



2011 Agricultural Chemical Use Estimates

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In the fall of 2011, the North Carolina Field Office of the National Agricultural Statistics Service collected data on chemical use and pest management practices for growers of apples and blueberries. This data is part of a series of chemical use which was last conducted in 2009. North Carolina participated in the fruit chemical usage survey along with twelve other states. The survey provides data to develop an agricultural chemical use database that is timely, detailed, and reliable. For more information please visit <http://quickstats.nass.usda.gov/>.

Blueberries: The most utilized herbicide was **Hexazinone**, applied to **50** percent of the surveyed acreage. The most commonly used Insecticides were **Esfenvalerate** and **Malathion**, both applied to **60** percent of the total surveyed acreage. The most commonly applied fungicides were **Fenbuconazole** and **Captan**, applied to **73** percent and **51** percent of the acreage; respectively.

Blueberries: Agricultural Chemical Applications, 2011

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
HERBICIDES					
Glyphosate Pot. Salt	22	1.5	0.814	1.230	1.6
Hexazinone	50	1.1	0.582	0.638	1.8
Oryzalin	20	1.2	2.113	2.471	2.9
Paraquat	21	1.8	0.885	1.576	1.9
Sethoxydim	16	1.3	0.486	0.613	0.6
INSECTICIDES					
Esfenvalerate	60	2.6	0.036	0.093	0.3
Malathion	60	6.8	0.986	6.661	23.0
FUNGICIDES					
Boscalid	10	1.7	0.263	0.442	0.3
Captan	51	1.9	1.363	2.613	7.7
Fenbuconazole	73	2.2	0.177	0.380	1.6
Propiconazole	17	2.0	0.226	0.460	0.4
Pyraclostrobin	21	1.8	0.156	0.281	0.3

¹ Bearing acreage in 2011 for North Carolina was 5800 acres

Apples: The most commonly used herbicide was **Paraquat** on **7** percent of the acres, followed by **Glyphosate Isopropylamine** salt applied to **6** percent of the acres. The most utilized insecticides were: **Spinetoram** and **Spinetoram-L** both applied to **69** percent of the acres, **Chlorantraniliprole** applied to **56** percent, followed by **Acetamiprid** applied to **54** percent. The most commonly applied fungicides were **Captan** and **Mancozeb**, applied at **88** percent and **64** percent respectively. Other chemicals were used to treat some of the apple acreage in North Carolina as well; **Mineral Oil** and **NAA** were two of the most commonly used other chemicals.

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Apples: Agricultural Chemical Applications, 2011

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
HERBICIDES					
2,4-D, Dimeth. Salt	6	1.0	0.878	0.893	0.4
Diuron	6	1.0	1.205	1.205	0.5
Glyphosate Iso. Salt	6	1.4	0.797	1.078	0.4
Paraquat	7	1.3	0.756	0.966	0.4
INSECTICIDES					
Acetamiprid	54	1.2	0.121	0.148	0.6
Azinphos-Methyl	30	1.8	0.796	1.452	3.0
Carbaryl	14	1.4	1.209	1.751	1.7
Chlorantraniliprole	56	2.2	0.065	0.141	0.5
Chlorpyrifos	47	1.1	1.083	1.165	3.8
Endosulfan	17	1.8	1.791	3.255	3.8
Esfenvalerate	38	1.5	0.044	0.064	0.2
Fenpropathrin	7	1.2	0.097	0.121	0.1
Imidacloprid	42	1.8	0.090	0.166	0.5
Methoxyfenozide	27	1.0	0.148	0.148	0.3
Phosmet	21	2.2	1.070	2.406	3.5
Spinetoram	69	1.7	0.040	0.066	0.3
Spinetoram-L	69	1.7	0.040	0.066	0.3
Thiacloprid	33	1.0	0.154	0.155	0.4
FUNGICIDES					
Bacillus Subtilis	3	2.8	²	²	²
Basic Copper Sulfate	37	1.4	1.380	1.929	5.0
Boscalid	47	1.5	0.241	0.368	1.2
Captan	88	5.7	2.172	12.450	75.4
Copper Hydroxide	13	1.3	5.315	6.644	6.0
Dodine	33	1.2	1.177	1.442	3.3
Fenarimol	17	2.0	0.050	0.098	0.1
Kresoxim-Methyl	36	1.8	0.145	0.258	0.6
Mancozeb	64	3.2	2.567	8.154	36.0
Metiram	42	3.5	3.095	10.707	30.9
Mono-Potassium Salt	23	2.9	0.760	2.222	3.5
Myclobutanil	58	3.0	0.133	0.404	1.6
Pyraclostrobin	47	1.5	0.122	0.187	0.6
Streptomycin Sulfate	48	2.0	0.160	0.313	1.0
Sulfur	18	4.9	3.899	19.003	23.4
Thiophanate-Methyl	60	5.8	0.526	3.069	12.6
Trifloxystrobin	27	1.7	0.089	0.155	0.3
Ziram	53	4.4	2.816	12.256	45.2
OTHER CHEMICALS					
Benzyladenine	11	1.5	0.053	0.078	0.1
Butenoic Acid Hydro.	9	1.1	0.014	0.015	³
Dodecadien-1-Ol	17	1.4	0.221	0.303	0.4
Dodecanol	17	1.4	0.037	0.050	0.1
Gibberellins A4a7	9	1.5	0.025	0.036	³
Mineral Oil	42	1.0	19.115	19.843	57.2
Naa, Sodium	30	1.4	0.019	0.027	0.1
Tetradecanol	17	1.4	0.007	0.010	³

¹ Bearing acreage in 2011 for North Carolina was 6900 acres

² Total applied is less than 100 lbs

³ The area chemical applied to less than 1% of total acreage