

The Contribution of Crop Protection Products to the United States Economy



MARK GOODWIN CONSULTING LTD.



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From the President

Agriculture has always been a central driver in America's economy and culture. Our nation's earliest settlers depended on farmers to feed a growing population and help create economic self-sufficiency; in fact, owning and operating a farm provided many immigrants entry into the American economic system. Through innovative modern agricultural practices, such as the use of crop protection products, American agriculture continues to drive our country's economic output, both directly and indirectly. The data presented here details crop protection products' role as a crucial part of the current and future continued success of U.S. agriculture and the American economy as a whole.

"The Contribution of Crop Protection Products to the United States Economy" details the favorable impacts of the crop protection industry to the U.S. economy, not only in raising crop values, but as a valued job creator. Other advantages, such as environmental benefits and consumer cost savings, are examined as well. Just a few examples of the economic advantages gained in the U.S. from the use of crop protection products outlined in this report:

- Increased agricultural production created an additional 1,051,253 jobs generating more than \$33 billion in wages;
- Crop protection products provide a 47.92 percent savings in overall grocery bills for a family of four in the U.S.;
- Crop protection products decrease the need for tillage operations, thereby reducing fossil fuel use by 558 million gallons per year;
- Approximately 36 percent of the total value of field crop production is made possible with the use of crop protection products with almost half of states earning over \$1 billion each in crop values.

CroLife America (CLA) presents the information in this report to highlight not only the visible benefits of modern agriculture, such as increased food production, but to also convey the multiple contributions crop protection products provide the U.S. economy in areas including employment, exports, manufacturing and trade, among others. Jobs, better wages and reduced grocery store bills are needed now more than ever; with modern agriculture, the U.S. can continue to thrive in today's economy and build towards a more food secure tomorrow.

Sincerely,



Jay Vroom
President and CEO
CroLife America



Executive Summary

This study examined the impacts of the crop protection sector on the socio-economic structure of the United States. Specific metrics that were measured included (a) direct crop value (in dollars) derived from crop protection (tabulated by state), (b) spin-off impacts of that direct increase in crop value (by state) as expressed in additional economic activity, jobs and earnings by workers in each of 20 industries by state.

- Crop protection products added increased yield and quality of field crops, nut/fruit crops and vegetables to the extent that they added **\$51.4 billion, \$18.9 billion and \$11.5 billion** respectively in crop value.
- The increase in the value of farmers' crops leads to spin-off effects in the economy. This study looked at spin-off impacts across 20 industries. The total increase in additional economic output from these 20 industries owing to the incremental crop value derived from the use of pesticide products was **\$166.5 billion**.
- The additional crop value created because of the use of crop protection products led to **1.05 million jobs** and generating a payroll of **\$33.9 billion** for U.S. workers.
- The states that benefitted the most from the economic spin-offs associated with the crop value added owing to pest control were **California, Minnesota, Washington, Florida, Illinois, Texas, North Carolina and Iowa**.
- Crop protection products also contribute to positive outcomes with regards to environmental benefits, allowing U.S. farmers to produce **four times as much corn and wheat as they did in the early 1900s without clearing additional forest or wetlands**.
- Use of crop protection products in support of conservation tillage saves **558 million gallons of fuel per year**.
- Affordable food is also a benefit that accrues from crop protection. Proxies used to estimate savings for key grains, vegetables and fruits were **47.9 percent** for an average American family of four in one study. A second study puts the savings for the same average family of four at **35 percent** on fresh fruit, **45.5 percent** on fresh vegetables, and **40.7 percent** on fruit and vegetables overall.

Socio-Economic Impact of Crop Protection Products in the United States

There are many sources of information that detail the impact of the agricultural sector on the U.S. economy. Most people have access to information that quantifies the tremendous positive impact that the sector has on the economy.

This report will focus specifically on the role that crop protection products have had within this context. We will quantify the benefits that accrue to the economy owing to the accomplishments of the people who have worked to develop and implement crop protection technology. We will capture the on-farm benefit of the crop protection industry as well as the subsequent impacts of this benefit as it ripples throughout the economy as a whole. Note that it is not the purpose of the report to model or simulate what would happen to society or social structures in reaction to the loss or absence of crop protection technology, but merely to 'tally' the data that leads to value calculations attributable to the use of the technology in the United States as things stand today.

Background on the Role of Crop Protection Technology in American Society

High efficiencies on the farm have allowed the bulk of the population to live and work in urban-centered pursuits. The American farmer produces enough food to provide for domestic needs and export needs. Advances in crop production technology have led to higher yields and higher quality protection techniques, breeding, agronomy and farm equipment design, and more efficiency with respect to how many people can be fed for every acre of farmland utilized. According to the United States Environmental Protection Agency (EPA), 1 percent of the population provides food, fiber and fuel for the other 99 percent that reside off-farm. The efficiencies that growers and food workers have implemented have led to an agricultural sector that, according to the U.S. Department of Agriculture (USDA) 2007 Census of Agriculture Economics, generated over \$297 billion in sales revenue (2 percent of GDP) in 2007.

One of the elements that has enabled this growth has been the use of crop protection chemistries. Modern crop protection chemistries have been used in the U.S. since the middle of the 20th century, with the advent of insecticides and early weed control products such as 2, 4-D. Since that time, crop protection solutions have been developed and used for other serious pests such as weeds, diseases and insects. Concurrent to this, a rigorous regulatory regime developed, with the federal government demanding that crop protection products undergo exhaustive health and environmental testing. Today, annual expenditures on pesticides in the U.S. have risen slightly from \$7.6 billion in 2000 to \$7.9 billion in 2007 (EPA Pesticide Industry Sales and Usage, Market Estimates for 2000-2001; 2006-2007).

Measuring the Socio-Economic Impact of Crop Protection Products

The term "economic impact analysis" refers to the conducting of analytical surveys, research, and modeling to estimate the direct and indirect economic effects of a sector or industry. This report will specifically examine (a) economic value added by crop protection technology, (b) employment arising from the use of the technologies, (c) income generated by the technologies, and (d) contribution of crop protection to trade balances.

Typically, economic impacts fall into (a) direct impacts, (b) indirect impacts and (c) induced impacts. Direct impacts are felt by those individuals, groups and firms directly engaged in the activity being affected. Indirect impacts are the economic values generated through the act of developing the technologies and the economic activity generated as a result of the deployment of those technologies. Induced impacts are the effects of people spending the money that they earned from participating in direct and indirect activities.

The purpose of this report will be to measure the economic impact of the crop protection industries in the U.S. The first step will be to follow benefit streams as they manifest themselves at the farm gate through deployment of crop protection by the grower. We will then follow benefits if/when they ripple out from the farm as they impact trade, jobs and other features as the benefits accrue across the economy.

**Value of Incremental Crop
Production on the Farm
Due to Farmers' Use of
Crop Protection Products**



The first economic impact that occurs when crop protection products (CPPs) are deployed in the economy occurs right on-farm through enhanced value of production on a per unit land area basis. This occurs as crop protection products remove weeds, disease and insect pressure thereby allowing for higher yields and higher quality. Quantifying this impact requires acquiring and summarizing the most current data on pest impacts that would occur in the absence of the use of crop protection products. Simply put, total direct economic impact consists of the following elements:

1. Percent of crop value attributable to the use of CPP across major crops across states.
2. Average crop values produced on a state-by-state basis for three major crop categories (field crops, nuts/fruit, and vegetable crops).
3. Proportion of the crop values generated for each state that are due to the use of crop protection products by major crop category (#1 multiplied by #2).

I. Methodology

1 Step 1 - Calculating Average Percent of Value Attributable to the Use of Crop Protection Products

The most comprehensive and recent data that quantify the contribution of crop protection chemistries to crop value is a series of studies conducted in the period from 2006 through 2009 by the Crop Protection Research Institute (CPRI).

In a study released in March 2009, the CPRI quantified yield value increases of \$20 billion due to use of insecticides across the U.S. A similar study released in 2005 and updated in 2006 on the yield benefits of herbicides found that about one-fifth of all crop production can be attributable to the use of herbicides. Lastly, fungicide use was examined by CPRI in 2005 and the value of crop production gains realized through the use of disease control chemistries in crops resulted in \$12.8 billion in added yield.

The three studies cited above give the most recent and the most detailed data with regards to incremental crop yield attained owing to the use of crop protection products on both a national and a state-by-state basis. Given this, the CPRI data was used as resource to derive economic impacts created at the farm gate at both the state and national level.

Within the CPRI study, there are specific percentages attributable to the use of weed control, specific percentages attributable for disease control and like figures for insect control for each of the major crop categories. Each of these figures were tabulated and summed to attain an overall figure for total crop attributable to the use of all three major crop protection product classes. There were some instances where addition of the three numbers summed to a number that was slightly higher than 100 percent and in these cases, the default figure of 100 percent was used to define the portion of the crop that was attributable to the use of crop protection products. Note that the relevance of this figure is that 100 percent of the crop yield can be attributed to the use of crop protection products.

2 Step 2 - Calculating Average Crop Values Produced by State (Total) for Three Major Crop Categories

USDA's National Agricultural Statistics Service (NASS) was queried with regards to average crop values for the most recent three year period (2008, 2009 and 2010) for key crop categories. Key crop categories included (a) field crops, (b) nuts and fruit and (c) vegetable crops. This was calculated on a state-by-state basis. For the purposes of this study, crop groups were defined as per the table below (Table 1).

3 Step 3 - Calculating the Proportion of the Crop Values Generated for Each State That Are Due to the Use of Crop Protection Products by Major Crop Category

In order to derive a state-by-state figure as to the economic value of the incremental crop production realized due to the use of crop protection products, figures from Step 1 and 2 were multiplied. In other words, the three year total crop values from NASS were multiplied by the percentage attributable to crop protection figures derived from CPRI.

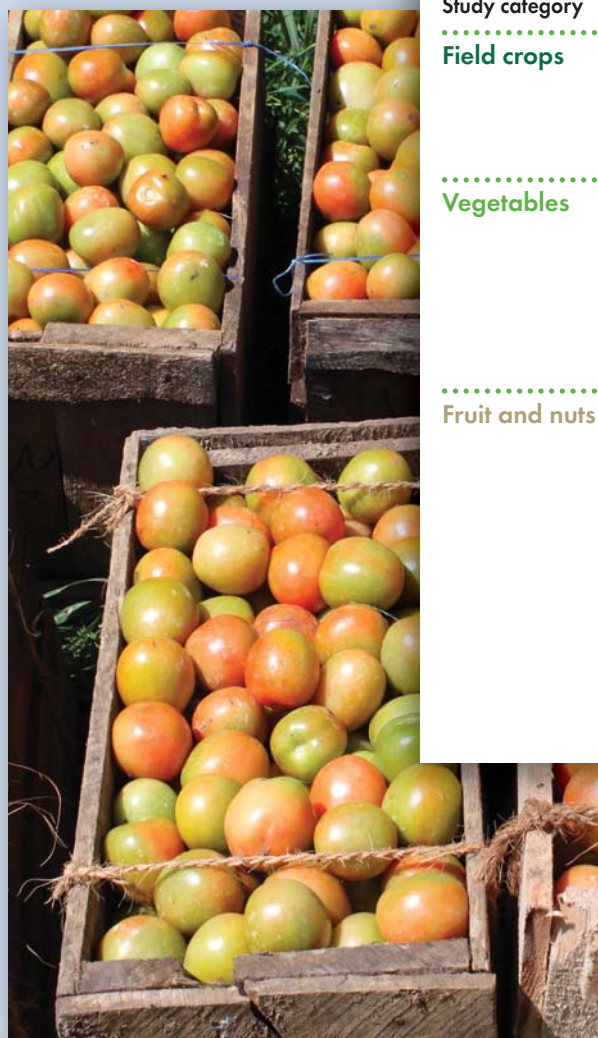


Table 1

Study category	Crops in study
Field crops	Corn, sorghum, oats, barley, wheat, rice, soybeans, peanuts, flaxseed, sunflower, potatoes, canola, upland cotton, hay, dry edible beans, chickpeas (garbanzo beans), dry edible peas, Austrian winter peas, and lentils
Vegetables	Artichokes (California), asparagus, beans (snap), broccoli, cabbage, cantaloupes, carrots, cauliflower, celery, corn (sweet), cucumbers, garlic, honeydew melon, lettuce (head), lettuce (leaf), lettuce (romaine), onions, peppers (bell), peppers (chili), pumpkins, spinach, squash, tomatoes, watermelons, beans (lima), and green peas
Fruit and nuts	Grapefruit, lemons, oranges, tangelos, tangerines and mandarins, apples, apricots, avocados, bananas, blackberries, blueberries (cultivated, wild), boysenberries, cherries (sweet), cherries (tart), cranberries, dates, figs, grapes, guavas, kiwifruit, loganberries, nectarines, olives, papayas, peaches, pears, plums, prunes (dried), prunes and plums, raspberries (black, red, all), and strawberries Almonds (shelled), hazelnuts (in-shell), macadamia (in-shell), pecans (in-shell), pistachios (in-shell), and walnuts (in-shell)

II. Findings

Crop Values in General

A significant portion of the crop value realized for all three crop categories was derived because of the use of crop protection products. The field crops tended to gain most of the added crop protection benefit due to the use of weed control products. The fruit/nut and vegetable sectors tended to see enhanced crop value due to the use of insect control and disease control products.

Results for each of the crop categories are reported in three tables which follow - one table each for field crops, nut/fruit and vegetables respectively. Results show there was an additional \$51.4 billion in value derived from the use of crop protection products in field crops, \$18.9 billion in fruit and nuts, and \$11.4 billion in vegetables, for a total of approximately \$82 billion in added crop value.

Note that historically, the use of fungicides and insecticides on fruit and vegetables started very early from a historical perspective. All the apples were sprayed with insecticides in 1900. There never has been large scale fruit and vegetable production in the U.S. without fungicides and insecticides.

Added Value to Field Crops Arising From the Use of Crop Protection Products

About 36 percent of the total value of field crop production (\$51.4 billion of the \$141.3 billion) can be attributed to the use of crop protection products across the U.S. for the basket of field crops examined (see Table 2(a)). Also with respect to field crops, in approximately two-thirds of the states, the herbicide category was the crop protection category that attributed the most crop value. More than \$1 billion per state in value was realized from the use of crop protection products for field crops for 21 of the states, and more than \$2 billion per state was realized for seven states (largely in the Great Plains, upper Midwest).

Table 2 (α) Field Crop Values by State and the Proportion of the Value Growers Realized Through Use of Crop Protection Products

State	Three Year Average Crop Value (\$1,000) from NASS	% Value Attributable (From CPRI) to —				Direct Economic Value Contributed to State due to Incremental Crop Value from Crop Protection (\$000)
		Insecticide Use	Fungicide Use	Herbicide Use	All CPP	
Alabama	\$758,937	12%	45%	33%	90%	\$682,057
Arizona	\$723,569	12%	3%	26%	41%	\$298,472
Arkansas	\$3,631,858	13%	7%	32%	51%	\$1,858,785
California	\$3,834,720	12%	6%	32%	51%	\$1,939,218
Colorado	\$2,212,118	6%	14%	30%	49%	\$1,089,689
Connecticut	\$38,675	10%	n/a	n/a	10%	\$3,713
Delaware	\$198,626	7%	23%	20%	51%	\$101,617
Florida	\$955,737	60%	48%	41%	100%	\$955,737
Georgia	\$1,741,089	51%	31%	35%	100%	\$1,741,089
Hawaii	\$78,256					\$-
Idaho	\$2,887,607	7%	32%	30%	69%	\$1,978,299
Illinois	\$14,175,254	3%	5%	16%	23%	\$3,329,767
Indiana	\$7,087,728	3%	4%	15%	22%	\$1,580,563
Iowa	\$15,333,560	3%	1%	14%	18%	\$2,758,507
Kansas	\$7,343,288	3%	1%	15%	19%	\$1,395,225
Kentucky	\$2,322,890	3%	2%	23%	27%	\$629,968
Louisiana	\$1,821,947	13%	6%	32%	52%	\$943,404
Maine	\$204,750	44%	100%	30%	100%	\$204,750
Maryland	\$559,077	7%	16%	17%	40%	\$222,625
Massachusetts	\$45,355	35%	58%	30%	100%	\$45,355

State	Three Year Average Crop Value (\$1,000) from NASS	% Value Attributable (From CPRI) to —				Direct Economic Value Contributed to State due to Incremental Crop Value from Crop Protection (\$000)
		Insecticide Use	Fungicide Use	Herbicide Use	All CPP	
Michigan	\$3,184,879	9%	24%	22%	55%	\$1,738,307
Minnesota	\$10,254,924	6%	20%	19%	45%	\$4,618,818
Mississippi	\$1,896,532	12%	3%	28%	43%	\$822,715
Missouri	\$5,146,659	4%	3%	25%	32%	\$1,658,254
Montana	\$2,051,697	2%	3%	30%	35%	\$708,041
Nebraska	\$10,130,052	4%	3%	17%	24%	\$2,468,694
Nevada	\$249,147	4%	12%	30%	46%	\$114,757
New Hampshire	\$22,628	10%			10%	\$2,172
New Jersey	\$112,772	9%	27%	23%	59%	\$66,490
New Mexico	\$398,708	4%	11%	32%	47%	\$187,632
New York	\$974,546	11%	35%	25%	72%	\$697,483
North Carolina	\$2,446,086	12%	17%	27%	56%	\$1,377,14
North Dakota	\$6,535,686	6%	11%	16%	32%	\$2,114,948
Ohio	\$5,083,058	3%	4%	15%	22%	\$1,109,123
Oklahoma	\$1,728,329	6%	19%	35%	60%	\$1,037,516
Oregon	\$1,155,997	15%	28%	22%	64%	\$744,925
Pennsylvania	\$1,914,305	6%	20%	20%	46%	\$879,049
Rhode Island	\$4,616	36%			36%	\$1,671
South Carolina	\$603,941	16%	4%	24%	44%	\$265,915
South Dakota	\$5,764,648	3%	4%	14%	21%	\$1,224,411
Tennessee	\$1,708,033	6%	6%	24%	36%	\$617,283
Texas	\$6,096,737	6%	6%	30%	42%	\$2,569,775
Utah	\$399,660	4%	8%	30%	42%	\$166,538
Vermont	\$77,550	10%			10%	\$7,445
Virginia	\$901,041	9%	33%	29%	72%	\$644,605
Washington	\$2,485,574	23%	27%	22%	71%	\$1,773,706
West Virginia	\$123,883	4%	1%	14%	19%	\$23,612
Wisconsin	\$3,530,991	7%	23%	28%	58%	\$2,031,732
Wyoming	\$390,845	2%	n/a	n/a	2%	\$6,996
USA	\$141,328,565					\$51,438,600

Added Value to Nut/Fruit Crops Arising From the Use of Crop Protection Products

A major portion of the \$18.8 billion in the group of fruit and nut crops examined is attributable to crop protection products across the U.S. (see Table 2(b)). Unlike field crops, where herbicide use was the most important factor, much of the size of the value of crops that make up this basket of commodities was attributable to the use of insecticides and fungicides. The states that received the biggest benefits in terms of added crop value in the nut fruit category were California, Washington State and Florida. California's \$11.8 billion nut/fruit industry is of this scope almost totally because of the value generated by the use of pest control products. Florida's \$2 billion and Washington State's \$2.2 billion industries are entirely attributable to the use of crop protection products as well.

Table 2 (b) Nut/Fruit Crop Values by State and the Proportion of the Value Growers Realized Through Use of Crop Protection Products

State	Three Year Average Crop Value (\$1,000) from NASS	% Value Attributable (From CPRI) to —				Direct Economic Value Contributed to State due to Incremental Crop Value from Crop Protection (\$000)
		Insecticide Use	Fungicide Use	Herbicide Use	All CPP	
Alabama	\$18,107	78%	57%	7%	100%	\$18,107
Arizona	\$85,545	49%	11%	0%	59%	\$50,668
Arkansas	\$8,065	93%	64%	6%	100%	\$8,065
California	\$11,871,831	47%	58%	5%	100%	\$11,871,831
Colorado	\$24,028		2%		2%	\$481
Connecticut	\$12,416	93%	95%	9%	100%	\$12,416
Delaware			23%		23%	\$ -
Florida	\$1,993,629	71%	55%	2%	100%	\$1,993,629
Georgia	\$223,044	68%	77%	25%	100%	\$223,044
Hawaii	\$55,121		68%		68%	\$37,460
Idaho	\$24,273	99%	60%	9%	100%	\$24,273
Illinois	\$29,659	92%	88%	9%	100%	\$29,659
Indiana	\$13,670	88%	54%	9%	100%	\$13,670
Iowa	\$2,301					\$ -
Kansas	\$2,817		58%	9%	68%	\$1,911
Kentucky	\$6,335	93%	89%	9%	100%	\$6,335
Louisiana	\$8,455	60%	43%	7%	100%	\$8,455
Maine	\$58,837	82%	64%	37%	100%	\$58,837
Maryland	\$1,692	93%	67%	9%	100%	\$11,692
Massachusetts	\$125,073	86%	99%	40%	100%	\$125,073

State	Three Year Average Crop Value (\$1,000) from NASS	% Value Attributable (From CPRI) to —				Direct Economic Value Contributed to State due to Incremental Crop Value from Crop Protection (\$000)
		Insecticide Use	Fungicide Use	Herbicide Use	All CPP	
Michigan	\$338,452	86%	78%	32%	100%	\$338,452
Minnesota	\$14,129					\$ -
Mississippi	\$11,103	64%	34%		98%	\$10,902
Missouri	\$21,380	96%	71%	8%	100%	\$21,380
Montana	\$3,184					\$ -
Nebraska						\$ -
Nevada						\$ -
New Hampshire	\$12,556	93%	99%	9%	100%	\$12,556
New Jersey	\$148,337	83%	68%	42%	100%	\$148,337
New Mexico	\$112,943	50%			50%	\$56,923
New York	\$320,452	83%	74%	9%	100%	\$320,452
North Carolina	\$108,188	70%	57%	28%	100%	\$108,188
North Dakota						\$ -
Ohio	\$52,356	85%	81%	9%	100%	\$52,356
Oklahoma	\$17,210	46%	43%	7%	96%	\$16,437
Oregon	\$451,237	58%	75%	26%	100%	\$451,237
Pennsylvania	\$136,409	77%	82%	9%	100%	\$136,409
Rhode Island	\$1,542	93%	100%	9%	100%	\$1,542
South Carolina	\$74,744	95%	91%	7%	100%	\$74,744
South Dakota						\$ -
Tennessee	\$3,389	93%	82%	8%	100%	\$3,389
Texas	\$166,139	49%	36%	1%	86%	\$143,045
Utah	\$16,512					
Vermont	\$11,793	93%	99%	9%	100%	\$11,793
Virginia	\$52,512	93%	89%	9%	100%	\$52,512
Washington	\$2,168,110	86%	74%	10%	100%	\$2,168,110
West Virginia	\$14,126	94%	89%	9%	100%	\$14,126
Wisconsin	\$237,662	35%	50%	41%	100%	\$237,662
Wyoming						\$ -
USA	\$19,069,361					\$18,876,158

Added Value to Vegetable Crops Arising From the Use of Crop Protection Products

With respect to vegetable production (see Table 2 (c)), 91 percent of the \$12.6 billion U.S. total for the basket of vegetables examined was due to the use of modern crop protection chemistry. The biggest two beneficiaries were California and Florida, with California receiving a \$6.1 billion boost on crop value owing to crop protection products in vegetable production, and Florida receiving a \$1.5 billion increase in crop value due to the products.

Table 2 (c) Vegetable Crop Values by State and the Proportion of the Value Growers Realized Through Use of Crop Protection Products

State	Three Year Average Crop Value (\$1,000) from NASS	% Value Attributable (From CPRI) to —				Direct Economic Value Contributed to State due to Incremental Crop Value from Crop Protection (\$000)
		Insecticide Use	Fungicide Use	Herbicide Use	All CPP	
Alabama	\$26,734	81%	41%	26%	100%	\$26,734
Arizona	\$799,021	52%	34%	9%	95%	\$762,745
Arkansas	\$13,213	85%	27%	22%	100%	\$13,213
California	\$6,457,736	46%	25%	22%	94%	\$6,085,770
Colorado	\$105,619	10%	16%	27%	53%	\$56,411
Connecticut	\$10,313	22%	1%	23%	46%	\$4,693
Delaware	\$41,564	45%	0%	23%	67%	\$27,873
Florida	\$1,506,802	73%	84%	23%	100%	\$1,506,802
Georgia	\$494,921	55%	49%	30%	100%	\$494,921
Hawaii						\$ -
Idaho	\$66,250	9%	10%	11%	29%	\$19,352
Illinois	\$52,179	49%	12%	21%	83%	\$43,183
Indiana	\$94,153	41%	56%	26%	100%	\$94,153
Iowa	\$2,734					\$ -
Kansas						\$ -
Kentucky						\$ -
Louisiana		45%			45%	\$ -
Maine	\$4,575	17%			17%	\$789
Maryland	\$40,954	36%	20%	25%	81%	\$32,981
Massachusetts	\$16,199	37%	21%	22%	81%	\$13,116

State	Three Year Average Crop Value (\$1,000) from NASS	% Value Attributable (From CPRI) to —				Direct Economic Value Contributed to State due to Incremental Crop Value from Crop Protection (\$000)
		Insecticide Use	Fungicide Use	Herbicide Use	All CPP	
Michigan	\$251,049	32%	31%	19%	82%	\$205,057
Minnesota	\$153,351	27%	30%	5%	63%	\$96,059
Mississippi	\$4,361	45%			45%	\$1,962
Missouri	\$11,572					\$ -
Montana		3%	18%	2%	24%	\$ -
Nebraska		3%	7%	2%	13%	\$ -
Nevada	\$68,986					\$ -
New Hampshire	\$5,683	10%			10%	\$588
New Jersey	\$130,657	38%	45%	18%	100%	\$130,657
New Mexico	\$109,607	9%	11%	19%	39%	\$42,977
New York	\$401,247	32%	24%	25%	81%	\$326,856
North Carolina	\$149,596	48%	34%	29%	100%	\$149,596
North Dakota		32%	28%	2%	62%	\$ -
Ohio	\$181,998	23%	40%	23%	87%	\$158,302
Oklahoma	\$4,441	17%			17%	\$764
Oregon	\$208,190	39%	9%	35%	83%	\$173,255
Pennsylvania	\$91,855	34%	14%	22%	70%	\$64,234
Rhode Island	\$2,255	17%			17%	\$389
South Carolina	\$62,608	62%	43%	27%	100%	\$62,608
South Dakota						\$ -
Tennessee	\$58,786	38%	29%	22%	89%	\$52,267
Texas	\$273,878	42%	36%	29%	100%	\$273,878
Utah	\$8,826	9%	0%	38%	47%	\$4,150
Vermont	\$2,677	17%			17%	\$462
Virginia	\$70,522	49%	18%	24%	90%	\$63,815
Washington	\$423,317	32%	12%	44%	88%	\$373,239
West Virginia						\$ -
Wisconsin	\$187,685	30%	9%	18%	57%	\$107,825
Wyoming		3%	7%	2%	12%	\$ -
US	\$12,596,114					\$11,471,676



**Value Created in the Wider
Economy Due to Producers'
Use of Crop Protection Products**

2



Additional crop value generated through the use of crop protection products on the farm adds value to the economy in and of itself. But these incremental gains also create spin-off benefits far beyond the farm gate.

It is well-accepted that primary economic activities result in spin-off benefits to other members of society who may not be directly involved in that activity. For instance, when a farmer produces and sells a ton of corn, apples or almonds, this sets off a chain of subsequent activities through the economy. The buyer of the product may use it to produce refined goods and that buyer then sells the refined goods to an end user.



I. Methodology

One way of quantifying the benefits of a basic activity (such as crop production) is to perform a standard input-output analysis using a credible model. Such a model measures the impacts through the broader economy of a specific activity as that activity changes.

For the purposes of this study, demand shocks were modelled separately for the field crop sector, the nut and fruit sector and the vegetable production sector (fruit/vegetable crops) into standard input-output (I/O) models utilized by the U.S. Bureau of Economic Assessment (BEA). The purpose was to examine the knock-on effects on the broader economy of the incremental crop production that is attributable to growers' access to and use of crop protection products in their farming systems.

Central to the analysis technique is the administration of the multiplier concept. The U.S. BEA calculates and updates multipliers for a broad number of industries across the U.S. Regional Input-Output Multipliers (RIMS II) estimate the indirect economic impacts of changes in one industry on other industries.

Three types of RIMS II were obtained to assess the contribution of crop protection to various U.S. industries: output, earnings, and employment.

- Multipliers for *output* represent the change in output of each industry that results from a \$1 increase in output of value in field crops, vegetables, or fruit and nuts due to crop protection products.
- Multipliers for *employment* represent the number of jobs created in the row industry by a \$1 million increase in crop value due to use of crop protection products.
- Multipliers for *earnings* represent the change in the total amount earned by those employed in the row industry resulting from a \$1 increase in the value of crops grown in the state attributable to crop protection methods.

Each of these three multipliers were obtained in order to assess the impact of value increases that result from the use of crop protection products as that value ripples through the other key industries. This was accomplished on a state-by-state basis. Each state has its own mix of field crops, nut/fruit crops and vegetable crop production and the 2008, 2009 and 2010 average values by category were used (source NASS) on a state-by-state basis in order to power the analysis. The key industries assessed were as follows:

- Accommodation
- Administrative and waste management services
- Agriculture, forestry, fishing, and hunting
- Arts, entertainment, recreation
- Construction
- Educational services
- Finance and insurance
- Food services/drinking places
- Health care and social assistance
- Households
- Information
- Management of companies and enterprises
- Manufacturing
- Mining
- Professional, scientific and technical services
- Real estate, rentals and leasing
- Retail trade
- Utilities
- Wholesale trade
- Other services



II. Findings

Table 3 gives a summary of the benefits accrued due to the production of added crop value on the farm, as that production moves through the economy, creating further output, jobs and earnings for workers. Impacts of the additional crop production that resulted in each U.S. state are presented in Appendix 1 (alphabetically by state). There are two tables for each state.

As an example, note that in Alabama, the direct benefits increased crop value as a result of the use of crop protection products in the mix of field crops, nut/fruit and vegetable crops grown in that state, added up to \$726 million (see page 26 - Alabama). That added wealth in turn created wealth and employment in the 20 other industries measured and modelled. It resulted in an additional \$794.3 million in output within the agricultural/hunting/forestry/fishing industry, \$133.4 million in real estate, rentals and leasings, \$22.9 million in output within the professional field (legal, accounting, etc), and \$135.7 million in manufacturing. This output resulted in a total of 11,081 jobs in Alabama, earning \$272.6 million for citizens in that state.

Table 3 State by State Summary of the Spin-Off Benefits Due to the Use of Crop Protection Products Through the Larger Economy

State/Jurisdiction	Rank	Economic Spin-offs Arising from the Added Crop Value that Occurs Due to the Use of Crop Protection Products		
		Additional Economic Output	Jobs	Earnings by U.S. Workers
Alabama	28	\$1,461,246,281	11,081	\$272,635,051
Arizona	23	\$2,133,048,080	17,410	\$457,393,419
Arkansas	16	\$3,740,392,398	21,710	\$662,988,887
California	1	\$40,859,859,447	256,794	\$9,863,409,044
Colorado	22	\$2,435,760,886	15,326	\$460,855,983
Connecticut	46	\$34,102,705	313	\$7,283,583
Delaware	41	\$230,591,490	941	\$35,779,989
Florida	4	\$8,635,075,840	80,803	\$1,999,240,890
Georgia	9	\$4,921,505,406	30,640	\$1,016,936,907
Hawaii	44	\$63,723,989	836	\$15,692,187
Idaho	12	\$4,430,264,973	25,426	\$835,220,468
Illinois	5	\$7,659,637,833	32,154	\$1,422,755,259
Indiana	17	\$3,361,114,067	15,937	\$585,017,373
Iowa	8	\$5,176,063,248	24,543	\$892,928,839
Kansas	37	\$476,739,812	2,275	\$78,084,872
Kentucky	32	\$1,292,446,028	10,683	\$231,506,638
Louisiana	26	\$1,960,721,077	12,607	\$356,628,199
Maine	38	\$463,163,058	3,694	\$91,212,883
Maryland	36	\$485,023,577	3,245	\$84,779,073
Massachusetts	40	\$321,295,331	2,722	\$70,894,031
Michigan	13	\$4,303,928,946	29,122	\$829,283,152
Minnesota	2	\$9,658,847,376	45,437	\$1,721,860,142
Mississippi	27	\$1,678,604,018	12,568	\$296,767,122
Missouri	14	\$3,760,922,008	24,573	\$660,979,174
Montana	29	\$1,396,751,988	11,297	\$249,796,777

State/Jurisdiction	Rank	Economic Spin-offs Arising from the Added Crop Value that Occurs Due to the Use of Crop Protection Products		
		Additional Economic Output	Jobs	Earnings by U.S. Workers
Nebraska	11	\$4,450,807,962	19,911	\$748,014,206
Nevada	42	\$194,375,322	1,085	\$32,143,422
New Hampshire	48	\$25,140,416	204	\$5,503,620
New Jersey	34	\$631,772,868	5,122	\$131,707,384
New Mexico	35	\$507,427,943	3,470	\$99,537,801
New York	21	\$2,655,453,716	20,947	\$525,331,580
North Carolina	7	\$5,500,187,865	32,101	\$994,993,612
North Dakota	15	\$3,756,359,125	15,220	\$618,622,287
Ohio	20	\$2,700,133,219	21,683	\$501,980,611
Oklahoma	24	\$2,131,215,013	13,013	\$381,251,993
Oregon	18	\$3,225,218,308	29,436	\$691,017,302
Pennsylvania	19	\$3,161,952,032	24,954	\$663,468,401
Rhode Island	49	\$5,858,849	41	\$1,128,514
South Carolina	33	\$789,847,240	7,158	\$156,069,030
South Dakota	25	\$2,069,867,201	8,593	\$340,019,001
Tennessee	31	\$1,350,195,223	7,651	\$242,531,701
Texas	6	\$6,877,385,519	39,838	\$1,349,373,620
Utah	39	\$349,737,624	2,399	\$64,563,548
Vermont	47	\$33,745,867	354	\$7,317,231
Virginia	30	\$1,382,547,902	7,789	\$243,062,402
Washington	3	\$8,779,103,585	64,274	\$1,930,310,862
West Virginia	45	\$62,524,156	430	\$11,625,670
Wisconsin	10	\$4,787,903,669	32,949	\$911,271,126
Wyoming	43	\$85,693,421	493	\$14,283,176
USA TOTAL		\$166,455,283,904	\$1,051,253	\$33,865,058,043



**Other Value Created by the
Crop Protection Industry:
Trade Balances, the Environment
and Affordable Food**

3



Contribution of Crop Protection Products – Incremental Production Compared to the U.S. Trade Balance

An important part of U.S. export revenue (roughly 10 percent) comes from agricultural exports. While the overall U.S. trade balance has been consistently negative since the 1990s, the balance for agricultural products has been invariably positive over this period, contributing an average of \$23.7 billion per year (2006-10) to offset the overall U.S. trade balance.

It is useful to put the American trade balance in context with respect to the contribution of modern crop protection to wealth generation within the country:

- Over the past five years, American growers have produced enough of the set of grains, oilseeds, fruit and vegetables that constitute this study, to export an average of \$98 billion of food annually (largely, though not exclusively as grains and field crops).
- During that same time period, the U.S. imported \$74 billion in food: largely vegetables, fruit, and fish.
- The net U.S. food trade balance has therefore been positive over the past five years at an annual average of \$24 billion.

We know that conservatively, \$105 billion in crops are grown owing to the use of crop protection products. To be even-handed, it is important to also net out the \$534 million in pesticides that are imported on average into the country each year.

After accounting for this, one can say that virtually all of the \$98 billion of exports can be ascribed to the value generated from the use of crop protection products.

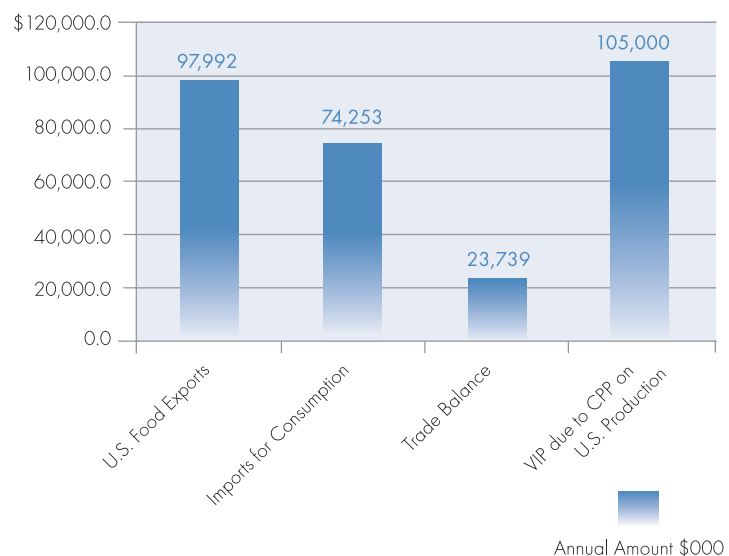
Contribution of Crop Protection Products to Affordable Food for U.S. Families

In order to assess the role of crop protection methods in food affordability, it is useful to compare prices for a 'basket' of food grown under conventional agricultural methods to prices for foods grown without crop protection, using organic production as the closest possible proxy to non-use. Organic production tends to extract a premium in the marketplace, arguably because of (a) supply versus demand forces; and (b) the higher cost of organic production per unit of food, which requires a higher price to be attained in order to compensate the producer.

Two sources were used to examine the impact of crop protection on the family grocery bill. Both studies done by the U.S. Department of Agriculture, one source compares the monthly retail prices of several conventionally and organically-produced food items, while the other compares the monthly wholesale prices of conventionally and organically-produced

Table 4 Value of Incremental Crop Production Arising Out of the Use of Crop Protection Products versus U.S. Food Trade Balances

US Food Trade Balance in Perspective with Value of Incremental Production owing to Use of CPP's by U.S. Growers



fruits and vegetables. Each study is then compared to a 2009 Bureau of Labor Statistics study that estimates the average annual expenditure of American families on grocery items, using the data provided for the expenditures of a family of four on fruits, vegetables and cereal products.

Source #1: Impact of Crop Protection on Retail Prices of Food The first data source used to compare organic to conventional cost of food is a USDA study listing the average monthly retail cost of several grocery items over three years (2006 to 2008). For each month, the study compares the price of rice, strawberries, spinach, salad mix, and carrots grown using conventional production methods to the price of the same goods grown organically.

These monthly prices were used to calculate an average yearly conventional and organic price for each item as well as an average price for the three years. An average ratio for the cost of organic vs. conventionally-grown food was then derived for each product as well as for the three vegetable items together (salad mix, spinach and carrots), for fruit and vegetables together, and for the five items overall.

Table 5 Modeled Expenditures on Grocery Items Based on Retail Prices

Grocery Item (USDA)	Organic to Conventional Price Ratio (2004-2006 Average)	Grocery Item (Bureau of Labour Statistics 2009)	Average Annual Expenditures of a Family in USA (BLS 2009)	Modelled Price if Not for the Use of Modern Crop Protection	Percent Savings in Grocery Bills Due to Modern Crop Protection
Carrots	1.35413	Vegetables (fresh)	\$280	\$379.16	26.15%
Spinach	1.68651	Vegetables (fresh)	\$280	\$472.22	40.71%
Salad Mix	2.25187	Vegetables (fresh)	\$280	\$630.52	55.59%
Vegetable Average	1.76417	Vegetables (fresh)	\$280	\$493.97	43.32%
Strawberries	1.75764	Fruit (fresh)	\$318	\$558.93	43.11%
Average (All Produce)	1.83056	Fresh fruit and vegetables	\$598	\$1,094.68	45.37%
Rice	3.20555	Cereals and Cereal Products	\$263	\$843.06	68.80%
All Products	1.92006	Cereal products and fresh fruit and vegetables	\$861	\$1,653.17	47.92%

Average Retail Prices and Standard Deviations of Grocery Items, 2004-2006

Grocery Item (USDA 2006)	Average Annual Organic Price (2004-2006) \$/lb	Standard Deviation \$/lb	Average Annual Conventional Price (2004-2006) \$/lb	Standard Deviation \$/lb
Carrots	2.12	0.30	1.57	0.06
Spinach	6.87	2.56	4.07	0.44
Salad Mix	8.34	0.54	3.70	0.13
Strawberries	5.79	1.90	3.29	0.55
Rice	2.82	1.05	0.88	0.05

The ratios were then applied to data from the 2009 BLS Annual Consumer Expenditure Survey. The prices of fruits, vegetables, fruits and vegetables together, cereals, and all grocery products were projected by calculating current expenditures on each product to the individual organic to conventional price ratios of salad mix, spinach, carrots, strawberries, and rice as well as to the average ratio for all three vegetables, for fruits and vegetables together, and for the grocery items overall (see table 5).

Using this data, the average savings resulting from the use of conventional crop protection techniques for an American family of four is 47.92 percent overall. Average savings on fruit (based on the ratio calculated for strawberries) is 43.11 percent, average saving for vegetables (based on the ratios calculated for carrots, spinach, and salad mix) is 43.32 percent, and 45.37 percent is saved on produce overall. Savings on rice (the cereal product surveyed) are even higher, reaching 68.8 percent.

Furthermore, a closer look at the data itself reveals much higher fluctuations of the prices of organic food.

While standard deviations for the prices of each product grown using conventional methods remained relatively low, the standard deviations for the prices of each organically grown product was often several times higher (Table 5-7).

This tendency for the prices of fruits, vegetables, and cereals grown using modern crop protection methods to remain more stable is perhaps indicative that along with being more cost-efficient, modern pest management methods also contribute to the reliability of the U.S.'s food supply and food prices.

Source #2: Impact of Crop Protection on Wholesale Prices of Food The second source used is a comprehensive survey by USDA on the retail costs of cereal products, vegetables and fruits, and was conducted in the Boston and San Francisco areas over the course of four years. Prices were surveyed monthly for both organic and conventionally-grown vegetables and fruits. Costs listed in this survey were used to arrive at an average ratio of the cost of each item grown with crop protection products versus without the use of modern crop protection techniques as well as a ratio for the cost of fruits, vegetables, and produce overall grown.

Assuming a linear relationship between the price paid wholesale for fruits and vegetables and the retail price, these numbers were then applied to the average annual expenditure of an American family of four on fruit and vegetables as detailed in the 2009 BLS Consumer Expenditure Survey. If a correlation between wholesale and retail prices can be assumed, the data from this source also shows an overall savings on produce for families in the U.S.

Over four years, the average modelled savings of a family of four is 35.05 percent on fresh fruit, 45.54 percent on fresh vegetables, and 40.71 percent on fruit and vegetables overall.

It should also be noted that, as with the retail prices, prices of conventionally grown fruits and vegetables tended to fluctuate somewhat less widely than those of their organically grown counterparts (Table 5).

Contribution of Crop Protection Products to the Environment

Retention of Forests and Non-Agricultural Lands: Production Up Four-Fold While Acreage Base Remains Flat

The U.S. has transitioned from a primarily agricultural society to one in which less than 2 percent of the population is required to produce the food that we either consume or trade internationally. Doing so required massive increases in efficiencies so that the few people who remained on the farm could produce the food the rest of the population requires. Most Americans know this but they likely do not realize that



Table 6 Modelled Savings Per Grocery Item Based on the Year 2008

Grocery Item (USDA 2008)	Organic to Conventional Price Ratio (Un-weighted Average) (USDA 2008)	Grocery Item (Bureau of Labour Statistics 2009)	Expenditures per Family of Four per Year in USA (BLS 2009)	Modelled Price if Not for the Use of Modern Crop Protection	Percent Savings in Grocery Bills Due to Modern Crop Protection
Apples	1.51268	Fresh Fruit	\$318	\$443.21	33.89%
Avocados	1.53011	Fresh Fruit	\$318	\$448.32	34.65%
Raspberries	1.15806	Fresh Fruit	\$318	\$339.31	13.65%
Strawberries	1.68072	Fresh Fruit	\$318	\$492.45	40.50%
Bananas	1.25048	Fresh Fruit	\$318	\$366.39	20.03%
Oranges	1.96365	Fresh Fruit	\$318	\$575.35	49.07%
Pears	1.56291	Fresh Fruit	\$318	\$457.93	36.02%
Average (all fruit)	1.52266	Fresh Fruit	\$318	\$446.14	34.33%
Artichoke	1.52645	Fresh Vegetables	\$280	\$418.25	34.49%
Cauliflower	1.95993	Fresh Vegetables	\$280	\$537.02	48.98%
Spinach	1.84073	Fresh Vegetables	\$280	\$504.36	45.67%
Sweet Potatoes	1.91296	Fresh Vegetables	\$280	\$524.15	47.72%
Peas	2.55139	Fresh Vegetables	\$280	\$699.08	60.81%
Tomatoes	1.82266	Fresh Vegetables	\$280	\$499.41	45.14%
Average (all vegetables)	1.93569	Fresh Vegetables	\$280	\$530.38	48.34%
All fruit and vegetables	1.71329	Fresh Fruit and Vegetables	\$598	\$938.88	41.63%

Average Modelled Savings on Produce (2005-2008)

Grocery Item (USDA 2008)	Expenditures per Family per Year (BLS 2009)	Organic to Conventional Price Ratio (USDA 2008)	Modelled Price if Not for the Use of Modern Crop Protection	Percent Savings in Grocery Bills due to Modern Crop Protection
Fresh Fruit	\$318	1.53970	\$451.13	35.05%
Fresh Vegetables	\$280	1.83615	\$503.11	45.54%
Fresh Fruit & Vegetables	\$598	1.68664	\$924.28	40.71%
Fruit & Vegetables (includes processed fruit & vegetables)	\$921	1.68664	\$1,438.70	40.71%

Table 7 Average Retail Prices and Standard Deviations of Product, 2008

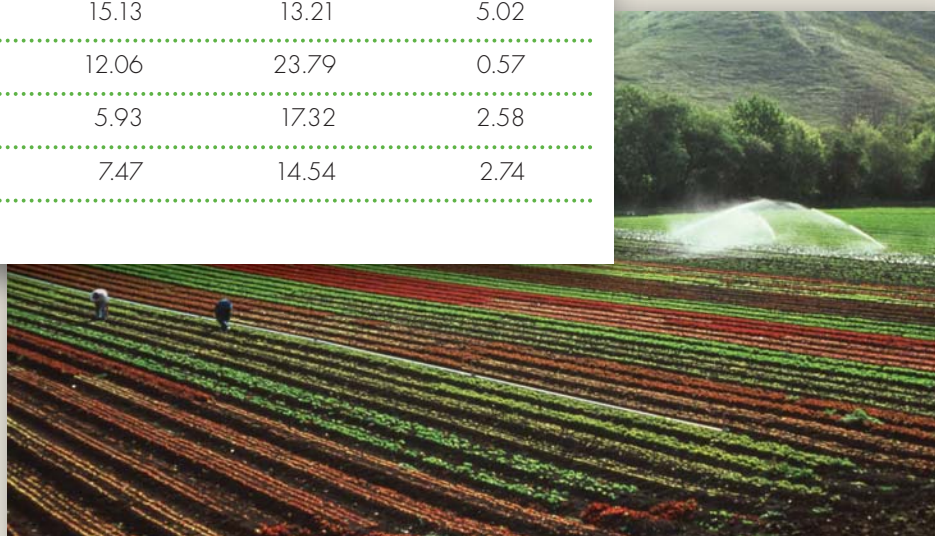
Grocery Item (USDA 2008)	Average Organic Price (\$/purchase unit)	Standard Deviation (\$/purchase unit)	Average Conventional Price (\$/purchase unit)	Standard Deviation (\$/purchase unit)
Apples	49.70	11.33	32.86	6.80
Avocados	64.17	1.65	41.94	0.43
Raspberries	24.03	4.38	20.75	3.26
Strawberries	24.93	9.90	14.83	5.71
Bananas	24.48	2.23	19.57	3.67
Oranges	27.24	1.60	13.87	3.12
Pears	47.08	6.76	30.13	1.98
Artichoke	42.17	7.27	27.63	6.11
Cauliflower	37.66	5.03	19.22	3.41
Spinach	24.31	15.13	13.21	5.02
Sweet Potatoes	45.52	12.06	23.79	0.57
Peas	44.18	5.93	17.32	2.58
Tomatoes	26.49	7.47	14.54	2.74

growers in the U.S. have also accomplished this without increasing the land base required to accomplish the task in the last 95 years. According to USDA data, total agricultural land use was 330 million acres in 1910, and it is still 330 million acres as of 2006 – this despite a massive increase in food production.

Technology has powered yield increases, with the main enhancements coming from (a) plant breeding, (b) fertilizer use and (c) the development of crop protection products. Enhancements in machinery and information technology have also added to yields.

There is no doubt that fertilizer use contributed to this gain. According to USDA ERS, since 1960, nitrogen nutrient use in the U.S. has quadrupled, U.S. phosphate consumption grew by 1.25 times and consumption of potash has grown by 1.43 times. Thus fertilizers play a clear part in the increases in yields we have seen on a per acre basis.

In 1951, herbicides were just being adopted widely following the introduction of 2, 4-D in the late 1940s. Crop protection products came into widespread use, helping to stabilize production so that more resources could be invested in better genetics. Corn yields rose four-fold from 1960 to 2000. According to USDA ERS, prior to that year, wheat yields – as measured by bushels per acre – were 16 bushels per acre on average. Starting in 1951, yields began a steady upward increase as growers began to adopt modern technologies with crop protection products allowing better pest control, pro-



viding relief when catastrophic insect infestations occurred, and allowing for enough yield stability to justify increased expenditures on fertilizer. Today in the U.S., one acre of wheat currently yields an average of 46 bushels of wheat.

American producers were able to meet world food demand, and today account for 70 percent of the world's exported corn. The USDA data on land use patterns show that farmers were able to achieve this production on the same acreage base. Trends found by USDA ERS show that net new land plowed, disturbed or cultivated and net deforestation due to agriculture have slightly decreased over a six decade period. (Use went from 381 mill of acres in 1951 to 330 million of acres in 2006.)

The Contribution of the Crop Protection Industry to Reductions in Fossil Fuel Use

It is difficult to assess and model fuel savings attained through the use of crop protection products over a time frame consisting of many decades. The fuel picture is confounded with trends that include major changes in fuel efficiency in farm machinery technology and scale of equipment.

It is, however, possible to examine fuel use in two major trends in order to get a sense of the degree of the contribution that modern crop protection has made to reductions in fossil fuel use in the U.S.

As tillage operations in crop fields are reduced or eliminated with the adoption of conservation tillage, fuel consumption declines. Fuel usage for no-till may decrease from 3.5 gal/acre (32.7 L per ha) to 5.7 gal/acre (53.3 L per ha) depending on the number of tillage trips reduced, clay and moisture content of the soil, and type of tillage operations eliminated. Conventional tillage uses 5.3 gal/acre, and no-till 1.4 gal/acre. For every gallon of diesel fuel saved, 3.72 lbs of CO₂ are not released.

According to the USDA, there was an average 279 million acres of land devoted to growing field crops (including special crops) for the period of 1990 through 2004 (<http://www.ers.usda.gov/Data/majorlanduses>). If we assume that conventional acres require 5.3 gallons per acre and that conservation tillage requires 3.3 gallons per acre, we can model the fuel saving achieved through the use of conservation tillage. At a two gallon per acre saving over 279 million acres, conservation tillage and no-till systems have led to a reduction of the use of fossil fuels in the U.S. per year of 558 million gallons.





**Appendix: State by State Ripple
Effects of the Incremental Benefit
Arising from Use of Crop Protection
Products to Enhance Production**



Incremental crop value due to the use of crop protection products - Impact on the Alabama economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 11,081 jobs with a payroll of \$272,635,050 and it adds \$1,461,246,280 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Alabama	90%	\$682,056,980.00
Nuts and Fruit	Alabama	100%	\$18,107,000.00
Vegetable Crops	Alabama	100%	\$26,734,330.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$794,319,014.55	5,688	\$109,247,262.51
Mining	\$6,501,723.33	21	\$1,429,565.26
Utilities*	\$32,394,240.52	77	\$6,289,098.73
Construction	\$11,568,538.80	129	\$4,312,064.40
Manufacturing	\$135,656,871.90	413	\$21,271,390.42
Wholesale trade	\$49,027,421.84	280	\$15,570,105.17
Retail trade	\$31,677,680.35	476	\$10,925,377.78
Transportation and warehousing*	\$39,497,623.65	293	\$12,108,756.55
Information	\$14,174,947.48	66	\$2,993,820.70
Finance and insurance	\$87,598,173.45	454	\$22,461,812.20
Real estate and rental and leasing	\$133,473,378.81	1,482	\$14,518,629.95
Professional, scientific, and technical services	\$22,945,412.43	206	\$10,815,781.69
Management of companies and enterprises	\$7,103,941.44	44	\$2,900,435.67
Administrative and waste management services	\$14,000,421.89	334	\$5,947,113.74
Educational services	\$5,829,757.31	118	\$2,477,834.32
Health care and social assistance	\$34,354,878.66	392	\$16,328,916.61
Arts, entertainment, and recreation	\$1,830,783.41	42	\$657,829.88
Accommodation	\$2,536,123.79	38	\$724,224.88
Food services and drinking places	\$12,681,745.89	288	\$4,029,500.10
Other services*	\$23,947,968.91	206	\$7,188,443.44
Households	\$ -	32	\$365,259.86
Total Industries	\$1,461,246,280.82	11,081	\$272,635,050.94

Incremental crop value due to the use of crop protection products - Impact on the Arizona economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 17,410 jobs with a payroll of \$457,393,419 and it adds \$2,133,048,080 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Arizona	41.25%	\$298,472,080.00
Nuts and Fruit	Arizona	59.23%	\$50,668,030.00
Vegetable Crops	Arizona	95.46%	\$762,745,130.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,239,825,270	10,651	\$221,476,606
Mining	\$4,905,850	21	\$1,153,066
Utilities*	\$47,284,840	115	\$10,676,944
Construction	\$15,435,779	137	\$5,983,734
Manufacturing	\$78,685,103	319	\$13,739,749
Wholesale trade	\$74,704,703	385	\$24,076,236
Retail trade	\$51,129,769	638	\$17,842,119
Transportation and warehousing*	\$43,211,730	333	\$14,444,195
Information	\$24,385,661	105	\$5,413,877
Finance and insurance	\$105,160,022	582	\$27,714,270
Real estate and rental and leasing	\$232,492,639	1,634	\$26,062,464
Professional, scientific, and technical services	\$40,437,343	365	\$19,298,350
Management of companies and enterprises	\$10,640,938	64	\$4,319,772
Administrative and waste management services	\$27,300,976	451	\$11,576,320
Educational services	\$9,289,449	124	\$3,911,866
Health care and social assistance	\$54,631,327	559	\$26,091,623
Arts, entertainment, and recreation	\$6,849,748	122	\$2,325,379
Accommodation	\$8,427,301	86	\$2,515,976
Food services and drinking places	\$21,470,533	375	\$6,931,089
Other services*	\$36,764,450	266	\$11,020,105
Households	\$ -	78	\$637,284
Total Industries	\$2,133,048,080	17,410	\$457,393,419

Incremental crop value due to the use of crop protection products - Impact on the Arkansas economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 21,710 jobs with a payroll of \$662,988,887 and it adds \$3,740,392,398 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Arkansas	51.18%	\$1,858,784,920.00
Nuts and Fruit	Arkansas	100.00%	\$8,065,000.00
Vegetable Crops	Arkansas	100.00%	\$13,213,330.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,234,049,754	9,224	\$302,940,609
Mining	\$22,810,131	119	\$4,859,696
Utilities*	\$79,853,917	211	\$15,838,091
Construction	\$26,441,608	288	\$9,563,595
Manufacturing	\$309,111,093	999	\$46,798,234
Wholesale trade	\$119,421,084	696	\$37,366,223
Retail trade	\$68,325,574	1,042	\$23,152,354
Transportation and warehousing*	\$103,151,005	742	\$30,400,380
Information	\$37,811,338	149	\$7,713,098
Finance and insurance	\$174,233,080	1,090	\$43,659,133
Real estate and rental and leasing	\$289,458,953	3,474	\$30,090,521
Professional, scientific, and technical services	\$33,306,823	354	\$15,804,852
Management of companies and enterprises	\$34,735,233	180	\$13,706,409
Administrative and waste management services	\$24,611,806	554	\$9,957,952
Educational services	\$11,094,055	224	\$4,699,128
Health care and social assistance	\$83,624,802	1,019	\$38,799,349
Arts, entertainment, and recreation	\$4,328,178	92	\$1,505,664
Accommodation	\$6,010,111	94	\$1,690,736
Food services and drinking places	\$24,656,181	572	\$7,904,845
Other services*	\$53,730,752	475	\$15,970,259
Households	\$ -	112	\$934,231
Total Industries	\$3,740,392,398	21,710	\$662,988,887

Incremental crop value due to the use of crop protection products - Impact on the California economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2) , it creates an additional 256,794 jobs with a payroll of \$9,863,409,044 and it adds \$40,859,859,447 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	California	50.57%	\$1,939,218,070.00
Nuts and Fruit	California	100.00%	\$11,871,831.00
Vegetable Crops	California	94.24%	\$6,085,770,410.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$22,487,079,153	141,118	\$4,872,789,416
Mining	\$176,223,956	460	\$36,760,232
Utilities*	\$733,342,750	1,440	\$156,426,520
Construction	\$262,105,101	1,945	\$101,426,475
Manufacturing	\$2,611,525,155	8,513	\$450,093,790
Wholesale trade	\$1,346,164,797	6,475	\$437,455,672
Retail trade	\$1,044,909,138	12,882	\$365,407,685
Transportation and warehousing*	\$770,189,743	6,271	\$282,865,898
Information	\$833,455,839	2,520	\$190,167,519
Finance and insurance	\$2,479,086,803	9,887	\$693,969,693
Real estate and rental and leasing	\$3,462,244,513	17,954	\$346,606,856
Professional, scientific, and technical services	\$1,061,466,764	6,998	\$507,260,028
Management of companies and enterprises	\$300,355,221	1,403	\$123,524,232
Administrative and waste management services	\$498,432,704	8,586	\$216,273,074
Educational services	\$196,494,438	2,682	\$82,924,934
Health care and social assistance	\$1,056,664,322	10,239	\$500,687,101
Arts, entertainment, and recreation	\$179,001,955	2,486	\$65,626,374
Accommodation	\$164,478,242	1,533	\$50,514,577
Food services and drinking places	\$446,727,621	7,224	\$144,598,756
Other services*	\$748,724,051	4,656	\$224,520,254
Households	\$ -	1,520	\$12,931,353
Total Industries	\$40,859,859,447	256,794	\$9,863,409,044

Incremental crop value due to the use of crop protection products - Impact on the Colorado economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 15,326 jobs with a payroll of \$460,855,983 and it adds \$2,435,760,886 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Colorado	49.26%	\$1,089,689,160.00
Nuts and Fruit	Colorado	2%	\$480,560.00
Vegetable Crops	Colorado	53.41%	\$56,411,290.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,277,781,079	6,892	\$165,340,245
Mining	\$22,429,905	61	\$4,730,254
Utilities*	\$40,925,735	95	\$8,478,328
Construction	\$20,060,891	175	\$7,705,628
Manufacturing	\$92,772,501	295	\$15,386,990
Wholesale trade	\$82,671,412	395	\$26,796,543
Retail trade	\$51,867,593	716	\$18,133,864
Transportation and warehousing*	\$54,207,372	388	\$17,766,999
Information	\$41,353,144	138	\$9,390,874
Finance and insurance	\$167,415,242	840	\$45,476,040
Real estate and rental and leasing	\$337,348,351	2,593	\$40,609,186
Professional, scientific, and technical services	\$53,564,380	433	\$25,632,741
Management of companies and enterprises	\$18,919,509	76	\$7,860,254
Administrative and waste management services	\$30,808,855	520	\$12,669,869
Educational services	\$9,138,945	143	\$3,772,483
Health care and social assistance	\$51,036,146	557	\$24,371,444
Arts, entertainment, and recreation	\$7,441,783	129	\$2,746,249
Accommodation	\$9,798,112	103	\$2,958,402
Food services and drinking places	\$22,353,794	400	\$7,218,156
Other services*	\$43,648,151	303	\$13,215,483
Households	\$ -	72	\$573,339
Total Industries	\$2,435,760,886	15,326	\$460,855,983

Incremental crop value due to the use of crop protection products - Impact on the Connecticut economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 313 jobs with a payroll of \$7,283,583 and it adds \$34,102,705 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Connecticut	9.6%	\$3,712,830.00
Nuts and Fruit	Connecticut	100.00%	\$12,416,330.00
Vegetable Crops	Connecticut	45.50%	\$4,692,570.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$21,054,063	232	\$3,926,206
Mining	\$5,747	0	\$841
Utilities*	\$779,171	1	\$164,145
Construction	\$167,821	1	\$61,740
Manufacturing	\$1,274,478	5	\$238,155
Wholesale trade	\$1,144,951	4	\$336,332
Retail trade	\$709,417	8	\$233,540
Transportation and warehousing*	\$469,903	4	\$164,326
Information	\$517,539	2	\$102,956
Finance and insurance	\$2,331,870	8	\$585,293
Real estate and rental and leasing	\$2,552,686	19	\$235,826
Professional, scientific, and technical services	\$665,637	4	\$293,364
Management of companies and enterprises	\$234,748	1	\$92,857
Administrative and waste management services	\$326,948	5	\$127,823
Educational services	\$135,606	2	\$55,681
Health care and social assistance	\$837,990	8	\$390,235
Arts, entertainment, and recreation	\$95,869	2	\$31,262
Accommodation	\$51,956	0	\$14,575
Food services and drinking places	\$259,699	4	\$79,212
Other services*	\$488,246	3	\$143,338
Households	\$ -	1	\$7,957
Total Industries	\$34,102,705	313	\$7,283,583

Incremental crop value due to the use of crop protection products - Impact on the Delaware economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 941 jobs with a payroll of \$35,779,989 and it adds \$230,591,490 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Delaware	51.16%	\$101,616,890.00
Nuts and Fruit	Delaware	23.38%	(NA)
Vegetable Crops	Delaware	67.06%	\$27,872,590.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$135,844,914	289	\$16,637,678
Mining	\$ -	0	\$ -
Utilities*	\$3,815,938	7	\$714,342
Construction	\$1,811,516	13	\$554,830
Manufacturing	\$9,613,396	17	\$1,085,737
Wholesale trade	\$6,538,520	23	\$1,605,495
Retail trade	\$4,131,877	49	\$1,179,342
Transportation and warehousing*	\$4,007,900	25	\$1,085,737
Information	\$2,116,253	7	\$362,571
Finance and insurance	\$16,836,401	58	\$3,380,427
Real estate and rental and leasing	\$27,593,009	280	\$2,873,268
Professional, scientific, and technical services	\$3,657,178	20	\$1,375,376
Management of companies and enterprises	\$1,444,533	5	\$439,277
Administrative and waste management services	\$2,359,321	35	\$801,847
Educational services	\$817,584	10	\$292,251
Health care and social assistance	\$4,417,916	40	\$1,776,968
Arts, entertainment, and recreation	\$391,256	6	\$119,328
Accommodation	\$289,464	3	\$74,906
Food services and drinking places	\$1,785,155	28	\$507,796
Other services*	\$3,135,096	23	\$858,230
Households	\$ -	4	\$41,634
Total Industries	\$230,591,490	941	\$35,779,989

Incremental crop value due to the use of crop protection products - Impact on the Florida economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 80,803 jobs with a payroll of \$1,999,240,890 and it adds \$8,635,075,840 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Florida	100.00%	\$955,737,330.00
Nuts and Fruit	Florida	100.00%	\$1,993,628,670.00
Vegetable Crops	Florida	100.00%	\$1,506,802,000.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$4,976,493,960	51,799	\$1,005,028,756
Mining	\$11,922,013	47	\$2,697,737
Utilities*	\$167,091,164	455	\$38,617,409
Construction	\$58,368,158	582	\$22,487,809
Manufacturing	\$363,853,531	1,367	\$62,762,833
Wholesale trade	\$284,150,570	1,532	\$91,814,673
Retail trade	\$220,852,300	3,009	\$77,219,702
Transportation and warehousing*	\$153,256,439	1,338	\$55,369,670
Information	\$135,902,238	557	\$30,073,911
Finance and insurance	\$531,225,251	2,963	\$143,768,389
Real estate and rental and leasing	\$818,853,394	5,882	\$86,125,467
Professional, scientific, and technical services	\$188,598,817	1,738	\$91,692,832
Management of companies and enterprises	\$43,991,211	231	\$18,160,076
Administrative and waste management services	\$107,151,417	2,182	\$46,128,354
Educational services	\$31,013,827	431	\$12,829,105
Health care and social assistance	\$241,092,790	2,736	\$115,612,054
Arts, entertainment, and recreation	\$32,653,830	455	\$11,547,361
Accommodation	\$35,341,560	357	\$10,639,697
Food services and drinking places	\$93,711,107	1,580	\$30,130,809
Other services*	\$139,949,197	1,225	\$43,071,309
Households	\$ -	340	\$1,873,409
Total Industries	\$8,635,075,840	80,803	\$1,999,240,890

Incremental crop value due to the use of crop protection products - Impact on the Georgia economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 24,308 jobs with a payroll of \$1,016,936,907 and it adds \$4,921,505,406 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Georgia	100.00%	\$1,741,088,670.00
Nuts and Fruit	Georgia	100.00%	\$223,043,670.00
Vegetable Crops	Georgia	100.00%	\$494,921,330.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,678,380,068	8,958	\$393,491,610
Mining	\$5,007,882	45	\$2,425,985
Utilities*	\$114,590,786	196	\$20,890,640
Construction	\$29,620,723	307	\$12,936,330
Manufacturing	\$355,846,256	982	\$56,872,831
Wholesale trade	\$169,764,478	719	\$56,246,191
Retail trade	\$120,200,329	1,299	\$39,552,477
Transportation and warehousing*	\$122,752,502	866	\$44,594,538
Information	\$87,965,536	248	\$19,234,437
Finance and insurance	\$270,548,326	1,249	\$89,241,868
Real estate and rental and leasing	\$453,027,932	4,428	\$71,570,669
Professional, scientific, and technical services	\$110,745,518	698	\$51,180,828
Management of companies and enterprises	\$44,061,669	193	\$18,178,021
Administrative and waste management services	\$64,316,242	1,112	\$28,300,424
Educational services	\$21,616,811	222	\$9,115,920
Health care and social assistance	\$127,107,426	1,055	\$55,610,119
Arts, entertainment, and recreation	\$12,183,189	163	\$4,247,304
Accommodation	\$14,553,025	142	\$4,600,405
Food services and drinking places	\$50,990,514	765	\$15,639,957
Other services*	\$68,226,194	545	\$21,705,030
Households	\$ -	116	\$1,301,323
Total Industries	\$4,921,505,406	24,308	\$1,016,936,907

Incremental crop value due to the use of crop protection products - Impact on the Hawaii economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 835 jobs with a payroll of \$15,692,186 and it adds \$63,723,988 of economic output in the state..

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Hawaii	NA	\$78,256,000.00
Nuts and Fruit	Hawaii	67.96%	\$37,460,460.00
Vegetable Crops	Hawaii	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$40,371,137.74	654.59	\$9,282,701.99
Mining	\$44,952.55	0.16	\$11,238.14
Utilities*	\$1,708,196.98	4.94	\$389,588.78
Construction	\$434,541.34	3.20	\$168,572.07
Manufacturing	\$1,768,133.71	6.21	\$265,969.27
Wholesale trade	\$1,386,037.02	8.82	\$449,525.52
Retail trade	\$1,700,704.88	24.26	\$595,621.31
Transportation and warehousing*	\$884,066.86	8.34	\$329,652.05
Information	\$1,000,194.28	3.97	\$206,032.53
Finance and insurance	\$3,356,457.22	21.24	\$884,066.86
Real estate and rental and leasing	\$4,352,905.45	23.06	\$389,588.78
Professional, scientific, and technical services	\$1,108,829.62	10.28	\$520,700.39
Management of companies and enterprises	\$277,207.40	1.65	\$116,127.43
Administrative and waste management services	\$629,335.73	11.50	\$269,715.31
Educational services	\$318,413.91	5.19	\$134,857.66
Health care and social assistance	\$1,955,436.01	20.39	\$929,019.41
Arts, entertainment, and recreation	\$168,572.07	2.92	\$56,190.69
Accommodation	\$247,239.04	2.06	\$74,920.92
Food services and drinking places	\$722,986.88	11.72	\$232,254.85
Other services*	\$1,288,639.82	9.52	\$385,842.74
Households	\$ -	1.82	\$22,476.28
Total Industries	\$63,723,988.51	835.83	\$15,692,186.69

Incremental crop value due to the use of crop protection products - Impact on the Idaho economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 21,165 jobs with a payroll of \$835,220,468 and it adds \$4,430,264,973 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Idaho	68.51%	\$1,978,299,330.00
Nuts and Fruit	Idaho	100.00%	\$24,273,330.00
Vegetable Crops	Idaho	29.21%	\$19,351,630.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,886,742,496	10,335	\$448,714,433
Mining	\$17,178,305	117	\$4,034,245
Utilities*	\$59,759,771	128	\$11,679,839
Construction	\$32,902,379	319	\$12,519,644
Manufacturing	\$193,924,659	584	\$30,120,188
Wholesale trade	\$124,533,527	657	\$39,550,258
Retail trade	\$95,373,320	1,137	\$32,715,064
Transportation and warehousing*	\$100,715,219	669	\$31,000,276
Information	\$33,764,601	152	\$7,466,378
Finance and insurance	\$203,362,095	1,016	\$51,508,163
Real estate and rental and leasing	\$367,317,015	2,426	\$38,698,912
Professional, scientific, and technical services	\$51,015,148	429	\$23,739,186
Management of companies and enterprises	\$19,789,609	93	\$8,046,409
Administrative and waste management services	\$35,212,962	614	\$14,740,229
Educational services	\$14,001,956	234	\$5,896,845
Health care and social assistance	\$87,883,305	867	\$41,207,342
Arts, entertainment, and recreation	\$7,068,669	124	\$2,329,554
Accommodation	\$11,193,686	150	\$3,321,387
Food services and drinking places	\$31,632,458	587	\$9,912,337
Other services*	\$56,893,792	438	\$17,013,852
Households	\$ -	91	\$1,005,926
Total Industries	\$4,430,264,973	21,165	\$835,220,468

Incremental crop value due to the use of crop protection products - Impact on the Illinois economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 32,154 jobs with a payroll of \$1,422,755,259 and it adds \$7,659,637,833 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Illinois	23.49%	\$3,329,767,160.00
Nuts and Fruit	Illinois	100.00%	\$29,658,670.00
Vegetable Crops	Illinois	82.76%	\$43,183,340.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$3,783,015,146	7,962	\$467,293,358
Mining	\$23,621,330	91	\$5,397,504
Utilities*	\$136,569,416	253	\$27,362,500
Construction	\$54,464,208	398	\$20,296,142
Manufacturing	\$571,012,721	1,483	\$89,792,722
Wholesale trade	\$261,200,996	1,161	\$81,755,218
Retail trade	\$143,296,161	1,926	\$48,678,594
Transportation and warehousing*	\$201,221,211	1,349	\$63,074,323
Information	\$116,969,842	396	\$25,841,204
Finance and insurance	\$596,724,794	2,357	\$163,879,729
Real estate and rental and leasing	\$1,015,396,837	6,742	\$119,733,372
Professional, scientific, and technical services	\$170,633,407	1,069	\$80,552,244
Management of companies and enterprises	\$76,709,839	291	\$30,549,288
Administrative and waste management services	\$100,391,625	1,850	\$42,056,659
Educational services	\$30,920,560	378	\$12,905,357
Health care and social assistance	\$159,097,595	1,703	\$73,932,879
Arts, entertainment, and recreation	\$21,766,970	354	\$7,827,614
Accommodation	\$18,990,667	169	\$5,765,549
Food services and drinking places	\$66,692,444	1,195	\$21,098,051
Other services*	\$109,277,179	793	\$33,258,681
Households	\$1,664,884	236	\$1,704,270
Total Industries	\$7,659,637,833	32,154	\$1,422,755,259

Incremental crop value due to the use of crop protection products - Impact on the Indiana economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 15,937 jobs with a payroll of \$585,017,373 and it adds \$3,361,114,067 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Indiana	22.30%	\$1,580,563,270.00
Nuts and Fruit	Indiana	100.00%	\$13,670,000.00
Vegetable Crops	Indiana	100.00%	\$94,152,670.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,868,799,086	4,745	\$230,618,952
Mining	\$13,334,841	48	\$3,131,090
Utilities*	\$64,127,859	148	\$13,067,730
Construction	\$25,281,986	225	\$9,313,425
Manufacturing	\$332,846,908	835	\$49,927,780
Wholesale trade	\$120,386,730	654	\$37,505,792
Retail trade	\$67,694,147	996	\$23,019,002
Transportation and warehousing*	\$90,447,137	626	\$27,090,344
Information	\$30,059,045	136	\$6,419,968
Finance and insurance	\$169,173,544	954	\$43,251,385
Real estate and rental and leasing	\$313,873,163	3,269	\$35,033,479
Professional, scientific, and technical services	\$36,963,810	337	\$17,378,380
Management of companies and enterprises	\$23,321,714	118	\$8,727,063
Administrative and waste management services	\$32,611,630	602	\$13,608,499
Educational services	\$12,598,355	205	\$5,365,174
Health care and social assistance	\$73,673,543	757	\$34,120,471
Arts, entertainment, and recreation	\$7,090,008	120	\$2,535,313
Accommodation	\$5,193,601	69	\$1,508,765
Food services and drinking places	\$28,253,152	604	\$8,801,325
Other services*	\$45,383,809	422	\$13,907,301
Households	\$ -	67	\$686,137
Total Industries	\$3,361,114,067	15,937	\$585,017,373

Incremental crop value due to the use of crop protection products - Impact on the Iowa economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 24,543 jobs with a payroll of \$892,928,839 and it adds \$5,176,063,248 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	Iowa	17.99%	\$2,758,507,380.00
Nuts and Fruit	Iowa		NA
Vegetable Crops	Iowa		NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$3,251,728,500	9,870	\$443,843,837
Mining	\$11,034,030	63	\$2,758,507
Utilities*	\$87,168,833	227	\$17,654,447
Construction	\$27,860,925	284	\$10,206,477
Manufacturing	\$434,464,912	1,115	\$63,997,371
Wholesale trade	\$150,338,652	869	\$46,618,775
Retail trade	\$81,100,117	1,250	\$27,309,223
Transportation and warehousing*	\$132,684,205	964	\$38,343,253
Information	\$41,377,611	221	\$9,103,074
Finance and insurance	\$355,019,900	1,700	\$89,099,788
Real estate and rental and leasing	\$321,366,110	3,940	\$30,895,283
Professional, scientific, and technical services	\$32,826,238	350	\$15,171,791
Management of companies and enterprises	\$21,240,507	129	\$8,275,522
Administrative and waste management services	\$26,757,522	575	\$10,758,179
Educational services	\$21,240,507	409	\$8,827,224
Health care and social assistance	\$89,099,788	1,099	\$40,825,909
Arts, entertainment, and recreation	\$6,344,567	123	\$1,930,955
Accommodation	\$10,758,179	156	\$3,310,209
Food services and drinking places	\$25,654,119	582	\$7,999,671
Other services*	\$48,273,879	513	\$14,895,940
Households		100	\$1,103,403
Total Industries	\$5,176,063,248	24,543	\$892,928,839

Incremental crop value due to the use of crop protection products - Impact on the Kansas economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 2,275 jobs with a payroll of \$78,084,872 and it adds \$476,739,812 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Kansas	3.37%	\$247,468,790.00
Nuts and Fruit	Kansas	67.85%	\$1,911,110.00
Vegetable Crops	Kansas	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$284,120,135	913	\$35,596,368
Mining	\$4,770,130	23	\$993,697
Utilities*	\$10,213,016	24	\$1,924,430
Construction	\$2,861,944	26	\$970,479
Manufacturing	\$36,950,262	94	\$5,182,515
Wholesale trade	\$16,240,649	78	\$4,558,492
Retail trade	\$7,441,459	109	\$2,372,358
Transportation and warehousing*	\$12,767,198	79	\$3,411,727
Information	\$5,490,753	16	\$923,470
Finance and insurance	\$27,996,856	154	\$6,551,620
Real estate and rental and leasing	\$36,699,634	376	\$3,597,280
Professional, scientific, and technical services	\$5,088,879	45	\$2,120,302
Management of companies and enterprises	\$2,590,302	13	\$996,373
Administrative and waste management services	\$3,762,961	65	\$1,445,257
Educational services	\$1,696,357	29	\$673,517
Health care and social assistance	\$8,545,419	99	\$3,847,904
Arts, entertainment, and recreation	\$499,524	12	\$150,010
Accommodation	\$672,944	10	\$199,313
Food services and drinking places	\$2,871,882	54	\$849,229
Other services*	\$5,459,509	48	\$1,620,587
Households	\$ -	8	\$99,943
Total Industries	\$476,739,812	2,275	\$78,084,872

Incremental crop value due to the use of crop protection products - Impact on the Kentucky economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 10,683 jobs with a payroll of \$231,506,638 and it adds \$1,292,446,028 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Kentucky	27.12%	\$629,967,680.00
Nuts and Fruit	Kentucky	100.00%	\$6,335,000.00
Vegetable Crops	Kentucky	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$752,739,943	6,140	\$102,761,700
Mining	\$5,962,240	27	\$1,331,801
Utilities*	\$21,150,309	60	\$4,347,764
Construction	\$8,953,496	94	\$3,174,545
Manufacturing	\$94,082,913	292	\$14,017,664
Wholesale trade	\$44,316,721	233	\$13,034,702
Retail trade	\$26,724,432	403	\$8,801,882
Transportation and warehousing*	\$38,298,733	251	\$10,740,845
Information	\$11,600,981	59	\$2,421,751
Finance and insurance	\$76,058,089	414	\$18,382,812
Real estate and rental and leasing	\$104,484,762	1,312	\$10,748,728
Professional, scientific, and technical services	\$16,566,042	169	\$7,453,610
Management of companies and enterprises	\$8,336,199	42	\$3,117,883
Administrative and waste management services	\$11,132,763	240	\$4,453,485
Educational services	\$5,479,172	105	\$2,165,963
Health care and social assistance	\$29,998,717	337	\$13,403,534
Arts, entertainment, and recreation	\$2,104,233	48	\$764,830
Accommodation	\$2,290,056	29	\$636,303
Food services and drinking places	\$11,162,537	227	\$3,380,640
Other services*	\$21,003,690	177	\$6,047,409
Households	\$ -	26	\$318,785
Total Industries	\$1,292,446,028	10,683	\$231,506,638

Incremental crop value due to the use of crop protection products - Impact on the Louisiana economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 12,607 jobs with a payroll of \$356,628,199 and it adds \$1,960,721,077 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Louisiana	51.78%	\$943,404,330.00
Nuts and Fruit	Louisiana	100.00%	\$9,309,800.00
Vegetable Crops	Louisiana	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,086,540,989	5,907	\$141,676,648
Mining	\$23,348,324	45	\$4,365,727
Utilities*	\$40,477,005	94	\$8,122,276
Construction	\$16,632,465	154	\$6,177,746
Manufacturing	\$174,993,108	352	\$24,930,388
Wholesale trade	\$63,563,102	350	\$20,172,403
Retail trade	\$42,078,931	592	\$14,598,870
Transportation and warehousing*	\$56,831,727	393	\$17,688,829
Information	\$17,641,038	86	\$3,908,921
Finance and insurance	\$88,357,255	508	\$22,448,676
Real estate and rental and leasing	\$170,277,643	1,889	\$18,559,617
Professional, scientific, and technical services	\$30,117,869	264	\$14,866,995
Management of companies and enterprises	\$14,748,449	96	\$6,089,923
Administrative and waste management services	\$19,700,701	395	\$8,470,777
Educational services	\$7,912,182	121	\$3,336,361
Health care and social assistance	\$45,735,553	553	\$21,483,548
Arts, entertainment, and recreation	\$4,485,204	72	\$1,717,678
Accommodation	\$6,759,615	71	\$2,094,109
Food services and drinking places	\$17,272,986	339	\$5,534,121
Other services*	\$33,246,930	282	\$9,907,296
Households	\$ -	42	\$477,288
Total Industries	\$1,960,721,077	12,607	\$356,628,199

Incremental crop value due to the use of crop protection products - Impact on the **Maine** economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 3,694 jobs with a payroll of \$91,212,883 and it adds \$463,163,058 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Maine	100.00%	\$204,749,670.00
Nuts and Fruit	Maine	100.00%	\$58,837,330.00
Vegetable Crops	Maine	17.25%	\$789,190.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$280,337,679	1,963	\$42,793,228
Mining	\$114,379	1	\$20,475
Utilities*	\$6,348,607	19	\$1,447,570
Construction	\$3,546,474	41	\$1,347,609
Manufacturing	\$19,530,000	89	\$3,416,667
Wholesale trade	\$13,290,661	83	\$4,220,760
Retail trade	\$10,377,456	159	\$3,594,347
Transportation and warehousing*	\$10,671,524	92	\$3,641,877
Information	\$4,152,282	23	\$1,031,461
Finance and insurance	\$31,800,134	184	\$8,268,346
Real estate and rental and leasing	\$40,678,871	494	\$4,366,801
Professional, scientific, and technical services	\$6,555,834	70	\$3,123,645
Management of companies and enterprises	\$2,546,955	15	\$1,048,797
Administrative and waste management services	\$4,210,097	84	\$1,624,778
Educational services	\$1,974,192	31	\$822,626
Health care and social assistance	\$11,904,574	139	\$5,658,295
Arts, entertainment, and recreation	\$872,757	17	\$308,544
Accommodation	\$1,729,976	26	\$528,673
Food services and drinking places	\$4,334,758	85	\$1,384,094
Other services*	\$8,185,848	70	\$2,446,694
Households		10	\$117,597
Total Industries	\$463,163,058	3,694	\$91,212,883

Incremental crop value due to the use of crop protection products - Impact on the Maryland economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 3,245 jobs with a payroll of \$84,779,073 and it adds \$485,023,577 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Maryland	39.82%	\$222,624,590.00
Nuts and Fruit	Maryland	100.00%	\$11,692,330.00
Vegetable Crops	Maryland	80.53%	\$32,980,520.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$275,895,177	1,808	\$35,586,360
Mining	\$650,017	3	\$142,509
Utilities*	\$8,081,642	15	\$1,694,583
Construction	\$3,645,655	26	\$1,258,279
Manufacturing	\$17,825,725	46	\$2,749,940
Wholesale trade	\$15,059,920	65	\$4,469,072
Retail trade	\$9,449,549	117	\$3,042,541
Transportation and warehousing*	\$9,294,344	70	\$2,981,425
Information	\$7,048,164	24	\$1,373,530
Finance and insurance	\$30,584,017	143	\$7,724,139
Real estate and rental and leasing	\$65,600,153	483	\$7,389,582
Professional, scientific, and technical services	\$9,467,919	67	\$4,153,633
Management of companies and enterprises	\$2,192,934	10	\$792,958
Administrative and waste management services	\$5,784,723	97	\$2,288,371
Educational services	\$1,916,026	21	\$747,473
Health care and social assistance	\$10,516,575	104	\$4,683,936
Arts, entertainment, and recreation	\$1,053,943	19	\$376,555
Accommodation	\$1,310,853	9	\$339,721
Food services and drinking places	\$4,085,420	67	\$1,242,220
Other services*	\$5,560,823	43	\$1,634,158
Households	\$ -	10	\$108,088
Total Industries	\$485,023,577	3,245	\$84,779,073

Incremental crop value due to the use of crop protection products - Impact on the Massachusetts economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 2,722 jobs with a payroll of \$70,894,031 and it adds \$321,295,331 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	Massachusetts	100.00%	\$45,354,670.00
Nuts and Fruit	Massachusetts	100.00%	\$125,073,330.00
Vegetable Crops	Massachusetts	80.97%	\$13,116,060.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$191,120,046	1,949	\$36,748,704
Mining	\$131,778	1	\$33,272
Utilities*	\$5,603,816	10	\$1,118,659
Construction	\$1,817,408	13	\$656,897
Manufacturing	\$11,703,216	42	\$2,137,860
Wholesale trade	\$10,800,435	43	\$3,221,766
Retail trade	\$6,384,364	78	\$2,083,074
Transportation and warehousing*	\$4,171,696	31	\$1,397,946
Information	\$5,227,869	16	\$1,107,639
Finance and insurance	\$23,549,109	81	\$6,399,044
Real estate and rental and leasing	\$28,200,178	143	\$2,837,856
Professional, scientific, and technical services	\$7,620,602	45	\$3,496,151
Management of companies and enterprises	\$2,281,896	9	\$896,743
Administrative and waste management services	\$3,374,632	57	\$1,361,736
Educational services	\$1,418,953	16	\$573,024
Health care and social assistance	\$8,575,008	79	\$3,919,496
Arts, entertainment, and recreation	\$939,826	13	\$318,685
Accommodation	\$945,746	8	\$278,540
Food services and drinking places	\$3,124,556	50	\$971,999
Other services*	\$4,327,301	30	\$1,265,245
Households	\$ -	9	\$85,925
Total Industries	\$321,295,331	2,722	\$70,894,031

Incremental crop value due to the use of crop protection products - Impact on the Michigan economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 29,122 jobs with a payroll of \$829,283,152 and it adds \$4,303,928,946 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Michigan	54.58%	\$1,738,306,850.00
Nuts and Fruit	Michigan	100.00%	\$338,452,000.00
Vegetable Crops	Michigan	81.68%	\$205,057,100.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,477,281,700	15,350	\$351,494,855
Mining	\$7,165,969	38	\$1,748,035
Utilities*	\$84,871,109	184	\$17,534,556
Construction	\$23,118,175	217	\$8,886,793
Manufacturing	\$273,652,549	896	\$46,444,878
Wholesale trade	\$151,611,163	771	\$48,817,061
Retail trade	\$94,220,092	1,446	\$32,903,810
Transportation and warehousing*	\$100,895,317	761	\$33,633,984
Information	\$42,868,943	191	\$9,827,710
Finance and insurance	\$258,634,454	1,255	\$66,692,512
Real estate and rental and leasing	\$392,789,589	2,977	\$42,748,006
Professional, scientific, and technical services	\$83,262,209	652	\$39,696,950
Management of companies and enterprises	\$40,306,119	161	\$15,931,700
Administrative and waste management services	\$43,060,674	806	\$18,708,329
Educational services	\$18,396,082	323	\$7,784,853
Health care and social assistance	\$105,976,820	1,279	\$50,601,475
Arts, entertainment, and recreation	\$11,560,362	209	\$4,436,986
Accommodation	\$9,662,095	139	\$2,912,010
Food services and drinking places	\$37,125,953	841	\$11,842,894
Other services*	\$47,469,571	484	\$15,461,005
Households	\$ -	141	\$1,174,753
Total Industries	\$4,303,928,946	29,122	\$829,283,152

Incremental crop value due to the use of crop protection products - Impact on the Minnesota economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 45,437 jobs with a payroll of \$1,721,860,142 and it adds \$9,658,847,376 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	Minnesota	45.04%	\$4,618,817,770.00
Nuts and Fruit	Minnesota	NA	NA
Vegetable Crops	Minnesota	62.64%	\$96,058,860.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$5,375,940,742	13,008	\$671,582,557
Mining	\$11,643,103	63	\$2,800,108
Utilities*	\$164,403,508	393	\$34,168,047
Construction	\$59,109,663	527	\$22,516,137
Manufacturing	\$493,897,336	1,449	\$78,439,858
Wholesale trade	\$337,240,154	1,542	\$107,701,710
Retail trade	\$161,296,810	2,484	\$55,645,150
Transportation and warehousing*	\$208,995,510	1,393	\$63,468,323
Information	\$103,236,586	447	\$24,045,871
Finance and insurance	\$698,175,557	3,275	\$186,422,536
Real estate and rental and leasing	\$1,259,043,338	11,161	\$148,521,012
Professional, scientific, and technical services	\$160,690,840	1,307	\$77,747,435
Management of companies and enterprises	\$70,617,485	253	\$28,250,836
Administrative and waste management services	\$83,309,228	1,621	\$34,351,358
Educational services	\$33,889,476	578	\$14,115,812
Health care and social assistance	\$209,571,064	2,305	\$98,175,099
Arts, entertainment, and recreation	\$24,507,753	495	\$9,420,147
Accommodation	\$24,911,999	345	\$7,514,985
Food services and drinking places	\$66,470,155	1,425	\$21,207,339
Other services*	\$110,982,912	1,082	\$33,860,659
Households	\$ -	283	\$2,357,438
Total Industries	\$9,658,847,376	45,437	\$1,721,860,142

Incremental crop value due to the use of crop protection products - Impact on the Mississippi economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 12,568 jobs with a payroll of \$296,767,122 and it adds \$1,678,604,018 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Mississippi	43.38%	\$822,715,440.00
Nuts and Fruit	Mississippi	98.19%	\$10,901,710.00
Vegetable Crops	Mississippi	45.00%	\$1,962,300.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$985,970,945	6,869	\$134,583,127
Mining	\$9,979,553	25	\$1,745,908
Utilities*	\$30,401,712	90	\$6,473,557
Construction	\$13,490,077	147	\$4,830,924
Manufacturing	\$168,532,320	465	\$22,637,684
Wholesale trade	\$42,637,366	251	\$13,267,115
Retail trade	\$35,367,352	534	\$11,983,955
Transportation and warehousing*	\$46,708,557	346	\$14,001,912
Information	\$11,554,086	56	\$2,343,983
Finance and insurance	\$84,881,616	535	\$21,078,805
Real estate and rental and leasing	\$122,842,956	1,529	\$12,747,045
Professional, scientific, and technical services	\$17,748,865	173	\$8,370,163
Management of companies and enterprises	\$9,514,333	59	\$3,839,414
Administrative and waste management services	\$11,357,645	266	\$4,676,476
Educational services	\$6,860,778	137	\$2,928,496
Health care and social assistance	\$38,425,542	457	\$17,870,644
Arts, entertainment, and recreation	\$2,347,450	39	\$754,202
Accommodation	\$6,263,096	64	\$1,754,324
Food services and drinking places	\$13,243,865	303	\$4,108,010
Other services*	\$20,558,176	190	\$6,268,939
Households	\$ -	34	\$418,880
Total Industries	\$1,678,604,018	12,568	\$296,767,122

Incremental crop value due to the use of crop protection products - Impact on the Missouri economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 24,573 jobs with a payroll of \$660,979,174 and it adds \$3,760,922,008 of economic output in the state

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Missouri	32.22%	\$1,658,253,640.00
Nuts and Fruit	Missouri	100.00%	\$21,380,000.00
Vegetable Crops	Missouri	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,964,318,798	11,204	\$251,807,595
Mining	\$9,221,756	42	\$2,174,500
Utilities*	\$75,850,186	163	\$13,128,948
Construction	\$29,175,823	259	\$10,288,036
Manufacturing	\$306,122,279	847	\$43,276,554
Wholesale trade	\$133,445,321	649	\$38,901,919
Retail trade	\$76,716,854	1,052	\$24,833,686
Transportation and warehousing*	\$101,399,199	675	\$29,062,555
Information	\$55,373,009	177	\$10,193,539
Finance and insurance	\$246,891,527	1,280	\$56,843,557
Real estate and rental and leasing	\$388,010,845	4,267	\$41,447,544
Professional, scientific, and technical services	\$74,825,845	514	\$30,196,409
Management of companies and enterprises	\$41,298,556	152	\$15,232,120
Administrative and waste management services	\$40,262,309	638	\$15,228,366
Educational services	\$14,598,852	187	\$5,939,036
Health care and social assistance	\$83,638,935	913	\$36,451,435
Arts, entertainment, and recreation	\$10,370,627	164	\$3,568,677
Accommodation	\$9,647,260	114	\$2,709,518
Food services and drinking places	\$32,830,200	657	\$10,035,222
Other services*	\$66,923,828	509	\$18,808,306
Households	\$ -	110	\$851,652
Total Industries	\$3,760,922,008	24,573	\$660,979,174

Incremental crop value due to the use of crop protection products - Impact on the Montana economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 11,297 jobs with a payroll of \$249,796,777 and it adds \$1,396,751,988 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Montana	34.51%	\$708,040,750.00
Nuts and Fruit	Montana	NA	NA
Vegetable Crops	Montana	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$836,054,518	6,561	\$114,702,602
Mining	\$16,143,329	59	\$3,044,575
Utilities*	\$29,879,320	75	\$6,018,346
Construction	\$11,470,260	132	\$4,389,853
Manufacturing	\$92,682,534	288	\$13,240,362
Wholesale trade	\$35,826,862	226	\$11,470,260
Retail trade	\$28,958,867	465	\$10,124,983
Transportation and warehousing*	\$32,782,287	228	\$10,054,179
Information	\$11,257,848	64	\$2,478,143
Finance and insurance	\$79,654,584	521	\$20,391,574
Real estate and rental and leasing	\$121,995,421	1,176	\$13,240,362
Professional, scientific, and technical services	\$15,435,288	171	\$7,222,016
Management of companies and enterprises	\$2,053,318	15	\$849,649
Administrative and waste management services	\$8,921,313	199	\$3,681,812
Educational services	\$4,743,873	95	\$2,053,318
Health care and social assistance	\$29,879,320	379	\$14,160,815
Arts, entertainment, and recreation	\$2,832,163	66	\$1,062,061
Accommodation	\$5,310,306	85	\$1,628,494
Food services and drinking places	\$11,965,889	281	\$3,823,420
Other services*	\$19,046,296	181	\$5,876,738
Households	\$ -	29	\$354,020
Total Industries	\$1,396,751,988	11,297	\$249,796,777

Incremental crop value due to the use of crop protection products - Impact on the Nebraska economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 19,911 jobs with a payroll of \$748,014,206 and it adds \$4,450,807,962 of economic output in the state..

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Nebraska	24.37%	\$2,468,693,750.00
Nuts and Fruit	Nebraska	NA	NA
Vegetable Crops	Nebraska	12.52%	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,878,990,651	7,432	\$381,413,184
Mining	\$7,159,212	28	\$1,728,086
Utilities*	\$96,032,187	144	\$17,033,987
Construction	\$23,205,721	232	\$8,393,559
Manufacturing	\$283,899,781	800	\$39,992,839
Wholesale trade	\$118,003,561	645	\$36,536,668
Retail trade	\$63,692,299	995	\$21,724,505
Transportation and warehousing*	\$109,856,872	727	\$29,377,456
Information	\$28,143,109	137	\$6,665,473
Finance and insurance	\$247,856,853	1,368	\$60,976,736
Real estate and rental and leasing	\$317,720,886	3,867	\$31,846,149
Professional, scientific, and technical services	\$47,152,051	498	\$22,465,113
Management of companies and enterprises	\$33,574,235	165	\$13,084,077
Administrative and waste management services	\$23,946,329	501	\$9,381,036
Educational services	\$15,799,640	250	\$6,665,473
Health care and social assistance	\$74,307,682	907	\$34,561,713
Arts, entertainment, and recreation	\$4,443,649	113	\$1,481,216
Accommodation	\$4,937,388	78	\$1,481,216
Food services and drinking places	\$21,724,505	502	\$6,912,343
Other services*	\$50,361,353	438	\$15,305,901
Households	\$ -	83	\$987,478
Total Industries	\$4,450,807,962	19,911	\$748,014,206

Incremental crop value due to the use of crop protection products - Impact on the Nevada economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 1,085 jobs with a payroll of \$32,143,422 and it adds \$194,375,322 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Nevada	46.06%	\$114,756,950.00
Nuts and Fruit	Nevada	NA	NA
Vegetable Crops	Nevada	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$116,902,905	435	\$13,598,699
Mining	\$436,076	2	\$103,281
Utilities*	\$3,385,330	7	\$631,163
Construction	\$1,618,073	12	\$608,212
Manufacturing	\$3,729,601	13	\$665,590
Wholesale trade	\$5,003,403	26	\$1,572,170
Retail trade	\$3,741,077	48	\$1,296,754
Transportation and warehousing*	\$3,764,028	32	\$1,285,278
Information	\$1,480,365	6	\$309,844
Finance and insurance	\$9,169,080	39	\$2,260,712
Real estate and rental and leasing	\$29,481,060	301	\$3,614,844
Professional, scientific, and technical services	\$2,937,778	25	\$1,411,510
Management of companies and enterprises	\$1,090,191	4	\$447,552
Administrative and waste management services	\$2,042,674	35	\$791,823
Educational services	\$493,455	7	\$195,087
Health care and social assistance	\$3,305,000	32	\$1,572,170
Arts, entertainment, and recreation	\$504,931	7	\$160,660
Accommodation	\$711,493	6	\$206,563
Food services and drinking places	\$1,583,646	24	\$493,455
Other services*	\$2,995,156	18	\$872,153
Households	\$ -	4	\$45,903
Total Industries	\$194,375,322	1,085	\$32,143,422

Incremental crop value due to the use of crop protection products - Impact on the New Hampshire economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 204 jobs with a payroll of \$5,503,620 and it adds \$25,140,416 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	New Hampshire	9.6 %	\$2,172,290.00
Nuts and Fruit	New Hampshire	100.00%	\$12,556,000.00
Vegetable Crops	New Hampshire	10.35%	\$ 588,160.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$15,789,101	137	\$3,084,718
Mining	\$12,625	0	\$2,459
Utilities*	\$609,770	1	\$126,008
Construction	\$140,727	1	\$49,495
Manufacturing	\$694,927	3	\$139,851
Wholesale trade	\$855,931	3	\$243,469
Retail trade	\$604,227	7	\$189,303
Transportation and warehousing*	\$341,998	3	\$123,511
Information	\$322,818	1	\$63,888
Finance and insurance	\$1,484,659	7	\$378,882
Real estate and rental and leasing	\$1,843,023	13	\$170,496
Professional, scientific, and technical services	\$485,688	4	\$210,595
Management of companies and enterprises	\$137,020	1	\$45,673
Administrative and waste management services	\$258,059	4	\$102,134
Educational services	\$114,138	1	\$42,058
Health care and social assistance	\$700,932	7	\$306,519
Arts, entertainment, and recreation	\$59,175	1	\$19,142
Accommodation	\$76,899	1	\$21,384
Food services and drinking places	\$258,372	4	\$75,313
Other services*	\$350,326	3	\$101,557
Households	\$ -	1	\$7,165
Total Industries	\$25,140,416	204	\$5,503,620

Incremental crop value due to the use of crop protection products - Impact on the New Jersey economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 5,122 jobs with a payroll of \$131,707,384 and it adds \$631,772,868 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	New Jersey	58.96%	\$66,490,370.00
Nuts and Fruit	New Jersey	100.00%	\$148,336,670.00
Vegetable Crops	New Jersey	100.00%	\$130,656,670.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$353,605,608	3,368	\$63,253,930
Mining	\$468,279	1	\$95,693
Utilities*	\$8,873,319	15	\$1,684,411
Construction	\$3,566,842	24	\$1,280,564
Manufacturing	\$36,717,251	94	\$5,531,550
Wholesale trade	\$20,941,544	80	\$6,010,852
Retail trade	\$14,179,838	161	\$4,562,069
Transportation and warehousing*	\$14,673,497	99	\$4,678,067
Information	\$10,682,858	28	\$2,071,325
Finance and insurance	\$42,498,868	157	\$10,547,602
Real estate and rental and leasing	\$58,067,656	462	\$5,834,131
Professional, scientific, and technical services	\$14,993,494	95	\$6,613,995
Management of companies and enterprises	\$5,344,671	16	\$1,905,506
Administrative and waste management services	\$8,328,790	127	\$3,308,966
Educational services	\$2,162,137	28	\$830,929
Health care and social assistance	\$16,141,623	153	\$7,307,444
Arts, entertainment, and recreation	\$1,803,355	26	\$616,990
Accommodation	\$2,369,701	18	\$669,717
Food services and drinking places	\$5,111,963	84	\$1,553,099
Other services*	\$11,241,576	69	\$3,197,517
Households	\$ -	17	\$153,027
Total Industries	\$631,772,868	5,122	\$131,707,384

Incremental crop value due to the use of crop protection products - Impact on the New Mexico economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 3,470 jobs with a payroll of \$99,537,801 and it adds \$507,427,943 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	New Mexico	47.06%	\$187,631,980.00
Nuts and Fruit	New Mexico	50.40%	\$56,923,440.00
Vegetable Crops	New Mexico	39.21%	\$42,976,770.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$324,664,410	1,821	\$52,585,417
Mining	\$5,446,153	16	\$1,106,518
Utilities*	\$10,754,293	30	\$2,322,302
Construction	\$4,145,664	43	\$1,552,104
Manufacturing	\$18,503,392	53	\$2,738,542
Wholesale trade	\$10,557,340	66	\$3,356,178
Retail trade	\$11,363,859	163	\$3,964,267
Transportation and warehousing*	\$11,534,128	84	\$3,614,501
Information	\$5,559,868	28	\$1,151,054
Finance and insurance	\$20,113,305	123	\$5,133,115
Real estate and rental and leasing	\$40,894,148	456	\$4,252,134
Professional, scientific, and technical services	\$7,262,648	73	\$3,466,880
Management of companies and enterprises	\$924,579	7	\$388,257
Administrative and waste management services	\$4,662,788	86	\$2,015,806
Educational services	\$2,249,255	43	\$938,575
Health care and social assistance	\$12,191,058	141	\$5,690,372
Arts, entertainment, and recreation	\$1,254,391	29	\$458,365
Accommodation	\$1,904,977	27	\$570,767
Food services and drinking places	\$4,652,367	90	\$1,487,028
Other services*	\$8,789,321	74	\$2,614,921
Households		16	\$130,695
Total Industries	\$507,427,943	3,470	\$99,537,801

Incremental crop value due to the use of crop protection products - Impact on the New York economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 20,947 jobs with a payroll of \$525,331,580 and it adds \$2,655,453,716 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	New York	71.57%	\$697,482,810.00
Nuts and Fruit	New York	100.00%	\$320,451,670.00
Vegetable Crops	New York	81.46%	\$326,855,810.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,587,998,436	14,641	\$260,494,423
Mining	\$2,878,755	16	\$692,986
Utilities*	\$54,554,931	109	\$11,538,747
Construction	\$14,406,554	105	\$5,178,024
Manufacturing	\$82,232,392	286	\$13,670,930
Wholesale trade	\$69,918,103	280	\$20,079,626
Retail trade	\$42,032,558	480	\$13,618,690
Transportation and warehousing*	\$31,235,471	230	\$10,179,250
Information	\$37,957,974	102	\$7,518,614
Finance and insurance	\$201,669,690	554	\$44,475,738
Real estate and rental and leasing	\$283,426,537	1,502	\$29,462,498
Professional, scientific, and technical services	\$51,436,900	280	\$21,666,116
Management of companies and enterprises	\$17,230,645	42	\$5,177,785
Administrative and waste management services	\$26,191,460	364	\$9,949,464
Educational services	\$10,138,556	116	\$4,124,271
Health care and social assistance	\$53,469,737	526	\$23,961,515
Arts, entertainment, and recreation	\$7,330,149	84	\$2,410,697
Accommodation	\$7,223,697	54	\$2,008,850
Food services and drinking places	\$18,526,116	280	\$5,702,606
Other services*	\$41,682,342	251	\$11,733,533
Households	\$ -	65	\$553,370
Total Industries	\$2,655,453,716	20,947	\$525,331,580

Incremental crop value due to the use of crop protection products - Impact on the North Carolina economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 32,101 jobs with a payroll of \$994,993,612 and it adds \$5,550,187,865 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	North Carolina	51.30%	\$1,377,146,610.00
Nuts and Fruit	North Carolina	100.00%	\$108,188,000.00
Vegetable Crops	North Carolina	100.00%	\$149,596,330.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,989,946,149	12,044	\$380,949,869
Mining	\$19,585,402	96	\$4,689,463
Utilities*	\$71,721,192	175	\$14,344,238
Construction	\$37,791,551	421	\$14,068,388
Manufacturing	\$470,325,508	1,337	\$73,376,296
Wholesale trade	\$188,130,203	1,029	\$59,032,058
Retail trade	\$108,961,042	1,531	\$37,515,700
Transportation and warehousing*	\$131,856,653	1,053	\$43,032,715
Information	\$59,307,909	245	\$13,516,686
Finance and insurance	\$348,675,333	1,438	\$89,099,788
Real estate and rental and leasing	\$595,561,743	6,567	\$67,859,282
Professional, scientific, and technical services	\$80,548,415	718	\$37,515,700
Management of companies and enterprises	\$60,963,013	286	\$24,274,865
Administrative and waste management services	\$55,721,849	1,259	\$23,999,014
Educational services	\$22,068,059	321	\$9,378,925
Health care and social assistance	\$122,753,578	1,420	\$57,652,804
Arts, entertainment, and recreation	\$11,861,582	239	\$4,413,612
Accommodation	\$11,309,880	155	\$3,310,209
Food services and drinking places	\$46,894,625	988	\$14,895,940
Other services*	\$66,204,177	665	\$20,688,805
Households	\$ -	114	\$1,379,254
Total Industries	\$5,550,187,865	32,101	\$994,993,612

Incremental crop value due to the use of crop protection products - Impact on the North Dakota economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 15,220 jobs with a payroll of \$618,622,287 and it adds \$3,756,359,125 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	North Dakota	32.36%	\$2,114,947,990.00
Nuts and Fruit	North Dakota	NA	NA
Vegetable Crops	North Dakota	62.32%	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,481,045,487	6,529	\$329,931,886
Mining	\$26,436,850	103	\$5,498,865
Utilities*	\$70,427,768	177	\$13,958,657
Construction	\$25,802,365	232	\$8,882,782
Manufacturing	\$211,706,294	533	\$25,379,376
Wholesale trade	\$128,165,848	706	\$37,223,085
Retail trade	\$60,276,018	897	\$19,457,522
Transportation and warehousing*	\$78,464,570	440	\$21,149,480
Information	\$23,475,923	118	\$5,287,370
Finance and insurance	\$219,320,107	1,291	\$50,758,752
Real estate and rental and leasing	\$221,646,549	1,364	\$20,937,985
Professional, scientific, and technical services	\$25,802,365	276	\$11,209,224
Management of companies and enterprises	\$14,381,646	98	\$5,710,360
Administrative and waste management services	\$13,112,678	264	\$4,864,380
Educational services	\$12,055,204	229	\$5,075,875
Health care and social assistance	\$68,735,810	811	\$30,455,251
Arts, entertainment, and recreation	\$4,864,380	117	\$1,480,464
Accommodation	\$6,556,339	100	\$1,903,453
Food services and drinking places	\$19,246,027	427	\$5,921,854
Other services*	\$44,836,897	442	\$12,689,688
Households		65	\$845,979
Total Industries	\$3,756,359,125	15,220	\$618,622,287

Incremental crop value due to the use of crop protection products - Impact on the Ohio economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 21,683 jobs with a payroll of \$501,980,611 and it adds \$2,700,133,219 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Ohio	21.82%	\$1,109,123,260.00
Nuts and Fruit	Ohio	100.00%	\$52,355,670.00
Vegetable Crops	Ohio	86.98%	\$158,301,571.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,447,860,957	11,962	\$189,434,164
Mining	\$16,041,135	71	\$3,548,273
Utilities*	\$56,477,721	127	\$10,931,945
Construction	\$17,375,353	167	\$6,457,026
Manufacturing	\$218,434,231	652	\$36,072,937
Wholesale trade	\$96,734,864	513	\$30,182,459
Retail trade	\$57,376,490	844	\$19,611,161
Transportation and warehousing*	\$75,371,890	536	\$23,620,453
Information	\$33,051,958	139	\$7,116,097
Finance and insurance	\$168,587,879	853	\$42,852,769
Real estate and rental and leasing	\$253,295,110	2,616	\$27,690,984
Professional, scientific, and technical services	\$45,036,007	393	\$20,873,575
Management of companies and enterprises	\$25,773,986	115	\$10,183,948
Administrative and waste management services	\$31,528,440	594	\$13,092,825
Educational services	\$9,132,888	155	\$3,785,109
Health care and social assistance	\$64,723,243	759	\$30,162,980
Arts, entertainment, and recreation	\$6,841,546	134	\$2,386,076
Accommodation	\$3,880,314	50	\$1,150,907
Food services and drinking places	\$24,346,294	520	\$7,680,781
Other services*	\$48,262,914	402	\$14,481,016
Households	\$ -	83	\$665,126
Total Industries	\$2,700,133,219	21,683	\$501,980,611

Incremental crop value due to the use of crop protection products - Impact on the Oklahoma economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 13,013 jobs with a payroll of \$381,251,993 and it adds \$2,131,215,013 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Oklahoma	60.03%	\$1,037,515,070.00
Nuts and Fruit	Oklahoma	95.51%	\$16,437,270.00
Vegetable Crops	Oklahoma	17.20%	\$763,910.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,209,344,452	5,042	\$150,950,044
Mining	\$30,149,154	109	\$6,384,038
Utilities*	\$47,456,758	109	\$9,213,263
Construction	\$15,962,882	184	\$6,091,552
Manufacturing	\$143,027,721	400	\$22,182,115
Wholesale trade	\$63,434,106	383	\$20,408,095
Retail trade	\$44,170,205	641	\$15,426,495
Transportation and warehousing*	\$56,793,568	418	\$17,965,505
Information	\$26,916,978	123	\$5,698,450
Finance and insurance	\$126,704,195	814	\$32,288,359
Real estate and rental and leasing	\$188,616,065	2,329	\$20,982,754
Professional, scientific, and technical services	\$30,382,442	334	\$14,873,946
Management of companies and enterprises	\$9,355,860	56	\$3,784,861
Administrative and waste management services	\$20,731,925	411	\$9,155,466
Educational services	\$8,229,463	146	\$3,480,258
Health care and social assistance	\$47,495,367	574	\$22,531,511
Arts, entertainment, and recreation	\$4,016,064	91	\$1,479,814
Accommodation	\$3,579,002	58	\$1,052,920
Food services and drinking places	\$18,598,633	394	\$5,919,408
Other services*	\$36,250,171	332	\$10,854,136
Households	\$ -	65	\$529,002
Total Industries	\$2,131,215,013	13,013	\$381,251,993

Incremental crop value due to the use of crop protection products - Impact on the Oregon economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 29,436 jobs with a payroll of \$691,017,302 and it adds \$3,225,218,308 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Oregon	64.44%	\$744,924,680.00
Nuts and Fruit	Oregon	100.00%	\$716,428,460.00
Vegetable Crops	Oregon	83.22%	\$173,255,440.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,858,588,982	19,452	\$345,256,721
Mining	\$5,805,320	40	\$1,358,927
Utilities*	\$76,269,987	150	\$14,721,218
Construction	\$22,779,374	188	\$8,120,838
Manufacturing	\$184,542,826	660	\$31,136,097
Wholesale trade	\$115,093,163	499	\$34,692,807
Retail trade	\$75,386,307	945	\$25,129,719
Transportation and warehousing*	\$83,996,224	541	\$25,060,014
Information	\$36,075,897	151	\$8,542,883
Finance and insurance	\$164,877,625	812	\$41,723,609
Real estate and rental and leasing	\$283,359,399	2,514	\$28,801,668
Professional, scientific, and technical services	\$53,878,146	451	\$25,046,222
Management of companies and enterprises	\$27,239,551	130	\$10,721,964
Administrative and waste management services	\$34,857,285	560	\$14,137,826
Educational services	\$13,449,050	237	\$5,588,962
Health care and social assistance	\$82,576,418	816	\$37,908,564
Arts, entertainment, and recreation	\$7,960,683	143	\$2,919,271
Accommodation	\$11,283,989	139	\$3,326,384
Food services and drinking places	\$31,748,064	534	\$9,899,188
Other services*	\$55,450,019	361	\$16,035,472
Households	\$ -	113	\$888,947
Total Industries	\$3,225,218,308	29,436	\$691,017,302

Incremental crop value due to the use of crop protection products - Impact on the Pennsylvania economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 24,954 jobs with a payroll of \$663,468,401 and it adds \$3,161,952,032 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Pennsylvania	64.44%	\$744,924,680.00
Nuts and Fruit	Pennsylvania	100.00%	\$716,428,460.00
Vegetable Crops	Pennsylvania	83.22%	\$173,255,440.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,707,084,426	14,722	\$292,191,261
Mining	\$11,653,147	53	\$2,517,629
Utilities*	\$71,492,858	132	\$14,643,876
Construction	\$21,959,221	181	\$8,103,513
Manufacturing	\$223,533,419	788	\$37,680,231
Wholesale trade	\$109,142,401	518	\$33,393,669
Retail trade	\$71,617,703	1,033	\$24,065,685
Transportation and warehousing*	\$78,284,607	561	\$24,747,569
Information	\$48,265,650	174	\$9,907,737
Finance and insurance	\$215,416,701	982	\$54,433,055
Real estate and rental and leasing	\$264,880,728	2,102	\$26,717,482
Professional, scientific, and technical services	\$72,440,532	512	\$32,783,200
Management of companies and enterprises	\$28,814,143	119	\$11,482,101
Administrative and waste management services	\$35,597,247	657	\$14,226,794
Educational services	\$13,288,439	166	\$5,428,350
Health care and social assistance	\$84,976,127	914	\$38,863,227
Arts, entertainment, and recreation	\$8,906,797	158	\$3,157,224
Accommodation	\$7,051,333	83	\$2,036,023
Food services and drinking places	\$27,658,465	566	\$8,597,201
Other services*	\$59,756,431	456	\$17,460,342
Households	\$ -	75	\$888,947
Total Industries	\$3,161,952,032	24,954	\$663,468,401

Incremental crop value due to the use of crop protection products - Impact on the Rhode Island economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 41 jobs with a payroll of \$1,128,514 and it adds \$5,858,849 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	Rhode Island	36.20%	\$1,670,990.00
Nuts and Fruit	Rhode Island	100.00%	\$1,542,000.00
Vegetable Crops	Rhode Island	17.25%	\$389,050.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$3,621,943	24	\$595,125
Mining	\$3,023	0	\$694
Utilities*	\$67,741	0	\$11,141
Construction	\$39,401	0	\$13,236
Manufacturing	\$167,351	1	\$31,253
Wholesale trade	\$170,348	1	\$48,395
Retail trade	\$125,952	2	\$38,824
Transportation and warehousing*	\$75,640	1	\$24,802
Information	\$83,230	0	\$15,038
Finance and insurance	\$430,987	2	\$99,584
Real estate and rental and leasing	\$557,800	5	\$56,509
Professional, scientific, and technical services	\$87,812	1	\$37,885
Management of companies and enterprises	\$36,624	0	\$12,954
Administrative and waste management services	\$55,563	1	\$21,484
Educational services	\$24,415	0	\$8,914
Health care and social assistance	\$145,789	2	\$62,983
Arts, entertainment, and recreation	\$13,558	0	\$4,464
Accommodation	\$13,224	0	\$3,730
Food services and drinking places	\$53,539	1	\$16,067
Other services*	\$84,910	1	\$24,003
Households	\$ -	0	\$1,428
Total Industries	\$5,858,849	41	\$1,128,514

Incremental crop value due to the use of crop protection products - Impact on the South Carolina economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 7,158 jobs with a payroll of \$156,069,030 and it adds \$789,847,240 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	South Carolina	44.03%	\$265,915,370.00
Nuts and Fruit	South Carolina	100.00%	\$74,744,000.00
Vegetable Crops	South Carolina	100.00%	\$62,608,000.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$440,606,588	4,029	\$68,640,550
Mining	\$1,819,633	10	\$439,744
Utilities*	\$14,957,419	39	\$2,954,189
Construction	\$6,029,441	66	\$2,213,241
Manufacturing	\$48,272,820	191	\$8,518,400
Wholesale trade	\$25,688,349	145	\$7,973,704
Retail trade	\$17,801,583	261	\$6,100,151
Transportation and warehousing*	\$18,026,554	160	\$6,042,189
Information	\$9,409,371	42	\$1,960,199
Finance and insurance	\$46,355,836	258	\$11,786,780
Real estate and rental and leasing	\$87,214,946	976	\$9,863,295
Professional, scientific, and technical services	\$12,010,278	117	\$5,635,331
Management of companies and enterprises	\$3,172,412	21	\$1,270,460
Administrative and waste management services	\$9,443,019	187	\$3,880,038
Educational services	\$3,367,801	61	\$1,394,746
Health care and social assistance	\$19,594,457	232	\$9,227,431
Arts, entertainment, and recreation	\$1,516,605	32	\$512,605
Accommodation	\$3,119,563	39	\$907,519
Food services and drinking places	\$7,517,320	157	\$2,366,772
Other services*	\$13,923,244	117	\$4,172,578
Households	\$ -	18	\$209,108
Total Industries	\$789,847,240	7,158	\$156,069,030

Incremental crop value due to the use of crop protection products - Impact on the South Dakota economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 8,593 jobs with a payroll of \$340,019,001 and it adds \$2,069,867,201 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	South Dakota	21.24%	\$1,224,411,240.00
Nuts and Fruit	South Dakota	NA	NA
Vegetable Crops	South Dakota	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$1,411,133,954	3,308	\$181,090,422
Mining	\$5,142,527	37	\$1,224,411
Utilities*	\$38,691,395	110	\$8,081,114
Construction	\$11,631,907	130	\$4,285,439
Manufacturing	\$87,178,080	222	\$12,488,995
Wholesale trade	\$54,118,977	331	\$16,896,875
Retail trade	\$32,446,898	508	\$11,019,701
Transportation and warehousing*	\$47,996,921	320	\$13,835,847
Information	\$13,346,083	69	\$2,816,146
Finance and insurance	\$140,807,293	848	\$34,405,956
Real estate and rental and leasing	\$120,849,389	1,224	\$11,387,025
Professional, scientific, and technical services	\$10,407,496	125	\$4,775,204
Management of companies and enterprises	\$5,142,527	25	\$1,714,176
Administrative and waste management services	\$6,734,262	138	\$2,571,264
Educational services	\$4,897,645	96	\$2,081,499
Health care and social assistance	\$40,160,689	458	\$18,611,051
Arts, entertainment, and recreation	\$2,571,264	57	\$857,088
Accommodation	\$5,509,851	89	\$1,714,176
Food services and drinking places	\$10,897,260	250	\$3,428,351
Other services*	\$20,202,785	207	\$6,244,497
Households		40	\$489,764
Total Industries	\$2,069,867,201	8,593	\$340,019,001

Incremental crop value due to the use of crop protection products - Impact on the Tennessee economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 7,651 jobs with a payroll of \$242,531,701 and it adds \$1,350,195,223 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Tennessee	36.14%	\$617,283,250.00
Nuts and Fruit	Tennessee	100.00%	\$3,389,330.00
Vegetable Crops	Tennessee	88.91%	\$52,266,630.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$716,624,449	2,945	\$89,157,707
Mining	\$2,959,912	20	\$706,501
Utilities*	\$21,498,162	61	\$4,587,799
Construction	\$9,791,177	100	\$3,505,017
Manufacturing	\$100,941,259	324	\$15,954,567
Wholesale trade	\$48,026,097	256	\$14,698,238
Retail trade	\$28,600,508	371	\$9,600,797
Transportation and warehousing*	\$35,724,275	236	\$10,340,491
Information	\$17,179,893	80	\$3,770,493
Finance and insurance	\$89,878,180	417	\$23,138,946
Real estate and rental and leasing	\$151,887,912	1,414	\$17,250,935
Professional, scientific, and technical services	\$19,532,469	154	\$8,823,781
Management of companies and enterprises	\$8,985,009	47	\$3,550,220
Administrative and waste management services	\$17,077,964	280	\$6,964,157
Educational services	\$4,825,611	68	\$2,009,042
Health care and social assistance	\$31,813,103	321	\$14,652,418
Arts, entertainment, and recreation	\$3,568,950	56	\$1,279,601
Accommodation	\$5,200,191	54	\$1,536,968
Food services and drinking places	\$12,216,840	234	\$3,782,302
Other services*	\$23,863,259	185	\$6,884,912
Households	\$ -	28	\$336,809
Total Industries	\$1,350,195,223	7,651	\$242,531,701

Incremental crop value due to the use of crop protection products - Impact on the Texas economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 39,838 jobs with a payroll of \$1,349,373,620 and it adds \$6,877,385,519 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Texas	42.15%	\$2,569,774,510.00
Nuts and Fruit	Texas	86.10%	\$143,045,390.00
Vegetable Crops	Texas	100.00%	\$273,877,670.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$3,288,779,744	15,807	\$457,242,330
Mining	\$73,560,246	156	\$15,321,709
Utilities*	\$143,864,114	258	\$29,495,502
Construction	\$56,348,923	525	\$21,677,158
Manufacturing	\$571,261,881	1,440	\$87,650,184
Wholesale trade	\$234,935,223	1,085	\$75,945,410
Retail trade	\$155,910,790	2,124	\$54,672,596
Transportation and warehousing*	\$187,807,624	1,384	\$61,171,210
Information	\$112,669,151	405	\$25,119,311
Finance and insurance	\$477,138,776	2,330	\$127,419,041
Real estate and rental and leasing	\$872,498,202	5,962	\$102,048,044
Professional, scientific, and technical services	\$152,988,911	1,161	\$73,812,969
Management of companies and enterprises	\$43,835,938	235	\$17,941,314
Administrative and waste management services	\$91,595,771	1,799	\$39,353,449
Educational services	\$27,683,483	402	\$11,594,566
Health care and social assistance	\$160,688,225	1,786	\$76,710,620
Arts, entertainment, and recreation	\$16,742,254	294	\$6,002,004
Accommodation	\$19,678,557	214	\$5,904,315
Food services and drinking places	\$66,851,418	1,275	\$21,563,883
Other services*	\$122,546,288	965	\$36,921,682
Households		232	\$1,806,323
Total Industries	\$6,877,385,519	39,838	\$1,349,373,620

Incremental crop value due to the use of crop protection products - Impact on the Utah economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 2,399 jobs with a payroll of \$64,563,548 and it adds \$349,737,624 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Utah	41.67%	\$166,538,180.00
Nuts and Fruit	Utah	NA	NA
Vegetable Crops	Utah	47.02%	\$4,150,140.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$178,490,543	733	\$21,977,270
Mining	\$2,997,112	9	\$609,498
Utilities*	\$5,992,767	14	\$1,184,805
Construction	\$2,869,277	29	\$1,103,664
Manufacturing	\$23,421,811	72	\$3,657,710
Wholesale trade	\$12,024,865	73	\$3,849,256
Retail trade	\$7,430,752	105	\$2,596,538
Transportation and warehousing*	\$9,321,764	68	\$2,962,922
Information	\$3,909,593	23	\$973,338
Finance and insurance	\$23,526,001	172	\$6,064,990
Real estate and rental and leasing	\$45,040,062	653	\$5,321,070
Professional, scientific, and technical services	\$6,926,211	69	\$3,360,485
Management of companies and enterprises	\$3,339,681	23	\$1,380,085
Administrative and waste management services	\$4,174,809	83	\$1,721,047
Educational services	\$1,414,638	26	\$596,579
Health care and social assistance	\$7,369,117	91	\$3,539,058
Arts, entertainment, and recreation	\$955,855	20	\$341,377
Accommodation	\$1,395,909	18	\$425,476
Food services and drinking places	\$3,192,702	65	\$1,024,545
Other services*	\$5,944,157	46	\$1,788,492
Households		7	\$85,344
Total Industries	\$349,737,624	2,399	\$64,563,548

Incremental crop value due to the use of crop protection products - Impact on the Vermont economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 354 jobs with a payroll of \$7,317,231 and it adds \$33,745,867 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	S Value Contributed to State by Crop Protection
Field Crops	Vermont	9.60%	\$7,444,770.00
Nuts and Fruit	Vermont	100.00%	\$11,793,000.00
Vegetable Crops	Vermont	17.25%	\$461,730.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$21,623,349	250	\$4,209,006
Mining	\$63,064	0	\$14,626
Utilities*	\$735,899	1	\$134,985
Construction	\$237,804	3	\$87,468
Manufacturing	\$1,065,130	6	\$192,594
Wholesale trade	\$873,155	5	\$249,874
Retail trade	\$805,168	11	\$262,991
Transportation and warehousing*	\$620,277	5	\$188,819
Information	\$387,473	2	\$79,747
Finance and insurance	\$2,063,390	10	\$529,464
Real estate and rental and leasing	\$2,283,638	23	\$206,324
Professional, scientific, and technical services	\$522,735	5	\$243,970
Management of companies and enterprises	\$7,880	0	\$3,894
Administrative and waste management services	\$243,062	5	\$89,966
Educational services	\$160,363	3	\$64,251
Health care and social assistance	\$945,666	10	\$423,249
Arts, entertainment, and recreation	\$69,851	1	\$23,284
Accommodation	\$128,251	2	\$37,383
Food services and drinking places	\$326,049	6	\$100,658
Other services*	\$584,408	4	\$169,079
Households	\$ -	1	\$9,059
Total Industries	\$33,745,867	354	\$7,317,231

Incremental crop value due to the use of crop protection products - Impact on the Virginia economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 7,789 jobs with a payroll of \$243,062,402 and it adds \$1,382,547,902 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Virginia	71.54%	\$644,604,730.00
Nuts and Fruit	Virginia	100.00%	\$52,511,670.00
Vegetable Crops	Virginia	90.49%	\$63,815,360.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$785,126,644	3,533	\$102,160,377
Mining	\$4,043,588	14	\$932,178
Utilities*	\$19,819,021	38	\$4,053,066
Construction	\$11,010,223	95	\$3,889,225
Manufacturing	\$49,354,353	180	\$8,255,244
Wholesale trade	\$39,524,075	187	\$12,019,562
Retail trade	\$27,417,658	370	\$8,934,177
Transportation and warehousing*	\$33,577,152	242	\$10,263,038
Information	\$21,191,244	58	\$4,088,841
Finance and insurance	\$72,687,092	287	\$17,676,948
Real estate and rental and leasing	\$187,907,789	1,372	\$21,213,474
Professional, scientific, and technical services	\$27,651,968	177	\$11,930,559
Management of companies and enterprises	\$9,628,935	36	\$3,558,365
Administrative and waste management services	\$15,821,547	316	\$6,079,128
Educational services	\$5,263,922	65	\$2,058,637
Health care and social assistance	\$27,989,182	297	\$12,767,121
Arts, entertainment, and recreation	\$2,941,062	59	\$1,011,346
Accommodation	\$4,430,204	49	\$1,270,319
Food services and drinking places	\$11,781,132	216	\$3,636,403
Other services*	\$25,381,112	163	\$6,954,771
Households	\$ -	35	\$309,624
Total Industries	\$1,382,547,902	7,789	\$243,062,402

Incremental crop value due to the use of crop protection products - Impact on the Washington economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 64,274 jobs with a payroll of \$1,930,310,862 and it adds \$8,779,103,585 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Washington	71.36%	\$1,773,715,610.00
Nuts and Fruit	Washington	100.00%	\$2,168,109,670.00
Vegetable Crops	Washington	88.17%	\$373,238,890.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$4,948,416,160	36,587	\$939,127,325
Mining	\$9,012,736	70	\$2,396,073
Utilities*	\$187,067,159	451	\$39,763,084
Construction	\$63,556,803	515	\$24,273,218
Manufacturing	\$479,969,169	1,623	\$80,407,585
Wholesale trade	\$291,852,892	1,472	\$93,342,321
Retail trade	\$214,978,715	2,631	\$74,549,428
Transportation and warehousing*	\$185,373,108	1,403	\$62,309,067
Information	\$141,802,474	464	\$30,290,675
Finance and insurance	\$522,200,101	2,073	\$137,506,600
Real estate and rental and leasing	\$852,631,506	6,811	\$90,228,633
Professional, scientific, and technical services	\$167,513,372	1,389	\$78,273,112
Management of companies and enterprises	\$50,146,105	218	\$18,872,195
Administrative and waste management services	\$94,913,490	1,574	\$39,858,252
Educational services	\$37,222,853	693	\$15,284,327
Health care and social assistance	\$225,569,601	2,367	\$106,487,461
Arts, entertainment, and recreation	\$28,312,630	579	\$10,791,891
Accommodation	\$23,721,490	257	\$7,044,150
Food services and drinking places	\$91,704,059	1,676	\$29,212,966
Other services*	\$163,496,022	1,125	\$48,389,102
Households	\$ -	295	\$2,628,478
Total Industries	\$8,779,103,585	64,274	\$1,930,310,862

Incremental crop value due to the use of crop protection products - Impact on the West Virginia economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 430 jobs with a payroll of \$11,625,670 and it adds \$62,524,156 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	West Virginia	19.06%	\$23,612,160.00
Nuts and Fruit	West Virginia	100.00%	\$14,125,670.00
Vegetable Crops	West Virginia	NA	NA

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$38,990,961	241	\$6,151,891
Mining	\$646,432	3	\$134,949
Utilities*	\$1,451,140	4	\$282,950
Construction	\$495,377	5	\$172,202
Manufacturing	\$4,175,618	12	\$572,625
Wholesale trade	\$1,696,409	10	\$490,149
Retail trade	\$1,343,217	20	\$432,489
Transportation and warehousing*	\$1,413,078	10	\$401,011
Information	\$575,893	3	\$114,141
Finance and insurance	\$2,774,908	16	\$647,720
Real estate and rental and leasing	\$3,971,857	41	\$351,170
Professional, scientific, and technical services	\$656,091	7	\$299,036
Management of companies and enterprises	\$243,883	2	\$94,345
Administrative and waste management services	\$441,533	8	\$166,046
Educational services	\$265,557	5	\$106,130
Health care and social assistance	\$1,519,532	18	\$662,143
Arts, entertainment, and recreation	\$89,137	2	\$29,242
Accommodation	\$222,653	3	\$60,381
Food services and drinking places	\$538,598	12	\$161,767
Other services*	\$1,010,868	9	\$284,910
Households	\$ -	1	\$14,146
Total Industries	\$62,524,156	430	\$11,625,670

Incremental crop value due to the use of crop protection products - Impact on the Wisconsin economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 32,949 jobs with a payroll of \$911,271,126 and it adds \$4,787,903,669 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Wisconsin	57.54%	\$2,031,732,410.00
Nuts and Fruit	Wisconsin	100.00%	\$237,662,330.00
Vegetable Crops	Wisconsin	57.45%	\$107,825,030.00

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$2,721,765,282	15,876	\$388,284,699
Mining	\$12,436,072	71	\$3,004,185
Utilities*	\$83,089,356	209	\$18,156,847
Construction	\$31,756,187	285	\$11,981,507
Manufacturing	\$394,595,327	1,314	\$62,632,705
Wholesale trade	\$173,225,782	970	\$55,083,027
Retail trade	\$98,986,423	1,570	\$34,283,497
Transportation and warehousing*	\$120,717,856	871	\$37,830,768
Information	\$50,746,830	242	\$11,825,523
Finance and insurance	\$307,065,224	1,793	\$79,920,368
Real estate and rental and leasing	\$386,097,344	4,494	\$39,812,340
Professional, scientific, and technical services	\$61,416,433	582	\$29,490,449
Management of companies and enterprises	\$49,286,695	245	\$19,594,930
Administrative and waste management services	\$40,972,522	861	\$17,260,841
Educational services	\$19,140,992	291	\$8,132,281
Health care and social assistance	\$115,552,657	1,294	\$54,212,730
Arts, entertainment, and recreation	\$11,896,822	239	\$4,384,843
Accommodation	\$11,095,254	179	\$3,317,325
Food services and drinking places	\$35,746,579	831	\$11,432,160
Other services*	\$62,279,486	632	\$19,681,414
Households	\$ -	104	\$1,212,376
Total Industries	\$4,787,903,669	32,949	\$911,271,126

Incremental crop value due to the use of crop protection products - Impact on the Wyoming economy

SUMMARY - The additional crop value created by the use of crop protection products adds directly to farm income (table 1) and as that additional wealth makes its way through the economy (table 2), it creates an additional 493 jobs with a payroll of \$14,283,176 and it adds \$85,693,421 of economic output in the state.

Table 1 – Direct impact – additional value of crop production contributed to the state economy through added crop value

Crop Category	State	% Value Attributable to Crop Protection	\$ Value Contributed to State by Crop Protection
Field Crops	Wyoming	1.79%	\$6,996,130.00
Nuts and Fruit	Wyoming	N/A	N/A
Vegetable Crops	Wyoming	12.32%	N/A

Table 2 – Indirect impacts computed through BEA multipliers – additional economic activity generated through value of crop production contributed to the state economy through added crop value

SECTOR	IMPACT		
	Output (dollars) (Col C*Col D)	Employment (jobs) (Col C*Col E)	Earnings (dollars) (Col C*Col F)
Agriculture, forestry, fishing, and hunting	\$56,106,040	267	\$7,293,752
Mining	\$1,228,349	3	\$254,690
Utilities*	\$1,947,242	5	\$391,611
Construction	\$713,691	6	\$259,588
Manufacturing	\$4,243,837	9	\$569,985
Wholesale trade	\$1,996,610	10	\$617,778
Retail trade	\$1,513,865	22	\$520,356
Transportation and warehousing*	\$2,236,288	15	\$676,553
Information	\$468,256	3	\$100,271
Finance and insurance	\$4,198,128	23	\$1,043,948
Real estate and rental and leasing	\$6,270,765	65	\$662,780
Professional, scientific, and technical services	\$716,810	8	\$339,621
Management of companies and enterprises	\$110,175	1	\$45,104
Administrative and waste management services	\$386,394	7	\$142,576
Educational services	\$281,815	6	\$120,240
Health care and social assistance	\$1,424,518	16	\$661,424
Arts, entertainment, and recreation	\$111,305	2	\$36,868
Accommodation	\$295,487	4	\$86,439
Food services and drinking places	\$564,490	11	\$175,407
Other services*	\$879,355	9	\$267,983
Households	\$ -	2	\$16,201
Total Industries	\$85,693,421	493	\$14,283,176



1156 15th Street N.W., Suite 400
Washington, D.C. 20005
(202) 296-1585
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