



High Bush Blueberry Pest Management Survey Pest Management Resources Online for New England (PRO New England)

(The following survey was distributed to New England growers in the Fall of 2003. A Dillman survey methodology was used to design and conduct the survey. Listed below are the questions and responses to the survey)

This survey should be completed by the person most responsible for crop management decisions on your farm. Please complete if you grow HIGH BUSH BLUEBERRIES.

Do you grow High bush Blueberries for sale?

State	Yes	No	Total Survey Responses	Percent of Surveys Response	Surveys Sent
CT	5	15	20	47.6	42
MA	68	37	105	72.4	145
ME	10	17	27	64.3	42
NH	15	43	58	66.7	87
RI	3	0	3	30	10
VT	13	5	18	75	24
Total	114	117	231	66	350

A1. How many acres of high bush blueberries did you manage in 2002?

State	Number(N)	Sum of Acres	% Acres
CT	5	46.5	11.8
MA	68	208.8	53.0
ME	10	4.1	1.0
NH	15	52.3	13.3
RI	3	28.2	7.2
VT	13	54	13.7
Total	114	393.9	100

A2. Over the past five years, what is your average annual yield of high bush blueberries per acre: N=102

N=	Total Acres	Total Yield (lbs)	Average (lbs/acre)
86 growers	297.70	868,773	2,205
Unknown=10			

A3. What percentage of your high bush blueberry crop is sold through each of these markets? N=113

Market	Count	Acres	Percent of Acres
Retail	61	42.65	10.8
U-Pick	83	246.9	62.68
Wholesale	36	99.2	25.2
Processing	11	1.73	<1
Other			
CSA	1	1.38	<1
Personal/home use	2	0.16	<1

Horticultural Management for High Bush Blueberries

B1. Which of the following practices do you use? N=113

Practice	Count	Percent
Dormant Pruning	100	87.7
Removal of old Canes	83	72.8
Detailed Pruning	62	54.4
Summer Pruning	8	7.0
Other		
Picking of blossoms	1	<1
Fall pruning	1	<1

B2. Do you use a leaf tissue analysis to determine fertilizer needs? N=112

Answer	Count	Percent
Yes	50	43.9
No	62	54.4

Practice	Count	Percent
1 time each year	21	18.4
More than 1 time each year	1	<1
Every other year	7	6.1
Every third year	16	14
Other		
Every 4 years	1	<1
Every 5 years	1	<1

B3. Do you use a soil sample to determine fertilizer needs in most years? N=114

Answer	Count	Percent
Yes	57	50
No	57	50

Practice	Count	Percent
1 time each year	19	16.7
More than 1 time each year	1	<1
Every other year	12	10.5
Every third year	21	18.4
Other		
Every 5 years	3	2.6

B4. Which of the following describes your planting densities (please circle the density that most closely approximates your high bush blueberries plantings. N=107)

Results: Average density per grower= 953 plants per acre. (N=107)
 Average density per acre reported= 863 plants per acre (Acres=370.64)

Density: Number of high bush blueberry plants per acre at various spacings.

In Row Spacing	Between Row Spacing					
	8 ft	9 ft	10 ft	11 ft	12 ft	Other
4 ft	1361	1210	1089	990	908	
5 ft	1089	968	870	792	726	
6 ft	908	807	726	660	605	
Other						

C1. Please estimate your average number of pesticide applications for high bush blueberries used in a typical year: N=114

Pest	Count	Average # of Applications
Insects	102	1.7
Mites	80	0.2
Weeds	98	1.2
Diseases	96	2.

C2. Which of these insects require routine annual control, require occasional control, are rarely a problem, or are never a problem on your farm? N=101

Insects/Mites	Count	%	Annual Control	Occasional Control	Rarely a problem	Never a problem	Ranking
Blueberry Maggot	94	82.5	41	8	20	24	1
Cranberry Fruitworm	81	71.0	20	14	16	30	2
Plum Curculio	76	66.7	11	7	18	39	5
Cherry Fruitworm	73	64.0	9	9	17	37	6
Blueberry Tip Borer	82	71.9	11	13	28	28	3
Blueberry Bud Mite	73	64.0	3	6	21	42	9
White Grubs	76	66.7	6	8	26	35	7
Aphids	77	67.5	4	11	24	37	8
Scale Insects	79	69.3	9	9	29	31	4
Other							
Mites	5	4.4	3	-	-	-	-
Japanese Beetles	17	14.9	7	3	-	-	-
Wasp	2	1.7	1	-	-	-	-
Gypsy Moth	2	1.7	1	1	-	-	-
Canker worm	1	<1	1	-	-	-	-
White moth	1	<1	1	-	-	-	-

C3. Which of these pests require routine annual control, require occasional control, are rarely a problem, or are never a problem on your farm? N=108

Weeds and Vertebrate Pests	Count	%	Annual Control	Occasional Control	Rarely a problem	Never a problem
Annual Broadleaf Weeds	92	80.7	75	9	4	4
Perennial Broadleaf Weeds	95	83.3	72	12	5	6
Annual Grasses	96	4.2	75	12	4	5
Perennial Grasses	94	82.5	74	13	2	5
Birds	93	81.6	67	14	8	4
Deer	77	67.5	15	11	24	27
Voles	76	6.7	16	16	27	17
Woodchucks	71	62.3	9	7	18	37
Other						
Bears	6	5.3	3	1	-	-
Raccoons	7	6.1	4	3	-	-
Squirrel	2	1.7	1	1	-	-
Coyote, Porcupine, Turkey, Chipmunk, Fox	1	<1	1	-	-	-

C4. Which of these viruses and diseases require routine annual control, require occasional control, are rarely a problem, or are never a problem on your farm? N=102

Viruses & Diseases	Count	%	Annual Control	Occasional Control	Rarely a problem	Never a problem	Rank
Mummy Berry	91	79.8	51	12	16	12	1
Anthracnose	80	70.2	28	6	21	24	3
Botrytis Blight	77	67.5	21	10	21	24	4
Fusicoccum Canker	74	64.9	16	10	22	25	5
Phomopsis Twig Blight	78	68.4	26	15	15	21	2
Powdery Mildew	74	64.9	4	4	29	37	8
Phytophthora Root Rot	73	64.0	2	8	24	39	9
Coryneum Canker	66	57.9	1	2	21	42	17
Armillaria Root Rot	68	59.6	-	2	19	47	18
Powdery Mildew	71	62.3	1	3	25	42	12
Blueberry Shoestring Disease	70	61.4	2	1	23	44	14
Blueberry Stunt	74	64.9	6	4	25	39	7
Red Ringspot	68	59.6	1	4	23	40	12
Mosaic	70	61.4	1	5	28	36	10
Blueberry Scorch	70	61.4	2	2	25	41	11
Witches' Broom	77	67.5	8	12	23	34	6
Crown Gall	71	62.3	-	-	30	41	15
BlueberryScorch Virus	68	59.6	3	-	20	44	16

C5. How important are these factors to you when choosing pesticides for use on your farm?

N=106

FACTORS	N=	Very important	Somewhat important	Not important	Rank
Toxicity of materials available (to self, family, employees)	92	81	8	3	2
Potential environmental impacts	91	76	11	4	4
Safety of packaging (such as water soluble bags, etc.)	8	43	28	17	6
Cost per Acre/Unit	87	38	38	11	6
Effectiveness	91	84	6	1	1
Impact on non-target organisms including beneficials	8	63	21	4	5
Phytotoxicity (potential for injury to crop)	89	79	8	2	3

General Pest Management Information for High Bush Blueberries

In order to understand the importance of various pesticides and alternative strategies to HIGH BUSH BLUEBERRIES pest management, the following sections D-F ask for specific information about your actual pesticide use and alternative pest management strategies.

General Pest Management Information for HIGH BUSH BLUEBERRIES

For each of the following insects and mites, indicate the **percentage of your high bush blueberries crop treated in 2002**. If you **did not treat for the pest**, put “0” in the “percent treated” slot. Please circle the pesticides that you used, the rate (**full or reduced**) that was used and the effectiveness of the control strategy (**excellent, good, poor**). For all pesticides used, “**Full Rate**” means highest labeled rate and “**Reduced Rate**” means less than the highest labeled rate. If you used non-pesticide strategies to control a pest please specify them in the “**Other Strategies Employed**” area.

D1. Blueberry Maggot N=110

Percent of high bush blueberry crop treated for blueberry maggot in 2002

N=	52
Acres	90.46
Percent	48.4

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Guthion	13	48.4	12.3	9	4	9	1	1
Imidan	23	103.81	26.4	17	6	18	2	1
Malathion	22	61.93	15.7	14	8	9	9	2
Pyrenone	2	0.425	<1	1	-	-	1	1
Pyrellin	1	0.3	<1	-	1	-	1	-
Sevin	19	70.1	17.8	15	4	6	7	1

Other Pesticides	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Garlic/Pyrethrin	1	5	1.3	-	-	-	-	-
Indar	1	3	<1	1	-	1	-	-
Neem	1	0.125	<1	1	-	-	1	-
Other Strategies								
Red Sticky Traps	3	7.63	<1	-	-	-	2	-
NuLure Insect Bait	1	8	2.0	-	-	2	-	-
Yellow sticky trap	1			-	-	1	-	-
Various traps	2	2.5	<1	-	-	-	1	1
Hand removal	2	0.13	<1	-	-	-	1	-
100% harvest of berries	1	5	1.3	-	-	-	1	-
Trap crop wild raspberries	1	1	<1	-	-	-	1	-

D2. Cranberry Fruitworm N=108

Percent of high bush blueberry crop treated for cranberry fruitworm in 2002

N=	35
Acres	136.5
Percent	34.7

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Biobit	0	-	-	-	-	-	-	-
Diazinon	2	4.3	1.1	2	-	-	2	-
DiPel	0	-	-	-	-	-	-	-
Guthion	7	26.4	6.7	5	2	2	3	1
Imidan	15	83	21.1	12	3	10	5	-
Lannate	1	1	<1	1	-	-	1	-

Pesticide cont.	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Malathion	10	27.18	6.9	5	3	3	5	-
Methoxychlor	0	-	-	-	-	-	-	-
Pyrenone	1	2.5	<1	1	-	-	1	-
Sevin	6	9.65	2.5	2	2	4	-	-
Other Pesticides								
Entrust	1	0.875	<1	-	-	-	1	-
Neem	1	2.5	<1	1	-	-	1	-
Garlic Oil	1	5	1.3		-	-	-	-
Other Strategies								
Red Sticky Traps	1	0.125	<1	-	-	-	-	1
Traps	1			-	-	-	-	1
Handpicking	1	2.5	<1	-	-	-	1	-
Harvested infested fruit	1	5	1.3	-	-	-	1	-

D3. Plum Curculio N=107

Percent of high bush blueberry crop treated for plum curculio in 2002

N=	21
Acres	65.4
Percent	16.6

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Guthion	6	20.1	5.1	3	2	4	2	-
Imidan	10	43.2	11.0	7	1	2	7	-
Sevin	7	16	4.1	2	3	1	4	-
Other Pesticides								
Neem	1	0.125	<1	-	1	-	1	-

Other Strategies	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Harvested infested fruit	1	5	1.3	-	-	-	-	-

D4. Cherry Fruitworm N=110

Percent of high bush blueberry crop treated for cherry fruitworm in 2002

N=	24
Acres	107.31
Percent	27.2

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Biobit	0	-	-	-	-	-	-	-
DiPel	0	-	-	-	-	-	-	-
Guthion	6	38.1	9.7	3	3	3	2	1
Imidan	8	48.	12.2	6	1	3	4	-
Malathion	9	25.5	6.5	3	3	2	4	-
Pyrenone	0	-	-	-	-	-	-	-
Sevin	5	10.5	2.7	2	1	-	1	-
Other Pesticides								
Garlic Oil	1	5	1.3	-	-	-	-	-
Neem	1	0.125	<1	-	-	-	1	-
Other Strategies								
Harvested Infested Fruit	1	5	1.3	-	-	-	1	-

D5. Blueberry Tip Borer N=109

Percent of high bush blueberry crop treated for Blueberry Tip Borer in 2002

N=	21
Acres	86.44
Percent	21.9

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Biobit	0	-	-	-	-	-	-	-
DiPel	0	-	-	-	-	-	-	-
Guthion	4	13.1	3.3	2	2	1	2	1
Imidan	7	39.34	10.0	4	3	3	3	1
Malathion	7	22.5	5.7	-	4	-	5	-
Pyrenone Crop Spray	0	-	-	-	-	-	-	-
Sevin 50 WP	4	8	2.0	2	-	-	1	-
Other Strategies								
Cut below tunnels	1	3.5	<1	-	-	-	-	1
Summer Pruning	5	1.5	<1	-	-	1	1	1

D6. Blueberry Bud Mite N=109

Percent of high bush blueberry crop treated for blueberry bud mite in 2002

N=	1
Acres	5
Percent	1.3

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Phaser	0	-	-	-	-	-	-	-
Thiodan	0	-	-	-	-	-	-	-
Thiodan/Cottonseed Oil	0	-	-	-	-	-	-	-
Other Pesticides								
Guthion	1	5	1.3	-	1	-	1	-

D7. Scale Insects N=109

Percent of high bush blueberry crop treated for scale insects in 2002

N=	11
Acres	29.4
Percent	7.5

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Superior Oil	6	12.7	3.2	4	2	4	1	-
Sunspray Ultra Fine Oil	4	13.7	3.5	3	1	1	3	-
Other Strategies								
Pruning	2	4.05	1.0	-	-	-	1	-
Lady bugs	1	3	<1	-	-	1	-	-

D8. White Grubs N=107

Percent of high bush blueberry crop treated for white grubs in 2002

N=	28
Acres	100.3
Percent	25.5

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Imidan	3	22	5.6	2	1	1	2	-
Malathion	9	27.3	6.9	5	2	2	3	3
Sevin	11	43.74	11.1	4	5	2	6	1
Other Pesticides								
Milky Spore	1	1.5	<1	-	-	-	-	-
Mach	1	1	<1	-	-	-	-	1
Admire	2	2.5	<1	1	-	2	-	-
Other Strategies								
Pick off beetles	3	.51	<1	-	-	-	2	1
Japanese Beetle traps	10	17.75	4.5	-	1	4	2	1
Nematodes	1	1.5	<1	-	-	-	-	1
Trap crop	1	-	-	-	-	1	-	-
Bird Netting	1	.006	<1	-	-	-	1	-

Disease Management

Disease Management for HIGH BUSH BLUEBERRIES

For each of the following diseases and viruses, indicate the **percentage of your high bush blueberry crop treated in 2002**. If you **did not treat for the pest**, put “0” in the “percent treated” slot. Please circle the pesticides that you used, the rate (**full** or **reduced**) that was used and the effectiveness of the control strategy (**excellent, good, poor**). For all pesticides used, “**Full Rate**” means highest labeled rate and “**Reduced Rate**” means less than the highest labeled rate. If you used non-pesticide strategies to control a pest please specify them in the “**Other Strategies Employed**” area.

E1. Mummy Berry N=111

Percent of high bush blueberry crop treated for Mummy berry in 2002

N=	55
Acres	218.9
Percent	55.6

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Benlate	10	34.4	8.7	7	3	5	4	-
Captan	22	67.7	17.2	16	5	7	8	1
Captan plus Benlate	15	49.9	12.7	11	4	5	8	-
Captec	8	48	12.2	6	2	3	3	1
Chlorothalonil	2	8.3	2.1	2	-	2	-	-
Indar	10	31.4	8.0	6	3	6	2	-
Orbit	13	85	21	10	3	6	4	1
Ziram	0	-	-	-	-	-	-	-
Other Pesticides								
Funginex	2	30	7.6	2	-	1	1	-
Switch	2	14	3.6	1	-	1		1
Neem	1	2.5	<1	1	-	-	1	-
Liquid Sulfur	1	5	1.3	1	-	-	1	-

Other Strategies	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Mulch	6	10.9	2.8	-	-	2	1	-
Handpick	4	14	3.6	-	-	1	3	-
Application of Urea	3	4.5	1.1	-	-	1	1	1
Pruning	2	5.5	1.4	-	-	-	-	-
Handweed	1	0.25	<1	-	-	-	-	1
Sawdust	1	-	-	-	-	-	-	-
Handrake	1	0.1	<1	-	-	-	-	-

E2. Anthracnose N=108

Percent of high bush blueberry crop treated for anthracnose in 2002

N=	32
Acres	161.8
Percent	41.1

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Aliette	0	-	-	-	-	-	-	-
Captan	15	60.2	15.3	9	4	3	7	4
Captan plus Benlate	11	56.5	14.3	5	3	2	5	1
Captec	7	50.5	12.8	5	2	4	3	-
Chlorothalonil (Bravo)	0	-	-	-	-	-	-	-
Rovral	0	-	-	-	-	-	-	-
Ziram	0	-	-	-	-	-	-	-
Other Pesticides								
Topsin	2	18	4.6	1	-	1	1	-
Lime sulfur	2	12	3.0	2	-	1	1	-
Other Strategies								
100% harvest	1	5	1.3	-	-	-	-	-

E3. Botrytis Blight N=108

Percent of high bush blueberry crop treated for Botrytis Blight in 2002

N=	28
Acres	138
Percent	35.0

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Aliette	0	-	-	-	-	-	-	-
Benlate	3	10.5	2.7	2	1	3	-	-
Captan	13	56.8	14.4	7	3	4	4	3
Captan plus Benlate	13	61.3	15.6	7	4	2	8	-
Captec	3	33	8.4	3	-	2	1	-
Chlorothalonil	0	-	-	-	-	-	-	-
Rovral	0	-	-	-	-	-	-	-
Ziram	0	-	-	-	-	-	-	-
Other Pesticides								
Topsin	1	11	2.8	1	-	1	-	-

E4. Fusicoccum Canker N=109

Percent of high bush blueberry crop treated for Fusicoccum Canker in 2002

N=	18
Acres	98.7
Percent	25.1

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Benlate	5	21	5.2	5	-	1	3	-
Captan plus Benlate	8	49.7	12.6	4	4	3	4	-
Ziram	1	1	0.3	-	-	-	1	-

Other Pesticides	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Lime sulfur	2	13	3.3	1	-	-	1	-
Captan	2	16	4.1	2	-	-	2	-
Topsin	1	11	2.8	1	-	-	1	-
Captec	1	6.5	1.7	-	1	1	-	-
Other Strategies								
Pruning	5	12.5	3.2	-	-	-	5	-

E5. Phomopsis Twig Blight N=109

Percent of high bush blueberry crop treated for Phomopsis Twig Blight in 2002

N=	23
Acres	101
Percent	25.7

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Benlate	7	24.5	6.2	6	2	1	6	-
Bravo	1	6	1.5	1	-	-	1	-
Lime Sulfur	17	77	20	11	5	3	9	2
Ziram	0	-	-	-	-	-	-	-
Other Pesticides								
Orbit	1	11	2.8	1	-	1	-	-
Captec	1	11	2.8	1	-	1	-	-
Topsin	1	11	2.8	1	-	1	-	-
Other Strategies								
Pruning	2	5	1.3	-	-	-	2	-

E6. Powdery Mildew N=106

Percent of high bush blueberry crop treated for Powdery Mildew in 2002

N=	2
Acres	5.25
Percent	1.33

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Sulfur	1	0.3	0.1	1	-	-	-	-
Other Pesticides								
Liquid sulfur	1	5	1.3	1	-	-	-	-

E7. Phytophthora Root Rot N=113

Percent of high bush blueberry crop treated for Phytophthora Root Rot in 2002

N=	4
Acres	13.03
Percent	3.3

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Aliette	0	-	-	-	-	-	-	-
Ridomil Gold	4	13	3.3	3	1	-	4	-
Other Strategies								
Hilling	1	-	-	-	-	1	-	-

E9. Please list cultural practices used to control diseases and the effectiveness of control N=22

Cultural Practices	N=	Excellent	Good	Poor
pruning	11	2	6	1
mulching	4	1	3	-
mowing	3	1	2	-
cut out diseased wood	3	-	3	-
weed control	3	-	3	-
urea	2	-	1	-
hand rake entire planting after summer pruning	1	1	-	-
drip irrigation instead of overhead	1	-	-	-
remove fir trees for witches broom	1	-	-	1
burning brush	1	-	1	-
remove diseased plants	1	-	1	-

Weed Management

For each of the following weed control practices, indicate the **percentage of your high bush blueberry crop treated in 2002**. If you **did not use the practice**, put “0” in the “percent treated” slot. Please circle the pesticides that you used, the rate (**full** or **reduced**) that was used and the effectiveness of the control strategy (**excellent, good, poor**). For all pesticides used, “**Full Rate**” means highest labeled rate and “**Reduced Rate**” means less than the highest labeled rate.

F1. Pre-emergent weed management N=114

Percent of high bush blueberry crop treated with pre-emergent applications in 2002

N=	39
Acres	188.6
Percent	47.9

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Caliber 90	4	24.5	6.2	3	1	2	2	-
Casoron	11	24.3	6.2	9	2	5	6	-
Devrinol	4	39	9.9	3	1	2	-	2
Kerb	0	-	-	-	-	-	-	-
Princep	16	81	20.6	9	7	2	11	3
Sinbar	5	43	10.9	2	3	3	2	1
Solicam	2	11	2.8	-	2	1	-	1
Surflan	12	69.5	17.6	9	2	1	8	2
Other Pesticides								
Velpar L	1	3	<1	1	-	1	-	-
Corn Gluten Meal	1	0.35	<1	-	-	-	-	1
Roundup	1	5	1.3	-	1	-	1	-
Diuron	1	6	1.5	1	-	-	-	1

Other Strategies	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Mowing	4	-	-	-	-	-	-	-
Hand weed	2	-	-	-	-	-	-	-
Mulch	2	-	-	-	-	-	-	-

F2. Post-emergence weed management N=108

Percent of high bush blueberry crop treated with pre-emergent applications in 2002

N=	60
Acres	247.4
Percent	62.8

Pesticide	N=	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Fusilade	2	19	4.82	1	1	1	1	-
Gramoxone	4	12.5	3.2	1	3	1	3	-
Poast	5	40	10.2	4	1	1	1	2
Roundup	56	221	56.2	39	16	32	19	-
Scythe	3	11.5	2.92	1	2	-	3	-
Other Pesticides								
Select	1	3	<1	1	-	1	-	-
Touchdown	1	7	1.8	1	-	-	1	-

F3. Which cultural weed management practices did you use? (Please circle the practices used and the effectiveness of control: excellent, good, poor.) N=108

Cultural Practices	N=	Excellent	Good	Poor
Mowing	92	39	49	4
Mulching	73	26	43	4
Cultivation	21	7	10	4
Hand weeding	9	2	4	-
Wood chips	1	-	1	-

Vertebrate Pest Management for High bush Blueberry

G1. Which strategies do you use to control bird damage? (Please circle the practices used and the effectiveness of control: excellent, good, poor.) N=96

Cultural Practices	N=	Excellent	Good	Poor
Scare eye balloon	44	-	15	28
Flash tape	28	2	14	12
Propane Canons	11	1	6	4
Owls	27	2	8	17
Netting	41	31	10	-
Distress Calls	24	2	13	8
Other Practices				
Shot gun	3	1	1	1
Dogs	2	1	1	-
People picking	1	1	-	-
Fire crackers	1	-	1	-
Bottle rockets	1	1	-	-
Bird guard	1	-	1	-
wind noise maker	1	-	-	1
cats	1	-	-	-
bird feeder	1	-	-	-

Vertebrate Pests and Strategies (Please list vertebrate, list strategies used and circle the effectiveness of the control)

G2. Vertebrate Pests and Strategies N=20

Vertebrate Pests	Strategies Used	N=	Excellent	Good	Poor
Deer (N=10)	Electric fence	1	1	-	-
	Shooting	2	-	1	1
	Fence	1	1	-	-
	scare crow	1	1	-	-
	soap	1	-	1	-
	pin wheels sprayed with garlic	1	1	-	-
	ground sprayed with garlic	1	1	-	-
Bears (N=7)	Electric fence	3	2	-	-
	Dogs	1	-	-	1
	Fence	1	1	-	-
	Ground sprayed with garlic	1	1	-	-
Mice/Voles (N=3)	D-con Poison	2	-	1	1
Raccoons (N=4)	Trap	1	-	1	-
	nets	1	-	1	-
	electric fence	2	1	-	-
	Shoot	1	-	-	1
	Have a heart trap	1	-	1	-
Coyotes	Ground sprayed with garlic	1	1	-	-
Moles	Cats	1	1	-	-
Squirrel	Have a heart trap	1	-	1	-
Squirrel	Fence	1	-	-	-

H1. If IPM practices such as insect trapping, degree-day accumulation, or field sampling are done, who does them?

N=73

IPM practitioner	N=	Percent
You	57	50
Private IPM scout/consultant	6	6.3
Farm employee or family member	9	7.9
Other	0	0

H2. What sampling methods are used? N=71

Sampling Methods	N=	Percent
sampling pattern is standardized (a fixed number of leaves for each plant and a fixed number of plants per row)	8	7.0
sampling pattern is informal	25	21.9
insect traps are used	35	30.7
none	13	11.4

H3. How important are these sources of information in making your pest management decisions N=96

Sources of Information	N=	Very important	Somewhat important	Not important	Rank
Twilight meetings	60	21	22	17	6
Off season educational meetings	74	44	23	7	4
New England Vegetable Mgmt Guide	80	57	19	4	2
Newsletters	72	44	24	4	3
Web sites	55	21	22	12	6
Trade publications	53	15	29	9	9
Other growers	62	30	30	2	5
Suppliers/dealers	57	20	22	15	8
University/Extension staff	79	62	15	2	1
Other					
Experience	2	1	-	-	-
BB Weekly publication	1	-	-	-	-

Organic standards	1	1	-	-	-
--------------------------	----------	----------	----------	----------	----------

**H4. How would you describe your High bush blueberry production practices?
N=100**

Crop Production	N=	Percent
Conventional	46	40.3
IPM	33	28.9
Organic	22	19.3