

US EPA ARCHIVE DOCUMENT

Module 2

Soil Fumigant RED Requirements

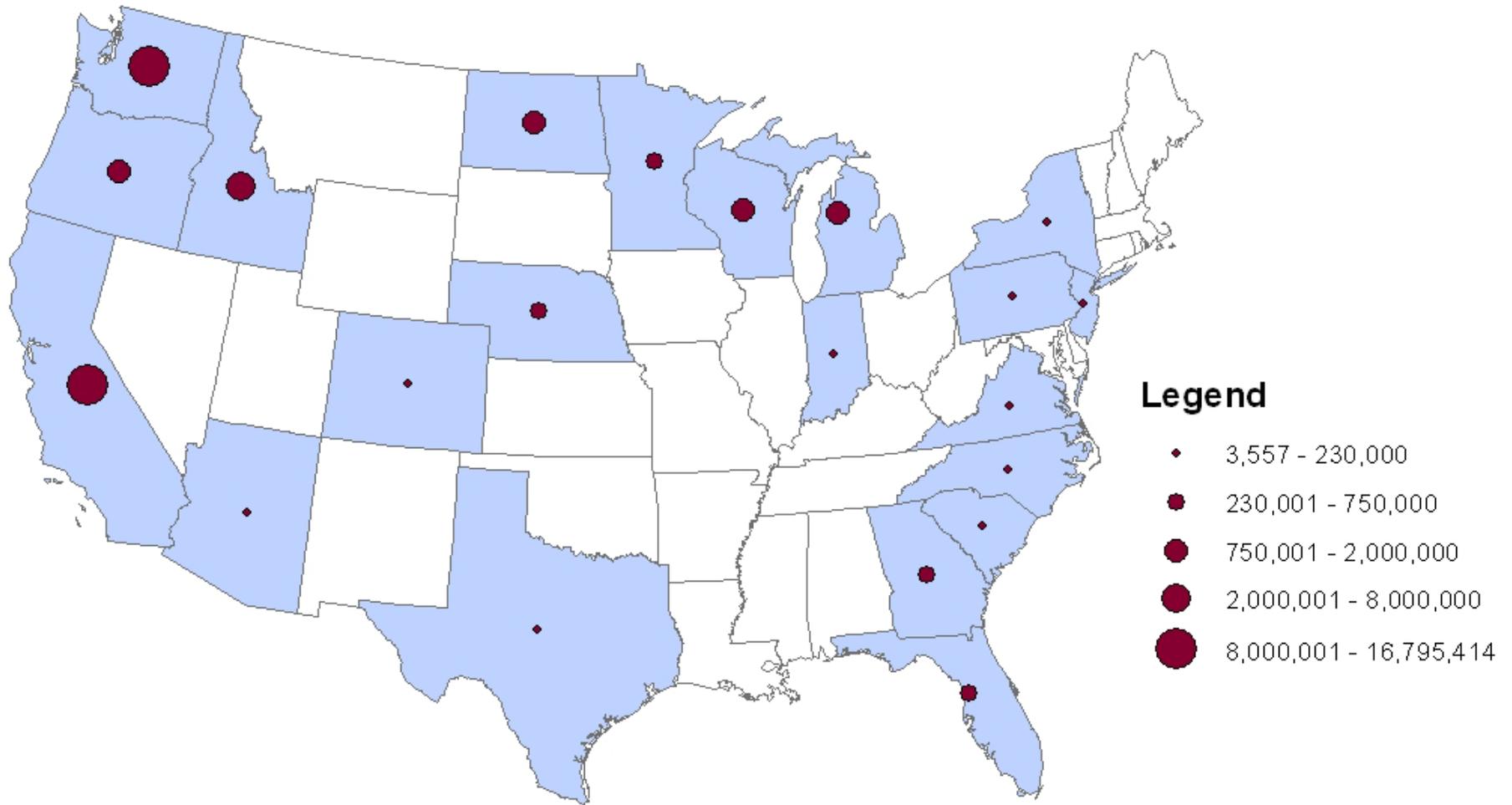
Overview of Soil Fumigant Uses

Soil Fumigant Use By Crop

Crop	Chloropicrin		Metam Sodium Metam Potassium		Methyl Bromide		1,3- Dichloropropene		Methyl Iodide		Total Pounds
	Pounds	PCT	Pounds	PCT	Pounds	PCT	Pounds	PCT	Pounds	PCT	
Potatoes	300,000	2	32,500,000	20			12,700,000	10			45,500,000
Strawberries	3,500,000	60	200,000	2	4,400,000	50	500,000	5			8,600,000
Tomatoes	1,400,000	10	3,100,000	10	3,700,000	10	200,000	<1	200,000	<1	8,600,000
Carrots			7,400,000	50			1,100,000	10			8,500,000
Tobacco	1,600,000	20			60,000	<1	4,800,000	20			6,460,000
Onions	300,000	5	3,400,000	15			1,400,000	5			5,100,000
Peppers	1,100,000	20	1,900,000	15	1,300,000	15	600,000	10			4,900,000
Watermelons	400,000	5	1,600,000	10	700,000	5	600,000	10			3,300,000
Cotton	20,000	<1	60,000	<1			2,900,000	<1			2,980,000
Cucumbers	500,000	5	200,000	2	300,000	2	1,200,000	15			2,200,000
Peanuts	50,000	<1	300,000	<1			1,700,000	5			2,050,000

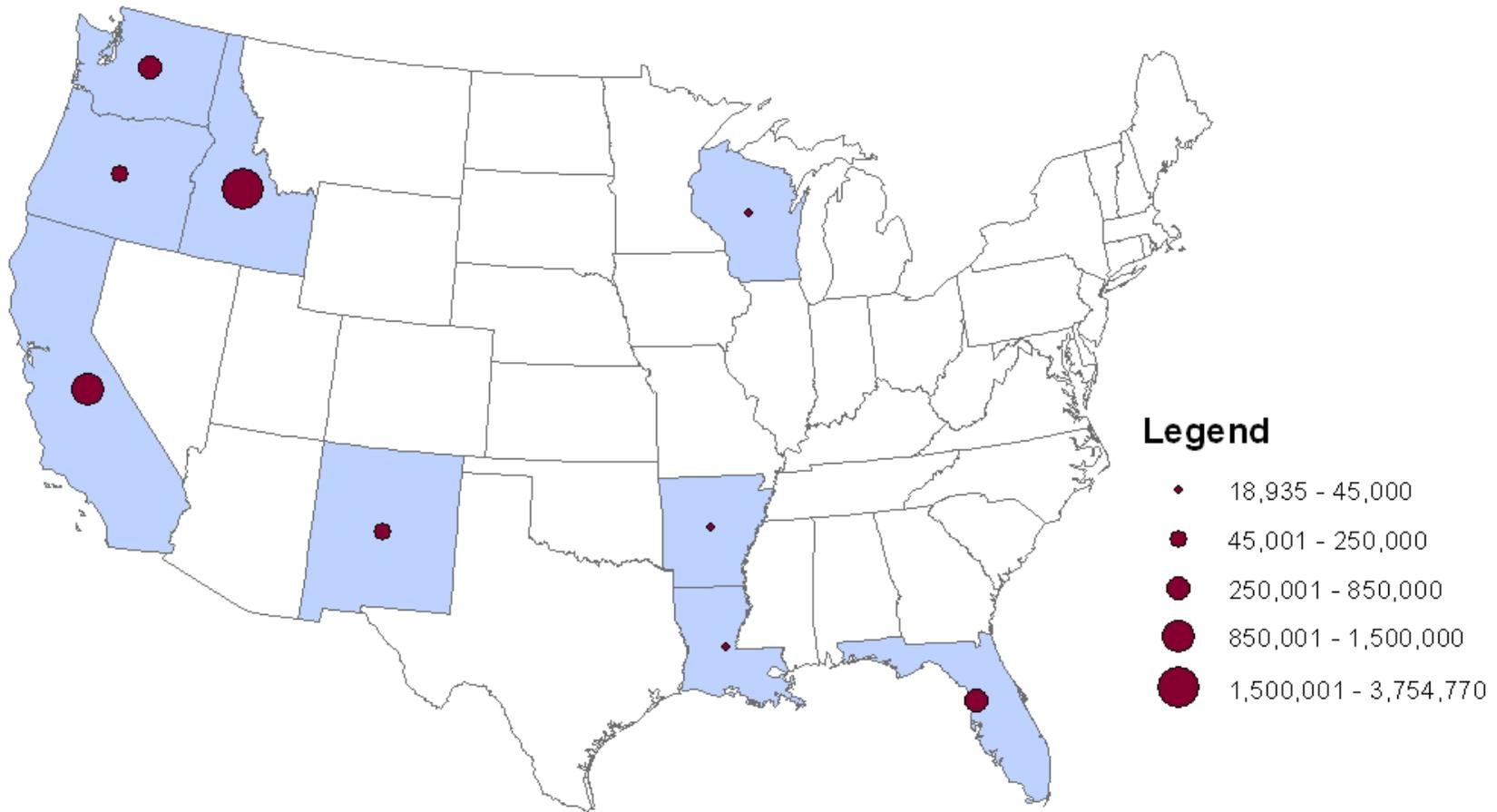


Metam Sodium Pounds Applied



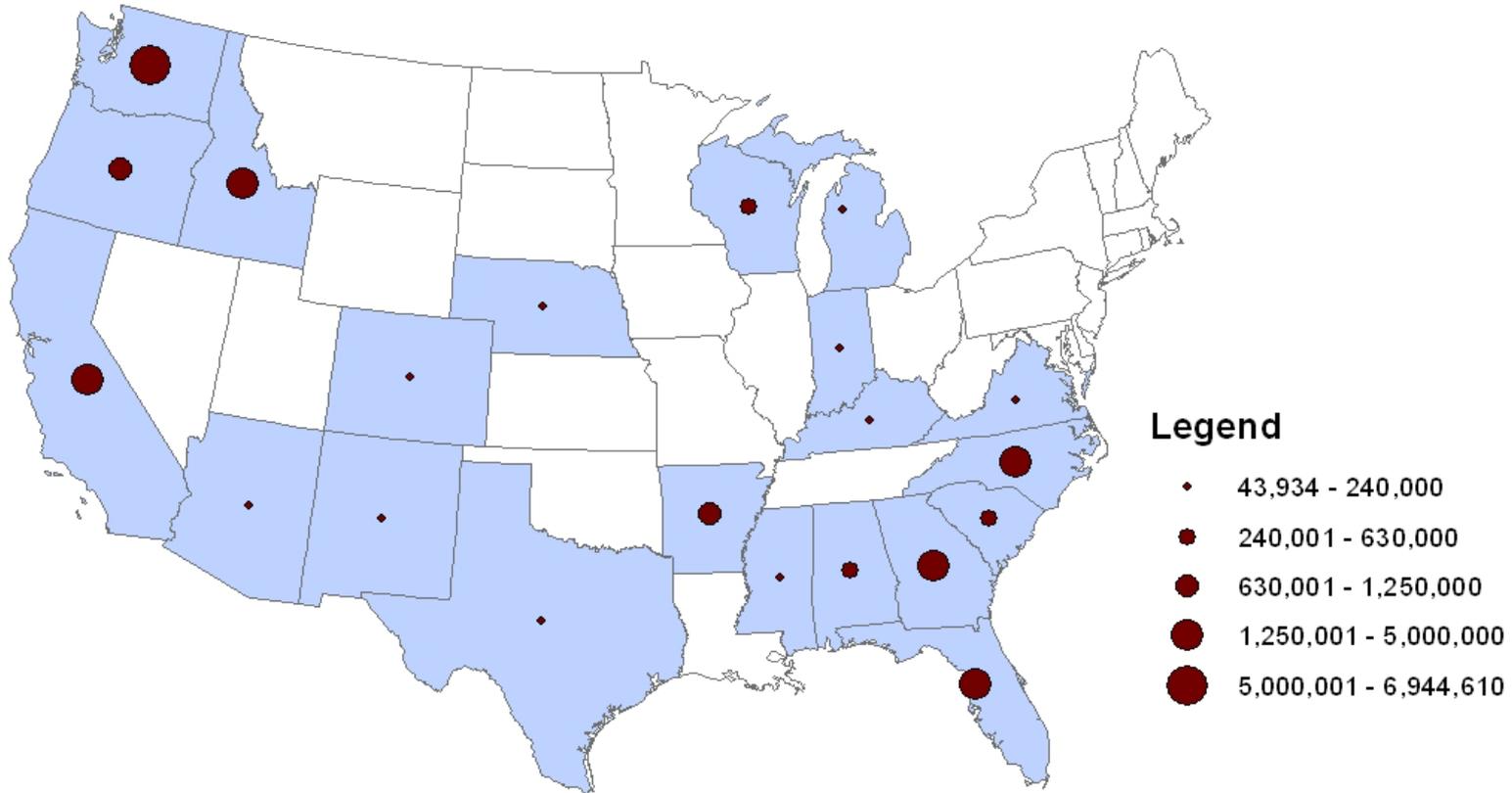
EPA proprietary data, Average usage 2006 through 2008

Metam Potassium Pounds Applied

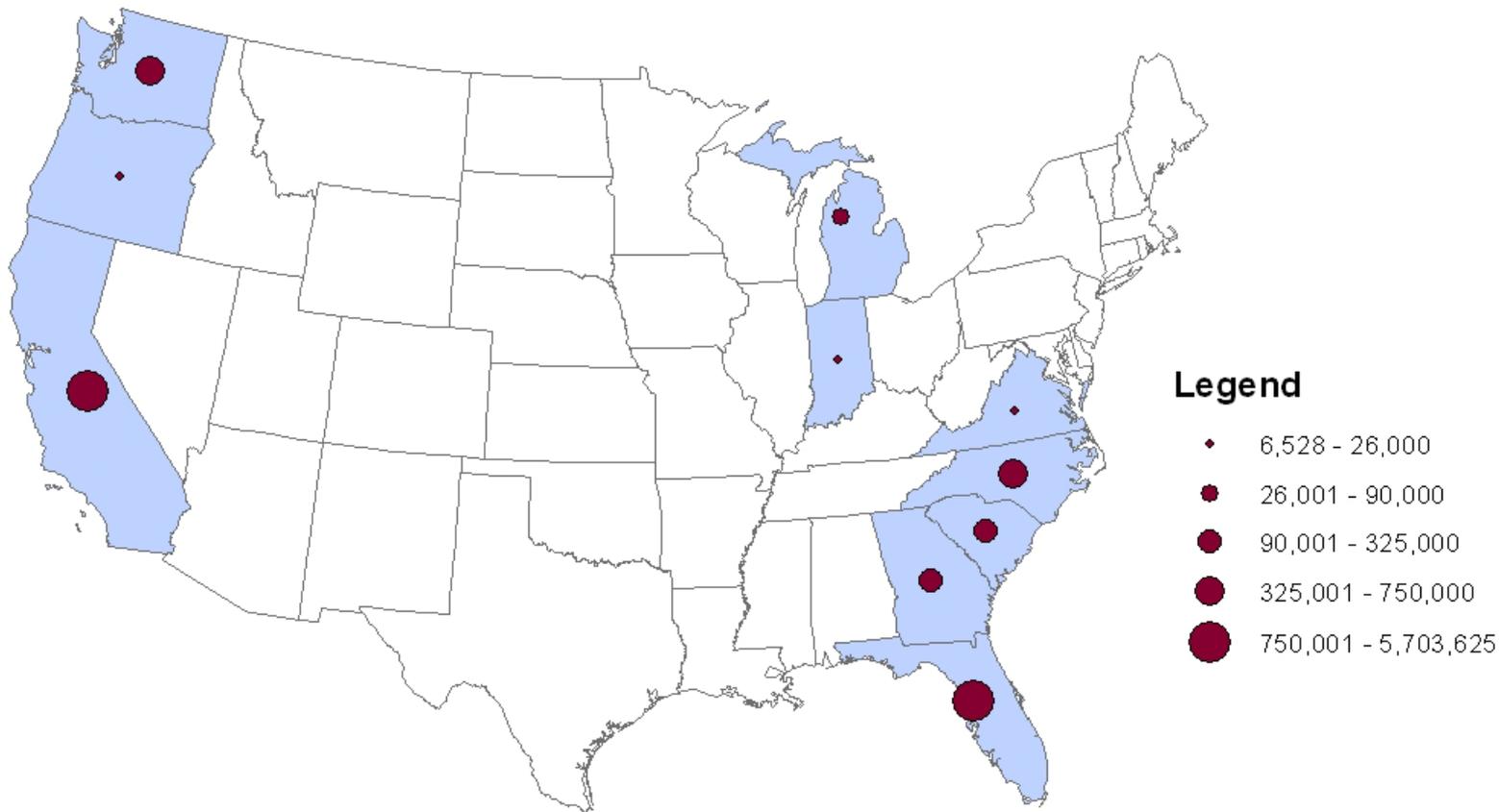


EPA proprietary data, Average usage 2006 through 2008

1,3-Dichloropropene Pounds Applied

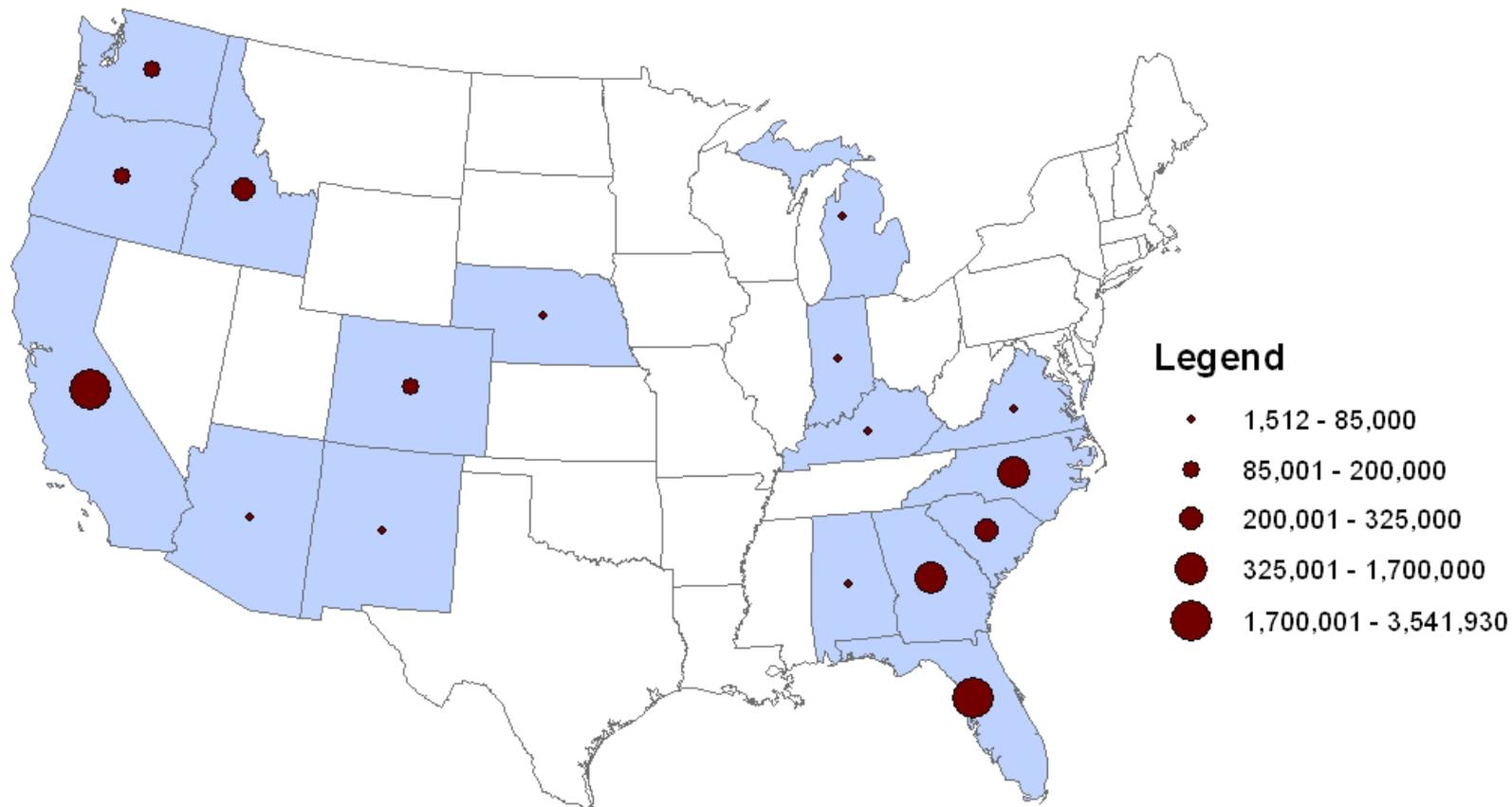


Methyl Bromide Pounds Applied



EPA proprietary data, Average usage 2006 through 2008

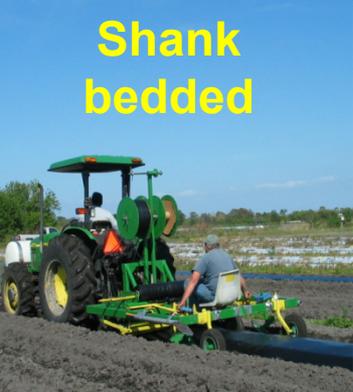
Chloropicrin Pounds Applied



EPA proprietary data, Average usage 2006 through 2008

Application Methods

	Methyl Bromide	Chloropicrin	Metam Sodium/ Potassium	Dazomet
Shank injection	●	●	●	
Spray blade			●	
Chemigation, drip		●	●	
Chemigation, sprinkler			●	
Chemigation, center pivot			●	
Hand held probe for tree holes	●	●		
Rotor tiller			●	●
Hot gas	●			



Shank bedded



Shank broadcast



shank no tarp



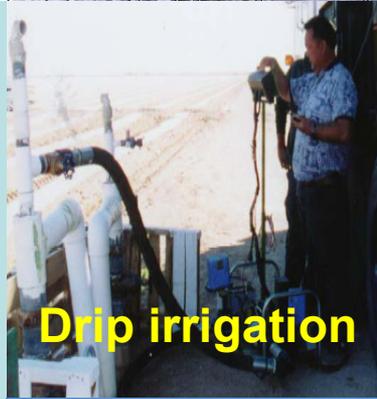
Center pivot



Tree hole



Spray blade



Drip irrigation



Rotor tiller



Hot gas

Shank Injection Applications



Shank Injection Applications



Shank Injection Applications

Untarped broadcast



Chemigation Applications



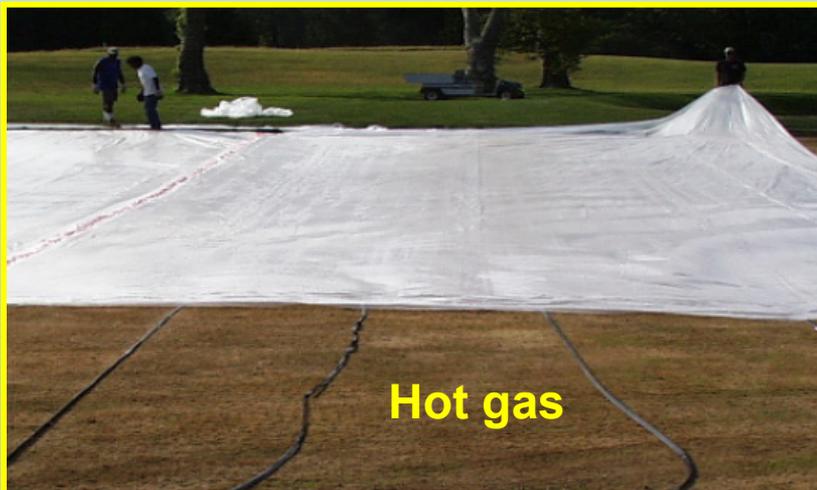
Chemigation Applications



Chemigation Applications



Other Application Methods



Review Questions

True or False?

1. Fumigation of soil for potatoes is a major use.
2. Fumigant usage across the country is similar.
3. Application methods differ by chemical.

Summary

- Use of soil fumigants on major food crops ranges from about 2 to 45.5 million pounds per year
- Largest use on potatoes, strawberries, tomatoes & carrots
 - Data lacking for nursery uses
- Amounts used vary by chemical, application method & geographic location

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