

Brown Marmorated Stink Bug impact survey: Longitudinal data

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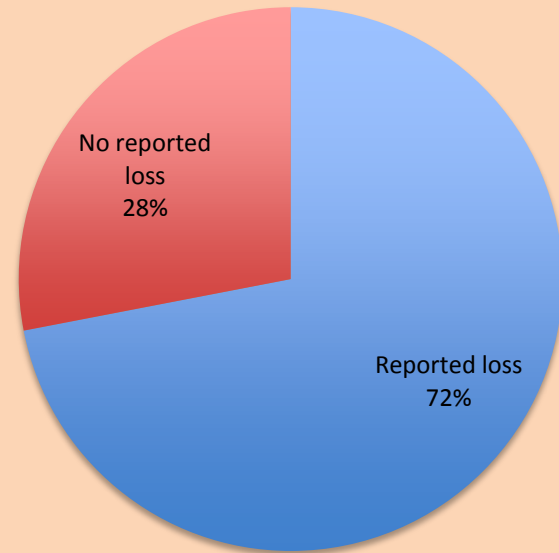
Overall economic loss: Yes, the BMSB is costing farmers money

All states, all commodity meetings.
Excluding "did not know"

All states combined reported
loss 2012



All states combined reported loss
2014



State by state data

2011 one meeting,
21 respondents

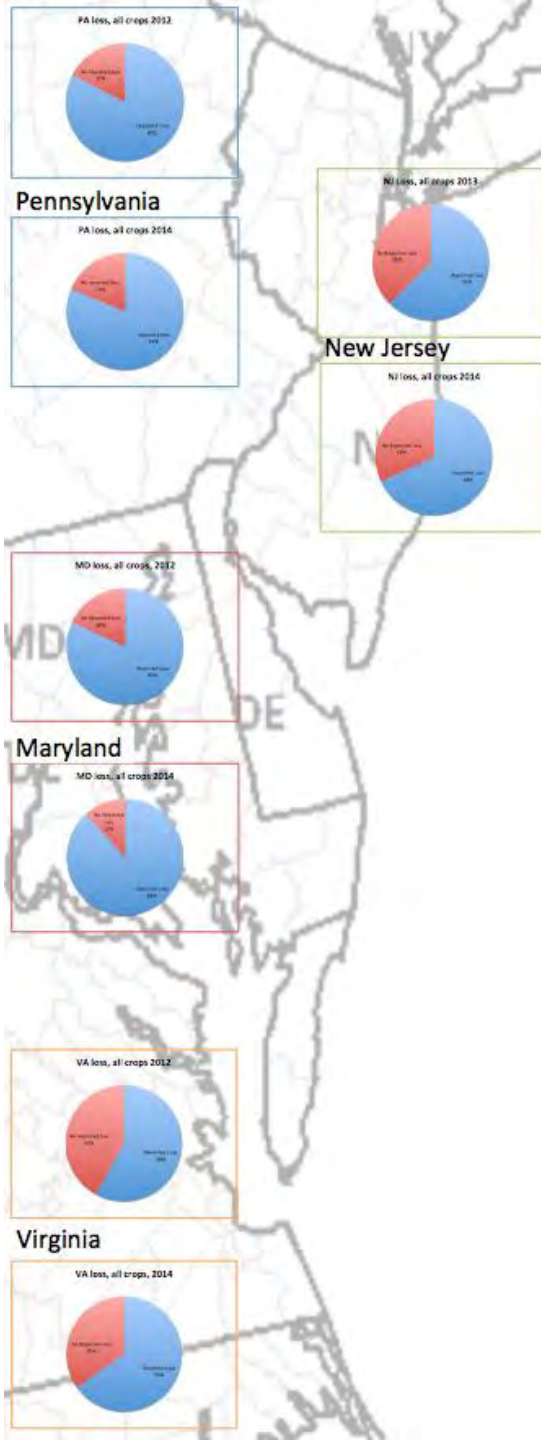
2012 Eighteen
meetings, 833
respondents

2013 Two meetings, 80
respondents

2014 Twenty meeting,
757 respondents

4 years, 41 commodity
meetings, 1691
Respondents

Respondent = Grower,
Farmer, Manager,
Worker, Consultant,
Educator



Range:

58% Reporting damage in
Virginia in 2012 to
88% Reporting damage in
Maryland in 2014

States responses

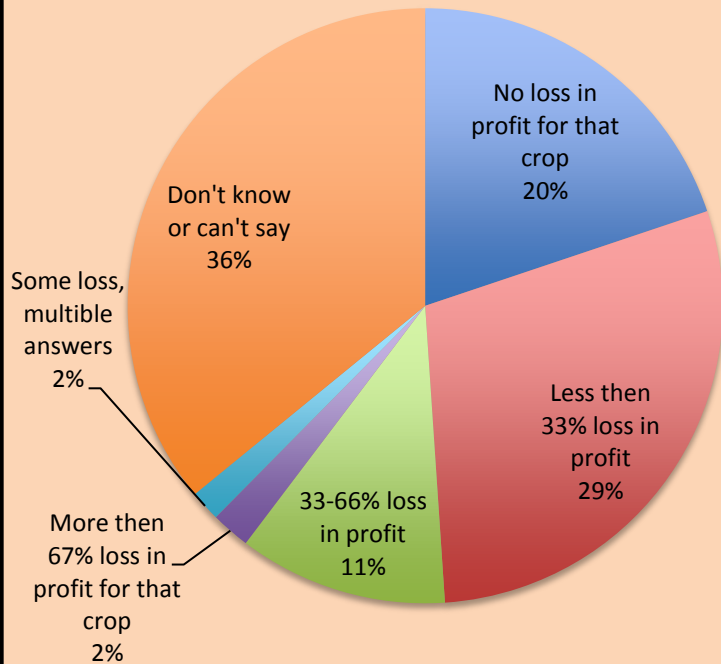
State	Year		
	12	13	14
PA	83		81
NJ		62	68
MD	82		88
VA	58		65
WV			82

Loss breakdown

Insect appears throughout the region, but not all growers report damage....

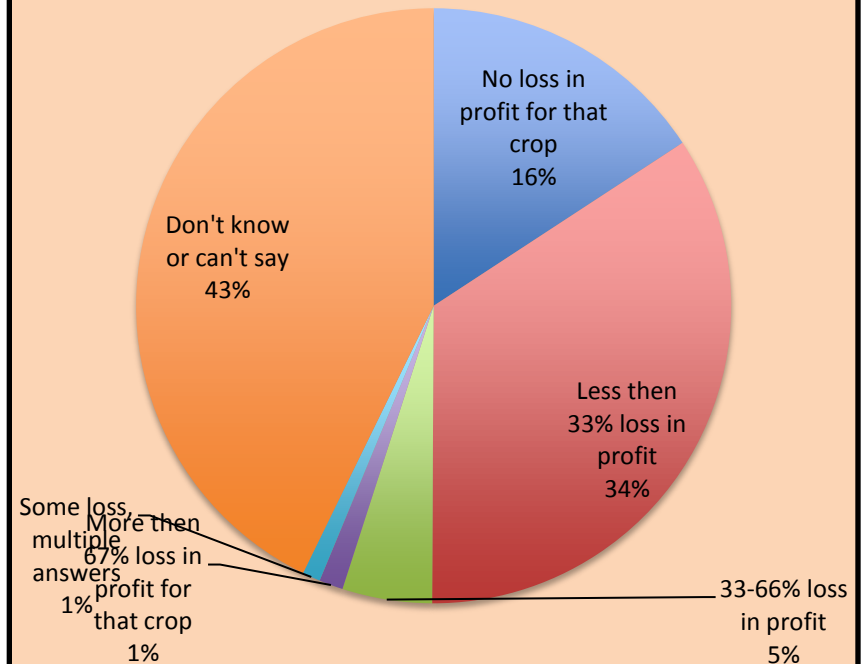
2012

All states loss of profit 2012



2014

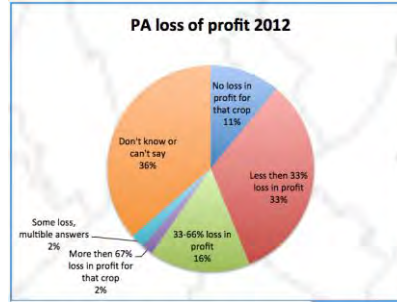
All states loss of profit 2014



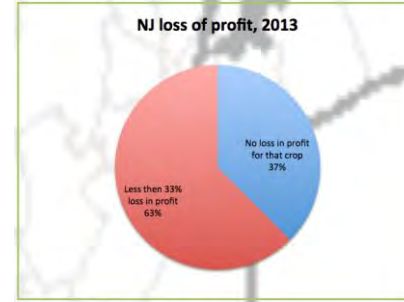
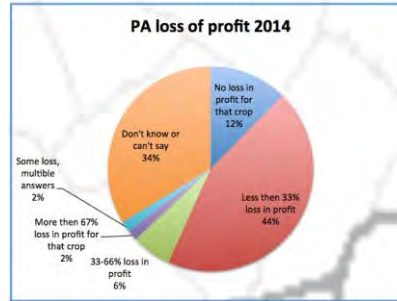
Economic loss by state

Some differences but patterns continue by state

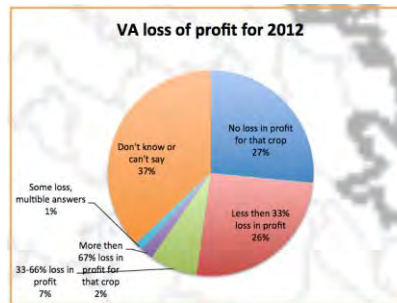
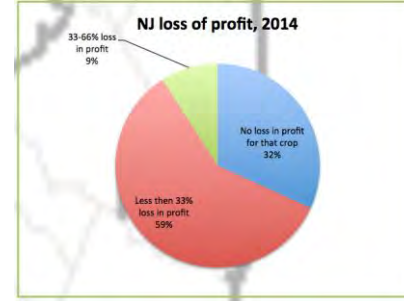
Virginia and Pennsylvania have a high percentage with “don’t know” or “no loss”



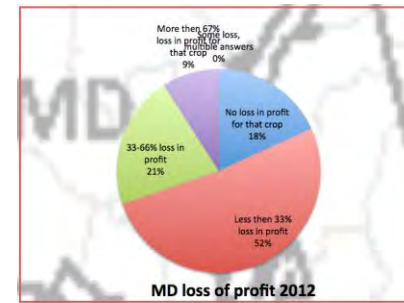
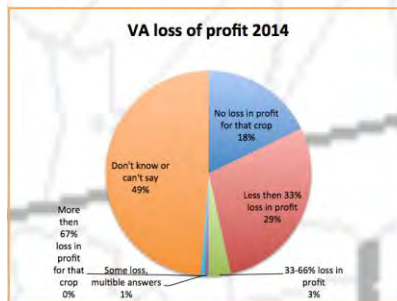
Pennsylvania



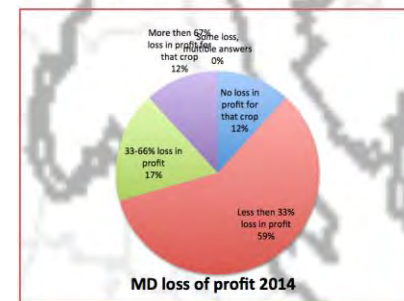
New Jersey



Virginia



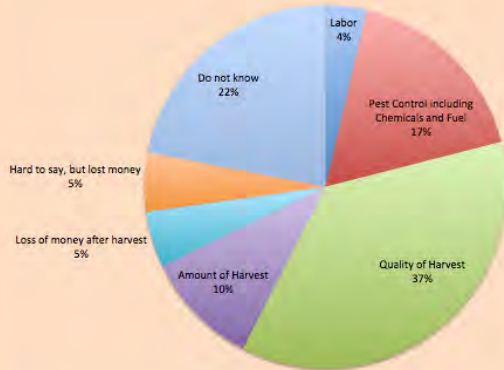
Maryland



Loss Categories

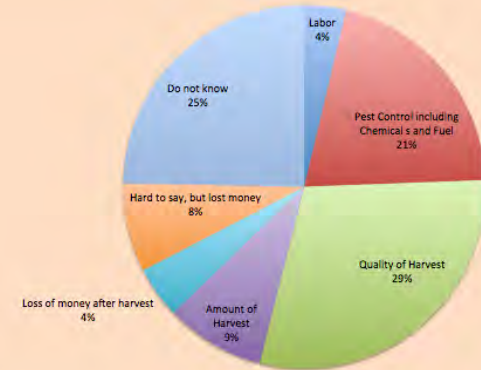
Dropped: “loss of certification” and “lost money on U-pick”

ALL States Loss Categories 2012



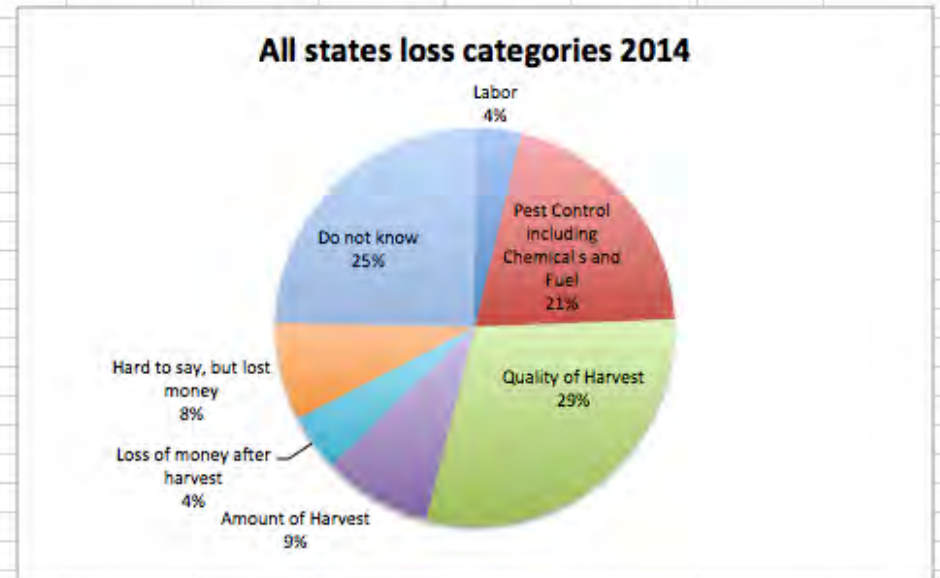
All
States
combined

All states loss categories 2014

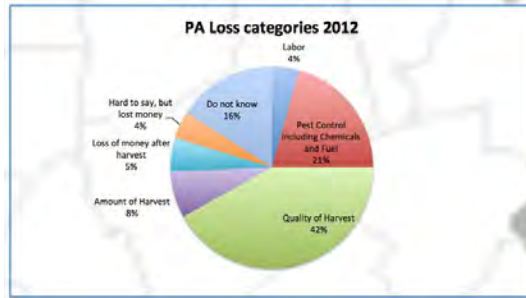


Data issues

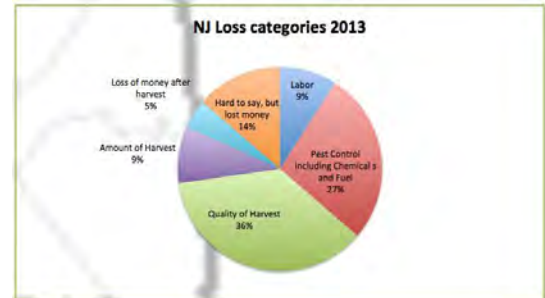
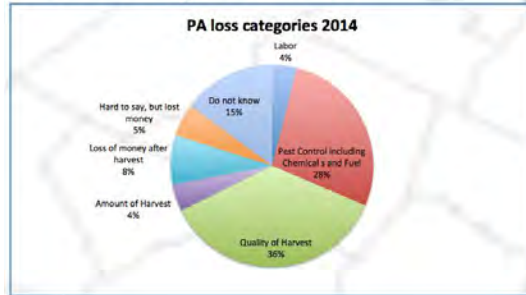
Count of Q7 Area		1	2	3	4	7	8	9
Row Labels	Total	Labor	Pest Control including Chemicals and Fuel	Quality of Harvest	Amount of Harvest	Loss of money after harvest	Hard to say, but lost money	Do not know
1	6	27	149	213	64	33	57	178
2	58	6	58	103	21	11	38	177
3	103	5	5	6	2	1	1	1
4	21	6	6	2	1	1	1	178
6	4	2	2	5	1	1	1	
7	11	8	37	41	1	1	6	
8	38	27	41	6	6	3	2	
9	177		149	3	3	1	1	
1,2	5			2	1	2	1	
1,2,3	6			2	2	1	1	
1,2,3,4	2			1	22	5	4	
1,2,3,4,5,6,7,8	1			6	2	2	1	
1,2,3,4,7	1			22	1	4	57	
1,2,3,5	1			2	1	33		
1,2,3,7	1			1	64			
1,2,7	1			3				
1,2,8	1			4				
1,3,6	1			4				
1,4	1			213				
2,3	41							
2,3,4	6							
2,3,4,7	3							
2,3,6	1							
2,3,6,7	1							
2,3,7	2							
2,3,7,8	1							
2,3,8	6							
2,4	1							
2,4,8	2							
2,6	1							
2,7	5							
2,8	1							
2,8,9	1							
3,4	22							
3,4,7	2							
3,4,8	1							
3,6	3							
3,7	4							
3,8	4							
4,8	1							
(blank)								
Grand Total	548							



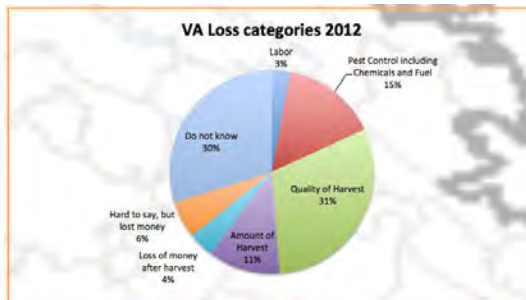
Loss categories by state



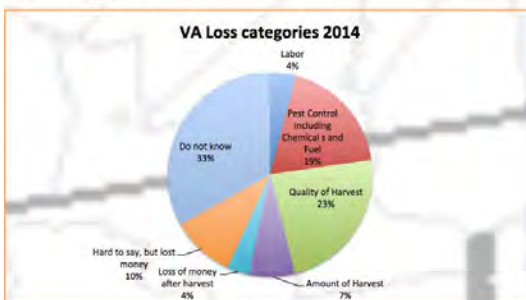
Pennsylvania



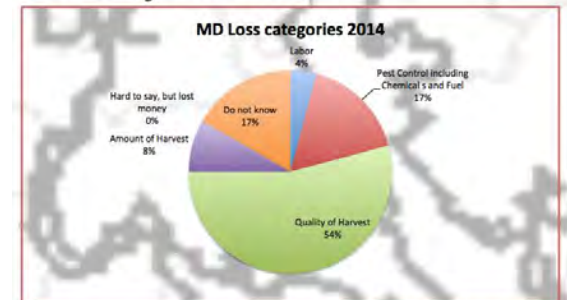
New Jersey



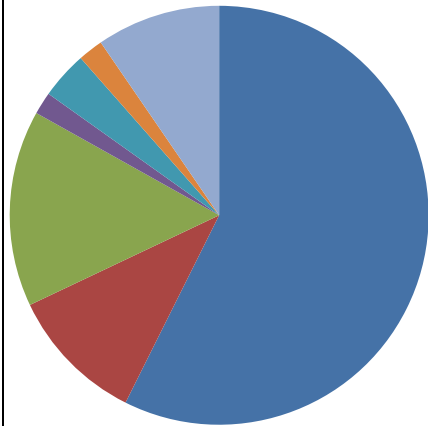
Virginia



Maryland

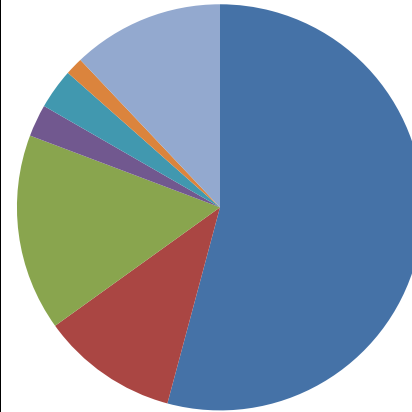


2012



- Grower/farmer, 564
- Farm manager, 104
- Farm worker, 149
- Extension educator, 17
- Consultant/advisor, 36
- Researcher, 19
- Other occupation, 94

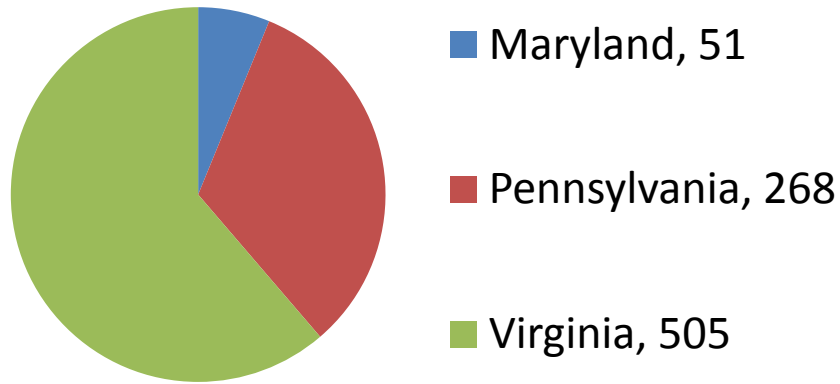
2014



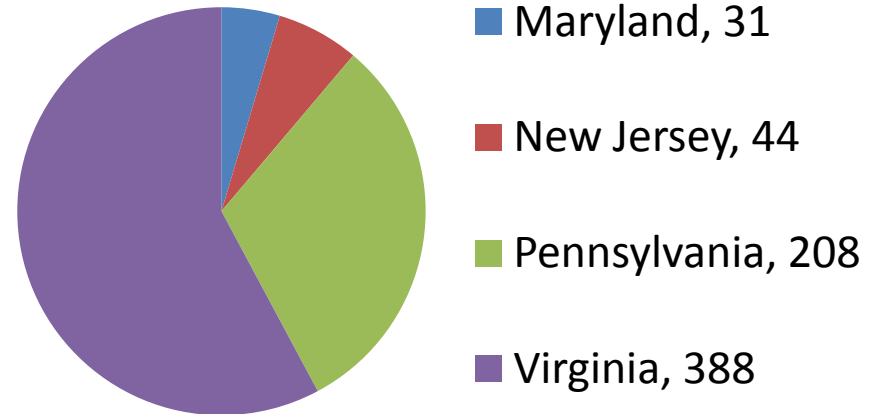
- Grower/Farmer, 422
- Farm Manager, 85
- Farm Worker, 122
- Extension Educator, 20
- Consultant/Advisor, 25
- Researcher, 11
- Other Occupation, 94

Question 1. Reported primary occupations followed by number of respondents. Total of 984 and 779 respondents in 2012 and 2014, respectively.

2012

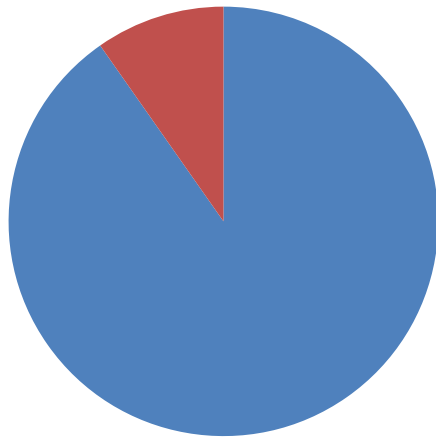


2014



Question 2. Reported location of respondents. Total of 824 and 671 respondents in 2012 and 2014, respectively. New Jersey was not represented in the 2012 survey.

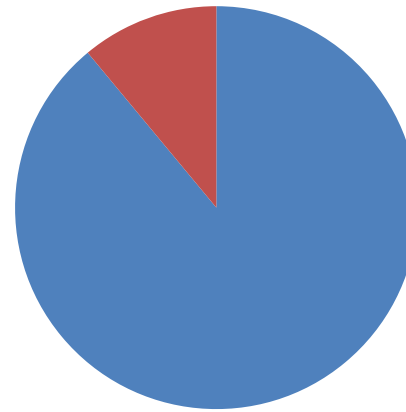
2012



■ Correct ID of
adult BMSB,
742

■ Incorrect ID of
adult BMSB,
80

2014

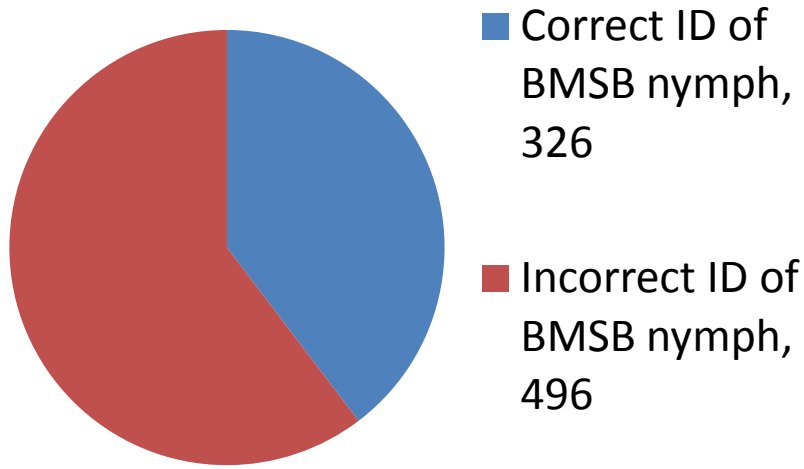


■ Correct ID of
adult BMSB,
597

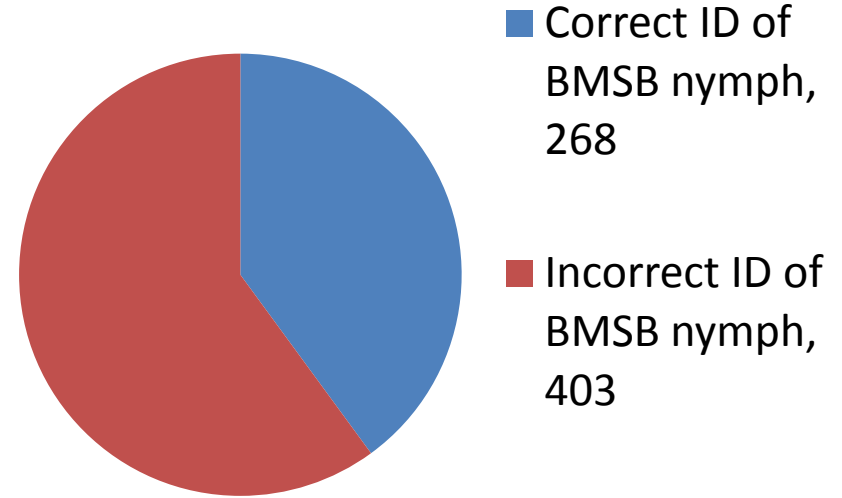
■ Incorrect ID of
adult BMSB, 74

Question 3. Respondents' ability to correctly identify an adult BMSB. Total of 822 and 671 respondents in 2012 and 2014, respectively.

2012

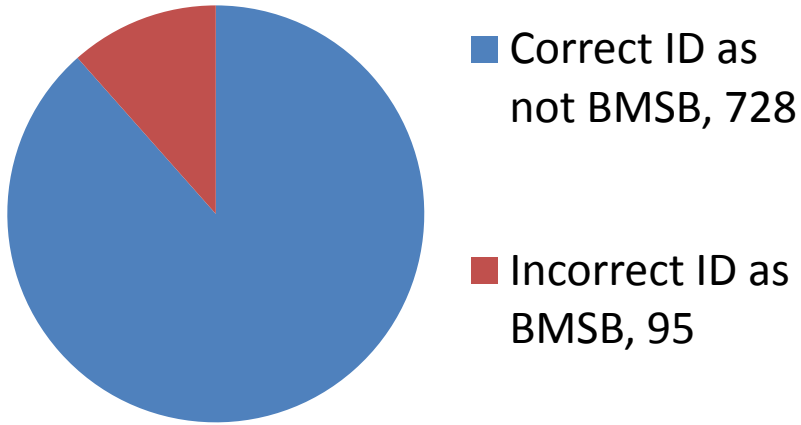


2014

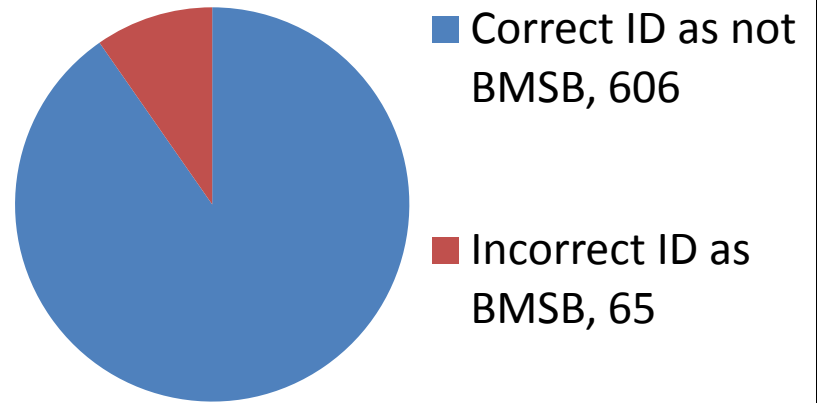


Question 3. Respondents' ability to correctly identify a BMSB nymph. Total of 822 and 671 respondents in 2012 and 2014, respectively.

2012

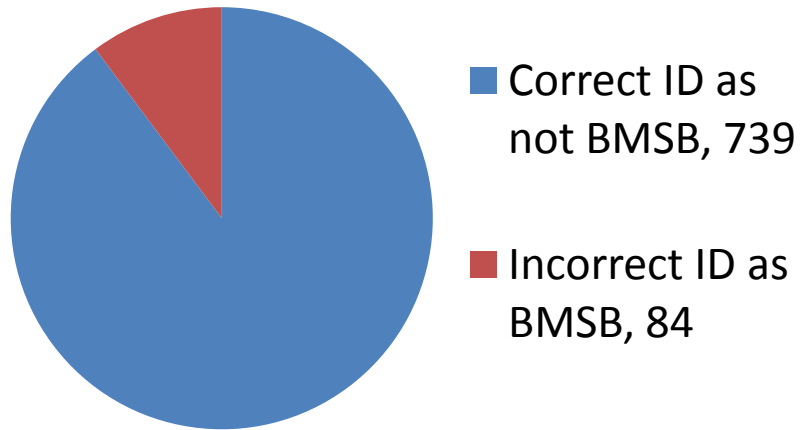


2014

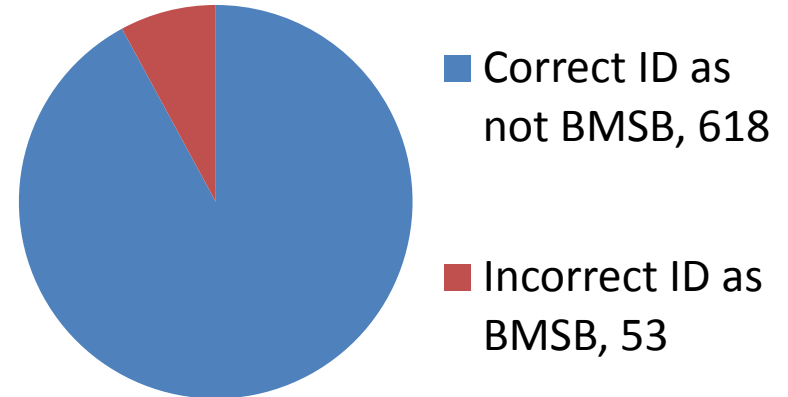


Question 3. Respondents' ability to correctly identify a green stink bug as not a BMSB. Total of 823 and 671 respondents in 2012 and 2014, respectively.

2012

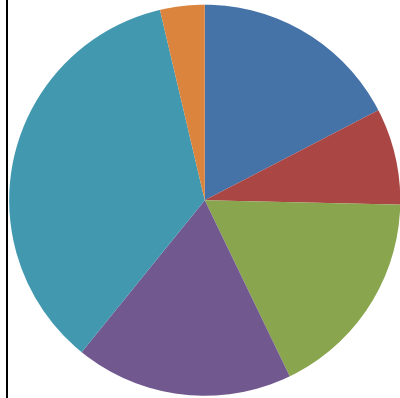


2014



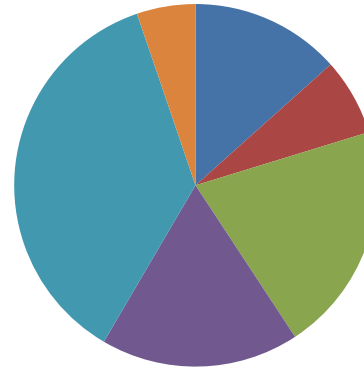
Question 3. Respondents' ability to correctly identify a leaf-footed bug as not a BMSB. Total of 823 and 671 respondents in 2012 and 2014, respectively.

2012



- Antennae; 170
- Spots on back edge; 78
- Color pattern; 171
- Shape; 176
- All of the above; 347
- I don't know how to ID a BMSB; 36

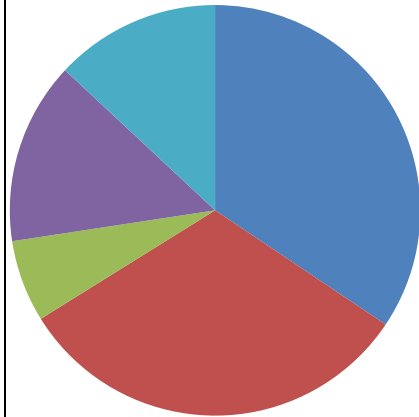
2014



- Antennae; 115
- Spots on back edge; 59
- Color pattern; 176
- Shape; 152
- All of the above; 312
- I don't know how to ID a BMSB; 45

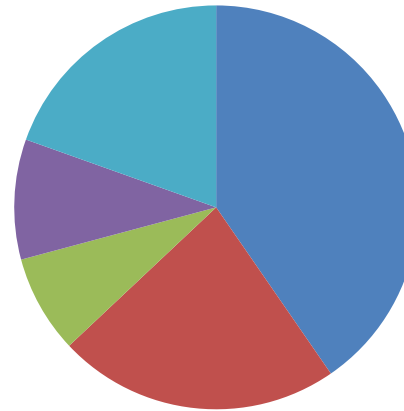
Question 4. Characteristics respondents use to identify a BMSB. Total of 978 and 859 respondents in 2012 and 2014, respectively.

2012



- Did not grow this crop; 261
- Never saw this damage; 241
- Yes, in 2010; 49
- Yes, in 2011; 109
- Yes, in 2010 and 2011; 99

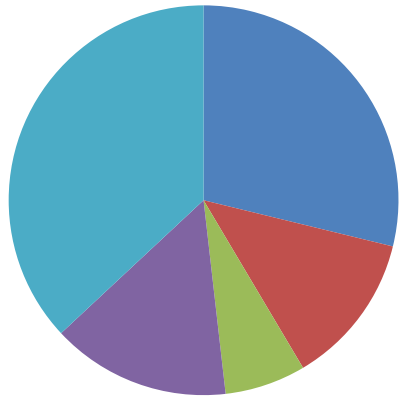
2014



- Did not grow this crop; 252
- Never saw this damage; 141
- Yes, in 2012; 49
- Yes, in 2013; 60
- Yes, in 2012 and 2013; 122

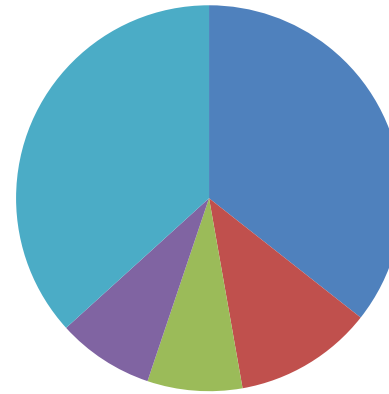
Question 5, Photo 1. Respondents' experience with BMSB damage in field or sweet corn; number of respondents indicated after each answer. Total number of respondents was 759 and 624 in 2012 and 2014, respectively.

2012



- Did not grow this crop; 223
- Never saw this damage; 98
- Yes, in 2010; 52
- Yes, in 2011; 115
- Yes, in 2010 and 2011; 286

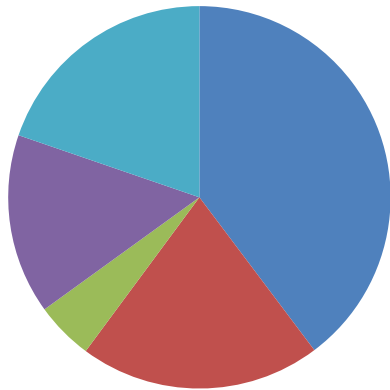
2014



- Did not grow this crop; 224
- Never saw this damage; 73
- Yes, in 2012; 50
- Yes, in 2013; 51
- Yes, in 2012 and 2013; 231

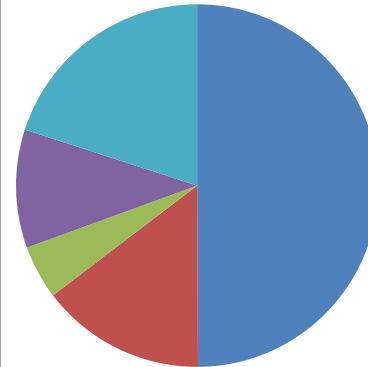
Question 5, Photo 2. Respondents' experience with BMSB damage in apple or other tree fruit; number of respondents indicated after each answer. Total number of respondents was 774 and 629 in 2012 and 2014, respectively.

2012



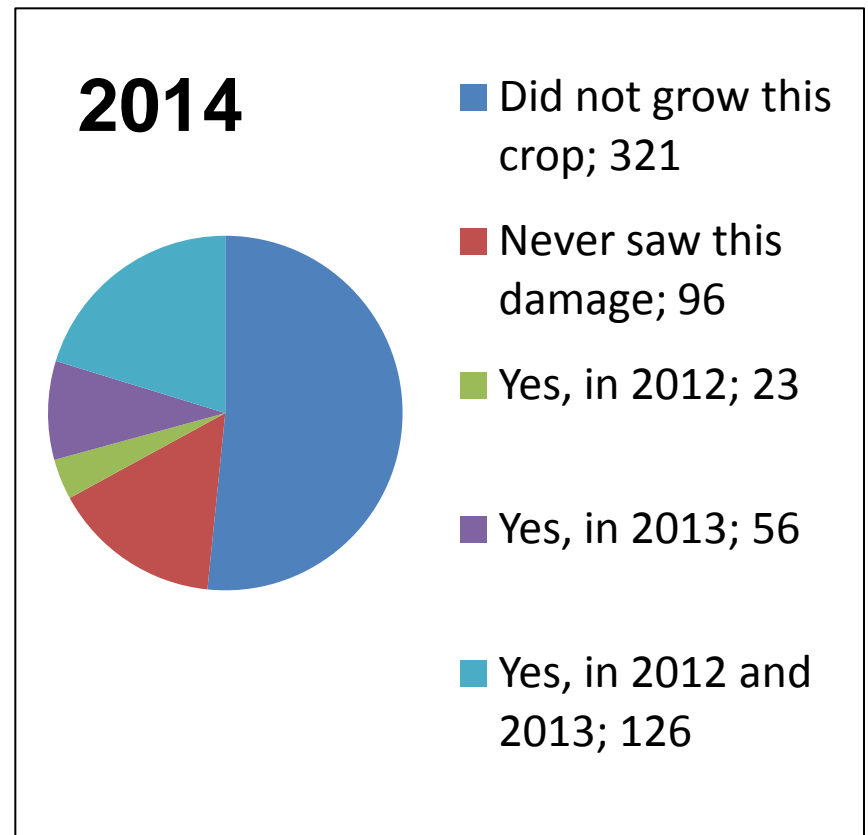
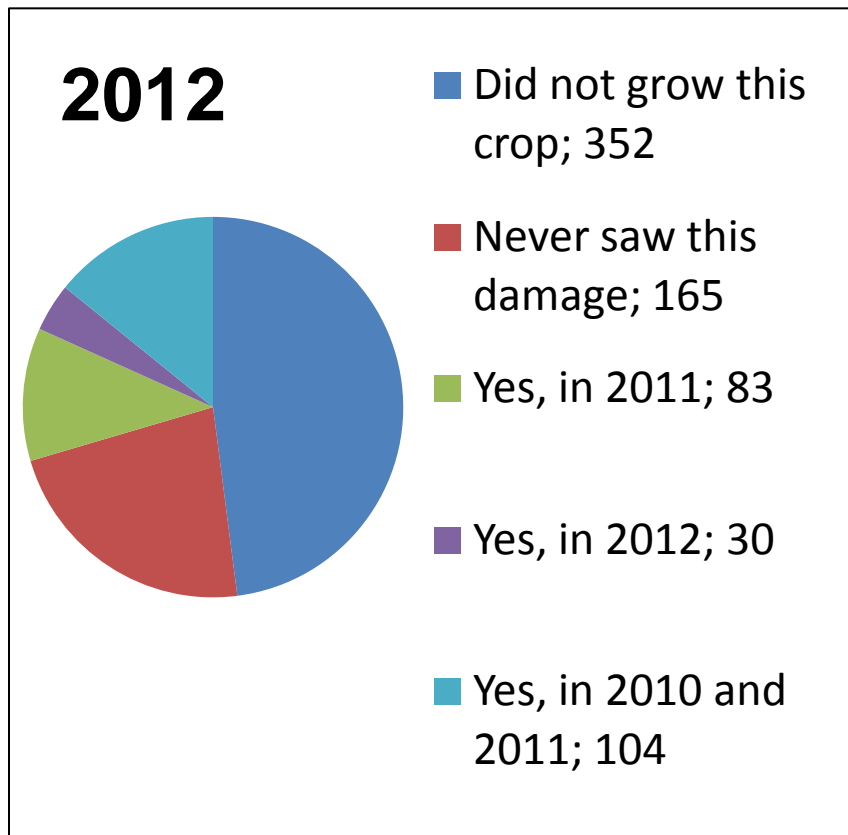
- Did not grow this crop; 300
- Never saw this damage; 154
- Yes, in 2010; 37
- Yes, in 2011; 115
- Yes, in 2010 and 2011; 149

2014

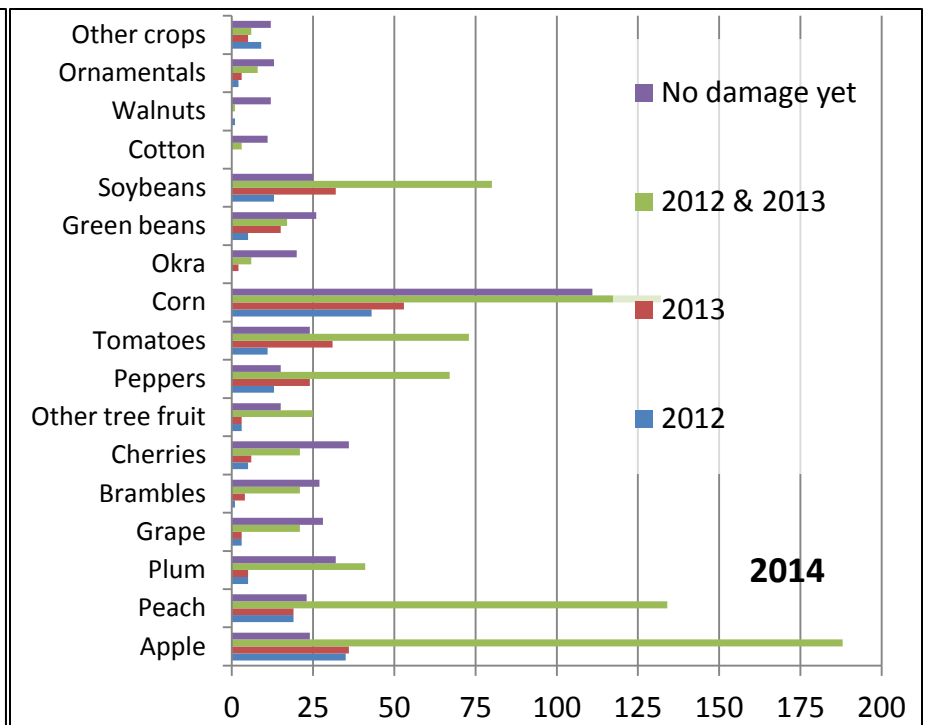
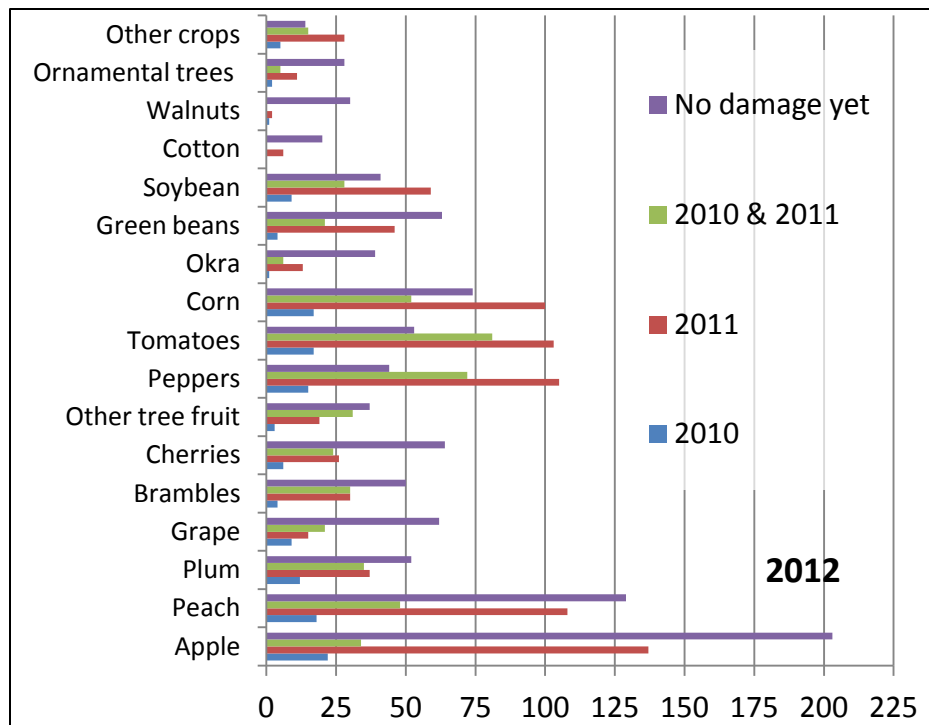


- Did not grow this crop; 312
- Never saw this damage; 92
- Yes, in 2012; 30
- Yes, in 2013; 66
- Yes, in 2012 and 2013; 125

Question 5, Photo 3. Respondents' experience with BMSB damage in pepper or tomato; number of respondents indicated after each answer. Total number of respondents was 755 and 625 in 2012 and 2014, respectively.



Question 5, Photo 4. Respondents' experience with BMSB damage in soy or green bean; number of respondents indicated after each answer. Total number of respondents was 734 and 622 in 2012 and 2014, respectively.



Question 6. Reported observations of BMSB pressure in various crops by year.