Winter Squash 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 WINTER SQUASH.

Do you grow Winter Squash for sale?

State	Yes	No	Total Survey Responses	Percent of Surveys Response	Surveys Sent
CT	9	48	57	54.8	104
MA	41	22	63	53.4	118
ME	67	66	133	58.8	226
NH	24	86	110	53.4	206
RI	7	31	38	48.1	79
VT	10	4	14	53.8	26
Total	158	257	415	54.7	759

A1. How many acres of winter squash did you manage in 2002?

State	Number(N)	Sum of Acres	% Acres
CT	9	4.49	1.27
MA	41	185.45	52.32
ME	67	75.69	21.36
NH	24	57.42	16.2
RI	7	10.75	3.03
VT	10	20.6	5.81
Total	158	354.42	

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

N=	Acres	Total Yield	Average
Unknown			

A3. What percentage of your winter squash crop is: N=156
(data reported weighted and converted to acres)

Variety	N=	%N	Acres	Percent of Acres
Buttercup	121	76.6	68.1	19.2
Hubbard	87	55.1	18.9	5.33
Acorn	120	75.9	39.7	11.2
Butternut	140	88.6	192.3	54.3
*Other	80	50.6	33.2	9.36

***Delicata, Red kuri, Sweet dumpling, Carnival, Festival, Kabscha, Spagetti, Black Forest, Sweet Mama, Golden Delicious, Ambercup, Khouri, Sweet Darling, Kubuki, Lakota, and Bedoin.**

A3. What percentage of your winter squash crop is sold through each of these markets? N=157

Market	Count	Acres	Percent of Acres
Retail	**131**	**131.6**	**37.1**
U-Pick	**4**	**.4**	**.11**
Wholesale	**71**	**163.3**	**46.1**
Processing	**10**	**48.4**	**13.7**
Other			
CSA	**4**	**.55**	
Farmers' market	**1**	**.1**	
Personal/ home use	**4**	**.29**	
Peeled	**1**	**.71**	

Horticultural Management for Winter Squash

B1. Which of the following practices do you use? N=155

Practice	Count	Percent
Fresh manure	**33**	**20.9**
Composted manure	**48**	**30.4**
Direct Seed	**114**	**72.1**
Transplants	**68**	**43**
Drip irrigation	**35**	**22.1**
Row cover	**31**	**19.6**
Importation of bee hives	**50**	**31.6**

B2. Do you use a soil sample to determine fertilizer needs in most years? N=154

Answer	Count	Percent
Yes	98	62
No	56	35.4

Practice	Count	Percent
1 time each year	45	28.5
More than 1 time each year	0	0
Every other year	24	15.2
Every third year	29	18.4
Other		
Sometimes	1	
Every 3-5 years	1	
Every 5 years	1	

C1. Please estimate your average number of pesticide applications for winter squash used in a typical year:

Pest	Count	Average
Insects	150	2.03
Mites	108	.13
Weeds	133	.53
Diseases	130	1.31

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=151

Insects/Mites	Count	%	Annual Control	Occasional Control	Rarely a problem	Never a problem
Aphids	119	75.3	6	20	37	56
Cucumber beetle	148	93.7	104	21	10	11
Seedcorn Maggot	112	70.9	1	3	38	70
Squash Bug	133	84.2	53	34	26	20
Squash Vine Borer	122	77.2	11	26	41	43

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=154

Weeds and Vertebrate Pests	Count	%	Annual Control	Occasional Control	Rarely a problem	Never a problem
Annual Broadleaf Weeds	148	93.7	127	14	4	3
Perennial Broadleaf Weeds	136	86.1	75	28	20	13
Annual Grasses	139	88.0	104	22	7	6
Perennial Grasses	127	80.4	65	37	20	5
Deer	140	88.6	59	32	24	25
Voles	120	75.9	13	18	42	47
Woodchucks	135	85.4	38	43	29	25
Other Vertebrate						
Mice	5		2	2	1	0
Crows	3		2	1	0	0
Rabbits	2		1	1	0	0
Turkeys	2		0	2	0	0
Birds	1		1	0	0	0
Moose	1		0	1	0	0
Skunks	1		1	0	0	0

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=141

Viruses & Diseases	Count	%	Annual Control	Occasional Control	Rarely a problem	Never a problem
Powdery Mildew	135		58	36	23	18
Downy Mildew	123		31	24	42	26
Anthracnose	107		14	19	41	33
Black Rot	115		19	29	40	27
Scab	112		8	28	47	29
Bacterial Wilt	121		7	32	49	32
Angular leaf spot	109		8	16	49	35
Phytophthora Blight & Fruit Rot	16		12	33	38	33
Post Harvest Fruit Rot	117		9	37	42	29
Cucumber Mosaic Virus	116		10	19	43	44
Watermelon Mosaic Virus	108		2	7	40	58
Papaya Ringspot Virus	110		1	9	35	63
Zucchini Yellow Mosaic Virus	113		5	15	36	56
Other disease						
Tomato End-Rot	1		1	0	0	0

General Pest Management Information for Winter Squash

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

For each of the following insects and mites, indicate the **percentage of your winter squash 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. Aphids N=150

Percent of winter squash crop treated for aphids in 2002

N=	**17**
Acres	**65.5**
Percent	**18.5**

Pesticide	Count	Acres	%Acres	Count	Full Rate	Reduced Rate	Count	Excellent	Good	Poor
Ambush	**6**	**22.1**	**6.23**	**8**	**5**	**3**	**7**	**2**	**5**	**0**
Fulfill	**1**	**10**	**2.82**	**1**	**0**	**1**	**1**	**1**	**0**	**0**
Lannate LV	**9**	**30.55**	**8.62**	**9**	**5**	**4**	**9**	**4**	**4**	**1**
Metasystox R SC	**0**									
M-Pede	**1**	**2.5**	**.71**	**1**	**0**	**1**	**1**	**1**	**0**	**0**
Other Pesticides										
Asana	**1**	**1.5**		**1**	**0**	**1**	**1**	**0**	**1**	**0**
Methoxychlor	**1**	**1**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Sevin	**2**	**1**		**2**	**2**	**0**	**2**	**0**	**2**	**0**

Surround	**1**	**.5**		**1**	**1**	**0**	**1**	**1**	**0**	**0**
Thiodan	**2**	**18**		**2**	**1**	**1**	**2**	**2**	**0**	**0**
Other Strategies										
Crop Rotation	**2**						**2**	**2**		
Row Covers	**1**						**1**		**1**	
Sprinkle with soil	**1**						**1**	**1**		
No till	**1**						**1**		**1**	

D2. Seedcorn Maggot N=148

Percent of winter squash crop treated for seedcorn maggot in 2002

N=	**2**
Acres	**11**
Percent	**3.1**

Pesticide	**Count**	**Acres**	**%Acres**	**Count**	**Full Rate**	**Reduced Rate**	**Count**	**Excellent**	**Good**	**Poor**
Diazinon	**1**	**1**	**.28**	**1**	**0**	**1**	**1**	**1**	**0**	**0**
Sevin	**1**	**0**	**n/a**	**1**	**0**	**1**	**1**	**0**	**1**	**0**

D3. Cucumber Beetle N=148

Percent of winter squash crop treated for cucumber beetle in 2002

N=	111
Acres	277.1
Percent	78.2

Pesticide	Count	Acres	%Acres	Count	Full Rate	Reduced Rate	Count	Excellent	Good	Poor
Admire 2F	9	18.7	5.27	9	7	2	9	7	2	0
Adios	2	5.0	1.41	2	2	0	1	1	0	0
Ambush	18	57.7	16.3	17	13	4	11	7	3	1
Asana XL	10	22.4	6.32	10	5	5	5	3	2	0
Sevin XLR Plus	53	170.7	48.2	54	36	18	42	24	17	0
Surround	9	5.56	1.57	9	8	1	9	2	6	1
Other Pesticides	27	31.2	8.81	24	22	2	25	7	13	5
Rotenone	10	4.72		8	8	0	9	2	5	2
Malathion	2	3.02		0			2	0	1	1
Thiodan	2	12.7		2	2	0	2	0	1	1
Agway Garden & Orchard	1	.46		1	1	0	1	1	0	0
B.T.	1	.041		1	0	1	1	0	0	1
Bullseye	1	2		1	1	0	0			
Carbaryl	1	.25		1	1	0	1	0	1	0
Entrust	1	1		1	1	0	1	1	0	0
Excell	1	.005		1	1	0	1	0	1	0
Imidan	1	3		1	1	0	1	1	0	0
Lannate	1	1		1	0	1	1	0	1	0
Mycotrol	1	2		1	1	0	1	0	1	0
Pounce	1	.69		1	1	0	1	1	0	0
Pyganic	1	.046		1	1	0	1	0	1	0
Pyethrins	1	.2		1	1	0	1	1	0	0
Pyronyl	1	.75		1	1	0	1	0	1	0

Other Strategies										
Row covers	**7**	**2.51**					**6**	**4**	**2**	**0**
Handpicking	**4**	**1.67**					**3**	**0**	**2**	**1**
Transplanting	**1**	**9**					**1**	**1**	**0**	**0**
Crop rotation	**1**	**3.5**					**2**	**2**	**0**	**0**
No till	**1**	**3**					**1**	**0**	**1**	**0**
Cyan pepper & dish soap	**1**	**.5**								

D4. Squash Bug N=149

Percent of winter squash crop treated for squash bug in 2002

N=	**6**
Acres	**89.2**
Percent	**25.2**

Pesticide	**Count**	**Acres**	**%Acres**	**Count**	**Full Rate**	**Reduced Rate**	**Count**	**Excellent**	**Good**	**Poor**
Ambush	**6**	**30**	**8.46**	**8**	**6**	**2**	**6**	**1**	**5**	**0**
Asana XL	**6**	**8.42**	**2.37**	**6**	**3**	**3**	**4**	**4**	**0**	**0**
Sevin XLR Plus	**29**	**48.9**	**13.8**	**30**	**20**	**10**	**22**	**9**	**11**	**2**
Other Pesticides										
Bullseye	**2**	**.24**		**2**	**1**	**1**	**1**	**1**	**0**	**0**
Carbaryl	**1**	**.25**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Entrust	**1**	**1**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Rotenone	**4**	**.8**		**4**	**4**	**0**	**4**	**0**	**3**	**1**
Safer Soap	**1**	**.03**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Lannate	**1**	**1**		**1**	**0**	**1**	**1**	**0**	**1**	**0**
Cyan pepper	**1**	**.05**								
Surround	**1**	**.0055**		**1**	**0**	**1**	**1**	**0**	**1**	**0**
Pyganic	**3**	**2.55**		**3**	**3**	**0**	**3**	**0**	**2**	**1**
Pyethrins	**1**	**.1**		**1**	**1**	**0**	**1**	**1**	**0**	**0**
Pyronyl	**1**	**.75**		**1**	**1**	**0**	**1**	**0**	**1**	**0**

Other Strategies										
row covers	**5**						**4**	**2**	**2**	**0**
hand picked	**4**						**3**	**1**	**1**	**1**
rotation	**1**						**1**	**1**	**0**	**0**

D5. Squash Vine Borer N=151

Percent of winter squash crop treated for squash vine borer in 2002

N=	**21**
Acres	**77.6**
Percent	**21.9**

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Ambush	**5**	**23.5**	**6.63**	**5**	**4**	**1**	**4**	**2**	**2**	**0**
Asana XL	**1**	**10**	**2.82**	**2**	**0**	**2**	**2**	**2**	**0**	**0**
Sevin XLR Plus	**13**	**38.8**	**10.9**	**14**	**9**	**5**	**13**	**7**	**5**	**1**
Other Pesticides										
Rotenone	**1**	**.069**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
BugBGon	**1**	**.063**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Carbaryl	**1**	**.25**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Waylay	**1**	**3**		**1**	**0**	**1**	**1**	**1**	**0**	**0**
Other Strategies										
Row cover	**1**						**1**	**0**	**1**	**0**

Disease Management

Disease Management for WINTER SQUASH

For each of the following diseases and viruses, indicate the **percentage of your winter squash 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. Powdery Mildew N=152

Percent of winter squash crop treated for powdery mildew in 2002

N=	**53**
Acres	**181.3**
Percent	**51.2**

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Benlate 50SP	**6**	**45.2**	**12.8**	**7**	**3**	**4**	**7**	**0**	**7**	**0**
Bravo Ultrex 82 WDG	**26**	**79.1**	**22.3**	**28**	**27**	**1**	**21**	**3**	**16**	**2**
Kocide 4.5 LF	**16**	**45.0**	**12.7**	**16**	**11**	**5**	**15**	**2**	**13**	**0**
Nova 40W	**1**	**22**	**6.2**	**1**	**1**	**0**	**1**	**1**	**0**	**0**
Quadris	**18**	**108.9**	**30.7**	**17**	**13**	**4**	**17**	**9**	**8**	**0**
Topsin M 70W	**7**	**48.3**	**13.6**	**8**	**6**	**2**	**5**	**1**	**3**	**1**
Other Pesticides	**11**	**32.2**	**9.1**	**11**	**10**	**1**	**8**	**3**	**3**	**2**
Other Strategies	**4**									
Use some tolerant varieties	**2**									
Open spacing	**1**									
Raised beds	**1**						**1**		**1**	
Crop rotation	**2**						**2**	**1**	**1**	

No till	**1**						**1**		**1**	

E2. Angular Leaf spot N=148

Percent of winter squash crop treated for angular leaf spot in 2002

N=	**12**
Acres	**61.15**
Percent	**17.25**

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Basicop 53 WP	**1**	**5**	**1.41**	**1**	**1**	**0**	**1**	**0**	**1**	**0**
Kocide 4.5 F	**6**	**43.3**	**12.2**	**7**	**6**	**1**	**6**	**4**	**2**	**0**
Manex	**4**	**26.1**	**7.37**	**6**	**3**	**3**	**6**	**3**	**3**	**0**
Champ Formula II	**1**	**.73**	**.21**	**1**	**1**	**0**	**1**	**1**	**0**	**0**
Other Strategies	**0**									

E3. Downy Mildew N=151

Percent of winter squash crop treated for Downy Mildew in 2002

N=	**17**
Acres	**76.3**
Percent	**21.5**

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Aliette WDG	**0**			**0**			**0**			
Maneb 80 WP	**3**	**7.5**	**2.12**	**4**	**3**	**1**	**3**	**0**	**2**	**1**
Manex	**3**	**18.1**	**5.12**	**3**	**3**	**0**	**3**	**1**	**2**	**0**
Ridomil Gold/Bravo WP	**10**	**48.7**	**13.7**	**10**	**7**	**3**	**8**	**3**	**4**	**1**
Ridomil Gold MZ	**4**	**30**	**8.46**	**4**	**4**	**0**	**4**	**3**	**1**	**0**

Other Pesticides	**1**	**?**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Other Strategies										
Raised Beds	**1**						**1**		**1**	
Crop rotation	**1**						**1**		**1**	

E4. Anthracnose N=150

Percent of winter squash crop treated for Anthracnose in 2002

N=	**16**
Acres	**78.35**
Percent	**22.1**

Pesticide	**N=**	**Acres**	**%Acres**	**N=**	**Full Rate**	**Reduced Rate**	**N=**	**Excellent**	**Good**	**Poor**
Benlate 50 SP	**3**	**13.5**	**3.8**	**3**	**2**	**1**	**3**	**0**	**3**	**0**
Bravo Ultrex 82 WDG	**6**	**28.7**	**8.1**	**6**	**6**	**0**	**4**	**0**	**3**	**1**
Maneb 80 WP	**3**	**6.25**	**1.76**	**3**	**1**	**2**	**3**	**1**	**2**	**0**
Manex	**4**	**34.1**	**9.62**	**4**	**4**	**0**	**4**	**1**	**3**	**0**
Topsin M 70W	**3**	**25**	**7.05**	**4**	**2**	**2**	**4**	**2**	**2**	**0**
Other Strategies	**0**									

E5. Black Rot N=150

Percent of winter squash crop treated for Black Rot in 2002

N=	**28**
Acres	**99.3**
Percent	**28**

Pesticide	**N=**	**Acres**	**%Acres**	**N=**	**Full Rate**	**Reduced Rate**	**N=**	**Excellent**	**Good**	**Poor**
Benlate 50 SP	**3**	**10.5**	**2.96**	**2**	**2**	**0**	**3**	**1**	**2**	**0**
Bravo Ultrex 82 WDG	**14**	**59.6**	**16.8**	**14**	**14**	**0**	**9**	**3**	**4**	**2**

Maneb 80 WP	**6**	**18.75**	**5.29**	**6**	**5**	**1**	**5**	**1**	**4**	**0**
Manex	**5**	**33.1**	**9.34**	**5**	**5**	**0**	**5**	**3**	**2**	**0**
Topsin M 70W	**7**	**40.12**	**11.32**	**8**	**6**	**2**	**6**	**3**	**3**	**0**
Other Pesticides	**2**	**.45**	**.13**	**2**	**2**	**0**	**2**	**0**	**2**	**0**
Bravo WS	**1**	**.25**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Soap Shield	**1**	**.2**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Other Strategies	**0**									

E6. Scab N=151

Percent of winter squash crop treated for scab in 2002

N=	**9**
Acres	**41.29**
Percent	**11.65**

Pesticide	**N=**	**Acres**	**%Acres**	**N=**	**Full Rate**	**Reduced Rate**	**N=**	**Excellent**	**Good**	**Poor**
Bravo Ultrex 82 WDG	**9**	**41.3**	**11.6**	**8**	**5**	**2**	**8**	**2**	**5**	**1**
Copper	**1**	**2**	**.56**	**1**	**1**	**0**	**1**	**0**	**1**	**0**
Other Strategies	**0**									

E7. Phytophthora Blight and Fruit Rot N=149

Percent of winter squash crop treated for phytophthora blight and fruit rot in 2002

N=	6
Acres	25.75
Percent	7.26

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Aliette WDG	3	12.75	3.6	3	2	1	3	2	1	0
Other Pesticides										
Bravo	1			1	1	0	1	0	0	1
Copper	1	2.0		1	1	0	1	0	1	0
Ridomil Bravo	1	10		1	1	0	1	0	0	1
Kocide	1			1	1	0	1	0	0	1
Other Strategies	2									
Crop rotation	1									
Don't plant in wet field	1									
Reduced irrigation	1									

E8. Do you practice crop rotation to manage diseases and viruses in winter squash? N=140

Answer	N=	Percent
Yes	129	92.1
No	10	7.1

Practice	N=	Percent
Two-year rotation	41	29.3
Three-year rotation	56	40.0
Four-year rotation	22	15.7
Other	15	10.7

E9. Cultural practices used to control diseases in winter squash,

Cultural Practices	N=	Excellent	Good	Poor
crop rotation	23	11	11	0
cultivation	12	1	7	1
weeding	12	2	7	1
black plastic	8	5	3	0
wide plant spacing	6	2	3	0
row cover	5	4	1	0
well drained soils	5	3	2	0
compost	4	2	2	0
cover crop	4	2	2	0
drip irrigation	2	0	2	0
raised beds	2	0	2	0

Weed Management

For each of the following weed control practices, indicate the **percentage of your winter squash 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. Stale Seedbed N=148

Percent of winter squash crop treated with stale seedbed applications in 2002

N=	**17**
Acres	**65.83**
Percent	**18.57**

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Gramoxone Max	**4**	**19.8**	**5.57**	**5**	**3**	**2**	**4**	**3**	**1**	**0**
Prefar 6 E	**1**	**.5**	**.141**	**1**	**1**	**0**	**1**	**0**	**1**	**0**
Roundup Ultra 4S	**8**	**19.9**	**5.61**	**10**	**6**	**4**	**9**	**3**	**6**	**0**
Scythe 4.2	**1**	**10**	**2.82**	**1**	**0**	**1**	**1**	**1**	**0**	**0**
Other Pesticides										
Dual	**1**	**22**	**6.2**	**1**	**1**	**0**	**1**	**0**	**1**	**0**
Other Strategies										
Cultivation	**1**									
Black Plastic	**1**									

F2. Preplant Incorporated N=147

Percent of winter squash crop treated with preplant incorporated applications in 2002

N=	**27**
Acres	**141.8**
Percent	**40.0**

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Command 4EC	**7**	**26.7**	**7.54**	**8**	**7**	**1**	**5**	**2**	**1**	**2**
Curbit 3EC	**14**	**80.1**	**22.6**	**17**	**16**	**1**	**15**	**3**	**8**	**4**
Prefar 6E	**4**	**10**	**2.82**	**4**	**4**	**0**	**3**	**1**	**2**	**0**
Other Pesticides										
Dual	**1**	**22**		**1**	**1**	**0**	**1**	**0**	**1**	**0**
Roundup	**1**	**4**		**1**	**1**	**0**	**1**	**1**	**0**	**0**
Sandea	**1**	**2**		**1**	**1**	**0**	**1**	**1**	**0**	**0**
Strategy	**3**	**14**		**3**	**2**	**1**	**2**	**1**	**1**	**0**

F3. Postemergence N=139

Percent of winter squash crop treated with postemergence applications in 2002

N=	19
Acres	58.68
Percent	16.56

Pesticide	N=	Acres	%Acres	N=	Full Rate	Reduced Rate	N=	Excellent	Good	Poor
Gramoxone Max	3	20.5	5.78	4	3	1	2	2	0	0
Poast 1.5L	8	35.2	9.92	8	7	1	7	2	4	1
Scythe 4.2	0			0			0			
Select 2 EC	1	10	2.82	1	1	0	1	1	0	0
Other Pesticides										
Analap	1	.11		1	1	0	1	0	1	0
Command	1			1	0	1	0			
Curbit	1	1		1	1	0	1	1	0	0
Poast	1	0.5		1	0	1	1	1	0	0
Roundup	2	.33		2	2	0	0			
Sandea	3	4.73		3	2	1	3	1	2	0

F4. Do you use a cover crop for weed management in winter squash? N=148

Answer	N=	Percent
Yes	68	45.9
No	79	53.4

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	59	12	35	11
Oats	19	3	14	2
Ryegrass	2	0	2	0
Buckwheat	10	5	4	1
Red clover	10	2	8	0
White clover	6	1	5	0
Hairy vetch	6	3	3	0
Alfalfa	1	0	1	0
Other: Corn	1	1	0	0

F5. Which cultural weed management practices did you use? (Please circle the practices used and the effectiveness of control: excellent, good, poor.) N=148

Cultural Practices	N=	Excellent	Good	Poor
Mowing	22	5	13	4
Mulching	39	19	18	0
Cultivation	123	36	80	5
Hand weeding	119	44	67	6
None	3			
Other Practices				
Black Plastic	15	14	1	0
Compost	1	1	0	0
Flaming	1	0	1	0
Mill Felt	1	1	0	0
Raised Beds	1			

Rototilling	**2**	**1**	**1**	
Transplant	**2**	**2**	**0**	**0**

Vertebrate Pest Management for Winter Squash

Vertebrate Pests and Strategies (Please list vertebrate, list strategies used and circle the effectiveness of the control)
G1. Vertebrate Pests and Strategies N=70

Vertebrate Pests	Strategies Used	N=	Excellent	Good	Poor
Deer	**Electric fence**	**13**	**7**	**6**	**0**
	Off-season permit	**10**	**4**	**4**	**2**
	Fence	**7**	**4**	**3**	**0**
	Hinder/Deer Repellent	**2**	**0**	**1**	**1**
	Dogs	**1**	**0**	**0**	**1**
	Flash Tape	**1**	**1**	**0**	**0**
	Garlic & ivory soap	**1**	**0**	**1**	**0**
	Mothballs	**1**	**0**	**1**	**0**
	Noise	**1**	**0**	**1**	**0**
	Sunflower crop	**1**	**0**	**1**	**0**
Woodchucks	**Rifle**	**8**	**2**	**3**	**2**
	Smoke bombs	**8**	**3**	**4**	**0**
	Traps	**6**	**3**	**3**	**0**
	Dogs	**5**	**1**	**4**	**0**
	Fence	**3**	**2**	**1**	**0**
	Coyote	**1**	**1**	**0**	**0**
	Plant away from walls	**1**	**0**	**1**	**0**
	Mow field edges	**1**	**0**	**1**	**0**
MIce/Voles	**Cats**	**2**	**0**	**2**	**0**
	Trap	**2**	**1**	**0**	**1**
	Black plastic	**1**	**1**	**0**	**0**
	Poison & PVC	**1**	**0**	**0**	**1**
	D-con	**1**	**0**	**1**	**0**

	Keep field edge open	**1**	**0**	**1**	**0**
Crow	**dead crow**	**1**	**1**	**0**	**0**
	Scare crow	**1**	**0**	**0**	**1**
	Aluminum plates	**1**	**0**	**0**	**1**
	Row covers	**1**	**0**	**1**	**0**
Groundhog	**Rifle**	**1**	**1**	**0**	**0**
	Trap	**1**	**0**	**1**	**0**
Rabbits	**Cats**	**1**	**1**	**0**	**0**
	Dogs	**1**	**0**	**1**	**0**
	Bombs	**1**	**1**	**0**	**0**
Chipmunks	**Fence**	**1**	**0**	**0**	**1**
	Cats	**1**	**0**	**1**	**0**
Raccoon	**Dog**				
Porcupine	**Rifle**	**1**	**1**	**0**	**0**
Squirrel	**Fence**	**1**	**0**	**0**	**1**

H1. If IPM practices such as insect trapping, degree-day accumulation, or field sampling are done, who does them?
N= 83

IPM practicioner	N=	Percent
You	**68**	**81.9**
Private IPM scout/consultant	**7**	**8.4**
Farm employee or family member	**11**	**13.2**
Other	**5**	**6.0**

H2. What sampling methods are used?
N=84

Sampling Methods	N=	Percent
sampling pattern is standardized (a fixed number of leaves for each plant and a fixed number of plants per row)	**10**	**11.9**
sampling pattern is informal	**57**	**67.9**

insect traps are used	**5**	**5.9**
none	**19**	**22.6**

H3. How important are these factors to you when choosing pesticides for use on your farm?
N=126

FACTORS	N=	Very important	Somewhat important	Not important
Toxicity of materials available (to self, family, employees)	**120**	**95**	**19**	**6**
Potential environmental impacts	**114**	**85**	**22**	**7**
Safety of packaging (such as water soluble bags, etc.)	**107**	**47**	**39**	**21**
Cost per Acre/Unit	**110**	**47**	**52**	**11**
Effectiveness	**120**	**110**	**8**	**2**
Impact on non-target organisms including beneficials	**114**	**71**	**37**	**6**
Phytotoxicity (potential for injury to crop)	**113**	**87**	**20**	**6**
Other	**6**			

H4. How often do you use the following weather information in making your pest management decisions?
N=134

Weather Information	N=	Frequently	Occasionally	Never
Forecast for next rain	**131**	**119**	**6**	**6**
Rainfall totals (for effect on spray residue)	**118**	**59**	**38**	**21**
Temperatures (for degree day models)	**117**	**36**	**41**	**40**
Humidity and/or leaf wetness hours	**116**	**50**	**36**	**30**
Wind speed forecast	**119**	**82**	**17**	**20**

H5. If available, how often would you use irrigation scheduling guidance based on observed and forecast weather?
N=127

Frequently	Occasionally	Never	Not sure
54	35	14	24

H6. How important are these sources of information in making your pest management decisions?
N=135

Sources of Information	N=	Very important	Somewhat important	Not important
Twilight meetings	109	26	54	29
Off season educational meetings	118	63	49	6
New England Vegetable Mgmt Guide	115	74	28	13
Newsletters	119	62	50	7
Web sites	106	23	41	42
Trade publications	112	36	55	21
Other growers	120	60	52	8
Suppliers/dealers	109	37	57	15
University/Extension staff	121	61	54	6
Other				
Consultant	2	2	0	0
NOFA	1	1	0	0

H6. How would you describe your crop production?
N=143

Crop Production	N=	Percent
Conventional	63	44.0
IPM	37	25.9
Organic	50	35.0
*Other	8	5.6

*Semi-organic, effective, low pesticide input, biological soil management, haphazard, no spray, no till, & effective, simple no spray