



# IDAHO'S AGRICULTURAL FERTILIZER AND CHEMICAL USAGE – POTATOES

## NATIONAL AGRICULTURAL STATISTICS SERVICE

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## Potato Highlights

### Chemical Usage

Fall Potatoes: Eight fall producing States were included in the 2005 survey: Colorado, Idaho, Maine, Michigan, Minnesota, North Dakota, Washington, and Wisconsin. Nitrogen averaged 4.1 applications per field with a total of 180.3 million pounds applied to 99 percent of the fall potato acreage. Phosphate was applied to 98 percent of the fall potato acres, with a total of 132.5 million pounds applied. A total of 145.4 million pounds of Potash were applied to 92 percent of the planted acreage. Sulfur recorded 41.3 million pounds applied to 72 percent of the acres planted.

applied to 31, 27, and 24 percent of the acres planted, respectively.

Of the insecticides covering 79 percent of the 2005 fall potato acreage, the three most commonly applied were Imidacloprid, Cyfluthrin, and Esfenvalerate, at 38, 29, and 27 percent, respectively. Fungicide treatments were applied to 90 percent of the fall potato acreage in the Program States. Mancozeb was used most commonly, as it was applied to 61 percent of the planted acres.

The total pounds of all pesticides were down for fall potatoes in 2005 compared to 2003. Herbicides were applied to 92 percent of the fall potato acreage in 2005 in the 8 Program States. Metribuzin was the most widely applied herbicide, applied to 74 percent of the planted acreage treated, at a rate of 0.441 pounds per acre per crop year. The next three most widely applied herbicides applied to fall potatoes, Pendimethalin, Rimsulfuron, EPTC, were

### Pest Management Practices

To prevent pests, 69 percent of the farms chopped, sprayed, mowed, plowed, or burned field edges, lanes, ditches, roadways, or fence lines. In addition, 91 percent of the potato acreage had been rotated with some other crop over the past three years to control pests. Ninety-eight percent of the potato acreage was scouted for weeds, insects or mites, and diseases, and the scouting was performed by the operator, partner, or family member on at least 53 percent of the farms.

### Fall Potatoes: Fertilizer and Chemical Applications, Total Acreage & Percentage Receiving Applications, Major States & Total, 2003 & 2005

State	Planted Acreage		Percent of Acres Treated & Total Applied 1/								Area Receiving & Total Applied 2/							
			Nitrogen		Phosphate		Potash		Sulfur		Herbicide		Insecticide		Fungicide		Other	
	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005		
	<b>1,000 Acres</b>		<b>Percent</b>								<b>Percent</b>							
CO	73	58	98	92	96	86	90	64	-	89	84	78	71	57	90	78	57	34
ID	360	325	100	100	95	99	86	92	-	82	89	90	78	65	78	81	57	49
ME	66	58	100	100	100	100	100	100	-		100	100	88	91	100	100	21	12
MI	46	44	100	99	98	94	98	100	-	58	94	98	99	97	96	98	48	2
MN	60	46	100	100	94	100	92	81	-	55	94	97	69	97	98	98	4	8
ND	117	92	97	100	92	100	84	96	-	54	82	89	80	76	99	96	3	7
OR 3/	43		100		96		84		-		95		83		94		70	
PA 3/	15		100		99		99		-		91		99		96		6	
WA	163	154	100	100	85	98	82	92	-	89	94	96	97	97	99	99	77	70
WI	81	68	100	100	99	99	100	99	-	72	94	99	99	97	99	99	38	49
<b>Total</b>	<b>1,024</b>	<b>845</b>	<b>100</b>	<b>99</b>	<b>94</b>	<b>98</b>	<b>88</b>	<b>92</b>	<b>-</b>	<b>72</b>	<b>91</b>	<b>92</b>	<b>84</b>	<b>79</b>	<b>91</b>	<b>90</b>	<b>47</b>	<b>40</b>

1/ Refers to acres receiving one or more applications of a specific ingredient.  
 2/ Refers to acres reported as receiving one or more applications of a specific pesticide class.  
 3/ Oregon and Pennsylvania were not surveyed in 2005.  
 - Not Applicable.

## Fall Potatoes: Agricultural Fertilizer and Chemical Applications, Idaho 1/

Agricultural Chemicals 2/	Area Applied 3/		Applications		Rate Per Application		Rate Per Crop Year		Total Applied	
	2003	2005	2003	2005	2003	2005	2003	2005	2003	2005
<b>Fertilizers:</b>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>Million Pounds</b>	
Nitrogen	100	100	4.6	4.8	49	47	226	225	81.4	72.9
Phosphate	95	99	2.0	2.0	92	88	185	178	63.2	56.9
Potash	86	92	1.3	1.8	91	73	121	134	37.3	40.0
Sulfur	-	82	-	2.0	-	41	-	81	-	21.7
<b>Herbicides:</b>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>1,000 Pounds</b>	
Dimethenamid-P	-	17	-	1.0	-	0.761	-	0.761	-	42
EPTC	31	38	1.0	1.0	3.22	3.166	3.27	3.219	362	396
Glyphosate iso.salt	-	4	-	1.0	-	0.881	-	0.881	-	10
Metribuzin	78	84	1.0	1.1	0.46	0.422	0.48	0.452	135	124
Pendimethalin	35	38	1.0	1.0	0.77	0.719	0.77	0.719	97	90
Rimsulfuron	25	28	1.3	1.0	0.02	0.022	0.02	0.022	2	2
S-Metolachlor	14	4	1.0	1.0	1.49	1.526	1.59	1.565	80	21
Trifluralin	-	2	-	1.1	-	0.453	-	0.487	-	3
<b>Insecticides:</b>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>1,000 Pounds</b>	
Aldicarb	7	6	1.0	1.0	2.49	2.613	2.49	2.613	62	53
Carbofuran	5	5	1.4	1.0	0.86	0.826	1.21	0.826	22	14
Cyfluthrin	22	26	1.2	1.2	0.03	0.030	0.04	0.037	3	3
Diazinon	3	3	1.2	1.0	2.67	2.412	3.23	2.412	34	25
Endosulfan	6	2	1.0	1.0	0.58	0.647	0.58	0.647	14	5
Esfenvalerate	10	17	1.2	1.1	0.06	0.037	0.07	0.039	3	2
Ethoprop	3	3	1.0	1.0	3.42	5.246	3.42	5.246	32	47
Imidacloprid	34	32	1.1	1.2	0.11	0.077	0.13	0.095	15	10
Methamidophos	5	4	1.0	1.0	0.89	0.897	0.90	0.936	18	12
Oxamyl	5	10	1.3	2.0	0.79	0.815	1.07	1.608	21	51
Permethrin	*	-	1.2	-	0.15	-	0.19	-	1	-
Phorate	22	11	1.0	1.0	2.80	2.683	2.80	2.683	221	95
Pymetrozine	13	5	1.2	1.4	0.07	0.084	0.09	0.118	4	2
Thiamethoxam	3	9	1.0	1.0	0.08	0.047	0.08	0.047	1	1
<b>Fungicides:</b>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>1,000 Pounds</b>	
Azoxystrobin	28	36	1.3	1.4	0.16	0.116	0.21	0.159	21	19
Boscalid	-	15	-	1.1	-	0.254	-	0.285	-	14
Chlorothalonil	29	28	1.4	1.8	1.07	0.985	1.52	1.776	158	162
Copper hydroxide	6	4	1.0	1.0	0.88	0.382	0.96	0.396	20	5
Cymoxanil	-	7	-	1.0	-	0.115	-	0.115	-	3
Famoxadone	-	6	-	1.0	-	0.115	-	0.115	-	2
Fluazinam	19	8	1.5	1.0	0.22	0.210	0.33	0.212	23	5
Flutolanil	7	5	1.0	1.0	0.28	0.536	0.28	0.536	7	8
Mancozeb	43	54	1.5	1.9	1.21	1.463	1.88	2.824	288	500
Mefenoxam	16	12	1.1	1.4	0.25	0.359	0.30	0.497	18	19
Metalaxyl	8	-	1.0	-	0.24	-	0.25	-	8	-
Metiram	-	3	-	1.2	-	1.604	-	1.969	-	21
PCNB	3	2	1.0	1.0	1.00	2.016	1.07	2.016	10	10
Phosphorous acid	-	3	-	2.3	-	1.011	-	2.311	-	19
Pyraclostrobin	13	19	1.0	1.4	0.13	0.123	0.13	0.177	6	11
Zoxamide	-	5	-	1.0	-	0.139	-	0.139	-	2
<b>Other Chemicals:</b>	<b>Percent</b>		<b>Number</b>		<b>Pounds Per Acre</b>				<b>1,000 Pounds</b>	
Dichloropropene	2	5	1.0	1.0	188.43	177.501	188.43	177.501	1,384	2,984
Diquat dibromide	7	5	1.2	1.0	0.37	0.430	0.45	0.438	11	7
Maleic hydrazide	3	11	1.0	1.0	1.84	2.203	1.84	2.203	22	81
Metam-sodium	33	14	1.0	1.0	77.58	141.239	77.58	141.239	9,341	6,645
Sulfuric acid	26	25	1.0	1.0	224.91	307.797	224.91	312.077	20,836	25,708

1/ Planted acreage in 2003 for Idaho was 360,000 acres and planted acres in 2005 for Idaho was 325,000 acres.

2/ Insufficient reports in 2003 to publish data for the following: **Fertilizer:** Sulfur. **Insecticides:** Carbaryl, Disulfoton, Methomyl, Phosmet, Piperonyl butoxide, Propargite. **Fungicides:** Basic copper sulfate, Copper amm. complex, Copper sulfate, Cymoxanil, Dicloran, Dimethomorph, Iprodione, Maneb, Metiram, Zoxamide. **Other Chemicals:** Busan 881, Endothall, Paraquat, Zinc phosphide. Insufficient reports in 2005 to publish data for the following: **Herbicides:** Carfentrazone-ethyl, Clethodim, Fluroxypyr, Glufosinate-ammonium. **Insecticides:** Carbaryl, Cypermethrin, Dimethoate, Indoxacarb, Permethrin, Phosmet, Propargite. **Fungicides:** Dimethomorph, Iprodione, Maneb, Rhannolipid, Triphenyltin hydrox. **Other Chemicals:** Chloropicrin, Cytokinins, Gibberellic acid, Indolebutyric acid, Metaldehyde, Metam-potassium, Paraquat.

3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

\* Area applied is less 0.5 percent.

Note: Data may not multiply across due to rounding.

## Trade Names, Common Names, and Classes

The following is a list of common name, associated class, and trade name of active ingredients in this publication. The classes are herbicides (H), insecticides (I), fungicides (F), and other chemicals (O). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not cataloged. The list is not complete for all pesticides used on field crops and NASS does not mean to imply use of any specific trade name.

Class	Common Name	Trade Name
I	aldicarb	Temik 15G
F	azoxystrobin	Amistar, Quadris, Uniform
F	boscalid	Endura, Pristine
I	carbofuran	Furadan 4F
F	chlorothalonil	Bravo 500, Bravo S, Bravo Ultrex, Bravo Weather Stik, Bravo ZN, Chloronil 720, Chlorothalonil 4L, Chlorthalonil 720 F, Echo 720, Echo 90DF, Echo Zn, Equus 500 ZN, Equus 720, Equus DF, Ridomil Gold+ Bravo Liquid, Ridomil Gold/Bravo
F	copper hydroxide	Champ Formula 2, Champ Formula II DF, Coppercide 50, Kocide 101, Kocide 2000, Kocide 4.5 LF, Kocide DF, Kocide LF, Nu-Cop 50DF, Ridomil Gold Copper
I	cyfluthrin	Aztec 2.1% Granular, Aztec 4.67% Granular, Baythroid 2, Leverage 2.7
F	cymoxanil	Curzate 60DF, Curzate M-8, Tanos
I	diazinon	Diazinon 4E, Diazinon 50W, Diazinon AG500
O	dichloropropene	Telone C-17, Telone II
H	dimethenamid-P	G-Max Lite, Guardsman Max, Outlook
H	diquat dibromide	Diquat, Reglone
H	EPTC	Eptam 7-E, Eradicane 6.7E
I	endosulfan	Endosulfan 3EC, Endosulfan 50W, Thiodan 3EC, Thionex 3EC
I	esfenvalerate	Asana, Asana XL
I	ethoprop	Mocap 15G, Mocap EC
F	famoxadone	Tanos
F	fluazinam	Omega 500F
F	flutolanil	Moncut 50WP, Moncut 70DF
H	glyphosate iso. salt	Accord, Buccaneer Herbicide, ClearOut 41 Plus, Cornerstone, Credit, Credit Duo Extra, Durango, Fallow Master, Fallow Star, Field Master, Gly Star Original, Gly Star Plus, Gly-4 Plus, Glyphos X-TRA, Glyphomax, Glyphosate 4, Glyphosate Original, Helosate Plus, Hi-Yield Killzall, Honcho, Landmaster BW, Mad Dog Glyphosate, Mirage, Protocol, RT Master, Ranger, Roundup Custom, Roundup D-Pak, Roundup Original, Roundup Original II, Roundup Original Max, Roundup Pro, Roundup Super Concentrate, Roundup Ultra, Roundup Ultra Dry, Roundup Ultra Max, Roundup Weather Max
I	imidacloprid	Admire 2 Flowable, Leverage 2.7, Provado 1.6 Flowable, Trimax
O	maleic hydrazide	Maleic hydrazide 1.5, Royal MH-30, Royal MH-30 SG, Royal MH-30 Xtra, Super Sprout Stop
F	mancozeb	Curzate M-8, Dithane 75DF Rainshield, Dithane DF/70, Dithane F-45 Rainshield, Dithane M-45, Gavel 75DF, Mancozeb 80% WP, Manex II, Manzate 200, Manzate 75DF, Manzate Flowable, Manzate Pro-Stick, Penncozeb, Penncozeb 75DF, Ridomil Gold MZ
F	mefenoxam	Ridomil Gold + Bravo Liquid, Ridomil Gold Copper, Ridomil Gold EC, Ridomil Gold MZ, Ridomil Gold PC, Ridomil Gold PC GR, Ridomil Gold Platinum, Ridomil Gold/Bravo, Ultra Flourish, Uniform
F	metalaxyl	Prevail
O	metam-sodium	Metam CLR 42%, Nemasol 42%, Sectagon 42, Vapam, Vapam HL
I	methamidophos	Monitor 4, Monitor 4 Spray
H	metribuzin	Axiom DF, Boundary, Lexone DF, Metri DF, Sencor 4, Sencor 50WP, Sencor DF
I	oxamyl	Vydate C-LV, Vydate L
F	PCNB	Blocker 10G, Blocker 4F, PCNB 2-E, Prevail, Ridomil Gold PC, Ridomil Gold PC GR, Terraclor Super X 18.8G, Terraclor Super X Emulsifiable
H	pendimethalin	Pendimax 3.3, Pendimethalin, Prowl, Prowl 3.3 EC, Prowl DG, Prowl H20
I	permethrin	Ambush, Arctic 3.2 EC, Perm-UP 3.2 EC, Permethrin 3.2 AG, Permethrin 3.2 EC, Pounce 1.5G, Pounce 3.2EC, Waylay 3.2 AG
I	phorate	Phorate 15G, Phorate 20-G, Thimet 10-G, Thimet 15-G, Thimet 20-G
F	phosphorous acid	Phostrol
I	pymetrozine	Fulfill
F	pyraclostrobin	Headline, Pristine
H	rimsulfuron	Accent Gold, Basis, Basis Gold, Matrix, Steadfast, Steadfast ATZ
H	S-Metolachlor	Bicep II Magnum, Bicep Lite II Magnum, Boundary, Brawl, Camix, Cinch, Cinch ATZ, Dual II Magnum, Dual II Magnum SI, Dual IIG Magnum, Dual Magnum, Lexar, Lumax, Sequence
O	sulfuric acid	Sulfuric Acid Potato Vine Desiccant
I	thiamethoxam	Actara, Centric, Plantinum, Ridomil Gold Platinum
H	trifluralin	Treflan 5, Treflan E.C., Treflan HFP, Treflan M.T.F., Treflan TR-10, Tri-4, Trific 60DF, Trifluralin 10G, Trifluralin 4, Trilin, Trust 4EC
F	zoxamide	Gavel 75DF

## Fall Potatoes: Pest Management Practices, Idaho and Program States, 2005

Practices	Idaho	Program States	Idaho	Program States
	<b>Percent of Acres Receiving Practice</b>		<b>Percent of Farms Receiving Practice</b>	
<b>Prevention Practices:</b>				
No-till/minimum till used to manage pests	20	30	20	29
Plow down crop residue	53	60	54	65
Remove crop residue	13	18	12	12
Clean implements after fieldwork	66	75	62	67
Field edges/etc. chopped, mowed/etc.	78	79	76	69
Water management practices	54	53	55	39
<b>Avoidance Practices:</b>				
Adjust planting/harvesting dates	26	27	23	22
Rotate crops to control pests	85	91	83	88
Grow trap crop to control insects	3	3	2	3
Crop variety chosen for pest resistance	22	23	18	22
Planting locations planned to avoid pests	23	30	24	28
<b>Monitoring Practices:</b>				
Scouting by general observation	33	20	34	25
Deliberate scouting activities	66	79	65	74
Field was not scouted	1	1	1	1
Scouting for pests	24	50	24	46
Scouting due to pest advisory warning	15	27	16	23
Scouted due to pest development model	14	26	12	25
Scouted for weeds	96	98	95	96
Scouting for weeds was done by:				
Operator, partner, or family member	59	46	63	58
An Employee	14	11	10	6
Farm supply or chemical dealer	15	15	16	11
Indep. crop consultant or comm. scout	12	28	12	26
Scouted for insects or mites	97	98	96	98
Scouting for insects or mites was done by:				
Operator, partner, or family member	47	41	55	54
An Employee	15	10	11	6
Farm supply or chemical dealer	22	18	21	12
Indep. crop consultant or comm. scout	16	32	14	28
Scouted for diseases	98	98	97	98
Scouting for diseases was done by:				
Operator, partner, or family member	48	40	55	53
An Employee	14	10	11	6
Farm supply or chemical dealer	20	17	18	12
Indep. crop consultant or comm. scout	18	32	16	29
Field mapping of weed problems	31	37	28	38
Soil/plant tissue analysis to detect pests	50	54	50	43
Records kept to track pests	39	58	32	48
Weather monitoring	64	79	62	79
<b>Suppression Practices:</b>				
Beneficial organisms	4	3	4	2
Biological pesticides	2	2	1	3
Scouting used to make decisions	38	48	35	51
Maintain ground cover or physical barriers	49	54	51	54
Adjust planting methods	21	25	20	23
Alternate pesticides with different MOA	62	64	61	58
Biological pest controls	3	10	4	13