

## POTATO CHEMICAL USE

### Fertilizer and Pesticides Applied to Fall Season Potatoes in 2003

Ten fall potato producing states were included in the 2003 survey: Colorado, Idaho, Maine, Michigan, Minnesota, North Dakota, Oregon, Pennsylvania, Washington, and Wisconsin. Nitrogen fertilizer was applied to 100 percent of the fall potato acreage in these states. Nitrogen applications averaged 4.0 pounds per acre with a total of 218.5 million pounds applied. Phosphate was applied to 94 percent of the fall potato acres in the Program States, with a total of 158.2 million pounds applied. Potash was applied to 88 percent of the acreage planted to fall potatoes in the states surveyed.

Herbicides were applied to 91 percent of the fall potato acreage in 2003 in the 10 Program States. Metribuzin was the most widely applied herbicide, applied to 69 percent of the planted acreage being treated, at a rate of 0.42 pounds per acre. The next three most widely applied herbicides used on fall potatoes, pendimethalin, rimsulfuron, and EPTC, were applied to 25, 23, and 22 percent, respectively, of the planted fall potato acres in the Program States. Insecticides were applied to 84 percent of the 2003 fall potato planted acreage. The two most commonly applied insecticides reported in the states surveyed were

imidacloprid and cyfluthrin, which were applied to 41 and 31 percent of the fall potato acreage, respectively.

Fungicide treatments were applied to 91 percent of the fall potato acreage in the Program States. Mancozeb was used most commonly, as it was applied to 64 percent of the planted acres, followed closely by chlorothalonil on 56 percent of the fall potato acreage in the states surveyed.

Usage of Other Chemicals, primarily desiccants, varied widely among the states surveyed. Percent of acreage treated ranged from three percent in North Dakota to 77 percent in Washington. Overall, 47 percent of the acres planted to fall potatoes in the Program States received an application of an Other Chemical. Diquat and metam-sodium applied to, respectively, 30 and 25 percent of the fall potato planted acreage, were the most commonly applied Other Chemicals.

*Chemical use estimates for fall potatoes are published every two years. The next report will be issued in May 2006.*

#### Fall Potatoes: Fertilizer Use by State, 2003 Percent of Acres Treated and Total Amount Applied

State	Planted Acreage 1,000 Acres	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
		Percent	Million Pounds	Percent	Million Pounds	Percent	Million Pounds
Colorado	73	98	15.9	96	9.7	90	7.0
Idaho	360	100	81.4	95	63.2	86	37.3
Maine	66	100	12.0	100	12.3	100	13.8
Michigan	46	100	8.5	98	4.0	98	9.1
Minnesota	60	100	8.6	94	4.9	92	8.5
North Dakota	117	97	16.5	92	10.0	84	13.7
Oregon	43	100	10.7	96	7.4	84	8.8
Pennsylvania	15	100	1.9	99	1.3	99	1.4
Washington	163	100	43.1	85	33.2	82	30.7
Wisconsin	81	100	19.9	99	12.2	100	25.5
Total	1,024	100	218.5	94	158.2	88	155.8

#### Fall Potatoes: Fertilizer Use Maine, 1992 - 2003

Year	Planted Acreage 1,000 Acres	Percent of Acres Treated and Total Applied					
		Nitrogen		Phosphate		Potash	
		Percent	Million Pounds	Percent	Million Pounds	Percent	Million Pounds
1992	81	100	--	99	--	99	--
1993	81	100	--	99	--	98	--
1994	78	100	13.7	99	13.7	99	13.9
1995	78	99	13.7	99	13.9	99	14.3
1996	78	100	13.0	99	13.4	100	13.6
1997 <sup>1/</sup>	71	100	12.9	100	13.3	100	13.5
1999	65	100	11.5	100	12.3	100	12.4
2001	62	98	11.0	98	11.4	98	11.8
2003	66	100	12.0	100	12.3	100	13.8

<sup>1/</sup> Starting in 1997, Chemical Use estimates for fall potatoes were published every two years.

**Fall Potatoes: Pesticides Applied, Planted Acreage,  
Percent of Area Receiving Applications and Total Applied, Program States and Total, 2003**

State	Planted Acreage	Percent of Acres Treated and Total Applied							
		Herbicide		Insecticide <sup>1/</sup>		Fungicide		Other Chemical	
		1,000 Acres	Percent	1,000 Pounds	Percent	1,000 Pounds	Percent	1,000 Pounds	Percent
Colorado	73	84	168	71	40	90	122	57	14,815
Idaho	360	89	693	78	458	78	606	57	31,892
Maine	66	100	34	88	18	100	576	21	52
Michigan	46	94	68	99	19	96	382	48	696
Minnesota	60	94	42	69	6	98	461	4	1,294
North Dakota	117	82	57	80	29	99	1,350	3	311
Oregon	43	95	71	83	140	94	169	70	3,626
Pennsylvania	15	91	28	99	23	96	126	6	3
Washington	163	94	339	97	701	99	1,704	77	20,847
Wisconsin	81	94	72	99	133	99	1,038	38	1,846
<b>Total</b>	<b>1,024</b>	<b>91</b>	<b>1,577</b>	<b>84</b>	<b>1,571</b>	<b>91</b>	<b>6,538</b>	<b>47</b>	<b>75,386</b>

<sup>1/</sup> Total Applied excludes Bt's (*Bacillus Thuringiensis*) and other biologicals. Quantities are not available because amounts of active ingredients are not comparable between products.

**Fall Potatoes: Agricultural Chemical Applications, Maine, 2003<sup>1/</sup>**

Agricultural Chemical	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre		1,000 Pounds
<b>Herbicides</b>					
Linuron	15	1.0	0.83	0.83	8
Metribuzin	82	1.0	0.46	0.46	25
Rimsulfuron	3	1.0	0.02	0.02	2/
<b>Insecticides</b>					
Cyfluthrin	35	1.6	0.03	0.05	1
Esfenvalerate	11	1.7	0.04	0.08	1
Imidacloprid	69	1.0	0.18	0.18	8
Methamidophos	11	1.5	0.63	0.97	7
Pymetrozine	5	1.7	0.08	0.13	2/
<b>Fungicides</b>					
Azoxystrobin	20	1.0	0.11	0.11	1
Chlorothalonil	74	4.9	0.73	3.57	175
Copper hydroxide	9	2.3	0.51	1.19	7
Cymoxanil	4	1.3	0.11	0.15	2/
Mancozeb	87	6.7	0.94	6.38	365
Mefenoxam	25	1.1	0.23	0.26	4
Metalaxyl	3	1.5	0.06	0.09	2/
Metiram	6	5.5	0.84	4.68	20
Pyraclostrobin	5	1.0	0.13	0.13	2/
Triphenyltin hydrox.	21	1.6	0.11	0.19	3
<b>Other Chemicals</b>					
Diquat	89	1.9	0.25	0.48	28
Maleic hydrazide	19	1.0	1.82	1.82	23
Paraquat	5	1.0	0.34	0.34	1

<sup>1/</sup> Planted acreage in Maine for 2003 totaled 66,000 acres.

<sup>2/</sup> Total applied is less than 500 pounds.