	120	25	25	25	25	25	25	25	25	25	25	25	25	25	26	30	34	45	56
	125	25	25	25	25	25	25	25	25	25	25	25	25	27	30	36	40	52	64
	130	25	25	25	25	25	25	25	25	25	25	25	27	32	36	41	47	59	71
	135	25	25	25	25	25	25	25	25	25	25	25	30	36	41	47	54	66	78
	140	25	25	25	25	25	25	25	25	25	25	25	34	40	46	53	60	73	86
	145	25	25	25	25	25	25	25	25	25	25	26	38	45	52	59	66	79	92
	150	25	25	25	25	25	25	25	25	25	25	29	42	50	58	64	72	85	99
	155	25	25	25	25	25	25	25	25	25	25	33	45	54	63	70	77	92	106
	160	25	25	25	25	25	25	25	25	25	25	36	49	59	69	76	83	98	112
	165	25	25	25	25	25	25	25	25	25	27	40	52	64	74	82	88	104	119
	170	25	25	25	25	25	25	25	25	26	30	44	56	68	80	87	94	110	126
	175	25	25	25	25	25	25	25	25	29	34	47	60	73	86	93	100	116	132
	180	25	25	25	25	25	25	25	28	33	38	52	64	78	90	100	108	125	141
	185	25	25	25	25	25	25	26	32	37	42	56	69	82	95	106	116	134	150
	190	25	25	25	25	25	25	30	36	41	47	60	74	87	100	112	125	142	160
	195	25	25	25	25	25	27	33	39	45	51	65	78	91	104	119	133	151	168
	200	25	25	25	25	25	30	37	43	49	56	69	83	96	109	125	142	160	178
	205	25	25	25	25	27	34	40	47	53	60	74	88	100	114	132	150	168	187
	210	25	25	25	25	30	37	44	50	57	64	78	92	105	118	138	158	177	196
	215	25	25	25	27	33	40	46	53	60	66	81	96	110	124	144	164	182	202
	220	25	25	25	29	36	42	49	56	62	68	84	100	114	130	149	169	188	208
	225	25	25	25	32	38	45	52	58	64	71	87	103	119	135	155	174	194	213
	230	25	25	26	34	42	48	54	60	67	73	90	107	124	141	160	180	199	219
	235	25	25	27	36	44	50	57	63	69	76	93	110	128	146	166	185	205	224
	240	25	25	28	38	47	53	59	66	72	78	96	114	133	152	172	190	210	230
	245	25	25	30	40	50	56	62	68	74	80	99	118	138	158	177	196	216	236
	250	25	25	31	41	52	58	64	70	76	82	102	121	142	163	181	200	220	242
	255	25	25	32	42	53	59	65	71	77	84	104	124	146	168	185	203	225	248
	260	25	25	32	43	54	60	67	73	79	85	106	128	150	172	190	206	230	253
	265	25	25	33	44	56	62	68	74	81	87	109	130	154	178	194	210	234	259
	270	25	25	34	45	57	64	70	76	82	88	111	134	158	182	198	213	239	264
	275	25	25	34	46	58	65	71	78	84	90	114	137	162	187	202	216	244	270
	280	25	25	35	48	60	66	73	79	86	92	116	140	166	192	206	220	248	276
	285	25	25	36	49	62	68	75	82	89	96	120	144	169	194	210	228	257	286
	290	25	25	36	50	63	70	78	85	92	99	124	149	172	195	215	235	266	296
	295	25	25	37	51	64	72	80	87	95	102	128	154	175	196	220	242	274	306

Table 1 (cont.). Chloropicrin buffer zone distances (feet) for TIF broadcast shank injection fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)																	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**60**
lbs AI/acre	**300**	25	25	38	52	66	74	82	90	98	106	132	158	178	198	224	250	283	316
	305	25	26	40	54	69	77	85	93	101	109	136	163	184	205	229	253	287	321
	310	25	27	42	57	71	80	88	96	104	113	141	169	190	211	234	257	292	327
	315	25	29	44	59	74	82	91	99	108	116	145	174	196	218	239	260	296	332
	320	25	30	45	60	76	84	92	101	109	118	147	176	199	222	243	264	301	337
	325	25	31	46	62	78	86	94	102	110	119	149	178	202	226	247	268	306	342
	330	25	32	48	64	79	87	96	104	112	120	150	181	205	229	251	273	310	348
	335	25	33	49	65	81	89	97	105	114	122	152	183	208	233	255	277	315	352
	340	25	34	50	66	82	91	99	107	115	123	154	186	211	236	259	282	320	358
	345	25	36	52	68	84	92	100	108	116	124	156	188	214	240	263	286	324	363
	350	25	36	53	70	86	94	102	110	118	126	158	190	217	244	267	290	329	368

Table 2. Chloropicrin buffer zone distances (feet) for TIF bed shank injection fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)																	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**60**
Broadcast Equivalent Application Rate (lbs AI/acre)	**100**	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	105	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	40
	110	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	54	62
	115	25	25	25	25	25	25	25	25	25	25	25	25	25	25	28	38	58	67
	120	25	25	25	25	25	25	25	25	25	25	25	25	25	25	38	50	62	72
	125	25	25	25	25	25	25	25	25	25	25	25	25	25	31	44	57	75	84
	130	25	25	25	25	25	25	25	25	25	25	25	25	34	38	50	64	88	96
	135	25	25	25	25	25	25	25	25	25	25	25	25	41	45	57	72	92	101
	140	25	25	25	25	25	25	25	25	25	25	25	30	48	52	64	80	96	106
	145	25	25	25	25	25	25	25	25	25	25	25	40	54	64	70	88	110	120
	150	25	25	25	25	25	25	25	25	25	25	28	48	59	71	80	99	119	130
	155	25	25	25	25	25	25	25	25	25	25	38	56	64	78	90	110	128	140
	160	25	25	25	25	25	25	25	25	25	25	43	61	71	85	97	113	132	149
	165	25	25	25	25	25	25	25	25	25	25	48	66	78	92	104	116	136	158
	170	25	25	25	25	25	25	25	25	25	25	51	69	85	98	111	124	144	164
	175	25	25	25	25	25	25	25	25	25	26	54	72	92	104	118	132	152	170
	180	25	25	25	25	25	25	25	25	25	27	56	74	95	107	121	136	156	175
	185	25	25	25	25	25	25	25	25	25	28	57	76	97	110	125	140	161	180
	190	25	25	25	25	25	25	25	25	25	28	59	78	100	113	128	143	165	184
	195	25	25	25	25	25	25	25	25	26	29	60	80	102	116	132	147	169	190
	200	25	25	25	25	25	25	25	25	26	30	62	82	105	119	135	151	174	194
	205	25	25	25	25	25	25	25	25	27	30	63	84	108	122	138	155	178	199
	210	25	25	25	25	25	25	25	25	27	31	65	86	110	125	142	158	182	204
	215	25	25	25	25	25	25	25	25	28	32	66	88	113	128	145	162	187	209
	220	25	25	25	25	25	25	25	25	29	33	68	90	116	131	148	166	191	214
	225	25	25	25	25	25	25	25	25	29	34	70	92	118	134	152	170	196	218
	230	25	25	25	25	25	25	25	26	30	34	71	95	121	137	155	174	200	224
	235	25	25	25	25	25	25	25	26	31	35	72	97	124	140	158	177	204	228
	240	25	25	25	25	25	25	25	27	31	36	74	99	126	143	162	181	208	233
	245	25	25	25	25	25	25	25	28	32	36	76	101	129	146	165	185	213	238
	250	25	25	25	25	25	25	25	28	32	37	77	103	132	148	168	188	217	243
	255	25	25	25	25	25	25	25	28	33	38	79	105	134	152	172	192	222	248
	260	25	25	25	25	25	25	25	29	34	39	80	107	137	154	175	196	226	252
	265	25	25	25	25	25	25	25	30	34	39	82	109	139	158	179	200	230	258

Table 3. Chloropicrin buffer zone distances (feet) for TIF strip *deep* (≥18 inches) injection fumigations in Coastal and Inland counties. TIF strip *shallow* injection fumigations are prohibited. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)																	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**60**
Broadcast Equivalent Application Rate (lbs AI/acre)	**75**	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	80	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	27	35
	85	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	36	48
	90	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	32	46	60
	95	25	25	25	25	25	25	25	25	25	25	25	25	26	32	38	43	57	70
	100	25	25	25	25	25	25	25	25	25	25	25	26	35	44	49	54	68	81
	105	25	25	25	25	25	25	25	25	25	25	25	32	44	56	61	66	79	92
	110	25	25	25	25	25	25	25	25	25	25	26	40	52	63	68	74	87	101
	115	25	25	25	25	25	25	25	25	25	25	32	48	59	70	75	81	96	110
	120	25	25	25	25	25	25	25	25	25	25	37	56	66	76	82	88	104	120
	125	25	25	25	25	25	25	25	25	25	25	42	62	73	84	90	96	112	129
	130	25	25	25	25	25	25	25	25	25	28	47	65	78	91	97	103	121	138
	135	25	25	25	25	25	25	25	25	30	34	52	68	84	98	104	110	130	148
	140	25	25	25	25	25	25	25	28	34	40	56	72	89	106	112	118	138	158
	145	25	25	25	25	25	25	27	33	40	46	62	78	95	113	120	128	148	170
	150	25	25	25	25	25	26	32	38	45	52	68	84	102	120	128	138	159	181
	155	25	25	25	25	25	30	37	44	50	57	73	89	108	126	137	147	170	192
	160	25	25	25	25	27	34	41	47	54	61	78	94	113	132	144	156	179	202
	165	25	25	25	25	30	36	43	49	56	62	80	98	117	136	150	163	188	212
	170	25	25	25	26	32	38	45	51	58	64	83	102	121	140	155	170	196	221
	175	25	25	25	28	34	40	47	53	60	66	86	106	125	144	161	178	204	230
	180	25	25	25	29	35	42	48	55	61	68	88	109	129	148	166	183	210	236
	185	25	25	25	30	36	43	50	56	63	70	91	112	132	152	170	188	216	243
	190	25	25	25	30	37	44	51	58	65	72	93	115	136	156	175	193	222	250
	195	25	25	25	31	38	45	52	59	66	74	96	118	140	160	180	198	227	256
	200	25	25	25	32	39	46	54	61	68	76	98	121	143	164	184	204	233	263
	205	25	25	26	33	40	47	55	62	70	77	101	124	147	169	189	208	239	270
	210	25	25	26	34	41	48	56	64	72	79	103	127	150	173	194	214	245	276
	215	25	25	27	34	42	50	58	65	73	81	106	130	154	177	198	219	251	282
	220	25	25	28	35	43	51	59	67	75	83	108	133	157	181	203	224	256	289
	225	25	25	28	36	44	52	60	68	77	85	110	136	161	185	207	229	262	296
	230	25	25	29	37	45	53	62	70	78	87	113	139	164	189	212	234	268	302
	235	25	25	30	38	46	54	63	72	80	89	116	142	168	193	216	239	274	309
	240	25	25	30	38	47	56	64	73	82	90	118	145	172	198	221	244	280	316
	245	25	25	31	39	48	56	66	74	84	92	120	148	175	202	226	249	286	322
	250	25	25	32	40	48	58	67	76	85	94	123	152	179	206	230	254	292	328
	255	25	25	32	41	50	59	68	78	87	96	125	154	182	210	235	259	297	335
	260	25	25	33	42	50	60	70	79	88	98	128	158	186	214	240	264	303	342
	265	25	25	33	42	52	61	71	80	90	100	130	160	190	218	244	270	309	348

Table 4. Chloropicrin buffer zone distances (feet) for TIF drip fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)																	
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**50**	**60**
Broadcast Equivalent Application Rate (lbs AI/acre)	**112**	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
	118	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	31	37
	123	25	25	25	25	25	25	25	25	25	25	25	25	25	26	27	27	41	48
	128	25	25	25	25	25	25	25	25	25	25	25	25	27	30	32	34	56	56
	133	25	25	25	25	25	25	25	25	25	25	25	26	29	33	37	41	59	64
	139	25	25	25	25	25	25	25	25	25	25	25	28	32	35	42	49	61	72
	144	25	25	25	25	25	25	25	25	25	25	25	30	34	38	47	56	64	80
	149	25	25	25	25	25	25	25	25	25	25	28	37	42	49	58	67	77	92
	155	25	25	25	25	25	25	25	25	25	25	34	45	50	59	69	77	89	104
	160	25	25	25	25	25	25	25	25	26	30	44	52	58	70	80	88	102	116
	165	25	25	25	25	25	25	25	25	27	31	46	54	60	72	83	91	106	120
	171	25	25	25	25	25	25	25	25	28	32	47	56	62	75	85	94	109	124
	176	25	25	25	25	25	25	25	25	29	33	48	57	64	77	88	97	112	128
	181	25	25	25	25	25	25	25	26	30	34	50	59	66	79	91	100	116	132
	187	25	25	25	25	25	25	25	27	31	35	51	61	68	82	93	103	119	135
	192	25	25	25	25	25	25	25	27	32	36	53	62	70	84	96	106	122	139
	197	25	25	25	25	25	25	25	28	32	37	54	64	72	86	99	108	126	143
	203	25	25	25	25	25	25	25	29	34	38	56	66	74	89	101	112	129	147
	208	25	25	25	25	25	25	25	30	34	39	57	68	76	91	104	114	133	151
	213	25	25	25	25	25	25	26	30	35	40	59	69	77	93	107	117	136	155
	219	25	25	25	25	25	25	26	31	36	41	60	71	79	96	109	120	140	158
	224	25	25	25	25	25	25	27	32	37	42	62	73	81	98	112	123	143	162
	229	25	25	25	25	25	25	28	33	38	43	63	74	83	100	115	126	146	166
	235	25	25	25	25	25	25	28	34	39	44	64	76	85	103	117	129	150	170
	240	25	25	25	25	25	25	29	34	40	45	66	78	87	105	120	132	153	174

Table 5. Chloropicrin buffer zone distances (feet) for non-TIF broadcast shank injection fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**125**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	101
	130	60	60	60	60	60	60	100	100	100	100	100	100	100	100	103	117
	135	60	60	60	60	60	60	100	100	100	100	100	100	100	102	118	134
	140	60	60	60	60	60	60	100	100	100	100	100	100	100	115	133	150
	145	60	60	60	60	60	60	100	100	100	100	100	100	112	129	147	164
	150	60	60	60	60	60	60	100	100	100	100	100	104	124	144	161	179
	155	60	60	60	60	60	60	100	100	100	100	100	113	135	158	175	193
	160	60	60	60	60	60	60	100	100	100	100	100	122	147	172	190	207
	165	60	60	60	60	60	60	100	100	100	100	100	131	159	186	204	221
	170	60	60	60	60	60	60	100	100	100	100	109	141	171	201	218	236
	175	60	60	60	60	60	60	100	100	100	100	118	150	183	215	233	250
	180	60	60	60	60	60	60	100	100	100	100	129	161	194	226	249	271
	185	60	60	60	60	60	60	100	100	100	106	140	173	205	238	265	291
	190	60	60	60	60	60	61	100	100	103	117	151	184	217	249	281	312
	195	60	60	60	60	60	68	100	100	113	128	162	196	228	261	297	333
	200	60	60	60	60	61	76	100	107	123	139	173	207	240	272	313	354
	205	60	60	60	60	68	84	100	117	133	149	184	219	251	284	329	374
	210	60	60	60	63	75	92	109	126	143	160	195	230	263	295	345	395
	215	60	60	60	68	82	99	116	132	149	166	203	239	274	309	359	409
	220	60	60	60	73	89	106	122	139	155	171	210	249	286	324	373	422
	225	60	60	61	79	96	113	129	145	161	177	218	258	298	338	387	436
	230	60	60	64	84	104	119	135	151	167	183	225	267	310	352	401	449
	235	60	60	68	89	111	126	142	157	173	189	233	276	321	366	415	463
	240	60	60	71	95	118	133	148	164	179	194	240	286	333	381	429	476
	245	60	60	75	100	125	140	155	170	185	200	248	295	345	395	443	490
	250	60	60	77	103	129	144	159	174	189	204	254	303	355	407	453	499
	255	60	60	79	105	132	147	163	178	193	209	260	311	365	419	463	507
	260	60	60	80	108	136	151	167	182	197	213	266	319	375	431	474	516
	265	60	60	82	111	139	155	170	186	202	217	272	326	385	444	484	524
	270	60	60	84	113	143	159	174	190	206	221	278	334	395	456	494	533
	275	60	60	86	116	146	162	178	194	210	226	284	342	405	468	505	541
	280	60	60	88	119	150	166	182	198	214	230	290	350	415	480	515	550
	285	60	60	89	122	154	171	188	205	222	239	300	361	423	484	526	569
	290	60	60	91	124	158	176	194	212	230	248	310	373	430	488	538	588
	295	60	60	93	127	161	180	199	218	237	256	320	384	438	491	549	606
	300	60	60	95	130	165	185	205	225	245	265	330	395	445	495	560	625
	305	60	64	100	136	172	192	212	233	253	273	341	408	460	512	573	633
	310	60	68	105	142	178	199	220	240	261	282	352	422	475	528	585	642
	315	60	73	110	148	185	206	227	248	269	290	363	435	490	545	598	650
	320	60	75	113	151	189	210	231	252	273	294	367	441	498	554	608	661
	325	60	78	116	155	194	214	235	256	276	297	372	446	505	564	618	671

Table 5 (cont.). Chloropicrin buffer zone distances (feet) for non-TIF broadcast shank injection fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
lbs AI/acre	**330**	60	81	120	159	198	218	239	260	280	301	376	452	513	573	628	682
	335	60	83	123	163	202	223	243	263	284	304	381	458	520	582	638	693
	340	60	86	126	166	206	227	247	267	288	308	386	464	528	591	648	704
	345	60	89	129	170	211	231	251	271	291	311	390	469	535	601	658	714
	350	60	91	133	174	215	235	255	275	295	315	395	475	543	610	668	725

Table 6a. Chloropicrin buffer zone distances (feet) for non-TIF bed shank injection fumigations in Coastal counties. Maximum application rate allowed by labels is 265 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**50**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	60	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	70	60	60	60	60	60	60	100	100	100	100	100	100	105	120	140	155
	80	60	60	60	60	60	60	100	100	100	100	100	130	160	190	215	235
	90	60	60	60	60	60	60	100	100	100	100	135	190	230	265	295	325
	100	60	60	60	60	60	60	100	100	100	100	170	245	300	345	385	420
	110	60	60	60	60	60	60	100	100	100	110	205	295	375	435	480	515
	120	60	60	60	60	65	85	105	125	145	165	265	360	440	510	570	620
	130	60	60	60	60	85	105	130	155	180	205	330	435	525	600	665	715
	140	60	60	75	105	140	165	195	220	245	270	385	485	580	670	755	835
	150	60	60	95	135	170	200	235	265	295	320	445	560	665	760	850	940
	160	60	70	120	165	205	240	275	305	340	370	510	630	745	850	945	1040
	170	60	85	140	190	235	275	310	350	385	415	570	705	825	935	1040	1145
	180	60	95	160	215	260	305	350	390	430	465	630	775	905	1025	1140	1245
	190	60	105	175	235	290	340	385	430	475	515	690	845	985	1115	1235	1345
	200	60	120	195	260	320	375	425	470	515	560	750	915	1065	1200	1330	1450
	210	60	130	210	285	345	405	460	510	560	605	810	985	1145	1290	1425	1550
	220	60	160	245	320	385	445	500	555	605	650	865	1050	1220	1370	1515	1650
	230	60	170	265	340	410	475	535	590	640	695	920	1120	1295	1460	1610	1755
	240	60	180	280	360	435	500	565	625	680	735	975	1185	1370	1545	1705	1855
	250	60	190	295	380	460	530	595	660	715	775	1030	1250	1445	1630	1800	1960
	260	60	205	310	400	480	555	625	690	755	815	1080	1315	1520	1715	1890	2060
	265	170	275	360	440	515	585	650	715	775	835	1105	1350	1575	1785	1990	2180

Table 6b. Chloropicrin buffer zone distances (feet) for non-TIF bed shank injection fumigations in Inland counties. Maximum application rate allowed by labels is 265 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**50**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	60	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	70	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	80	60	60	60	60	60	60	100	100	100	100	100	100	105	125	140	155
	90	60	60	60	60	60	60	100	100	100	100	100	125	155	180	200	220
	100	60	60	60	60	60	60	100	100	100	100	120	170	205	240	265	290
	110	60	60	60	60	60	60	100	100	100	100	125	215	260	300	335	365
	120	60	60	60	60	60	65	100	100	110	125	200	265	320	370	405	440
	130	60	60	60	70	85	100	120	135	150	165	235	305	365	425	475	525
	140	60	60	65	85	105	125	145	160	180	200	285	360	430	490	550	605
	150	60	60	80	105	130	155	175	200	220	240	330	410	485	555	625	685
	160	60	60	95	125	155	180	205	230	255	275	375	465	550	625	695	765
	170	60	65	110	145	175	205	235	265	290	315	425	525	610	695	770	845
	180	60	75	120	165	200	235	265	295	325	350	470	580	675	765	845	925
	190	60	85	135	180	220	260	295	325	360	385	520	635	735	830	920	1005
	200	60	105	160	210	255	290	330	365	395	425	565	690	800	900	990	1080
	210	60	115	175	225	270	315	355	390	425	460	610	740	860	965	1065	1160
	220	60	120	185	240	290	335	380	420	455	490	655	795	920	1035	1140	1245
	230	60	130	200	255	310	360	405	445	485	525	695	845	980	1100	1215	1325
	240	60	135	210	275	330	380	425	470	515	555	740	895	1040	1170	1290	1405
	250	60	145	225	290	345	400	450	500	545	585	780	945	1095	1235	1365	1485
	260	70	165	245	315	375	435	485	535	585	630	830	1000	1155	1300	1435	1560
	265	90	190	270	340	400	460	515	565	615	660	870	1050	1215	1365	1505	1640

Table 7a. Chloropicrin buffer zone distances (feet) for non-TIF strip injection fumigations in Coastal counties. Maximum application rate allowed by labels is 265 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**50**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	60	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	70	60	60	60	60	60	60	100	100	100	100	100	100	105	120	140	155
	80	60	60	60	60	60	60	100	100	100	100	100	130	160	190	215	235
	90	60	60	60	60	60	60	100	100	100	100	135	190	230	265	295	325
	100	60	60	60	60	60	60	100	100	100	100	170	245	300	345	385	420
	110	60	60	60	60	60	60	100	100	100	110	205	295	375	435	480	515
	120	60	60	60	60	65	85	105	125	145	165	265	360	440	510	570	620
	130	60	60	60	60	85	105	130	155	180	205	330	435	525	600	665	715
	140	60	60	75	105	140	165	195	220	245	270	385	485	580	670	755	835
	150	60	60	95	135	170	200	235	265	295	320	445	560	665	760	850	940
	160	60	70	120	165	205	240	275	305	340	370	510	630	745	850	945	1040
	170	60	85	140	190	235	275	310	350	385	415	570	705	825	935	1040	1145
	180	60	95	160	215	260	305	350	390	430	465	630	775	905	1025	1140	1245
	190	60	105	175	235	290	340	385	430	475	515	690	845	985	1115	1235	1345
	200	60	120	195	260	320	375	425	470	515	560	750	915	1065	1200	1330	1450
	210	60	130	210	285	345	405	460	510	560	605	810	985	1145	1290	1425	1550
	220	60	160	245	320	385	445	500	555	605	650	865	1050	1220	1370	1515	1650
	230	60	170	265	340	410	475	535	590	640	695	920	1120	1295	1460	1610	1755
	240	60	180	280	360	435	500	565	625	680	735	975	1185	1370	1545	1705	1855
	250	60	190	295	380	460	530	595	660	715	775	1030	1250	1445	1630	1800	1960
	260	60	205	310	400	480	555	625	690	755	815	1080	1315	1520	1715	1890	2060
	265	170	275	360	440	515	585	650	715	775	835	1105	1350	1575	1785	1990	2180

Table 7b. Chloropicrin buffer zone distances (feet) for non-TIF strip injection fumigations in Inland counties. Maximum application rate allowed by labels is 265 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**50**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	60	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	70	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	80	60	60	60	60	60	60	100	100	100	100	100	100	105	125	140	155
	90	60	60	60	60	60	60	100	100	100	100	100	125	155	180	200	220
	100	60	60	60	60	60	60	100	100	100	100	120	170	205	240	265	290
	110	60	60	60	60	60	60	100	100	100	100	125	215	260	300	335	365
	120	60	60	60	60	60	65	100	100	110	125	200	265	320	370	405	440
	130	60	60	60	70	85	100	120	135	150	165	235	305	365	425	475	525
	140	60	60	65	85	105	125	145	160	180	200	285	360	430	490	550	605
	150	60	60	80	105	130	155	175	200	220	240	330	410	485	555	625	685
	160	60	60	95	125	155	180	205	230	255	275	375	465	550	625	695	765
	170	60	65	110	145	175	205	235	265	290	315	425	525	610	695	770	845
	180	60	75	120	165	200	235	265	295	325	350	470	580	675	765	845	925
	190	60	85	135	180	220	260	295	325	360	385	520	635	735	830	920	1005
	200	60	105	160	210	255	290	330	365	395	425	565	690	800	900	990	1080
	210	60	115	175	225	270	315	355	390	425	460	610	740	860	965	1065	1160
	220	60	120	185	240	290	335	380	420	455	490	655	795	920	1035	1140	1245
	230	60	130	200	255	310	360	405	445	485	525	695	845	980	1100	1215	1325
	240	60	135	210	275	330	380	425	470	515	555	740	895	1040	1170	1290	1405
	250	60	145	225	290	345	400	450	500	545	585	780	945	1095	1235	1365	1485
	260	70	165	245	315	375	435	485	535	585	630	830	1000	1155	1300	1435	1560
	265	90	190	270	340	400	460	515	565	615	660	870	1050	1215	1365	1505	1640

Table 8a. Chloropicrin buffer zone distances (feet) for non-TIF drip fumigations in Coastal counties. Maximum application rate allowed by labels is 225 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**120**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	130	60	60	60	60	60	60	100	100	100	100	100	100	100	115	130	145
	140	60	60	60	60	60	60	100	100	100	100	100	110	130	150	170	185
	150	60	60	60	60	60	60	100	100	100	100	110	130	160	190	210	230
	160	60	60	60	60	60	60	100	100	100	100	125	160	195	220	250	275
	170	60	60	60	60	60	65	100	100	100	105	150	190	225	260	290	320
	180	60	60	60	60	70	80	100	100	115	125	170	215	255	295	335	370
	190	60	60	60	65	80	95	110	120	130	145	200	245	290	335	375	415
	200	60	60	60	75	95	110	125	140	150	165	225	280	325	375	415	460
	210	60	60	65	90	105	125	140	155	170	185	250	310	365	410	460	505
	220	60	60	75	100	120	140	155	175	190	205	280	340	400	450	500	550
	225	60	60	85	110	130	155	175	195	210	230	305	375	435	490	545	595

Table 8b. Chloropicrin buffer zone distances (feet) for non-TIF drip fumigations in Inland counties. Maximum application rate allowed by labels is 225 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**120**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	130	60	60	60	60	60	60	100	100	100	100	100	100	100	100	110	125
	140	60	60	60	60	60	60	100	100	100	100	100	100	110	130	145	170
	150	60	60	60	60	60	60	100	100	100	100	110	130	145	175	200	220
	160	60	60	60	60	60	60	100	100	100	100	120	140	165	190	215	235
	170	60	60	60	60	60	60	100	100	100	100	130	165	190	220	240	265
	180	60	60	60	60	60	70	100	100	105	110	155	190	220	250	275	300
	190	60	60	60	60	70	85	100	110	120	130	175	215	250	280	310	335
	200	60	60	60	75	90	100	115	125	140	150	195	240	275	310	345	375
	210	60	60	65	85	100	115	130	145	155	165	220	265	305	345	375	410
	220	60	60	70	95	110	130	145	160	175	185	245	295	335	375	410	445
	225	60	60	80	105	125	140	160	175	190	205	265	320	365	410	445	480

Table 9a. Chloropicrin buffer zone distances (feet) for untarped broadcast *shallow* (<18 inches) shank injection fumigations in Coastal counties. Maximum application rate allowed by labels is 175 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**20**	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	30	100	100	100	100	100	100	100	100	100	100	100	100	100	100	110	110
	40	100	100	100	100	100	100	100	100	100	100	100	100	100	100	190	190
	50	100	100	100	100	100	100	100	100	100	100	100	100	100	160	225	295
	60	100	100	100	100	100	100	100	100	100	100	140	195	250	305	360	420
	70	100	100	100	100	100	110	125	145	160	175	255	325	390	450	510	560
	80	100	100	100	110	135	160	185	210	235	255	360	445	525	600	660	720
	90	100	100	115	150	180	215	245	275	305	330	460	570	665	745	820	880
	100	100	100	150	200	245	290	330	365	400	430	570	690	795	895	980	1065
	110	100	100	175	235	290	335	380	425	465	500	665	805	930	1040	1145	1240
	120	100	120	200	270	330	385	435	485	530	570	760	920	1060	1190	1305	1415
	130	100	155	240	310	375	435	490	540	590	635	840	1025	1185	1335	1475	1605
	140	100	175	265	345	415	480	540	600	655	705	935	1135	1315	1485	1635	1785
	150	100	190	295	380	460	530	595	660	715	775	1030	1250	1445	1630	1800	1960
	160	100	205	315	410	495	570	645	710	780	840	1120	1360	1575	1775	1960	2135
	170	105	245	355	450	540	620	695	770	840	905	1200	1460	1700	1915	2120	2315
	175	140	280	390	490	585	670	750	825	895	965	1285	1565	1820	2055	2280	2495

Table 9b. Chloropicrin buffer zone distances (feet) for untarped broadcast *shallow* (<18 inches) shank injection fumigations in Inland counties. Maximum application rate allowed by labels is 175 lbs AI/ac. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**40**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	50	60	60	60	60	60	60	100	100	100	100	100	100	100	110	130	145
	60	60	60	60	60	60	60	100	100	100	100	100	125	160	200	240	280
	70	60	60	60	60	60	75	100	100	105	115	165	215	265	310	355	400
	80	60	60	60	75	90	110	125	140	155	170	240	305	365	420	475	530
	90	60	60	75	100	125	145	170	190	210	225	315	390	460	530	595	655
	100	60	60	95	130	155	185	210	235	260	285	385	475	560	640	710	780
	110	60	70	115	155	190	225	255	285	310	340	460	565	660	745	830	905
	120	60	85	135	185	225	265	300	335	365	395	530	650	755	855	945	1030
	130	60	95	155	210	260	300	345	380	415	450	605	735	855	960	1060	1155
	140	60	110	180	240	290	340	385	430	470	505	675	820	950	1070	1180	1280
	150	60	120	200	265	325	380	430	475	520	565	750	905	1050	1175	1295	1405
	160	70	165	240	310	370	425	475	525	570	615	815	985	1140	1280	1415	1540
	170	95	195	275	345	410	465	520	575	625	670	880	1065	1230	1385	1530	1665
	175	120	220	305	380	445	510	565	620	675	725	950	1145	1325	1490	1645	1795

Table 10a. Chloropicrin buffer zone distances (feet) for untarped broadcast *deep* (≥18 inches) shank injection fumigations in Coastal counties. NA indicates that application is not allowed because the buffer zone exceeds 2640 feet (1/2 mile). Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**50**	60	60	60	60	60	60	100	100	100	100	100	100	100	100	100	100
	60	60	60	60	60	60	60	100	100	100	100	100	100	110	125	140	155
	70	60	60	60	60	60	60	100	100	100	100	145	180	215	245	270	295
	80	60	60	60	60	60	60	100	100	120	135	215	275	320	365	400	430
	90	60	60	60	60	60	65	100	130	155	180	285	360	425	480	525	570
	100	60	60	60	60	60	80	120	160	195	225	355	450	530	595	650	705
	110	60	60	90	125	155	185	215	240	265	290	405	510	605	690	775	855
	120	60	70	115	155	190	225	260	290	320	350	480	595	705	805	895	985
	130	60	85	135	185	225	265	305	340	375	405	555	685	805	915	1015	1115
	140	60	95	155	210	260	305	345	385	425	460	625	770	900	1020	1135	1245
	150	60	110	175	235	290	340	390	430	475	515	695	855	995	1130	1255	1370
	160	60	120	195	265	325	380	430	480	525	570	765	940	1095	1235	1370	1495
	170	60	135	215	290	355	415	470	520	570	620	835	1020	1190	1345	1485	1625
	180	60	145	235	315	385	450	510	565	620	675	905	1105	1285	1450	1600	1745
	190	60	155	255	340	415	485	550	610	670	725	970	1185	1375	1555	1715	1870
	200	60	165	275	365	445	520	590	655	715	775	1040	1265	1470	1655	1830	1995
	210	60	190	300	395	480	560	630	700	765	825	1105	1345	1560	1760	1945	2120
	220	80	220	330	430	515	595	675	745	815	875	1170	1420	1650	1860	2055	2245
	230	100	245	360	460	550	635	715	790	860	930	1235	1500	1740	1960	2170	2365
	240	125	270	390	495	590	675	755	835	905	980	1295	1575	1830	2060	2280	2490
	250	150	300	420	525	625	715	800	880	955	1030	1360	1650	1915	2160	2395	2610
	260	175	325	450	560	660	755	840	925	1000	1080	1425	1725	2005	2260	2505	NA
	270	195	350	480	590	695	790	880	965	1050	1130	1485	1805	2090	2360	2615	NA
	280	220	375	510	625	730	830	925	1010	1095	1180	1550	1880	2180	2460	NA	NA
	290	240	400	535	655	765	870	965	1055	1145	1230	1615	1955	2265	2555	NA	NA
	300	255	425	565	685	800	905	1005	1100	1190	1280	1675	2030	2355	NA	NA	NA
	310	275	445	590	720	835	945	1045	1145	1240	1330	1740	2105	2440	NA	NA	NA
	320	295	470	615	750	870	980	1085	1190	1285	1380	1805	2180	2525	NA	NA	NA
	330	310	490	645	780	905	1020	1130	1230	1330	1430	1865	2255	2615	NA	NA	NA
	340	325	510	670	810	935	1055	1170	1275	1380	1480	1930	2330	NA	NA	NA	NA
	350	340	530	695	840	970	1095	1210	1320	1425	1530	1995	2410	NA	NA	NA	NA

Table 10b. Chloropicrin buffer zone distances (feet) for untarped broadcast *deep* (≥18 inches) shank injection fumigations in Inland counties. NA indicates that application is not allowed because the buffer zone exceeds 2640 feet (1/2 mile). Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**50**	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	60	100	100	100	100	100	100	100	100	100	100	100	100	100	110	130	155
	70	100	100	100	100	100	100	100	100	100	100	100	100	125	150	185	215
	80	100	100	100	100	100	100	100	100	100	100	115	155	190	225	255	285
	90	100	100	100	100	100	100	100	100	100	100	160	215	260	300	340	375
	100	100	100	100	100	100	100	100	100	110	130	210	275	330	380	425	470
	110	100	100	100	100	100	105	125	140	155	170	250	320	385	450	515	575
	120	100	100	100	100	115	135	155	175	195	215	305	385	460	535	600	670
	130	100	100	100	115	140	165	190	215	235	260	360	450	535	615	690	765
	140	100	100	100	135	170	200	225	255	280	305	420	520	610	700	780	860
	150	100	100	120	160	195	230	260	290	320	350	475	585	690	780	870	955
	160	100	100	135	180	220	260	295	330	360	395	530	655	765	865	960	1050
	170	100	100	150	205	250	290	330	370	405	440	590	720	840	950	1050	1145
	180	100	105	170	225	275	325	365	405	445	480	645	790	915	1030	1140	1240
	190	100	115	185	250	305	355	400	445	485	525	705	855	990	1115	1230	1340
	200	100	125	200	270	330	385	435	480	525	570	760	920	1065	1195	1320	1435
	210	100	160	235	305	365	420	470	520	565	610	810	980	1135	1275	1410	1535
	220	100	185	265	335	395	455	510	560	605	655	860	1045	1205	1360	1500	1635
	230	105	205	290	360	425	485	540	595	645	695	915	1105	1280	1440	1590	1730
	240	120	225	310	385	455	515	575	630	685	735	965	1170	1350	1520	1680	1830
	250	135	245	335	410	480	550	610	670	725	775	1020	1230	1425	1600	1770	1925
	260	150	260	355	435	510	580	645	705	760	820	1070	1290	1495	1680	1855	2025
	270	160	280	375	460	535	610	675	740	800	860	1120	1355	1565	1760	1945	2120
	280	175	295	395	485	565	635	705	775	835	895	1170	1415	1635	1840	2035	2215
	290	185	310	415	505	590	665	740	805	875	935	1225	1475	1705	1920	2125	2315
	300	200	325	435	530	615	695	770	840	910	975	1275	1535	1775	2000	2210	2410
	310	210	345	455	550	640	720	800	875	945	1015	1325	1595	1845	2080	2300	2505
	320	220	360	470	570	665	750	830	905	980	1050	1370	1655	1915	2160	2385	2605
	330	235	375	490	595	690	775	860	940	1015	1090	1420	1715	1985	2235	2475	NA
	340	245	390	510	615	715	805	890	970	1050	1125	1470	1775	2055	2315	2560	NA
	350	255	405	525	635	735	830	920	1005	1085	1160	1515	1830	2120	2395	NA	NA

Table 11a. Chloropicrin buffer zone distances (feet) for untarped bed injection fumigations in Coastal counties. Maximum application rate allowed by labels is 265 lbs AI/ac. NA indicates that application is not allowed because the buffer zone exceeds 2640 feet (1/2 mile). Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**20**	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	30	100	100	100	100	100	100	100	100	100	100	100	100	100	100	110	110
	40	100	100	100	100	100	100	100	100	100	100	100	100	100	100	190	190
	50	100	100	100	100	100	100	100	100	100	100	100	100	100	160	225	295
	60	100	100	100	100	100	100	100	100	100	100	140	195	250	305	360	420
	70	100	100	100	100	100	110	125	145	160	175	255	325	390	450	510	560
	80	100	100	100	110	135	160	185	210	235	255	360	445	525	600	660	720
	90	100	100	115	150	180	215	245	275	305	330	460	570	665	745	820	880
	100	100	100	150	200	245	290	330	365	400	430	570	690	795	895	980	1065
	110	100	100	175	235	290	335	380	425	465	500	665	805	930	1040	1145	1240
	120	100	120	200	270	330	385	435	485	530	570	760	920	1060	1190	1305	1415
	130	100	155	240	310	375	435	490	540	590	635	840	1025	1185	1335	1475	1605
	140	100	175	265	345	415	480	540	600	655	705	935	1135	1315	1485	1635	1785
	150	100	190	295	380	460	530	595	660	715	775	1030	1250	1445	1630	1800	1960
	160	100	205	315	410	495	570	645	710	780	840	1120	1360	1575	1775	1960	2135
	170	105	245	355	450	540	620	695	770	840	905	1200	1460	1700	1915	2120	2315
	180	140	280	390	490	585	670	750	825	895	965	1285	1565	1820	2055	2280	2495
	190	175	315	430	535	630	715	800	880	955	1030	1365	1665	1940	2195	2435	NA
	200	205	345	465	575	670	765	850	935	1015	1095	1445	1765	2055	2330	2585	NA
	210	230	380	500	615	715	810	905	990	1075	1155	1530	1865	2170	2460	NA	NA
	220	255	410	535	650	760	860	955	1045	1135	1220	1610	1960	2285	2590	NA	NA
	230	280	435	570	690	800	905	1005	1100	1190	1280	1690	2055	2395	NA	NA	NA
	240	300	465	605	730	845	955	1055	1155	1250	1345	1770	2155	2510	NA	NA	NA
	250	320	490	635	765	885	1000	1105	1210	1310	1405	1850	2250	2615	NA	NA	NA
	260	335	515	665	800	930	1045	1160	1265	1370	1470	1930	2340	NA	NA	NA	NA
	265	355	540	695	840	970	1095	1210	1320	1430	1530	2005	2435	NA	NA	NA	NA

Table 11b. Chloropicrin buffer zone distances (feet) for untarped bed injection fumigations in Inland counties. Maximum application rate allowed by labels is 265 lbs AI/ac. NA indicates that application is not allowed because the buffer zone exceeds 2640 feet (1/2 mile). Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**40**	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	50	100	100	100	100	100	100	100	100	100	100	100	100	100	110	130	145
	60	100	100	100	100	100	100	100	100	100	100	100	125	160	200	240	280
	70	100	100	100	100	100	100	100	100	105	115	165	215	265	310	355	400
	80	100	100	100	100	100	110	125	140	155	170	240	305	365	420	475	530
	90	100	100	100	100	125	145	170	190	210	225	315	390	460	530	595	655
	100	100	100	100	130	155	185	210	235	260	285	385	475	560	640	710	780
	110	100	100	115	155	190	225	255	285	310	340	460	565	660	745	830	905
	120	100	100	135	185	225	265	300	335	365	395	530	650	755	855	945	1030
	130	100	100	155	210	260	300	345	380	415	450	605	735	855	960	1060	1155
	140	100	110	180	240	290	340	385	430	470	505	675	820	950	1070	1180	1280
	150	100	120	200	265	325	380	430	475	520	565	750	905	1050	1175	1295	1405
	160	100	165	240	310	370	425	475	525	570	615	815	985	1140	1280	1415	1540
	170	100	195	275	345	410	465	520	575	625	670	880	1065	1230	1385	1530	1665
	180	120	220	305	380	445	510	565	620	675	725	950	1145	1325	1490	1645	1795
	190	140	245	335	410	480	550	610	665	725	775	1015	1230	1420	1600	1765	1925
	200	155	270	360	445	520	585	650	715	770	830	1085	1310	1515	1705	1880	2050
	210	175	290	390	475	555	625	695	760	820	880	1150	1390	1605	1810	2000	2180
	220	190	315	415	505	585	665	735	805	870	930	1215	1470	1700	1915	2115	2310
	230	205	335	440	535	620	700	775	850	915	985	1285	1550	1795	2020	2235	2435
	240	225	355	465	565	655	740	815	890	965	1035	1350	1630	1885	2125	2350	2565
	250	240	375	490	595	685	775	855	935	1010	1085	1415	1710	1980	2230	2470	NA
	260	255	395	515	620	720	810	895	980	1055	1135	1480	1785	2070	2335	2585	NA
	265	270	415	540	650	750	845	935	1020	1100	1180	1545	1865	2165	2440	NA	NA

Table 12. Chloropicrin buffer zone distances (feet) for untarped drip fumigations in Coastal and Inland counties. Round up to the nearest rate and block size, where applicable.

		Application Block Size (acres)															
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Broadcast Equivalent Application Rate (lbs AI/acre)	**22**	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	27	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	32	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	105
	38	100	100	100	100	100	100	100	100	100	100	100	100	124	154	187	220
	43	100	100	100	100	100	100	100	100	100	100	103	157	187	217	250	283
	48	100	100	100	100	100	100	100	100	100	100	146	220	250	281	314	347
	54	100	100	100	100	100	100	100	100	124	149	206	264	314	363	410	457
	59	100	100	100	100	100	100	100	123	148	173	238	303	359	415	459	503
	64	100	100	100	100	100	100	119	145	172	198	270	341	404	468	509	550
	70	100	100	100	100	100	121	149	176	204	231	314	396	454	512	561	611
	75	100	100	100	100	116	145	174	203	232	261	353	446	510	575	627	679
	80	100	100	100	110	138	168	199	230	261	292	393	495	567	638	693	748
	86	100	100	100	117	147	180	212	245	278	311	419	528	604	681	739	798
	91	100	100	100	125	156	191	226	261	295	330	446	561	642	723	785	848
	96	100	100	100	132	165	202	239	276	313	350	472	594	680	766	832	898
	102	100	100	105	139	174	213	252	291	330	369	498	627	718	808	878	947
	107	100	100	110	147	183	224	265	307	348	389	524	660	755	851	924	997