



United States
Department of
Agriculture

National
Agricultural
Statistics
Service



Ag Ch 1 (01)

Agricultural Chemical Usage

Postharvest Applications - Peanuts, Rice, and Sorghum

March 2001

USDA



Postharvest Chemical Use Estimates for Peanuts, Rice, and Sorghum

Overview: The agricultural chemical use estimates in this report are based on data compiled from the 2000 Postharvest Chemical Use Surveys. Separate surveys covering the 1999 crop were conducted in the summer of 2000 for peanuts and rice. A special State-funded study was conducted in Kansas for sorghum. The survey instrument for the sorghum postharvest study was identical to that used for the national survey for chemical use data collection. Pest management data for sorghum were not collected in Kansas.

All results refer to pesticide applications made at off-farm storage facilities after the crops were harvested. On-farm postharvest applications were beyond the scope of this survey. The time frames for these applications, which correspond to the marketing year for these crops were: August 1, 1999 to July 31, 2000 for peanuts; July 1, 1999 to June 30, 2000 for rice in Louisiana and Texas; August 1, 1999 to July 31, 2000 for rice in Arkansas and Mississippi; September 1, 1999 to August 31, 2000 for rice in Missouri; October 1, 1999 to September 30, 2000 for rice in California; and September 1, 1999 to August 31, 2000 for sorghum in Kansas.

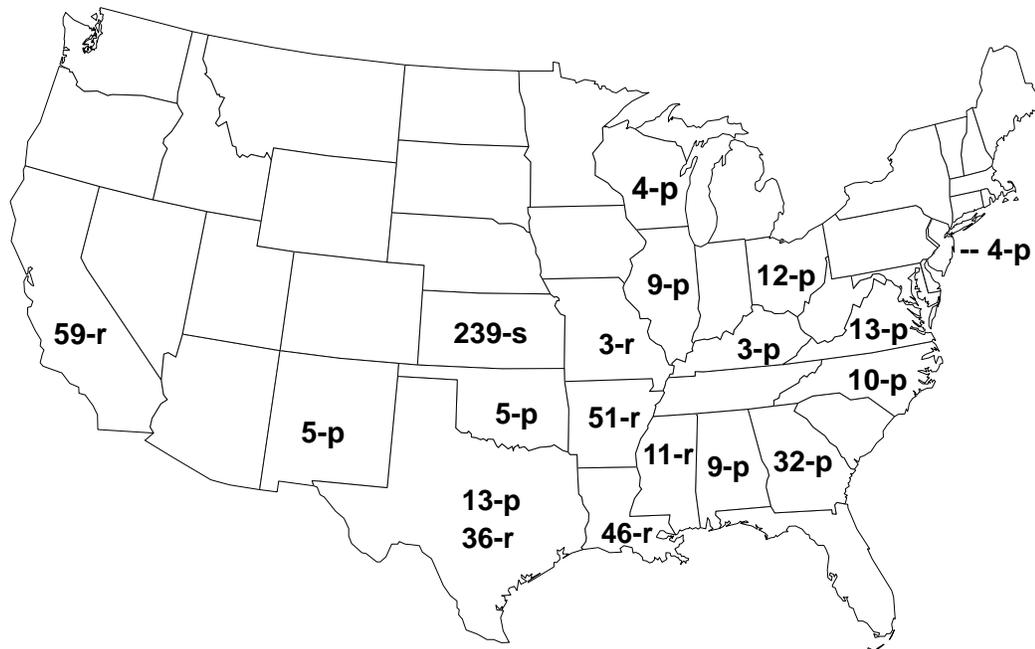
The table below shows survey coverage for the 1999-2000 marketing year. The table includes statistics on the number of States surveyed and the number of reports summarized. The U.S. map below the table depicts graphically the number of summarized reports for each State in the survey.

Agricultural Chemical Use Survey Coverage, 1999 Marketing Year

Crop	States Surveyed	Reports Summarized
	Number	Number
Peanuts	13	119
Rice	6	206
Sorghum	1	239

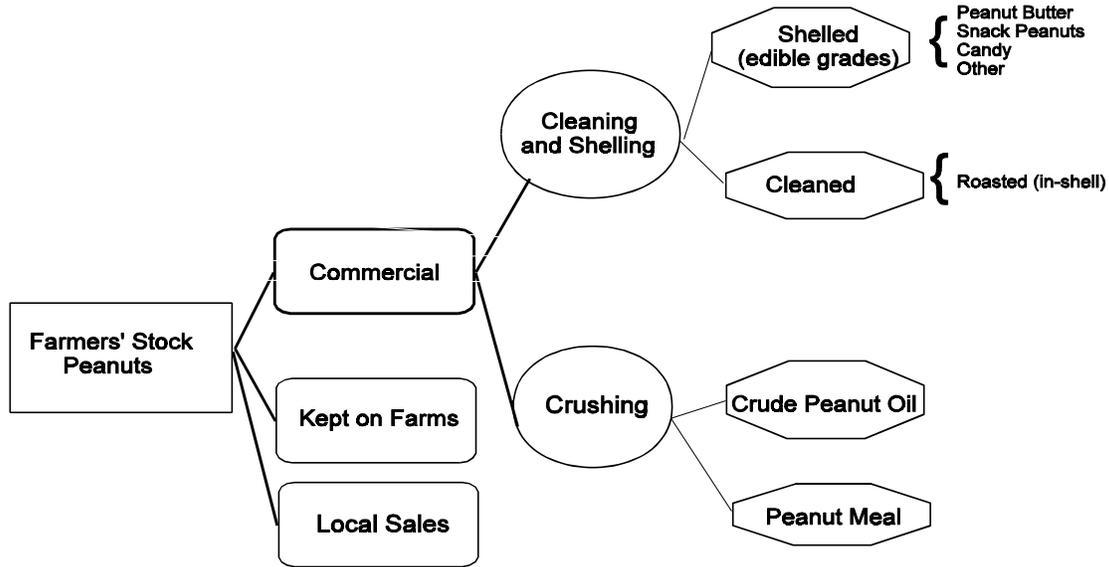
Number of Usable Reports, 1999 Marketing Year

p - Peanuts; r - Rice; s - Sorghum



After harvest, peanuts are inspected by the Federal-State Shipping Point Inspection Service before moving into storage facilities or on to peanut shellers and processors. Peanut butter is the largest single product made from the peanut crop. Other utilizations for peanuts include peanut snacks, peanut candy, and in-shell peanuts. Peanuts are generally marketed through local warehouses or processors. The diagram below demonstrates the postharvest marketing channels for peanuts.

Peanuts: Uses and Products



After harvest, rice is marketed through either through cooperatives, local warehouses or terminal warehouses. Utilization of rice is mainly comprised of direct food use, processed foods, and beer. Direct food use is the consumption of whole kernel milled rice without further processing, often referred to as table rice. The largest portion of the processed foods is rice used for pet food.

For both peanuts and rice, data totals for the States surveyed and individual State totals are published for the percent of the commodity treated, number of applications, rate per application, rate per marketing year, and the total amount of active ingredient applied. A table detailing total pesticide usage by class for the surveyed States is also included. The State of origin of the peanuts and rice was not part of the survey. Only States that had off-farm storage facilities for peanuts or rice were included in this survey.

Peanuts and rice which move between warehouses and processors will be duplicated in the total amount handled. The intent of the survey was to obtain the entire amount of chemicals applied to the stored peanuts and rice, so this duplication in quantity handled is necessary. Only the peanuts and rice handled in the selected States were included in this survey.

After harvest, sorghum is generally marketed through local and/or terminal elevators, except that which is used on farms. Essentially all of the sorghum for grain is used as livestock feed.

Peanuts and rice storage facility operators were also asked a series of questions concerning their pest management practices. These questions are summarized and included in the report. A copy of the survey instrument used to collect the data is also included.

Highlights

Peanuts: Peanut storage facilities in twelve States were surveyed following the 1999 marketing year. States surveyed for storage do not necessarily correspond to major peanut producing States.

The postharvest chemicals most commonly used on peanuts in the surveyed States were captan and aluminum phosphide based on percent of crop treated. Captan is a fungicide. Although aluminum phosphide is commonly referred to as a fumigant, it is used to kill insects, insect larvae, and mites, and is classified as an insecticide by the Environmental Protection Agency (EPA).

Operations in the following States applied the listed chemicals to peanuts after harvest. However, there was an insufficient number of reports to publish State level usage data.

Alabama: aluminum phosphide, methyl bromide, N-octy bicycloheptene dicarbo., piperonyl butoxide, and pyrethrins.

Illinois: petroleum distillate, piperonyl butoxide, and pyrethrins.

Kentucky: methyl bromide.

New Mexico: aluminum phosphide, metalaxyl, pentachloronitrobenzene, and resmethrin.

North Carolina: aluminum phosphide and dichlorvos.

Ohio: N-octy bicycloheptene dicarbo., piperonyl butoxide, and pyrethrins.

Oklahoma: aluminum phosphide, captan, carboxin, magnesium phosphide, malathion, methyl bromide, N-octy bicycloheptene dicarbo., pentachloronitrobenzene, piperonyl butoxide, and pyrethrins.

Texas: aluminum phosphide and malathion.

Virginia: aluminum phosphide, fenvalerate, methyl bromide, N-octy bicycloheptene dicarbo., piperonyl butoxide, and pyrethrins.

New Jersey and Wisconsin reported no chemicals used on stored peanuts following harvest.

Rice: Grain storage operators in six major rice producing States were surveyed following the 1999-2000 marketing year.

The postharvest chemicals most commonly used on rice in the surveyed States were carbon dioxide, aluminum phosphide, and silicon dioxide based on percent of rice treated. Aluminum phosphide is classified as an insecticide by the EPA, although it is commonly referred to as a fumigant and is used to kill insects, insect larvae, and mites.

Operations in the following States applied the listed chemicals to stored rice after harvest. However, there were an insufficient number of reports to publish State-level usage data.

Rough Rice

Mississippi: aluminum phosphide, gibberellic acid, mancozeb, and thiram.

Missouri: aluminum phosphide.

Processed Rice

Arkansas: aluminum phosphide, carboxin, gibberellic acid, magnesium phosphide, and thiram.

California: carbon dioxide and methyl bromide.

Louisiana: aluminum phosphide and magnesium phosphide.

Texas: aluminum phosphide and magnesium phosphide.

Mississippi and Missouri reported no postharvest chemicals applied to processed rice.

Sorghum: Grain storage operators in Kansas most commonly used aluminum phosphide and malathion based on percent of grain treated. Although aluminum phosphide is commonly referred to as a fumigant, it is used to kill insects, insect larvae, and mites, hence it is classified as an insecticide by the EPA. Malathion is also an insecticide.

Pest Management Practices: It was discovered during pre-survey research that pest management practices varied considerably, depending on the time of year. Therefore, seasonal data were collected on this survey and are published in separate tables labeled “Spring and Summer” and “Fall and Winter”. The percentages shown in these data tables pertain to all grains handled by the facilities sampled, not just peanuts or rice. There were insufficient reports to publish pest management data for Kentucky, Missouri, New Jersey, and Wisconsin. Pest management data were not collected for sorghum in Kansas.

**Peanuts: Postharvest Chemical Applications,
Percent Treated and Total Applied,
States Surveyed and Total, 1999 Marketing Year**

State	Volume Handled	Percent Treated and Total Applied					
		Insecticide		Fungicide		Other Chemical	
	<i>Mil. Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>
AL	204.1	*	*				
GA	3,585.0	32.19	15.8	*	*		
IL	183.3	*	*				
KY	*	*	*				
NJ	*						
NM	63.1	*	*	*	*		
NC ¹	405.0	4.52					
OH	9.1						
OK	202.1	*	*	*	*		
TX	605.2	*	*				
VA	488.7	*	*				
WI	*						
Total	5,762.2	27.30	20.9	*	*		

* Insufficient reports to publish data for volume handled or for this pesticide class.

¹ Amount applied less than 50 pounds.

**Peanuts: Postharvest Chemical Applications,
1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Applications	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Lbs.</i>	<i>Pounds per 1,000 Lbs.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	18.49	1.0	0.01	0.01	13.7
Methyl bromide	0.56	1.0	0.08	0.09	2.8
Piperonyl butoxide ³	2.07	1.0			0.3

¹ Volume handled by peanut storage facilities in the twelve States surveyed was 5,762.2 million pounds. States included are AL, GA, IL, KY, NJ, NM, NC, OH, OK, TX, VA, and WI.

² Insufficient reports to publish usage data for Dichlorvos, Fenvalerate, Magnesium phosphide, Malathion, N-octy bicycloheptene dicarbo., Petroleum distillate, Pyrethrins, Resmethrin, Silica gel, and Silicon dioxide as insecticides, and Captan, Carboxin, Metalaxyl, and Pentachloronitrobenzene as fungicides.

³ Rate applied was less than 0.01 pounds.

**Peanuts: Postharvest Chemical Applications,
Georgia, 1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Applications	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Lbs.</i>	<i>Pounds per 1,000 Lbs.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	25.15	1.0	0.01	0.01	12.3

¹ Volume handled by Georgia peanut storage facilities was 3,585.0 million pounds.

² Insufficient reports to publish usage data for Dichlorvos, Magnesium phosphide, Methyl bromide, N-octy bicycloheptene dicarbo., Piperonyl butoxide, Pyrethrins, Silica gel, and Silicon dioxide as insecticides, and Captan, Carboxin, and Pentachloronitrobenzene as fungicides.

**Rough Rice: Postharvest Chemical Applications,
Percent Treated and Total Applied,
States Surveyed and Total, 1999 Marketing Year**

State	Volume Handled	Percent Treated and Total Applied					
		Insecticide		Fungicide		Other Chemical	
	<i>1,000 Cwt.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>
AR	87,558.1	12.14	6.4	*	*	*	*
CA	63,639.0	21.19	9.9				
LA	30,346.0	33.98	25.1				
MS	10,277.9	*	*	*	*	*	*
MO	4,148.2	*	*				
TX	27,751.3	34.05	5.5				
Total	223,720.4	21.19	48.5	0.26	43.0	0.04	0.1

* Insufficient reports to publish data for this pesticide class.

**Rough Rice: Postharvest Chemical Applications,
1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Appli- cations	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Cwt.</i>	<i>Pounds per 1,000 Cwt.</i>	<i>1,000 Lbs</i>
Insecticides:					
Aluminum phosphide	20.45	1.0	0.49	0.49	22.3
Fipronil	0.04	1.0	14.17	14.89	1.2
Silicon dioxide	0.55	1.0	18.60	18.60	23.0
Fungicides:					
Carboxin	0.18	1.0	37.80	37.92	15.0
Fludioxonil	0.04	1.0	1.89	1.89	0.2
Metalaxyl	0.15	1.0	17.74	17.74	5.9
Thiram	0.19	1.0	36.50	36.65	15.8
Other:					
Gibberellic acid	0.04	1.0	1.00	1.00	0.1

¹ Volume handled by grain storage facilities in the 6 States surveyed was 223,720.4 thousand hundredweight. States included are AR, CA, LA, MS, MO, and TX.

² Insufficient reports to publish usage data for Chlorpyrifos-methyl, Cyfluthrin, Malathion, and Methyl bromide as insecticides; Mancozeb as a fungicide; and Indole-3-butyric acid as an 'Other' chemical.

**Rough Rice: Postharvest Chemical Applications,
Arkansas, 1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Applications	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Cwt.</i>	<i>Pounds per 1,000 Cwt.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	11.40	1.0	0.40	0.40	4.0
Fipronil	0.09	1.0	14.17	14.89	1.2
Fungicides:					
Carboxin	0.45	1.0	37.80	37.92	15.0
Fludioxonil	0.11	1.0	1.89	1.89	0.2
Metalaxyl	0.38	1.0	17.74	17.74	5.9
Thiram	0.46	1.0	38.40	38.57	15.4

¹ Volume handled by Arkansas grain storage facilities was 87,558.1 thousand hundredweight.

² Insufficient reports to publish usage data for Chlorpyrifos-methyl, Malathion, and Silicon dioxide as insecticides; Mancozeb as a fungicide; and Gibberellic acid and Indole-3-butyric acid as 'Other' chemicals.

**Rough Rice: Postharvest Chemical Applications,
California, 1999 Marketing Year ¹**

Agricultural Chemical	Volume Treated	Applications	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Cwt.</i>	<i>Pounds per 1,000 Cwt.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	21.19	1.0	0.73	0.73	9.9

¹ Volume handled by California grain storage facilities was 63,639.0 thousand hundredweight.

**Rough Rice: Postharvest Chemical Applications,
Louisiana, 1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Applications	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Cwt.</i>	<i>Pounds per 1,000 Cwt.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	31.64	1.0	0.37	0.37	3.6

¹ Volume handled by Louisiana grain storage facilities was 30,346.0 thousand hundredweight.

² Insufficient reports to publish usage data for Methyl bromide and Silicon dioxide.

**Rough Rice: Postharvest Chemical Applications,
Texas, 1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Applications	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Cwt.</i>	<i>Pounds per 1,000 Cwt.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	33.03	1.0	0.36	0.36	3.3

¹ Volume handled by Texas grain storage facilities was 27,751.3 thousand hundredweight.

² Insufficient reports to publish usage data for Cyfluthrin, Methyl bromide, and Silicon dioxide.

**Processed Rice: Postharvest Chemical Applications,
Percent Treated and Total Applied,
States Surveyed and Total, 1999 Marketing Year**

State	Volume Handled	Percent Treated and Total Applied					
		Insecticide		Fungicide		Other Chemical	
	<i>1,000 Cwt.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>
AR	39,541.1	*	*	*	*	*	*
CA	21,472.7	*	*				
LA	10,169.3	*	*				
MS	93.6						
MO	3,078.2						
TX	9,851.0	*	*				
Total	84,205.9	22.73	460.8	*	*	*	*

* Insufficient reports to publish data for this pesticide class.

**Processed Rice: Postharvest Chemical Applications,
1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Appli- cations	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Cwt.</i>	<i>Pounds per 1,000 Cwt.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	24.14	1.0	0.39	0.39	8.0

¹ Volume handled by grain storage facilities in the 6 States surveyed was 84,205.9 thousand hundredweight. States included are AR, CA, LA, MS, MO, and TX.

² Insufficient reports to publish usage data for Carbon dioxide, Methyl bromide, and Magnesium phosphide as insecticides; Carboxin and Thiram as fungicides; and Gibberellic acid as an 'Other' chemical.

**Sorghum: Postharvest Chemical Applications,
Percent Treated and Total Applied, Kansas, 1999 Marketing Year**

State	Volume Handled	Percent Treated and Total Applied					
		Insecticide		Fungicide		Other Chemical	
	<i>Mil. Bu.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>	<i>Percent</i>	<i>1,000 Lbs.</i>
KS	331.1	3.68	3.9				

**Sorghum: Postharvest Chemical Applications,
Kansas, 1999 Marketing Year ^{1 2}**

Agricultural Chemical	Volume Treated	Appli- cations	Rate per Application	Rate per Mkt. Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per 1,000 Bu.</i>	<i>Pounds per 1,000 Bu.</i>	<i>1,000 Lbs.</i>
Insecticides:					
Aluminum phosphide	2.82	1.0	0.13	0.13	1.2
Malathion	0.48	1.0	0.37	0.37	0.6

¹ Volume handled by Kansas grain storage facilities was 331.1 million bushels.

² Insufficient reports to publish usage data for Chlorpyrifos-methyl, Methyl bromide, and Pirimiphos-methyl.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year ¹**

Practice	States Surveyed ²						
	AL	GA	IL	KY	NJ	NM	NC
	<i>Percent of Operations</i>						
Mechanical Devices:							
Aeration controller		3					10
Deep bin sampler		3					
Phosphine pellet dispenser	11	22					20
Power probe		6				40	10
Re-circulation fumigation device							
Temperature cables in bins							
Cleaning Activities:							
Clean dump pits and transfer legs	78	59				80	80
Clean surrounding areas and equipment		53					10
Control vegetation around warehouses	78	81	38			100	90
Hose down empty warehouse floors	33	41	25			80	40
Pick up spilled peanuts	89	91	100			80	90
Sweep empty warehouse floors	100	88	100			100	100
Use residual insecticides on inner surface of empty warehouses	56	41	25			100	70
Use rodent traps or bait stations	100	91	50			80	100
Other cleaning activities		9					20

Practice	States Surveyed ²					
	OH	OK	TX	VA	WI	ALL
	<i>Percent of Operations</i>					
Mechanical Devices:						
Aeration controller		20		8		4
Deep bin sampler						2
Phosphine pellet dispenser			7			9
Power probe				31		8
Re-circulation fumigation device						
Temperature cables in bins						1
Cleaning Activities:						
Clean dump pits and transfer legs	42	20	36	54		52
Clean surrounding areas and equipment		20	7			16
Control vegetation around warehouses	67	100	64	100		77
Hose down empty warehouse floors	75	100	50	62		50
Pick up spilled peanuts	100	100	100	100		91
Sweep empty warehouse floors	92	100	86	92		91
Use residual insecticides on inner surface of empty warehouses	58	60	36	23		46
Use rodent traps or bait stations	67	80	100	100		86
Other cleaning activities						5

¹ Descriptions of these items are included in the Terms and Definitions section of this report, on pages 29-30.

² Insufficient reports to publish data for Kentucky, New Jersey, and Wisconsin.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Spring and Summer**

Practice	States Surveyed ¹						
	AL	GA	IL	KY	NJ	NM	NC
	<i>Percent of Operations</i>						
Inspected for insects:							
Concrete Silos:							
Daily						100	
Twice a week							
Weekly		50					
Every two weeks							
Monthly		50					
Other							
Do not monitor							100
Flat Storage Warehouses:							
Daily	67	17	60			75	29
Twice a week							
Weekly	22	28	20				43
Every two weeks		3					
Monthly		3					
Other		28					
Do not monitor	11	21	20			25	29
Other Structures:							
Daily		29					
Twice a week							
Weekly		29	33				20
Every two weeks							
Monthly		14	33				
Other							20
Do not monitor		29	33				60

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**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Spring and Summer (continued)**

Practice	States Surveyed ¹					
	OH	OK	TX	VA	WI	ALL
	<i>Percent of Operations</i>					
Inspected for insects:						
Concrete Silos:						
Daily						28
Twice a week						9
Weekly						10
Every two weeks						19
Monthly						34
Other				100		
Do not monitor						
Flat Storage Warehouses:						
Daily		40	25			29
Twice a week	33		13			4
Weekly		40	13	60		25
Every two weeks			13	20		6
Monthly	50					6
Other			25			12
Do not monitor	17	20	13	20		19
Other Structures:						
Daily	20			11		13
Twice a week						
Weekly	20		25			16
Every two weeks						3
Monthly						5
Other			25			6
Do not monitor	60		50	89		57

¹ Insufficient reports to publish data for Kentucky, New Jersey, and Wisconsin.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Spring and Summer**

Practice	States Surveyed ¹						
	AL	GA	IL	KY	NJ	NM	NC
	<i>Percent of Operations</i>						
Measure Grain Temperature:							
Concrete Silos:							
Daily							
Twice a week							
Weekly		50					
Every two weeks							
Monthly							
Other							
Do not monitor		50				100	100
Flat Storage Warehouses:							
Daily	22	48	40				29
Twice a week							
Weekly	11	10					
Every two weeks							
Monthly							
Other		3					
Do not monitor	67	38	60			100	71
Other Structures:							
Daily		14	33				
Twice a week			67				
Weekly		14					
Every two weeks							
Monthly							
Other		14					
Do not monitor		57					100

--continued

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Spring and Summer (continued)**

Practice	States Surveyed ¹					
	OH	OK	TX	VA	WI	ALL
	<i>Percent of Operations</i>					
Measure Grain Temperature:						
Concrete Silos:						
Daily						10
Twice a week						9
Weekly						8
Every two weeks						73
Monthly						
Other						
Do not monitor				100		
Flat Storage Warehouses:						
Daily	83		13	60		37
Twice a week						6
Weekly		20				
Every two weeks						2
Monthly			13			
Other			75			55
Do not monitor	17	80		40		
Other Structures:						
Daily	40					14
Twice a week				11		8
Weekly	20					5
Every two weeks						2
Monthly						5
Other			25			
Do not monitor	40		75	89		66

¹ Insufficient reports to publish data for Kentucky, New Jersey, and Wisconsin.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Fall and Winter**

Practice	States Surveyed ¹						
	AL	GA	IL	KY	NJ	NM	NC
	<i>Percent of Operations</i>						
Inspected for insects:							
Concrete Silos:							
Daily							
Twice a week							
Weekly		50					
Every two weeks							
Monthly		50				100	
Other							
Do not monitor							100
Flat Storage Warehouses:							
Daily	78	14	60			25	14
Twice a week							
Weekly	11	24	20				57
Every two weeks		10					
Monthly		3				25	
Other		28					
Do not monitor	11	21	20			50	29
Other Structures:							
Daily		29					
Twice a week							
Weekly		29	33				20
Every two weeks							
Monthly		14	33				
Other							20
Do not monitor		29	33				60

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**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Fall and Winter (continued)**

Practice	States Surveyed ¹					
	OH	OK	TX	VA	WI	ALL
	<i>Percent of Operations</i>					
Inspected for insects:						
Concrete Silos:						
Daily						18
Twice a week						
Weekly						9
Every two weeks						10
Monthly						29
Other						
Do not monitor				100		34
Flat Storage Warehouses:						
Daily		40	25			25
Twice a week	17		13			2
Weekly		20	13	60		23
Every two weeks	17	20	13	20		10
Monthly	50					9
Other			25			12
Do not monitor	17	20	13	20		20
Other Structures:						
Daily	20			11		13
Twice a week						
Weekly	20		25			16
Every two weeks						3
Monthly						5
Other			25			6
Do not monitor	60		50	89		57

¹ Insufficient reports to publish data for Kentucky, New Jersey, and Wisconsin.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Fall and Winter**

Practice	States Surveyed ¹						
	AL	GA	IL	KY	NJ	NM	NC
	<i>Percent of Operations</i>						
Measure Grain Temperature:							
Concrete Silos:							
Daily							
Twice a week							
Weekly		50					
Every two weeks							
Monthly							
Other							
Do not monitor		50				100	100
Flat Storage Warehouses:							
Daily	22	48	40				29
Twice a week							
Weekly	11	10					
Every two weeks							
Monthly							
Other		3					
Do not monitor	67	38	60			100	71
Other Structures:							
Daily		14	33				
Twice a week			67				
Weekly		14					
Every two weeks							
Monthly							
Other		14					
Do not monitor		57					100

--continued

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Peanuts, 1999 Marketing Year, Fall and Winter (continued)**

Practice	States Surveyed ¹					
	OH	OK	TX	VA	WI	ALL
	<i>Percent of Operations</i>					
Measure Grain Temperature:						
Concrete Silos:						
Daily						10
Twice a week						9
Weekly						8
Every two weeks						73
Monthly						
Other						8
Do not monitor				100		73
Flat Storage Warehouses:						
Daily	83		13	60		37
Twice a week						6
Weekly		20				
Every two weeks						2
Monthly			13			
Other			75			55
Do not monitor	17	80		40		
Other Structures:						
Daily	40					14
Twice a week				11		8
Weekly	20					5
Every two weeks						2
Monthly						2
Other			25			5
Do not monitor	40		75	89		66

¹ Insufficient reports to publish data for Kentucky, New Jersey, and Wisconsin.

**Pest Management Practices,
Strategies Used in Determining Fumigation Schedule,
Peanuts, 1999 Marketing Year**

Practice	States Surveyed ¹						
	AL	GA	IL	KY	NJ	NM	NC
	<i>Percent of Operations</i>						
Preset Calendar Date		23	100			33	20
Warehouse Samples		8					
Scheduled with other Handling Operations		8					20
Insect Trap Counts		31				67	20
Visual Peanut Inspection	33	69					80
Other	67	15					20

Practice	States Surveyed ¹					
	OH	OK	TX	VA	WI	ALL
	<i>Percent of Operations</i>					
Preset Calendar Date						19
Warehouse Samples	100					6
Scheduled with other Handling Operations		100		20		12
Insect Trap Counts						21
Visual Peanut Inspection	100					49
Other				100		30

¹ Insufficient reports to publish data for Kentucky, New Jersey, and Wisconsin.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Rice, 1999 Marketing Year ¹**

Practice	States Surveyed ²						
	AR	CA	LA	MS	MO	TX	ALL
	<i>Percent of Operations</i>						
Mechanical Devices:							
Aeration controller	35	35	50	73		33	41
Deep bin sampler	4	35	15	18		6	16
Grain spreader in bins	22	40	22	36		3	25
Phosphine pellet dispenser	22	20	17	27		28	23
Power probe	20	36	2	9		3	17
Protein analyzer	2	9	2	9			5
Re-circulation fumigation device	10	13	17	18		14	14
Temperature cables in bins	29	64	24	55		19	38
Cleaning Activities:							
Blow down with compressed air	14	36				3	14
Clean aeration ducts	65	87	87	91		81	80
Control vegetation around bins	88	98	98	91		94	95
Core bins after filling	51	51	50	100		28	50
Fumigate empty bins	73	47	76	45		69	64
Hose down empty bins	33	13	30	45		11	24
Pick up spilled grain	96	98	100	100		94	98
Sweep empty bins	86	100	93	91		97	94
Vacuum bins	2	35		27			12
Other cleaning activities	8	35	2	9		6	14

¹ Descriptions of these items are included in the Terms and Definitions section of this report, on pages 29-30.

² Insufficient reports to publish data for Missouri.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Rice, 1999 Marketing Year, Spring and Summer**

Practice	States Surveyed ¹						
	AR	CA	LA	MS	MO	TX	ALL
	<i>Percent of Operations</i>						
Inspected for insects:							
Concrete Silos:							
Daily	7	12	11			8	10
Twice a week	14	18				4	10
Weekly	43	35	11			13	25
Every two weeks	7	9	11			8	8
Monthly	14	18	42	100		46	31
Other	14	6	16			17	11
Do not monitor		3	11			4	6
Steel Tanks or Bins:							
Daily	6	9	5			24	9
Twice a week	10	14	5			3	8
Weekly	29	23	13	40		10	22
Every two weeks	12	7	13	10		7	10
Monthly	31	16	47	50		38	34
Other	8	16	8			10	10
Do not monitor	4	14	8			7	7
Other Structures:							
Daily		9				25	7
Twice a week	17	13	13				11
Weekly	17	22	13				15
Every two weeks	17	13	27	50		13	18
Monthly		22	20	50		50	24
Other	17	4	13				7
Do not monitor	33	17	13			13	19

¹ Insufficient reports to publish data for Missouri.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Rice, 1999 Marketing Year, Spring and Summer**

Practice	States Surveyed ¹						
	AR	CA	LA	MS	MO	TX	ALL
	<i>Percent of Operations</i>						
Measure Grain Temperature:							
Concrete Silos:							
Daily	21	26	21			4	18
Twice a week	14	26	5				13
Weekly	36	29	5				17
Every two weeks		12	5			13	8
Monthly	7		16			25	10
Other	14	3	5			8	6
Do not monitor	7	3	42	100		50	26
Steel Tanks or Bins:							
Daily	8	16	13			7	10
Twice a week	14	21	11				12
Weekly	35	19	13	50		7	23
Every two weeks	4	9	8	10		7	7
Monthly	20	5	13	10		21	14
Other	6	5	3			3	4
Do not monitor	12	26	39	30		55	31
Other Structures:							
Daily	17	17	13				13
Twice a week	17	30	13				18
Weekly		22		50			12
Every two weeks	17	4	13			13	9
Monthly		4	13	50		25	11
Other	17						2
Do not monitor	33	22	47			63	36

¹ Insufficient reports to publish data for Missouri.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Rice, 1999 Marketing Year, Fall and Winter**

Practice	States Surveyed ¹						
	AR	CA	LA	MS	MO	TX	ALL
	<i>Percent of Operations</i>						
Inspected for insects:							
Concrete Silos:							
Daily	7	15	5			8	10
Twice a week	7	18	5			4	10
Weekly	43	15	16			13	18
Every two weeks	7	12	11			8	10
Monthly	14	24	42			46	32
Other	14	6	16	100		17	13
Do not monitor	7	12	5			4	9
Steel Tanks or Bins:							
Daily	4	9	3	20		21	9
Twice a week	6	19	8			7	9
Weekly	27	14	11	10		14	17
Every two weeks	10	9	11	10		7	9
Monthly	41	23	53	50		31	38
Other	6	14	5	10		21	10
Do not monitor	6	12	11				7
Other Structures:							
Daily		9				25	7
Twice a week	17	30	13				18
Weekly	17	4	13			13	9
Every two weeks	17	4	27	50		13	14
Monthly		26	27			38	23
Other	17	4	13	50		13	11
Do not monitor	33	22	7				17

¹ Insufficient reports to publish data for Missouri.

**Pest Management Practices,
Percent of Operations Utilizing Practice,
Rice, 1999 Marketing Year, Fall and Winter**

Practice	States Surveyed ¹						
	AR	CA	LA	MS	MO	TX	ALL
	<i>Percent of Operations</i>						
Measure Grain Temperature:							
Concrete Silos:							
Daily	29	35	21			8	24
Twice a week	14	21	5				11
Weekly	29	29	5			4	17
Every two weeks		9	5			4	5
Monthly	7		21			29	12
Other	14	3				8	5
Do not monitor	7	3	42	100		46	25
Steel Tanks or Bins:							
Daily	14	26	13	20		10	16
Twice a week	10	23	8	10			11
Weekly	33	21	8	20		7	20
Every two weeks	4	7	11	20			7
Monthly	22	2	16	20		21	15
Other	4	5	3			7	4
Do not monitor	12	16	42	10		55	27
Other Structures:							
Daily	17	30	13				18
Twice a week	17	22	13				15
Weekly		26		50		13	15
Every two weeks	17	4	13				7
Monthly		4	13	50		25	11
Other	17						2
Do not monitor	33	13	47			63	32

¹ Insufficient reports to publish data for Missouri.

**Pest Management Practices,
Strategies Used in Determining Fumigation Schedule,
Rice, 1999 Marketing Year**

Practice	States Surveyed ¹						
	AR	CA	LA	MS	MO	TX	ALL
	<i>Percent of Operations</i>						
Preset Calendar Date	4	3	5			3	4
Bin Samples	24	21	56	100		35	41
Scheduled with other Handling Operations	16	7	15	33		23	17
Insect Trap Counts		17	15			3	9
Visual Grain Inspection	56	72	56	67		81	66
Customer Request	16	14	8			10	10
Other	8	14				3	5

¹ Insufficient reports to publish data for Missouri.

Survey Procedures: The population for the 2000 Postharvest Chemical Use Survey included all off-farm facilities that handled either peanuts or rice during 1999. Peanut off-farm facilities included processors, blanchers, shellers, millers, and warehouses. Rice off-farm facilities included mills and warehouses. A complete census of these off-farm facilities was conducted in the 12 peanut States and 6 rice States selected for the Postharvest Chemical Use Survey.

A State-funded Postharvest Survey was conducted in Kansas. The population for this survey included all off-farm grain elevators that handled sorghum during 1999. The Kansas off-farm facilities were sampled based on the amount of sorghum stored during 1999.

Estimation Procedures: The chemical applications data, reported by product name or trade name were reviewed within State and across States for reasonableness and consistency. This review compared reported data with manufacturers' recommendations and with data from other operations using the same product. Following this review, product information was converted to active ingredient level. The chemical usage estimates in this publication are of those active ingredients.

Detailed data within a table may not multiply across or add down due to independent rounding of the published values.

Reliability: The probability nature of the survey provides for expansion of data so estimates are statistically representative of chemical use on the targeted commodities in the surveyed States. The reliability of these survey results is affected by sampling variability and non-sampling errors.

Non-sampling errors are errors that occur during a survey process, and unlike sampling variability, are difficult to measure. They may be caused by interviewers failing to follow instructions, poorly worded questions, non-response, problematic survey procedures, or data handling between collection and publication. In this survey, procedures and analyses were carried out in a consistent and orderly manner to minimize the occurrence of these types of errors.

Variability for estimates of volume of the commodity handled will be higher than the variability for estimates of application rates. This is because application rates have a narrower range of responses and the manufacturer's recommended rates are generally followed.

Sampling variability of the estimates also differs by chemical and crop. In general, the more often the chemical was applied, the smaller the sampling variability. For example, estimates of use of a commonly used product, such as aluminum phosphide on peanuts in Georgia, will exhibit less variability than a rarely used or reported product.

Terms and Definitions

Active ingredient: The active ingredient is the specific chemical which kills or controls the target pests. Usage data are reported by pesticide product and are converted to an amount of active ingredient.

Aeration Controller: An automatic (usually computer-based) system that determines the optimum running time (considering humidity and temperature) for aeration fans on the grain bins. They can usually be set for drying or storage mode.

Agricultural chemicals: The phrase agricultural chemicals refers to the active ingredients in pesticides.

Application Rates: The application rates refer to the average number of pounds of a pesticide active ingredient applied to a volume of product. Rate per application is the average number of pounds applied in one application. Rate per marketing year is the average number of pounds applied counting multiple applications. Number of applications is the average number of times a treated volume receives a specific agricultural chemical.

Common name: The common name is an officially recognized name for an active ingredient. This report shows active ingredient by common name.

Core bins after filling: When grain is placed into a bin, it is usually filled from the top. The rice forms a cone as it fills the bin. Because grain contains other things (including broken pieces of grain), smaller particles (called fines) tend to concentrate in the center of the bin. This finer material compacts, restricting airflow which in turn affects grain temperatures and thus pests. For this reason, it is recommended that a portion of grain is extracted from the bottom center of the bin. This core can then be reloaded onto the top and spread over the surface to distribute the fines evenly.

Deep bin sampler: Usually a vacuum type device that allows one to reach deeply into a grain bin and sample grain that is normally out of reach to typical probe samplers.

Fumigant: A substance or mixture of substances which produce a gas vapor, fume, or smoke intended to destroy insects, rodents, or bacteria.

Grain spreader: When grain is loaded into the grain bin, it can first be put through a spreader which swings the grain out from the fall line and fills the bin uniformly rather than forming a cone in the center of the bin.

Marketing year: A marketing year refers to the period immediately following harvest of the crop through the marketing or disposition of the crop. The 1999 marketing year for peanuts was August 1, 1999 to July 31, 2000. The 1999 marketing year for rice was as follows: July 1, 1999 to June 30, 2000 in LA and TX; August 1, 1999 to July 31, 2000 in AR and MS; September 1, 1999 to August 31, 2000 in MO; October 1, 1999 to September 30, 2000 in CA. The 1999 marketing year for sorghum ran from September 1, 1999 to August 31, 2000.

Pesticides: As defined by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), pesticides include any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Phosphine pellet dispenser: Manually or automatically dispenses phosphine pellets to a stream of grain as it is being loaded.

Postharvest: After the commodity is harvested from the field, any subsequent activity is termed postharvest. Postharvest chemical usage refers to chemical applications after the commodity is taken from the field or orchard.

Power probe: A fully integrated mechanized system for sampling stationary lots of grain in trucks or similar conveyance. It obtains a representative sample by inserting a probe-like device into grain, opening the probe to allow grain to enter, closing, and then the sample is pneumatically withdrawn from the probe.

Processor: Processors actually change the form of the commodity. These firms may have storage facilities as well.

Protein analyzer: Usually infrared analyzers that can, within a matter of minutes, determine the composition of grain. Values obtained can include protein, oil, starch content, moisture content and kernel density.

Re-circulation fumigation device: A fan that is combined with PVC pipe on the outside of a grain bin. The PVC runs from the top down the sides, through the fan and into the bottom of the grain bin. Rather than probing fumigant pellets into the grain mass from the surface of the grain, you can use a much lower concentration of fumigant and place the pellets in the PVC pipe from outside of the grain bin. Advantages include using less chemical, increased worker safety, and more uniform distribution of the gas since the fans force the fumigant throughout the grain mass.

Temperature cables: Cables running from top to bottom in grain bin that automatically determine grain temperature and output this information to a central system.

Terminal elevator: An elevator where large amounts of grain are brought for sale and distribution. Grain usually leaves these facilities by rail or barge.

Trade name: A trademark name given to a specific formulation of a pesticide product. A formulation contains a specific concentration of the active ingredient, carrier materials, and other ingredients such as emulsifiers and wetting agents. Some formulations, as in the case of pre-mixes, can contain more than one active ingredient.

Transfer legs: The apparatus used to move a commodity from a dump pit to its intermediate and/or final storage destination.

Volume Handled: The volume of a commodity handled by the market segment. In this release, it is the total amount of a commodity that passed through the firms summarized in the particular table.

Volume treated: This amount represents the percentage of the volume handled which received one or more applications of a specific agricultural chemical. This report does not contain total quantity treatments. However, total quantity treatments can be calculated by multiplying the total volume handled by the percent of volume treated and the average number of applications.

Trade Names, Common Names, and Classes

The following is a list of common names, associated classes and trade names of active ingredients in this publication. The classes are insecticides (I), fungicides (F), and other chemicals (O). This list is provided as an aid in reviewing the data. Pre-mixes are not cataloged. The list may not be complete for all postharvest chemicals used on peanuts, rice, and sorghum. NASS does not mean to imply use of any specific trade name.

Class	Common Name	Trade Name
I	Aluminum phosphide	several
F	Captan	Vitavax
I	Carbon dioxide	Carbon dioxide
F	Carboxin	Vitavax
I	Chlorpyrifos-methyl	Reldan
I	Cyfluthrin	Tempo 2
I	Dichlorvos	DDVP/Vapona
I	Fenvalerate	FVS Fogger
I	Fipronil	Icon
F	Fludioxonil	Maxim
O	Gibberellic Acid	several
O	Indole-3-butyric Acid	PGR-IV
I	Magnesium phosphide	several
I	Malathion	several
F	Mancozeb	Dithane
F	Metalaxyl	Apron, Kodiak
I	Methyl bromide	several
I	N-octy bicycloheptene dicarbo.	several
F	Pentachloronitrobenzene	Vitavax, Kodiak
I	Petroleum distillate	several
I	Piperonyl butoxide	several
I	Pirimiphos-methyl	Actellic
I	Pyrethrins	several
I	Resmethrin	Resmethrin
I	Silica gel	Protect-it
I	Silicon dioxide	several
F	Thiram	Vitavax, Thiram



2000 PEANUT POSTHARVEST
CHEMICAL USE SURVEY

U.S. Department of Agriculture
Rm 5805, South Building
1400 Independence Avenue, S.W.
Washington, D.C. 20250-2000
202-720-7017

VERSION	POID	SUBT.			
		--	0	000	00

CONTACT RECORD		
DATE	TIME	NOTES

RESPONSE CODES	
3 - COMPLETED	
4 - SCREENOUT	
5 - NO PEANUTS HANDLED or RECEIVED	OFFICE USE
8 - REFUSAL	001
9 - INACCESSIBLE	
OPTIONAL	002

INTRODUCTION
[Introduce yourself, and ask for the operator. Rephrase in your own words.]

We are collecting information on chemical use and need your help to make the information as accurate as possible. Authority for collection of information on the Peanut Postharvest Chemical Use Survey is Title 7, Section 2204 of the U.S. Code. This information will be used for analysis and to compile and publish estimates for your state and the United States. Response to this survey is confidential and voluntary.

We encourage you to refer to your operation records during the interview.

BEGINNING TIME [MILITARY] 003

Name
Address
Phone (____)

[Name, address and partners verified and updated if necessary.]

1. Did this operation (as listed on the label) handle/receive any peanuts from August 1, 1999 to July 31, 2000?

YES - [Go to page 3.]

NO - [Go to page 2.]

ADJUSTMENT FACTOR
005

Now I would like to ask about the peanuts handled/received from August 1, 1999 to July 31, 2000.

Please use your records to help us get an accurate record of peanut receipts.

1. What was the total quantity of **unshelled peanuts** handled/received from August 1, 1999 to July 31, 2000 on this operation?

- 1 BUSHEL (60 lbs)
- 4 SHORT TON (2,000 lbs)
- 5 CWT. (100 lbs.)
- 6 POUNDS
- 7 METRIC TON (2,204.6 lbs)
- 9 OTHER

QUANTITY	UNIT	If "9" enter POUNDS/UNIT
200 _____._____._____._____._____._____	201 _____	202 _____._____

2. What was the total quantity of **shelled peanuts** handled/received from August 1, 1999 to July 31, 2000 on this operation?

QUANTITY	UNIT	If "9" enter POUNDS/UNIT
203 _____._____._____._____._____._____	204 _____	205 _____._____

3. Did **ALL** peanuts received from August 1, 1999 to July 31, 2000 receive a postharvest chemical application?

- YES** - [Go to page 4.] **NO** - [Continue.]

4. Of the items 1 and 2 peanuts, how many peanuts, unshelled and shelled **DID NOT** receive postharvest chemical applications while in storage, on the ground, in barges, ships, railcars or on trucks?

	OR	
QUANTITY NOT TREATED		PERCENT OF TOTAL NOT TREATED
a. Unshelled peanuts? 206 _____._____._____._____._____._____		208 _____
b. Shelled peanuts? 207 _____._____._____._____._____._____		209 _____

ENUMERATOR NOTE:

[If **NO** postharvest chemicals were applied go to Section C, page 6. If postharvest chemicals were applied, go to page 4.]

COMPLETION CODE for CHEMICAL EDIT TABLE	1 - Incomplete / Refusal 3 - Valid Zero	300
--	--	-----

Now I have some questions about postharvest chemical data on **peanuts** handled, stored, or processed by your operation from August 1, 1999 to July 31, 2000. I will be asking for chemical products used, quantity treated, total amount of product applied, timing and method of application. Please use your records to answer the questions as accurately as possible and to insure we do not miss any products used. Include shelled and unshelled peanuts treated while in storage by this operation or on the ground, or in barges, ships, rail cars or on trucks.

OFFICE USE
LINES IN TABLE

T-TYPE	TABLE	LINE	399
3	001	99	

STORAGE CODES FOR COLUMN 2	
5	In Bound
6	Putting in Warehouses
7	While Stored
8	Out Bound

NOTES	LINE	1 What product was applied? <i>(In Respondent Booklet)</i>		2 When was this product used? <i>[Enter code from above.]</i>	3	
		(a) COMMON OR TRADE NAME	(b) PRODUCT CODE	[Enter code from above.]	(a) Type of peanut?	(b) What was the total quantity of peanuts treated with this chemical <i>(in column 1)</i> ?
					1 = Shelled 2 = Unshelled CODE	
	01		302	303	301	304 . —
	02		302	303	301	304 . —
	03		302	303	301	304 . —
	04		302	303	301	304 . —
	05		302	303	301	304 . —
	06		302	303	301	304 . —
	07		302	303	301	304 . —
	08		302	303	301	304 . —
	09		302	303	301	304 . —
	10		302	303	301	304 . —

[For pesticides not listed in Respondent Booklet, specify--]

LINE NO.	EPA No. or Trade name and Formulation	Form Purchased (Liquid or Dry)	Where Purchased <i>[Ask only if EPA No. cannot be reported.]</i>

UNIT CODES FOR COLUMN 4
1 - BUSHEL (60 lbs)
4 - SHORT TON (2,000 lbs)
5 - CWT. (100 lbs.)
6 - POUNDS
7 - METRIC TON (2,204.6 lbs)
9 - OTHER

UNIT CODES FOR COLUMN 7
1 POUNDS
12 GALLONS
13 QUARTS
14 PINTS
15 OUNCES
30 GRAMS
40 KILOGRAMS
41 LITERS
45 PELLETS
46 TABLETS

APPLICATION CODES FOR COLUMN 8
3 - DIRECT SPRAY DURING LOADING
5 - TOP DRESS
7 - FUMIGATION WITH PELLETS/TABLETS
9 - HEAD SPACE MISTING DEVICE
10 - FUMIGATION WITH GAS
11 - OTHER (Specify _____)

LINE	4	5	6	7	8
	[Enter unit code from above.]	If column 4 unit equals "9", enter pounds per unit.	What was the total amount of formulated product applied to the amount of peanuts in column 3b?	[Enter unit code from above.]	What was the method used to apply this product? CODE
01	305	306 ·__	307 ·__ __	308	309
02	305	306 ·__	307 ·__ __	308	309
03	305	306 ·__	307 ·__ __	308	309
04	305	306 ·__	307 ·__ __	308	309
05	305	306 ·__	307 ·__ __	308	309
06	305	306 ·__	307 ·__ __	308	309
07	305	306 ·__	307 ·__ __	308	309
08	305	306 ·__	307 ·__ __	308	309
09	305	306 ·__	307 ·__ __	308	309
10	305	306 ·__	307 ·__ __	308	309

Enumerator Notes:

4. Which practices do you use at storage facilities--

Did you--

	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	CODE 670
b.	hose down empty warehouse floors?		
	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	671
c.	use residual insecticides on inner surface of empty warehouses?		
	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	672
d.	pick up spilled peanuts?		
	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	673
e.	control vegetation around warehouses?		
	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	674
f.	clean dump pits and transfer legs?		
	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	675
g.	use rodent traps or bait stations?		
	<input type="checkbox"/> YES - [Enter code 1 and continue.]	<input type="checkbox"/> NO	676

5. Did you do any other cleaning activities besides the ones listed above to your storage facilities?

YES - [Enter code 1 and continue.] NO - [Go to item 6.] 677

a. What did you do? [Record responses below.]

_____	OFFICE USE
_____	678
_____	679
_____	680
_____	681

6. Did you fumigate peanuts?

YES - [Enter code 1 and continue.] NO - [Go to Conclusion.] 682

a. What was the strategy(ies) you used to decide when to fumigate peanuts? (Enter up to two strategies.)

- | | |
|---|--|
| 1 | PRESET CALENDAR DATE |
| 2 | WAREHOUSE SAMPLES |
| 3 | SCHEDULED WITH OTHER HANDLING OPERATIONS |
| 4 | INSECT TRAP COUNTS |
| 5 | VISUAL PEANUT INSPECTION |
| 6 | OTHER - (Describe _____) |

683
684

COMPLETION CODE for PEST MANAGEMENT SECTION

1 Incomplete/Refusal	500
----------------------	-----

CONCLUSION

SURVEY PUBLICATIONS

That completes the survey. Would you like to receive a free copy of the results when they are published?

YES - [Enter code 1.] NO

CODE
023

[Thank the respondent then review this questionnaire.]

RECORDS USE

Did respondent use operation records to report chemical data?

YES - [Enter code 1.] NO

024

ENDING TIME [MILITARY]

025
_ _ _ _

OFFICE USE -
TIME IN HOURS

026
. _ _

SUPPLEMENTS USED

Record the total number of pesticide supplements used to complete this interview

NUMBER
028

RESPONDENT

- 1 OPERATOR/MANAGER OR PARTNER
- 2 BOOKKEEPER
- 3 OTHER

.....

CODE
029

Respondent's name:

(Phone) _____

ENUMERATOR _____

ENUMERATOR ID
030

DATE

MM DD YY
031

OFFICE USE
EVALUATION

032

Report Features

Released March 14, 2001, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, U.S. Department of Agriculture. For information on "Agricultural Chemical Usage" call (202) 720-6146, office hours 7:30 a.m. to 4:00 p.m. ET.

The next "**Agricultural Chemical Usage: Postharvest Applications**" report will be released during the spring of 2002. This report will cover the use of postharvest chemicals used on wheat during the 2000 marketing year.

Listed below are persons within the National Agricultural Statistics Service to contact for additional information.

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Index

Page

Overview	1
Highlights	3
Postharvest Chemical Use Tables	
Peanuts	5
Rice	7
Sorghum	11
Pest Management Practices	
Peanuts	12
Rice	22
Survey Procedures	28
Estimation Procedures	28
Reliability	28
Terms and Definitions	29
Trade Names, Common Names, and Classes	31
Peanut Postharvest Questionnaire	32
Report Features	40

Released March 14, 2001, by the National Agricultural Statistics Service (NASS), Agricultural Statistics Board, U.S. Department of Agriculture. For information on "Agricultural Chemical Usage" call (202) 720-6146, office hours 7:30 a.m. to 4:00 p.m. ET.

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