



Strawberry Management Survey Pest Management Resources Online for New England

(The following survey was distributed to New England growers in the Fall of 2004. 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 STRAWBERRIES.

Do you grow Strawberries for sale?

State	Yes	No	Surveys Sent
CT	12	7	45
MA	40	96	310
ME	14	16	69
NH	21	6	39
RI	2	1	9
VT	4	2	14
Total	93	128	486

A1. How many acres of Strawberries did you manage in 2004?

State	Number(N)	Sum of Acres	% Acres
CT	12	69.81	16.6
MA	40	117.91	28.1
ME	14	110.98	26.3
NH	21	77.2	18.4
RI	2	22	5.2
VT	4	23	5.4
Total	93	420.30	

A2. Over the past five years, what is your average annual yield of Strawberries per acre: N=79

	Acres	Total Yield (lbs)	Average lbs/acres
N=70	370	3,241,119	8,757 lbs/acre
Unknown=9			

A3. What percentage of your strawberries crop is sold through each of these markets? N=92

Market	Count	Acres	Percent of Acres
Fresh Market,Retail	84	114.4	27
U-Pick	72	244.1	58
Fresh Market, Wholesale	39	59.2	14
Processing	9	2.1	<1
Other	3	0.3	<1
CSA	1	0.27	<1
Home Use	2	0.02	<1

Horticultural Management for Strawberries

B1. Which of the following practices do you use? N=86

Practice	Count	Percent
Fresh manure	10	11
Composted manure	13	14
Dormant Plants	64	69
Plug Plants	13	14
Drip irrigation	30	32
Overhead Irrigation	65	70
Row cover	35	38
Importation of bee hives	36	39
Raised Beds	43	46
Black Plastic Mulch	22	24

B2. Do you use a soil sample to determine fertilizer needs in most years? N=91

Answer	Count	Percent
Yes	67	72
No	24	26

Practice	Count	Percent
1 time each year	35	38
More than 1 time each year	2	2
Every other year	15	16
Every third year	14	15
Every five years	1	<1

B3. Do you use a tissue analysis to determine fertilizer needs in most years? N=91

Answer	Count	Percent
Yes	29	31
No	62	67

Practice	Count	Percent
1 time each year	15	16
More than 1 time each year	2	2
Every other year	6	6
Every third year	5	5

C1. Please estimate your average number of pesticide applications for strawberries used in a typical year: N=91

Pest	Count	Average Number of Applications
Insects	89	2.12
Mites	80	0.61
Weeds	90	2.09
Diseases	88	3.08

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=90

Insects/Mites	Count	Annual Control	Occasional Control	Rarely a problem	Never a problem	Rank
Cutworms	86	4	10	33	39	13
Cyclamen Mite	80	5	15	28	32	12
Leaf Hoppers	85	20	28	24	13	3
Root Weevils	81	26	12	26	17	7
Sap Beetles	82	14	19	33	16	8
Slugs	83	16	31	22	14	4
Spittlebug	85	20	22	26	17	5
Strawberry Bud Weevil	85	37	17	20	11	2
Strawberry Leafrollers	82	2	23	36	21	11
Strawberry Rootworm	81	12	14	27	28	10
Thrips	80	3	12	32	33	13
Tarnished Plant Bug	87	59	14	8	6	1
Twospotted Spider Mite	83	19	22	28	14	6
White Grubs	80	9	21	28	22	9

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=90

Weeds and Vertebrate Pests	Count	Annual Control	Occasional Control	Rarely a problem	Never a problem
Annual Broadleaf Weeds	89	82	6	1	-
Perennial Broadleaf Weeds	86	68	15	2	1
Annual Grasses	88	75	10	3	-
Perennial Grasses	84	51	26	7	-
Deer	85	41	13	14	17
Voles	75	7	10	25	33
Birds	78	23	22	23	10

Other Vertebrate	Count	Annual Control	Occasional Control	Rarely a problem	Never a problem
Squirrel	5	4	1	-	-
Turkey	7	2	5	-	-
Chipmunk	3	2	1	-	-
Skunk	1	-	1	-	-
Woodchuck	4	4	-	-	-
Moose	2	-	2	-	-
Cedar waxwing	1	1	-	-	-
Cows	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=88

Viruses & Diseases	Count	Annual Control	Occasional Control	Rarely a problem	Never a problem	Rank
Bacterial Angular leaf spot	78	10	15	32	21	9
Black Root Rot	77	10	21	30	16	7
Gray Mold	86	64	10	11	1	1
Leaf Blight	78	13	19	30	16	6
Leaf Scorch	82	18	23	28	13	4
Leaf Spot	81	28	26	19	8	3
Leather Rot	78	12	29	24	13	5
Powdery Mildew	85	29	25	19	12	2
Red Stele	82	10	17	34	21	8
Verticillium Wilt	77	2	17	37	21	10
Other Diseases						
Anthracnose	2	1	1	-	-	-
Botrytis	1	1	-	-	-	-

General Pest Management Information for Strawberries

In order to understand the importance of various pesticides and alternative strategies to STRAWBERRIES 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 STRAWBERRIES

For each of the following insects and mites, indicate the **percentage of your strawberries crop treated in 2004**. 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. Cutworms N=87

Percent of strawberries crop treated for cutworms in 2004

N=	8
Acres	33
Percent	7.6

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Sevin Bait	2	15	3.6	1	-	1	1	-
Other Pesticides								
Methyl Bromide	1	9	2.1	1	-	1	-	-
Guthion	1	2	<1	1	-	1	-	-
Danitol	1	2	<1	-	1	1	-	-
Diazinon	1	1	<1	1	-	-	1	-
Other Strategies								
Hb nematodes	1	2.75	<1	-	-	1	-	-
Remove grass	1	1.25	<1	-	-	-	-	-

D2. Cyclamen Mite N=85

Percent of strawberries crop treated for Cyclamen Mite in 2004

N=	19
Acres	79.26
Percent	1.9

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Agri-Mek	6	27.7	6.6	5	1	2	3	-
Kelthane	0	-	-	-	-	-	-	-
Phaser	1	3.75	<1	1	-	-	-	-
Thiodan	13	51.56	12.3	9	4	2	9	-

D3. Leaf Hoppers N=84

Percent of strawberries crop treated for Leaf Hoppers in 2004

N=	29
Acres	126.37
Percent	30.1

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Cythion	3	16	3.8	2	1	0	2	0
Malathion	15	50.5	12.0	12	3	4	9	0
Other Pesticides								

Thiodan	4	27.2	6.5	2	1	1	3	-
Sevin	7	35.7	8.5	5	2	4	3	0
Pyganic	1	1.65	<1	1	-	-	1	-
Pounce	1	10.5	2.5	-	1	1	-	-

D4. Root Weevils N=80

Percent of strawberries crop treated for Root Weevils in 2004

N=	21
Acres	111.45
Percent	26.5

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Brigade	11	48.1	11.4	11	2	4	5	1
Cythion	0	-	-	-	-	-	-	-
Malathion	3	14.3	3.4	2	1	1	1	0
Other Pesticides								
Admire	2	14	3.3	2	-	1	1	-
Danitol	1	8	1.9	1	-	1	-	-
Methyl Bromide	1	9	2.1	-	-	1	-	-
Diazinon	1	10	2.4	-	1	-	1	-
Asana	1	10.5	2.5	-	1	-	1	-
Other Strategies								
Predatory Mites	5	19.4	4.6	-	-	1	1	2

D5. Sap Beetles N=85

Percent of strawberries crop treated for Sap Beetles in 2004

N=	12
Acres	69.2
Percent	16.5

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Brigade	10	54.2	12.9	5	5	2	6	1
Cythion	2	12	2.8	1	1	0	2	0
Other Pesticides								
Danitol	2	20	4.7	2	-	1	1	-
Sevin	1	9	2.1	-	1	-	1	-
Other Strategies								
Keep picking/clean the field	3	9	2.1	-	-	-	1	-

D6. Slugs N=86

Percent of strawberries crop treated for Slugs in 2004

N=	24
Acres	118.4
Percent	28.3

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Metaldehyde Bait	18	106.6	25.4	9	9	5	9	1
Sluggo	4	7.95	1.9	2	2	0	3	1
Other Pesticides								
Trans End Bait	1	1.8	<1	-	1	1	-	-
Other Strategies								
Beer	1	3	<1	-	-	-	1	-
Keep fruit picked	1	5	1.2	-	-	-	-	-

D7. Spittlebug N=80

Percent of strawberries crop treated for Spittlebug in 2004

N=	18
Acres	106.25
Percent	25.3

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Ambush	2	9	2.1	2	-	2	-	-
Asana	0	-	-	-	-	-	-	-
Sevin XLR Plus	8	45.75	10.9	5	2	3	5	0
Other Pesticides								
Brigade	2	23	5.5	1	-	1	1	-
Thiodan	2	13	3.1	1	1	1	1	-
Guthion	2	8	1.9	2	-	2	-	-
Methyl Bromide	1	9	2.1	-	-	-	-	-
Endosulfan	1	5.5	1.2	-	1	-	1	-
Carbaryl	1	2	<1	1	-	-	1	-

D8. Strawberry Bud Weevil N=87

Percent of strawberries crop treated for Strawberry Bud Weevil in 2004

N=	42
Acres	269.57
Percent	64.1

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Brigade	17	142.1	33.8	11	6	9	7	0
Guthion	16	88.15	21	11	5	15	1	0
Sevin	10	56.3	13.4	6	3	6	2	0
Sniper	1	4.5	1.1	1	-	1	-	-
Other Pesticides								
Lorsban	3	14	3.74	3	-	2	-	-
Methoxychlor	1	9	2.1	-	1	1	-	-
Malathion	1	6	1.4	1	-	1	-	-

D9. Strawberry Leaf Rollers N=87

Percent of strawberries crop treated for Strawberry Leaf Rollers in 2004

N=	15
Acres	80.44
Percent	19.1

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Brigade	7	57.39	13.7	5	2	1	6	0
Cythion	0	-	-	-	-	-	-	-
Dibrom	2	5	1.2	1	1	1	1	-
Guthion	4	13.5	3.2	3	1	2	2	-
Malathion	1	9	2.1	1	-	-	1	-
Sevin	3	13.6	3.2	3	-	-	3	-
Sniper	0	-	-	-	-	-	-	-

D10. Strawberry Rootworm N=83

Percent of strawberries crop treated for Strawberry Rootworm in 2004

N=	7
Acres	27.95
Percent	6.7

Pesticide	Count	Acres	%Acres	Excellent	Good	Poor
Brigade	2	16.5	3.9	1	1	-
Danitol	1	12	2.8	1	-	-
Malathion	1	3	<1	-	1	-
Admire	2	4.7	1.1	1	1	-
Other Strategies						
Hb Nematodes	1	2.75	<1	-	-	-
Location/rotation	1	1	<1	-	1	-
Plant nutrition/reduce stress	1	1	<1	-	1	-

D11. Thrips N=84

Percent of strawberries crop treated for thrips in 2004

N=	5
Acres	25
Percent	5.95

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Cythion	1	10.5	2.5	1	-	1	-	-
Malathion	3	8.5	2.0	3	-	1	2	-
Other Pesticides								
Sevin	1	6	1.4	1	-	1	-	-

D12 Tarnished Plant Bug N=88

Percent of strawberries crop treated for Tarnished Plant Bug in 2004

N=	66
Acres	364
Percent	86.6

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Brigade	19	160.34	38.15	15	4	7	12	-
Cythion	0	-	-	-	-	-	-	-
Danitol	9	73.4	17.5	6	3	5	4	-
Dibrom	8	61.75	14.7	7	1	5	3	-
Malathion	11	61.3	14.6	8	2	4	6	-
Phaser	7	53.8	12.7	5	2	2	4	-
Sevin	5	22.5	5.4	2	3	1	3	-
Thiodan	32	148.4	35.3	24	6	19	9	-
Other Pesticides								
Oxidate	1	10	2.4	1	-	-	1	-
Guthion	1	2	<1	-	1	-	1	-

D13. Twospotted Spider Mite N=87

Percent of strawberries crop treated for Twospotted Spider Mite in 2004

N=	27
Acres	136.35
Percent	32.44

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Agri-mek	11	58.3	13.9	10	1	5	6	-
Brigade	4	39.5	9.4	2	2	2	1	1
Cythion	1	3	<1	1	-	-	1	-
Danitol	6	24	5.7	4	1	3	3	-
Dibrom	2	28	6.7	1	1	-	2	-
Kelthane	5	11.4	2.7	3	2	-	5	-
Vendex	0	-	-	-	-	-	-	-
Other Pesticides								
Acramite	1	10	2.4	1	-	-	1	-
Oil	2	11	2.6	2	-	1	1	-
Pyganic	1	2.75	<1	-	1	-	1	-

D14. White Grubs N=85

Percent of strawberries crop treated for Leaf Hoppers in 2004

N=	9
Acres	33.38
Percent	7.9

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Sevin	3	17	4.0	3	-	-	1	2
Other Pesticides								
Admire	4	11	2.6	3	-	2	1	-
Other Strategies								
Hb nematodes	1	2.75	<1	1	-	1	-	-
Squish	1	-	-	-	-	1	-	-
Limit grass area	1	-	-	-	-	-	-	-

Disease Management for STRAWBERRIES

For each of the following diseases and viruses, indicate the **percentage of your strawberries crop treated in 2004**. 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. Anthracnose N=70

Percent of strawberries crop treated for Anthracnose in 2004

N=	19
Acres	130.3
Percent	34.83

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Cabrio	9	64.8	17.3	9	-	7	2	-
Captan	15	103.5	27.7	13	2	8	6	-
Quadris	9	53.5	14.3	8	1	6	3	-
Switch	12	94	25.1	11	1	8	4	-
Thiram	5	36.8	9.84	4	1	1	4	-
Topsin-M	9	49	13.1	7	2	4	5	-
Other Pesticides								
Elevate	2	16	4.28	2	-	1	1	-

E2. Black Root Rot N=78

Percent of strawberries crop treated for Black Root Rot in 2004

N=	6
Acres	47.3
Percent	11.3

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Brigade	1	12	2.8	-	1	-	-	-
Ridomil	1	0.8	<1	-	-	-	1	-
Admire	1	5	1.2	-	-	-	1	-
Nutrephyte Magnium	1	8	1.9	-	-	1	-	-
Aliette	1	1.5	<1	-	-	-	1	-
Other Strategies								
Raised Beds	1	20	4.8	-	-	1	-	-
Rotate every two years	2	10.5	2.5	-	-	-	1	-
Crop varieties	1	4.5	1.1	-	-	-	-	-

E3. Gray Mold N=85

Percent of strawberries crop treated for Gray Mold in 2004

N=	69
Acres	364.1
Percent	86.6

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Cabrio	12	100	23.9	11	-	9	3	-
Captan	51	293.3	69.8	41	7	25	20	1
Elevate	25	158	37.6	21	2	16	7	-
Elevate + Captan	23	145	34.4	19	4	14	7	-
Elevate + thiram	1	26.25	6.2	1	-	-	1	-
Quadris	10	48.8	11.6	6	4	5	4	-
Switch	27	174	41.4	24	2	19	6	-
Thiram	6	50.5	12.0	4	1	3	2	1
Topsin-M	13	59.4	14.1	11	2	6	6	0
Topsin-M + captan	16	104	25	15	-	6	6	1
Topsin-M+ thiram	3	38.2	9.1	3	-	2	1	-
Other Pesticides								
Pristine	4	55	13.1	4	-	4	-	-
Benlate	1	6	1.4	1	-	1	-	-
Captivate	1	3	<1	1	-	-	1	-
Oxidate	1	10	2.4	1	-	1	-	-
Other Strategies								
Molasses (1 quart)	1	3	<1	-	-	1	-	-
Clean/pick field	1	9	2.1	-	-	-	-	-
Keep rows narrow	2	19	4.5	-	-	-	-	-
Use sticker	1	10	2.4	-	-	-	-	-

E4. Leaf Blight N=82

Percent of strawberries crop treated for Leaf Blight in 2004

N=	17
Acres	92.3
Percent	22.0

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Syllit	1	3	<1	1	-	-	1	-
Topsin-M	12	77.8	18.5	8	4	3	10	-
Other Pesticides								
Nova	3	13.5	3.2	3	-	3	-	-
Captan	1	9	2.1	1	-	-	1	-
Thiram	1	9	2.1	1	-	-	1	-

E5. Leaf Scorch N=82

Percent of strawberries crop treated for Leaf Scorch in 2004

N=	16
Acres	88.19
Percent	21.0

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Syllit	1	3	<1	1	0	0	1	0
Topsin-M	12	63.89	15.2	8	4	4	7	1
Other Pesticides								
Captan	2	10	2.4	2	-	1	1	-
Nova	2	10.5	2.5	2	-	1	1	-
Pristine	1	10.8	2.6	1	-	1	-	-
Other Strategies								
Good rotation	1	11	2.6	-	-	-	1	-

E6. Leaf Spot N=84

Percent of strawberries crop treated for Leaf Spot in 2004

N=	34
Acres	186.6
Percent	44.4

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Cabrio	13	102	24.4	10	3	6	7	-
Captan	20	139.4	33.2	17	3	8	11	-
Quadris	12	49.6	11.8	8	3	3	9	-
Syllit	1	10	2.4	1	-	1	-	-
Topsin-M	13	69.1	16.4	8	4	4	7	1
Other Pesticides								
Switch	1	12	2.9	-	1	-	-	-
Nova	2	10.5	2.5	2	-	2	-	-

E7. Leather Rot N=82

Percent of strawberries crop treated for Leather Rot

N=	25
Acres	142.6
Percent	33.9

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Aliette	2	16	3.8	-	2	1	-	-
Captan	18	114.2	27.2	17	1	9	6	1
Quadris	6	29.5	7	5	-	3	2	
Ridomil	3	11.8	2.8	1	2	0	3	0
Thiram	1	9	2.1	1	-	-	-	1
Other Pesticides								
Oxidate	1	1.7	<1	1	-	-	1	-
Nutrephyte Mag	1	8	1.9	1	-	1	-	-

E8. Powdery Mildew N=83

Percent of strawberries crop treated for powdery mildew

N=	40
Acres	217.7
Percent	51.81

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Cabrio	13	99.75	23.7	13	-	10	2	-
Quadris	17	76.55	18.2	12	4	9	7	-
Sulfur	2	8	1.9	1	1	-	1	-
Topsin-M	19	100.4	23.9	16	2	9	9	-
Other Pesticides								
Pristine	1	4.8	1.1	1	-	1	-	-
Nova	2	15.7	3.7	2	-	-	2	-
Captan	2	9	2.1	2	-	-	2	-
Messenger	1	10	2.4	-	1	-	-	-
Oxidate	1	2.75	<1	1	-	-	1	-
Other Strategies								
Molasses	1	3	<1	-	-	-	1	-

E 9. Red Stele N=82

Percent of strawberries crop treated for Red Stele in 2004.

N=	6
Acres	31.8
Percent	7.57

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Aliette	2	17	4.0	1	1	1	1	-
Ridomil Gold	2	3.8	<1	1	-	-	-	1
Other Pesticides								
Methyl Bromide	1	1.8	<1	1	-	1	-	-
Nutrayphyte Mag	1	8	1.9	1	-	1	-	-
Other Strategies								
Crop Rotation	3	13.8	3.3	-	-	1	2	-
Resistant varieties	5	-	-	-	-	-	1	-

E10. Verticillium Wilt N=84

Percent of strawberries crop treated for Verticillium Wilt in 2004

N=	3
Acres	25.8
Percent	6.1

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Aliette	1	12	2.9	-	1	1	-	-
Other Pesticides								
Methyl Bromide	1	1.8	<1	1	-	1	-	-
Other Strategies								
Rotation	2	-	-	-	-	1	1	-
Resistant varieties	1	-	-	-	-	-	1	-

E10. Do you practice crop rotation to manage diseases and viruses in strawberries? N=77

Answer	N=	Percent
Yes	72	77.4
No	5	5.4

Practice	N=	Percent
Two-year rotation	17	18.3
Three-year rotation	32	34.4
Four-year rotation	12	12.9
Five-year rotation	5	5.4
Six-year rotation	3	3.2

E11. Cultural practices used to control diseases in strawberries N=63

Cultural Practices	N=	Excellent	Good
crop rotation	9	3	5
cultivation	3	1	2
weed control	6	1	4
black plastic	4	1	3
wide plant spacing	5	2	3
well drained soils	5	3	2
compost	1	-	-
drip irrigation	4	1	3
raised beds	16	5	11
Narrow rows	14	6	8
Water in daytime	7	4	2
Straw mulch	9	1	7
Hay mulch	1	1	-
Mulch	8	3	5
Handweeding	5	2	2
Resistant varieties	2	1	1
Mow leaves after harvest	2	-	2
Renovation	4	1	3
Proper fertilization	2	1	1
Good air circulation	2	-	2
Hills	1	-	1
Fall Planting	1	-	-
Remove Host plants	1	-	1
Plant in fallow ground	1	-	1
Mow edge of field	1	-	1
Soil testing	1	1	-
Reduce Compaction	1	-	1
Wide Walkways	1	-	1

Weed Management

For each of the following weed control practices, indicate the **percentage of your strawberries crop treated in 2004**. 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-Plant Weed Control N=89

Percent of strawberries crop treated for Pre-Plant Weed Control applications in 2004

N=	34
Acres	173.5
Percent	41.3

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Gramoxone Max	2	10.75	2.6	2	-	1	-	-
Roundup Ultra 4S	30	161.6	38.5	22	5	15	7	1
Other Pesticides								
Methyl Bromide	4	20.15	4.8	4	-	1	2	-
Vapam	1	10	2.4	1	-	1	-	-
Fumigation	1	10.5	2.5	1	-	1	-	-
Dacthal	1	3.3	<1	1	-	-	-	1
Goal	1	4.5	1.1	1	-	1	-	-
Sinbar	1	2	1.1	1	-	1	-	-

F2. Pre-Emergence Weed Control N=89

Percent of strawberries crop treated for Pre-Emergence Weed Control applications in 2004

N=	68
Acres	345.6
Percent	82.22

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Devrinol	57	274.3	65.3	42	13	10	38	4
Goal	6	49.5	11.8	4	3	2	3	1
Sinbar	42	280	66.7	13	29	11	26	0
Other Pesticides								
Dacthal	14	61.85	14.7	10	3	3	7	3
Gramoxone	1	0.38	<1	-	1	-	1	-
Methyl Bromide	1	5	1.2	1	-	1	-	-
2,4-D	1	12	2.9	1	-	-	1	-
Other Strategies								
Black plastic	1	5	1.2	-	-	1	-	-

F3. Post Emergence Weed Control N=86

Percent of strawberries crop treated for Post-emergence Weed Control applications in 2004

N=	62
Acres	294.7
Percent	70.1

Pesticide	Count	Acres	%Acres	Full Rate	Reduced Rate	Excellent	Good	Poor
Amine 4	33	153.6	36.6	27	4	8	18	1
Gramoxone Max	10	69.45	16.5	5	5	8	3	-
Poast	30	120.7	28.7	22	6	6	18	1
Scythe	2	6	1.4	2	-	1	-	-
Select	13	102.1	26.7	11	1	1	10	-
Other Pesticides								
Devrinol	1	12	2.9	1	-	1	-	-
Sinbar	2	15	3.6	-	2	-	2	-
Formula 40	2	7	1.7	2	-	-	1	1
Goal	1	12	2.9	-	1	-	1	-
Roundup	1	.001	<1	1	-	1	-	-

F4. Do you use a cover crop for weed management in strawberries? N=91

Answer	N=	Percent
Yes	48	52
No	43	46

If yes, please indicate what type of cover crop you use and how effective it is in weed suppression.

Cover Crop	N=	Excellent	Good	Poor
Winter rye	36	6	28	2
Oats	19	12	12	5
Ryegrass	2	1	1	-
Buckwheat	7	4	3	-
Red clover	3	1	2	-
White clover	2	-	1	1
Hairy vetch	1	1	-	-
Alfalfa	0	-	-	-
Other: Wheat	1	1	-	-
Other: Sorghum sudan grass	4	1	1	-
Other: Millet	1	-	1	-
Other: Dwarf Perennial Ryegrass	1	-	-	-
Other: Mixed grass, legume	1	-	-	-

F5. Which cultural weed management practices did you use? (Please circle the practices used and the effectiveness of control: excellent, good, poor.) N=88

Cultural Practices	N=	Excellent	Good	Poor
Mowing	37	5	24	8
Mulching	67	14	50	3
Cultivation	76	19	56	1
Hand weeding	78	31	45	2
Hoeing	69	25	43	1
Living Mulch in aisles	11	3	7	1
Weeder Geese	1	-	-	1

Vertebrate Pest Management for Strawberries

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

G1. Vertebrate Pests and Strategies N=66

Vertebrate Pests	Strategies Used	N=	Excellent	Good	Poor
Deer (N=52)	Electric fence	14	4	7	2
	Shoot	19	4	11	4
	Fence	10	1	6	3
	Hinder/Deer Repellent	2	-	1	1
	Dogs	4	1	3	-
	Noise	1	-	1	-
	Soap	3	-	1	2
	Human hair	2	1	-	1
	Garlic	1	-	-	1
	Mice/Voles (N=7)	Cats	1	-	1
Trap		1	-	1	-
Poison Bait		3	-	2	-
Cannon		1	-	-	1
Birds (N=32)	Scare eye balloons	7	-	5	2
	Owl	1	-	-	1
	Shoot	6	1	3	2
	Tape	2	-	-	2
	Scare devices	2	-	-	2
	Chase out	2	-	1	1
	Dog	1	-	1	-
	Fire crackers	2	-	1	1
	Bird Bangers	2	-	1	1
	Propane Cannon	1	-	1	-
Reflective mirror	1	-	1	-	

Vertebrate Pests	Strategies Used	N=	Excellent	Good	Poor
Woodchucks (n=3)	Shoot	1	1	-	-
	Traps	1	1	-	-
	Dogs	1	-	1	-
Squirrel (n=2)	Trapping	2	-	1	1

H1. If IPM practices such as insect trapping, degree-day accumulation, or field sampling are done, who does them?
N= 70

IPM practitioner	N=	Percent
You	47	50.5
Private IPM scout/consultant	15	16.1
Farm employee or family member	12	12.9
Other	2	2.2

H2. What sampling methods are used?
N=70

Sampling Methods	N=	Percent
sampling pattern is standardized (a fixed number of leaves for each plant and a fixed number of plants per row)	28	30.1
sampling pattern is informal	41	44.1
insect traps are used	25	26.9
none	5	5.4

H3. How important are these factors to you when choosing pesticides for use on your farm?

N=88

FACTORS	N=	Very important	Somewhat important	Not important
Toxicity of materials available (to self, family, employees)	85	68	14	3
Potential environmental impacts	80	63	16	1
Safety of packaging (such as water soluble bags, etc.)	76	34	36	6
Cost per Acre/Unit	80	30	38	12
Effectiveness	86	80	5	1
Impact on non-target organisms including beneficials	82	46	36	-
Phytotoxicity (potential for injury to crop)	81	74	7	-

H4. How often do you use the following weather information in making your pest management decisions?

N=87

Weather Information	N=	Frequently	Occasionally	Never
Forecast for next rain	87	82	3	2
Rainfall totals (for effect on spray residue)	81	49	26	6
Temperatures (for degree day models)	81	32	30	19
Humidity and/or leaf wetness hours	81	37	31	13
Wind speed forecast	83	62	13	8

H5. How important are these sources of information in making your pest management decisions?

N=86

Sources of Information	N=	Very important	Somewhat important	Not important	Rank
Twilight meetings	80	36	35	8	6
Off season educational meetings	81	53	27	-	3
New England Vegetable Mgmt Guide	78	68	10	-	1
Newsletters	79	48	31	-	4
Web sites	70	15	38	17	9
Trade publications	75	15	49	11	8
Other growers	79	46	29	4	5
Suppliers/dealers	77	31	39	7	7
University/Extension staff	78	58	19	1	2
Other	5	4	1	-	10

H6. How would you describe your crop production?

N=93

Crop Production	N=	Percent
Conventional	42	45.2
IPM	49	53
Organic	12	12.9
*Other	4	4.3