



The Bee Informed Partnership
Management Survey Results (2011)
Varroa Management

BeeInformed.org

Funded by:



United States
Department of
Agriculture

National Institute
of Food
and Agriculture

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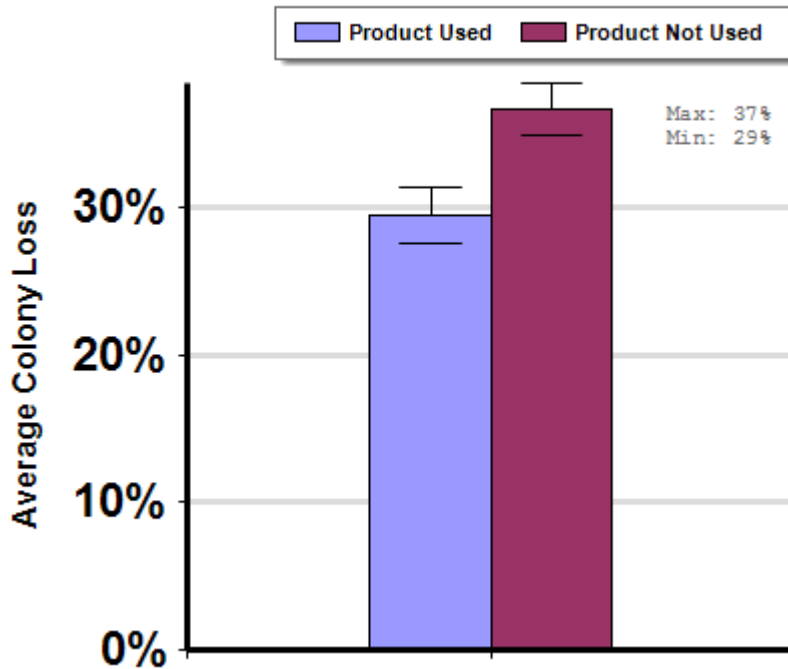
Varroa Mite Control Product Use

A comparison of average winter colony mortality among beekeepers who reported treating or not treating with a known varroa mite control product, at least once, between April 2010 and March 2011. Known varroa mite control products include ApiGuard, ApiLife Var, Coumaphos (i.e. CheckMite+), Fluvalinate (i.e. Apistan), Formic Acid (i.e. Mite Away II), Sucroside, and other products.

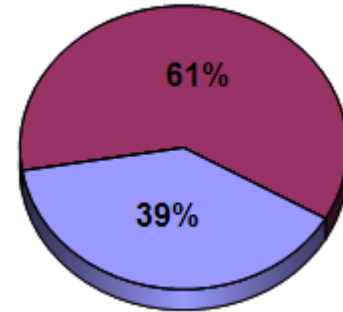
Winter

Report ID: 30

Some Significant Differences



Respondent Ratio



Interpretation

Beekeepers who reported treating with a known varroa mite control product reported 7 fewer overwintering colony deaths per 100 managed colonies than those who did not report using a known varroa mite control product. In other words, beekeepers who reported treating for varroa mites lost 20 % fewer colonies than those who did not report such use. Sixty-one percent of beekeepers reported that they did not use a varroa mite control product.

Survey Question

19. For the products listed below, indicate in which months you applied the product to a majority of your colonies.

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Product Used	1,074	152,947	142.4	28.8	29.5	27.5	31.4
Product Not Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied the products according to label directions. It is likely that some of those who reported using a product did so using concentrations and delivery methods that differed from the label directions. This may affect the results reported here. More detailed questions regarding doses and application method are planned for future surveys.

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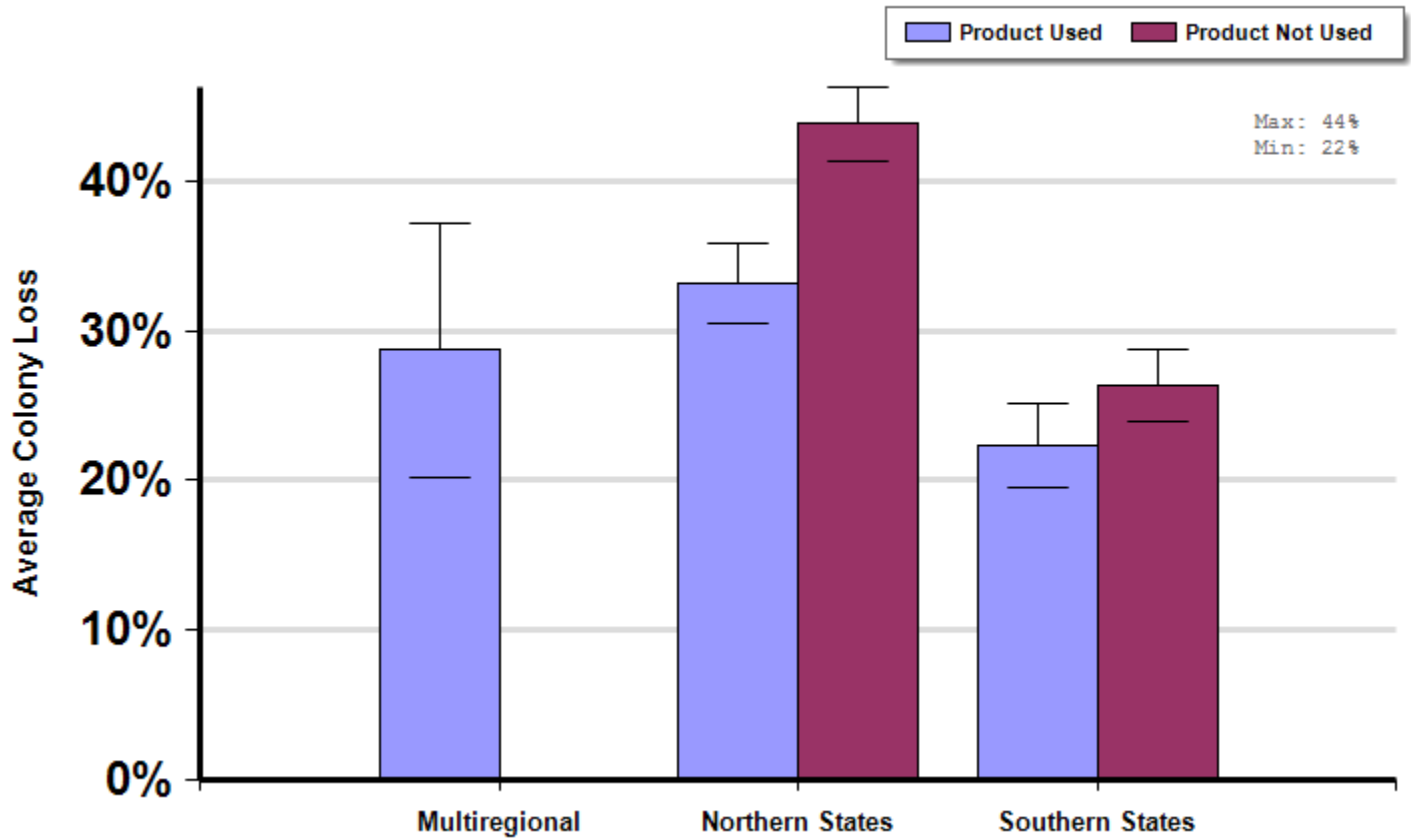
Varroa Mite Control Use By Region

A comparison of average winter colony mortality among beekeepers who reported treating or not treating with a known varroa mite control product, at least once, in a majority of their colonies between April 2010 and March 2011 by region. Known varroa mite control products include ApiGuard, ApiLife Var, Coumaphos (i.e. CheckMite+), Fluvalinate (i.e. Apistan), Formic Acid (i.e. Mite Away II), Sucroside, and others.

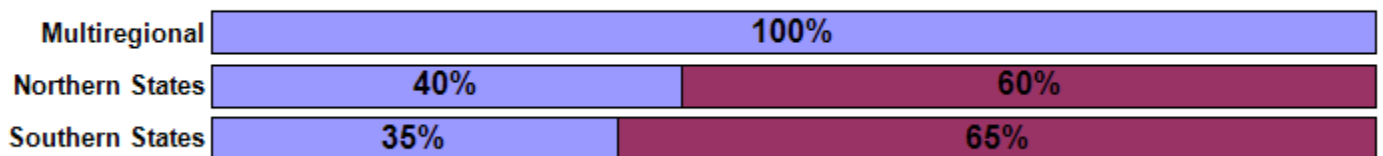
Winter

Report ID: 42

Some Significant Differences (within regions)



Respondent Ratio



Interpretation

Beekeepers in northern states that treated with a known varroa mite control product reported 10.6 fewer overwintering colony deaths per 100 managed colonies than those who did not use a varroa mite control product. In other words, beekeepers in northern states who reported treating for varroa mites lost 24% fewer colonies than those who did not report such use. There was no significant difference among southern beekeepers who used or did not use a known varroa mite control product. All multiregional operations used a known varroa mite control product.

Survey Question

19. For the products listed below, indicate in which months you applied the product to a majority of your colonies.

		Total	Total	Average Number	Average Colony Loss
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		Number of Respondents Providing Valid Responses	Number of Colonies Managed	of Colonies Managed				
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Multiregional	Product Used	34	99,370	2922.6	650.4	28.7	20.2	37.2
Northern States	Product Used	647	13,735	21.2	5.9	33.2	30.5	35.8
	Product Not Used	954	9,249	9.7	1.3	43.8	41.4	46.2
Southern States	Product Used	373	34,877	93.5	35.3	22.3	19.5	25.1
	Product Not Used	694	7,125	10.3	1.5	26.4	23.9	28.8

Comments About This Data

We do not know if the responding beekeepers applied the products according to label directions. It is likely that some of those who reported using a product did so using concentrations and delivery methods that differed from the label directions. This may affect the results reported here. More detailed questions regarding doses and application methods are planned for future surveys.

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ApiGuard Use

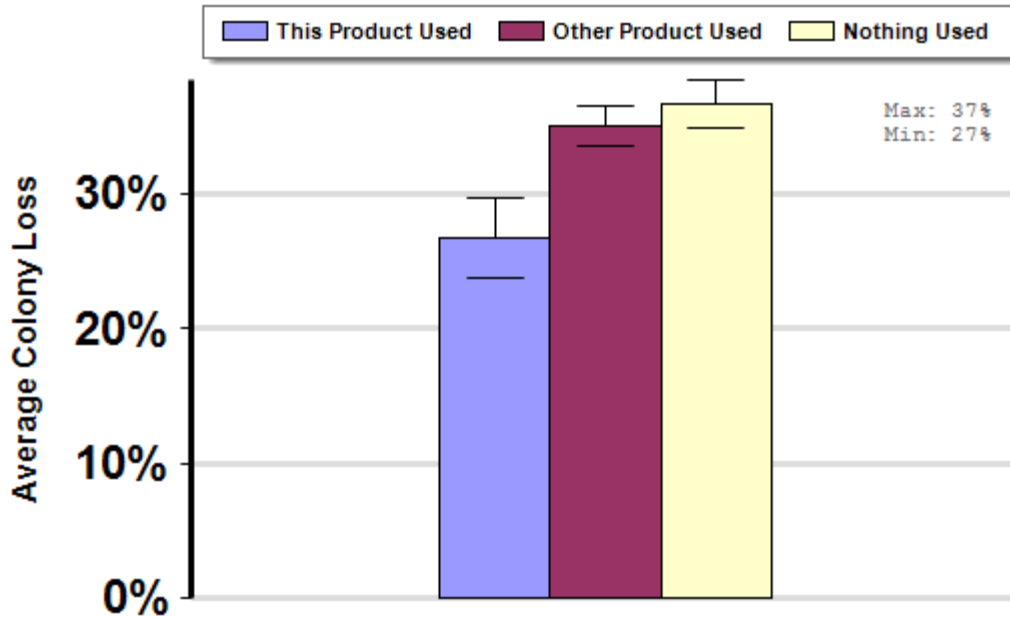
A comparison of average winter colony mortality among beekeepers who reported treating or not treating with ApiGuard, at least once, between April 2010 and March 2011.

Winter

Report ID: 276

Some Significant Differences

Respondent Ratio



Interpretation

Beekeepers who reported treating with ApiGuard reported 10 fewer overwintering colony deaths per 100 managed colonies than those who did not report using a known varroa mite control product. In other words, beekeepers who reported treating with ApiGuard lost 27% fewer colonies than those who did not report treating with any known varroa mite control product.

Survey Question

For the products listed below, indicate in which months you applied the product to a majority of your colonies.
ApiGuard

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
ApiGuard	This Product Used	415	54,244	130.7	39.8	26.7	23.8	29.7
	Other Product Used	2,334	123,895	53.1	11.8	35.1	33.6	36.6
	Nothing Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied this product according to label directions. Nor do we know how often they applied this product. These factors may affect the results reported here. More detailed questions regarding doses and application methods are planned for future surveys.

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ApiLife Var Use

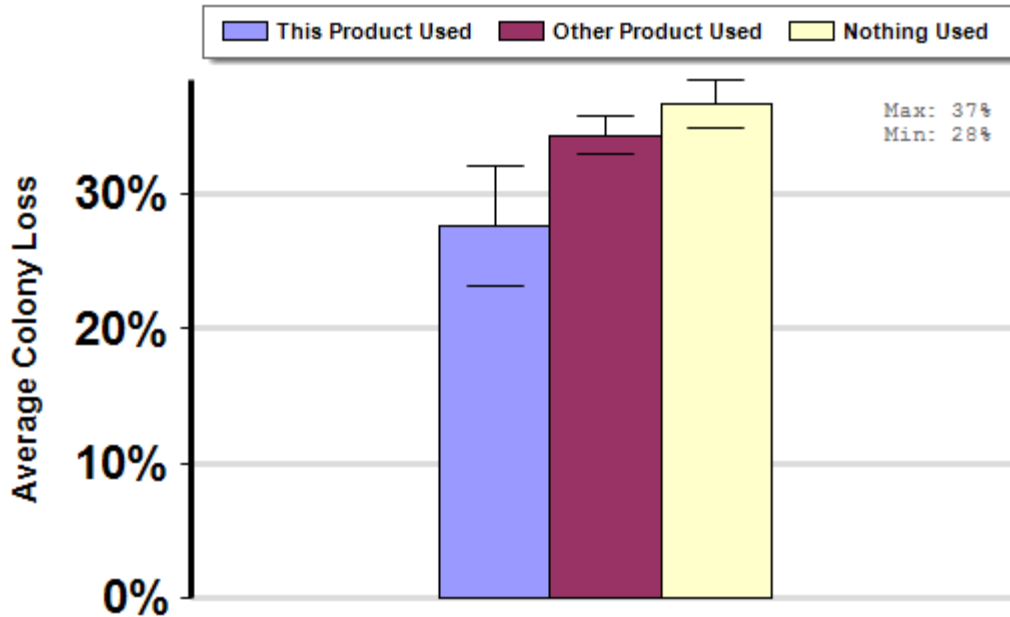
A comparison of average winter colony mortality among beekeepers who reported treating or not treating with ApiLife Var, at least once, between April 2010 and March 2011.

Winter

Report ID: 275

Some Significant Differences

Respondent Ratio



Interpretation

Beekeepers who reported treating with ApiLife Var reported 9 fewer overwintering colony deaths per 100 managed colonies than those who did not report using a known varroa mite control product. In other words, beekeepers who reported treating ApiLife Var lost 24.5% fewer colonies than those who did not report treating with any known varroa mite control product.

Survey Question

19. For the products listed below, indicate in which months you applied the product to a majority of your colonies.
ApiLifeVar

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
ApiLife Var	This Product Used	208	2,408	11.6	1.7	27.7	23.2	32.1
	Other Product Used	2,541	175,731	69.2	12.6	34.4	33.0	35.8
	Nothing Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied this product according to label directions. Nor do we know how often they applied this product. These factors may affect the results reported here. More detailed questions regarding doses and application method are planned for future surveys.

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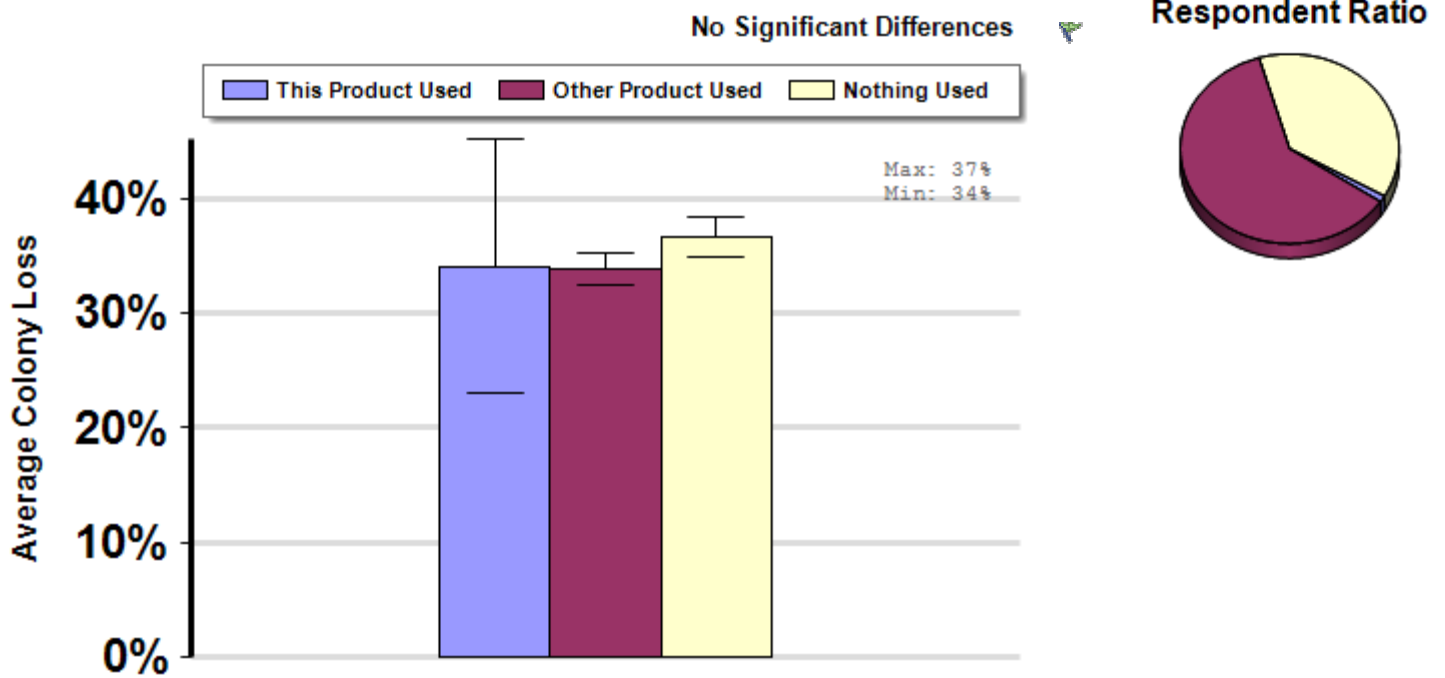


Coumaphos Use

A comparison of average winter colony mortality among beekeepers who reported treating or not treating with a Coumaphos-based product (e.g. CheckMite+), at least once, between April 2010 and March 2011.

Winter

Report ID: 272



Interpretation

No differences detected between groups.

Survey Question

For the products listed below, indicate in which months you applied the product to a majority of your colonies.
Coumaphos-based product (i.e., CheckMite+)

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Coumaphos	This Product Used	48	911	19.0	9.3	34.1	23.0	45.2
	Other Product Used	2,701	177,228	65.6	11.9	33.9	32.5	35.2
	Nothing Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied this product according to label directions. Nor do we know how often they applied this product. These factors may affect the results reported here. More detailed questions regarding doses and application methods are planned for future surveys.

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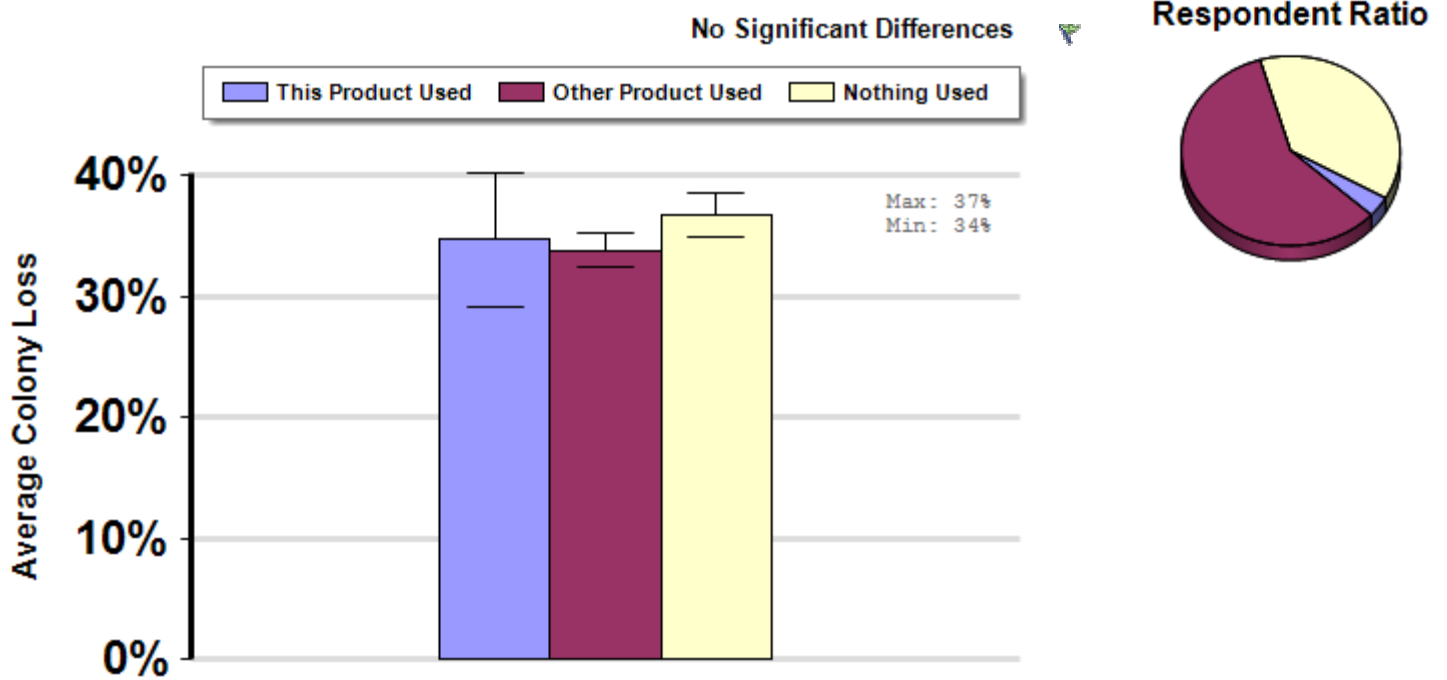


Fluvalinate Use

A comparison of average winter colony mortality among beekeepers who reported treating or not treating with a Fluvalinate-based product (e.g. Apistan), at least once, between April 2010 and March 2011.

Winter

Report ID: 271



Interpretation

No difference detected between groups

Survey Question

For the products listed below, indicate in which months you applied the product to a majority of your colonies.
Fluvalinate-based product (i.e., Apistan)

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Fluvalinate	This Product Used	154	6,134	39.8	20.8	34.7	29.2	40.2
	Other Product Used	2,595	172,005	66.3	12.3	33.8	32.4	35.2
	Nothing Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied this product according to label directions. Nor do we know how often they applied this product. These factors may affect the results reported here. More detailed questions regarding doses and application methods are planned for future surveys.

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Formic Acid Use

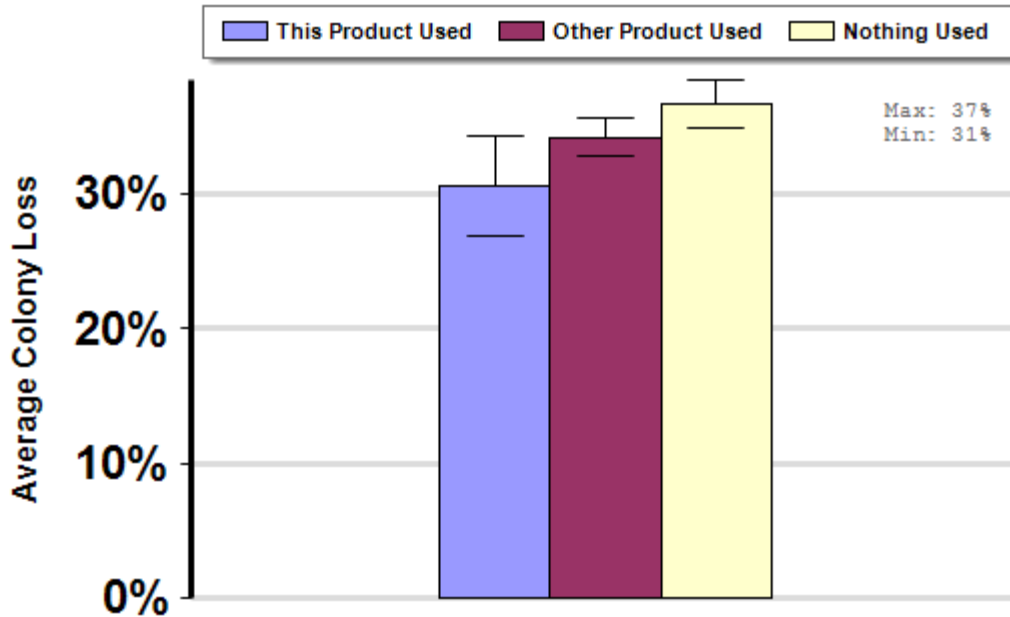
A comparison of average winter colony mortality among beekeepers who reported treating or not treating with a formic acid-based product, at least once, between April 2010 and March 2011.

Winter

Report ID: 277

Some Significant Differences

Respondent Ratio



Interpretation

Beekeepers who reported treating with a formic acid-based product reported 6 fewer overwintering colony deaths per 100 managed colonies than those who did not report using a known varroa mite control product. In other words, beekeepers who reported treating with a formic acid-based product lost 16% fewer colonies than those who did not report treating with any known varroa mite control product.

Survey Question

For the products listed below, indicate in which months you applied the product to a majority of your colonies.
Formic Acid (i.e., Mite Away II)

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Formic	This Product Used	289	39,865	137.9	59.7	30.7	26.9	34.4
	Other Product Used	2,460	138,274	56.2	11.0	34.2	32.8	35.7
	Nothing Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied this product according to label directions. Nor do we know how often they applied this product. These factors may affect the results reported here. More detailed questions regarding doses and application methods are planned for future surveys.

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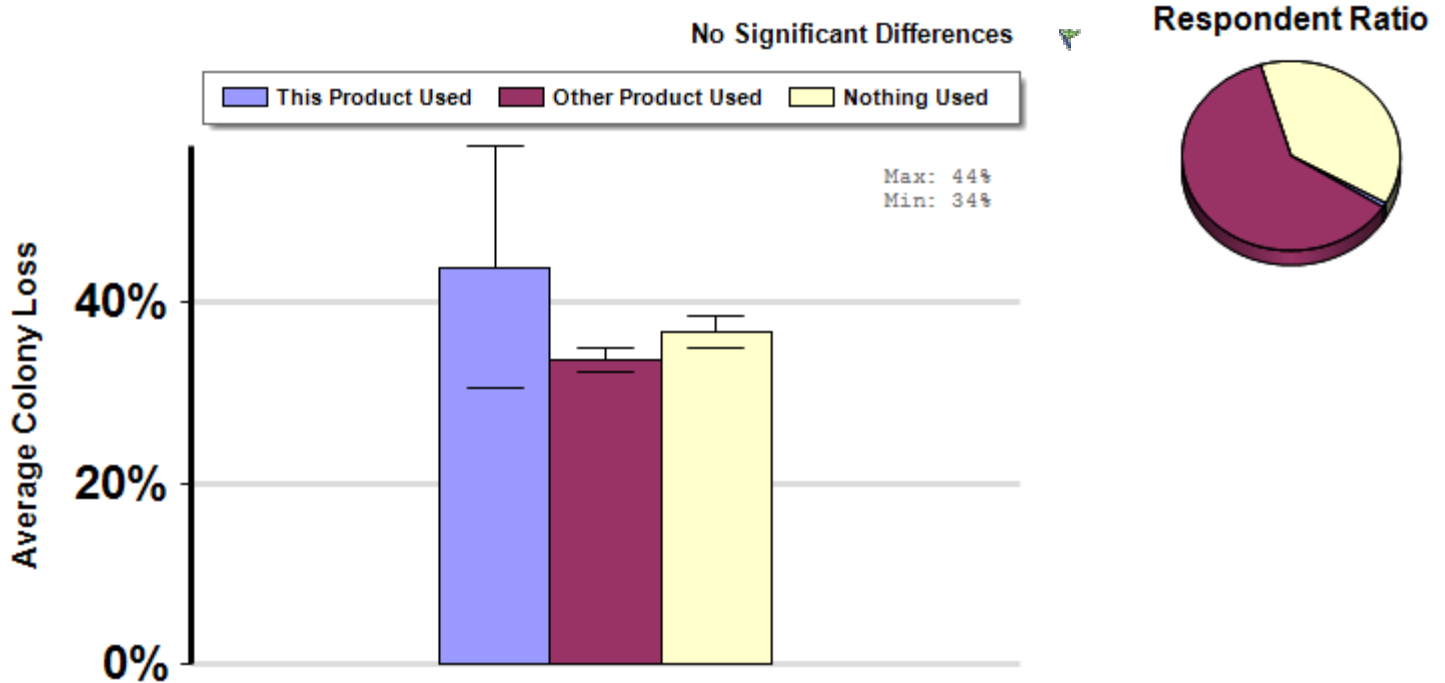


Sucroside Use

A comparison of average winter colony mortality among beekeepers who reported treating or not treating with Sucroside, at least once, between April 2010 and March 2011.

Winter

Report ID: 279



Interpretation

No difference was detected between groups.

Survey Question

19. For the products listed below, indicate in which months you applied the product to a majority of your colonies.
Sucroside

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Sucroside	This Product Used	34	476	14.0	6.0	44.0	30.6	57.3
	Other Product Used	2,715	177,663	65.4	11.8	33.7	32.4	35.1
	Nothing Used	1,675	25,192	15.0	4.7	36.7	34.9	38.5

Comments About This Data

We do not know if the responding beekeepers applied this product according to label directions. Nor do we know how often they applied this product. These factors may affect the results reported here. More detailed questions regarding doses and application method are required to further clarify this.

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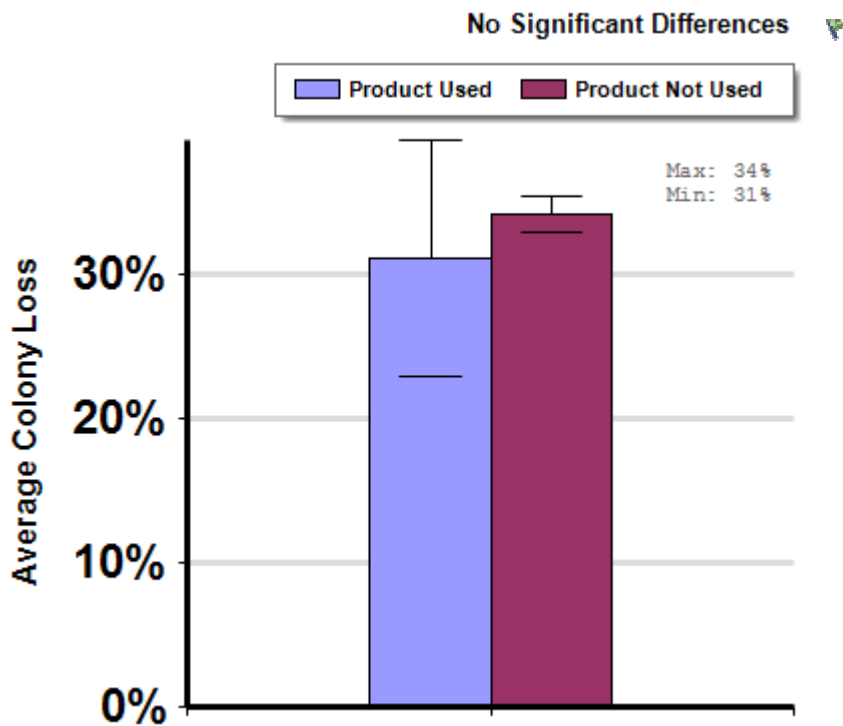


Herbal Product Use

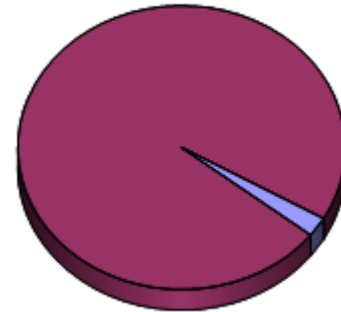
A comparison of average winter colony mortality among beekeepers who reported treating or not treating with an “other herbal product” at least once, between April 2010 and March 2011. Other herbal products include thymol, garlic powder, menthol, wintergreen, and mint oils. Other herbal products do not include products specifically formulated and marketed for use in honey bee colonies

Winter

Report ID: 188



Respondent Ratio



Interpretation

No difference detected between groups.

Survey Question

21. Did you use any other disease or parasite control product in a majority of your colonies that was not listed in question 19 or 20 above?

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Product Used	68	16,246	238.9	220.5	31.2	22.9	39.4
Product Not Used	2,982	253,872	85.1	30.0	34.2	32.9	35.5

Comments About This Data

Few beekeepers reported applying or feeding an "other herbal product". No data were collected on the delivery method or the dose of the product used. These variables may be important in determining these products' effect, if any, on survivorship. This report combines survivorship from different self-reported “essential oils” used, so the results should not be viewed as conclusive for any single product.

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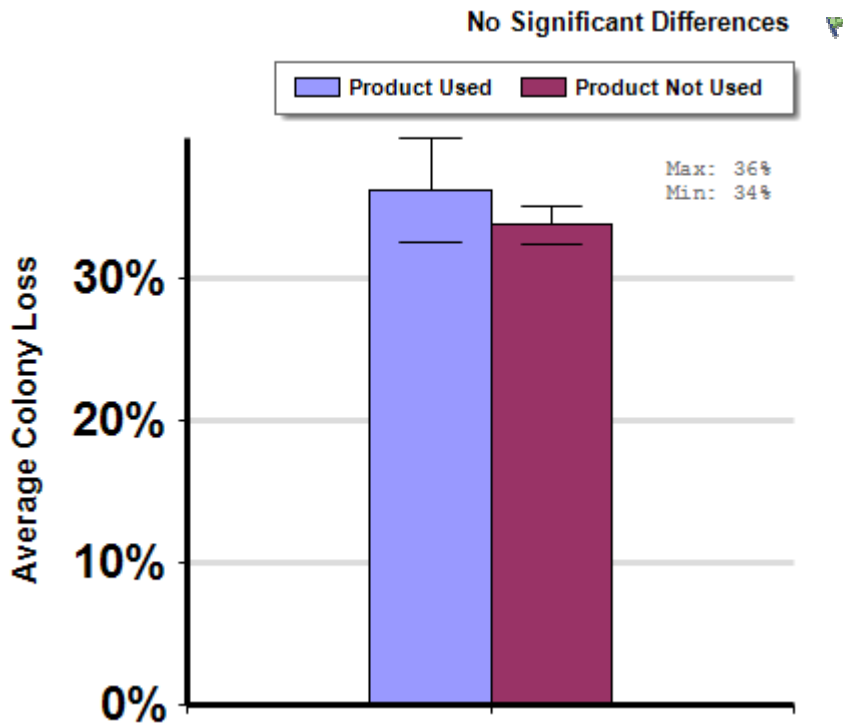


Powdered Sugar Use

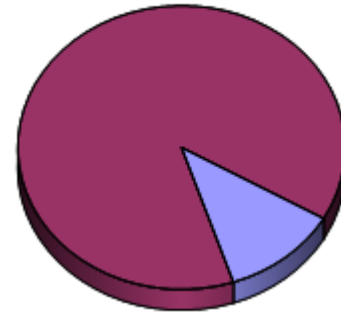
A comparison of average winter colony mortality among beekeepers who reported treating or not treating with powder sugar, at least once, between April 2010 and March 2011.

Winter

Report ID: 191



Respondent Ratio



Interpretation

No difference detected between groups.

Survey Question

21. Did you use any other disease or parasite control product in a majority of your colonies that was not listed in questions 19 or 20 above?

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Product Used	352	4,428	12.6	4.3	36.3	32.5	40.0
Product Not Used	2,698	265,690	98.5	33.6	33.8	32.5	35.2

Comments About This Data

Powdered sugar is applied to colonies to control varroa mites. We did not collect data on how frequently this product was applied or how much was applied. These factors may have an impact on this product's effectiveness.

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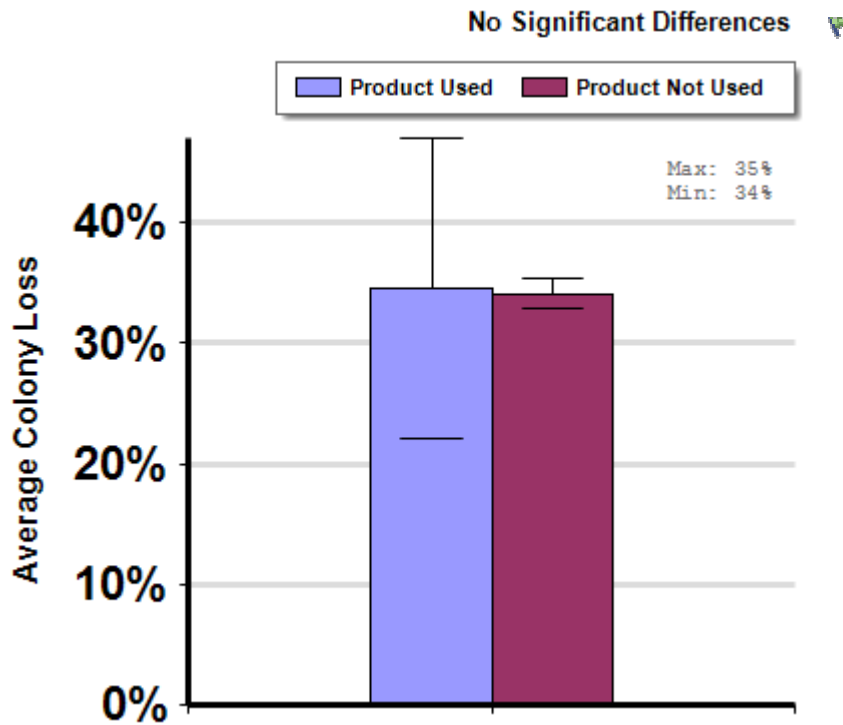


Mineral Oil Use

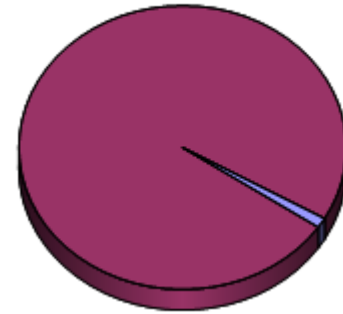
A comparison of average winter colony mortality among beekeepers who reported treating or not treating with mineral oil, at least once, between April 2010 and March 2011

Winter

Report ID: 194



Respondent Ratio



Interpretation

No difference was detected between groups

Survey Question

21. Did you use any other disease or parasite control product in a majority of your colonies that was not listed in questions 19 or 20 above?

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Product Used	35	927	26.5	12.6	34.6	22.0	47.1
Product Not Used	3,015	269,191	89.3	30.1	34.1	32.8	35.4

Comments About This Data

Mineral oil is applied in different ways, principally as a fog or drip, to control varroa mites. We did not collect data on how this material was applied which may have a big impact on its effectiveness.

Relevant Links, References, and Citations

[Inert ingredient](#)

[FIFRA exempt](#)

The EPA has determined that mineral oil is an inert ingredient that poses a minimum risk.

Because it is considered to be inert, mineral oil is exempt from requirements of the U.S. Federal Insecticide, Fungicide, and Rodenticide Act(FIFRA).

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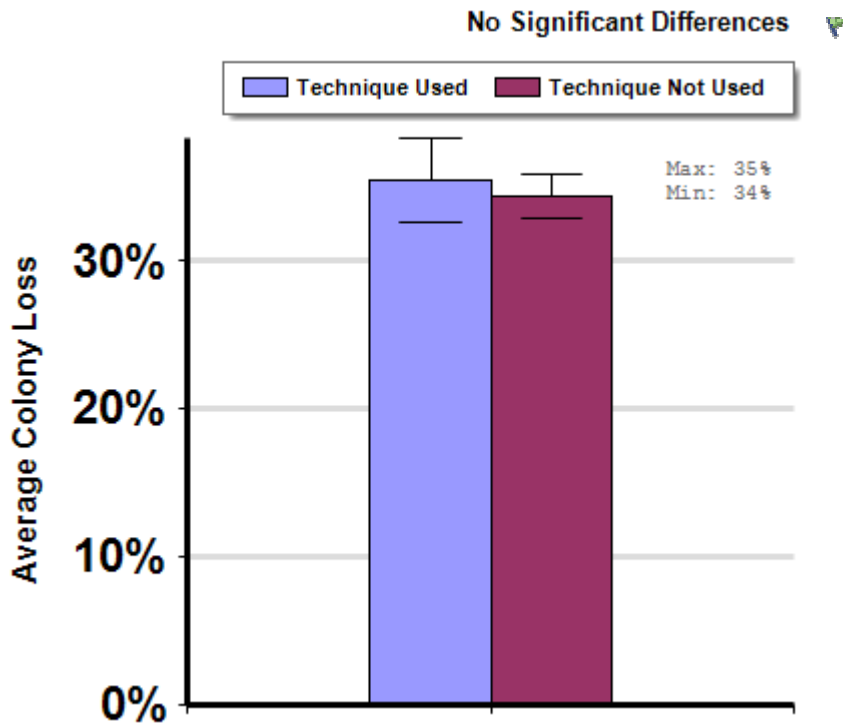


Drone Brood Removal Use

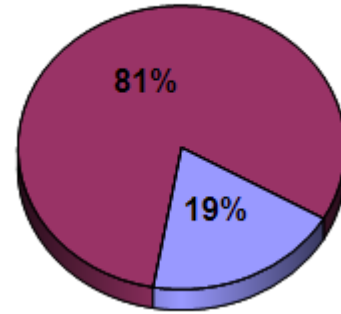
A comparison of average winter colony mortality among beekeepers who reported using or not using drone brood removal between April 2010 and March 2011

Winter

Report ID: 104



Respondent Ratio



Interpretation

No difference between groups detected

Survey Question

26. Over the last year, in what proportion (percentage) of your colonies did you employ the practices/equipment listed below?
Drone Brood Removal

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Technique Used	556	55,974	100.7	32.8	35.5	32.6	38.4
Technique Not Used	2,303	206,042	89.5	38.6	34.4	32.9	35.9

Comments About This Data

We did not collect data on how many times beekeepers removed drone combs or on how much drone comb they removed. This would have a very large impact on drone brood removal's effectiveness as a varroa mite control technique. We plan to collect this data in future years.

Drone brood removal is not a stand-alone mite control technique, so multi-factorial analysis may demonstrate some benefits that are not evident here. We plan to do this analysis in the future.

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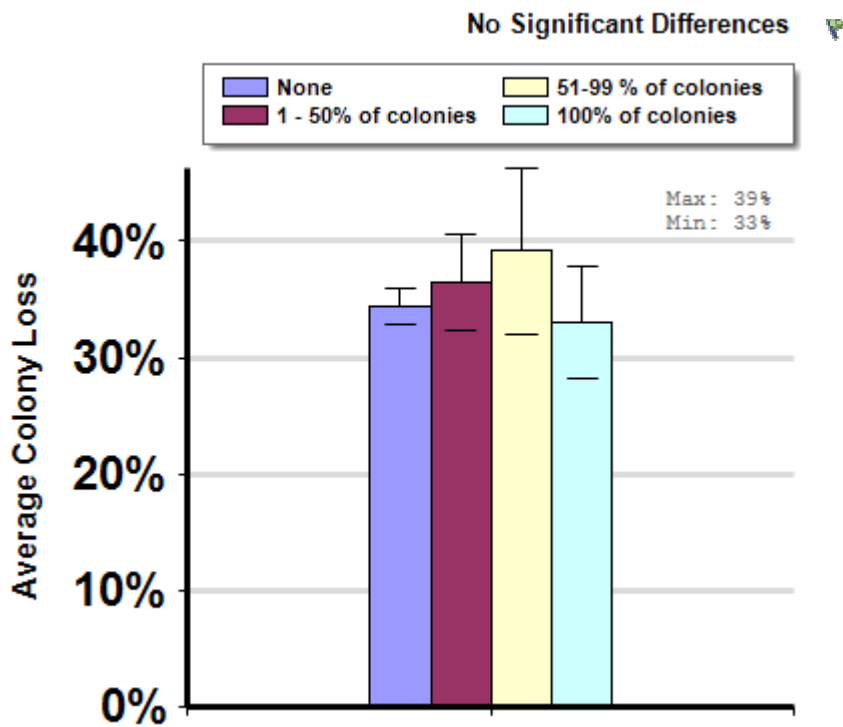


Drone Brood Removal Proportion of Operation

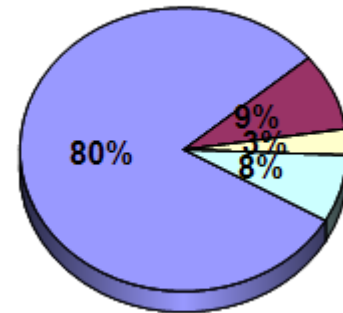
Average winter colony mortality reported by beekeepers that employed drone comb removal between April 1 2010 and April 1 2011 by percent of operation in which the method was employed.

Winter

Report ID: 110



Respondent Ratio



Interpretation

We did not detect differences between groups

Survey Question

26. Over the last year, in what proportion (percentage) of your colonies did you employ the practices/equipment listed below?
Drone Brood Removal

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
None	2,303	206,042	89.5	38.6	34.4	32.9	35.9
1 - 50% of colonies	253	32,138	127.0	55.5	36.5	32.4	40.6
51-99 % of colonies	85	9,171	107.9	63.8	39.2	32.1	46.4
100% of colonies	220	14,706	66.8	47.0	33.0	28.2	37.9

Comments About This Data

We did not collect data on how many times beekeepers removed drone combs or on how much drone comb they removed. This would have a very large impact on drone brood removal's effectiveness as a varroa mite control technique. We plan to collect this data in future years.

Also, drone brood removal is not a stand-alone mite control technique, so multi-factorial analysis may demonstrate some benefits that are not evident here. We plan to do this analysis in the future.

Relevant Links, References, and Citations

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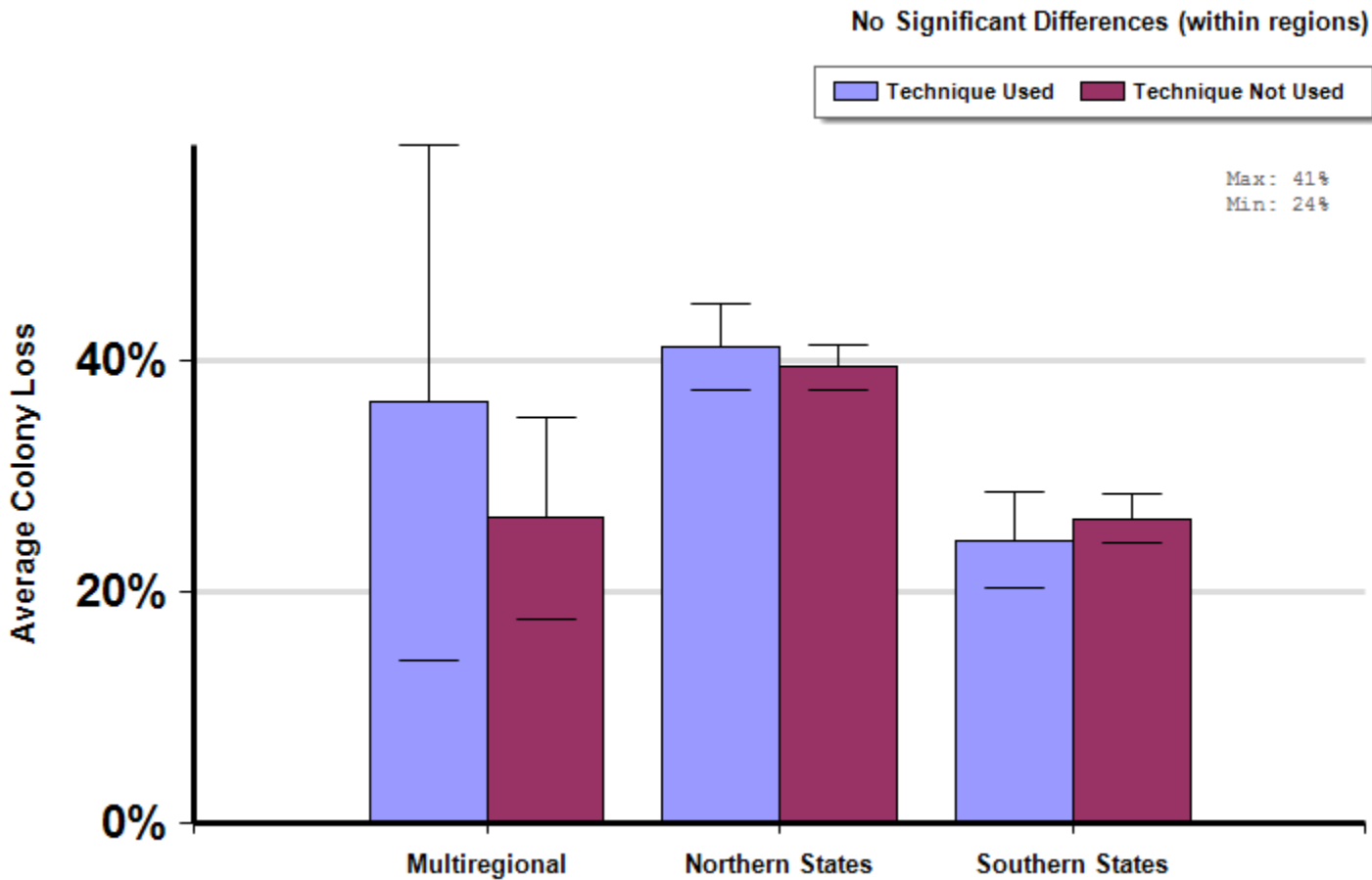


Drone Brood Removal By Region

Average winter colony mortality suffered by beekeepers who employed drone comb removal between April 1 2010 and April 1 2011 by region of operation.

Winter

Report ID: 107



Respondent Ratio



Interpretation

No difference between groups detected

Survey Question

26. Over the last year, in what proportion (percentage) of your colonies did you employ the practices/equipment listed below?

	Total	Total	Average Number	Average Colony Loss

		Number of Respondents Providing Valid Responses	Number of Colonies Managed	of Colonies Managed				
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Multiregional	Technique Used	9	30,357	3373.0	984.3	36.3	14.1	58.6
	Technique Not Used	29	166,227	5732.0	2920.1	26.3	17.6	35.1
Northern States	Technique Used	361	8,103	22.4	10.2	41.1	37.4	44.9
	Technique Not Used	1,347	15,322	11.4	1.2	39.4	37.4	41.4
Southern States	Technique Used	179	17,292	96.6	68.7	24.4	20.3	28.6
	Technique Not Used	896	24,130	26.9	5.6	26.3	24.1	28.4

Comments About This Data

We did not collect data on how many times beekeepers removed drone comb or on how much drone comb they removed. This would have a very large impact on drone brood removal's effectiveness as a varroa mite control technique. We plan to collect this data in future years. Drone brood removal is not a stand-alone mite control technique, so multi-factorial analysis may demonstrate some benefits that are not evident here. We plan to do this analysis in the future.

Relevant Links, References, and Citations

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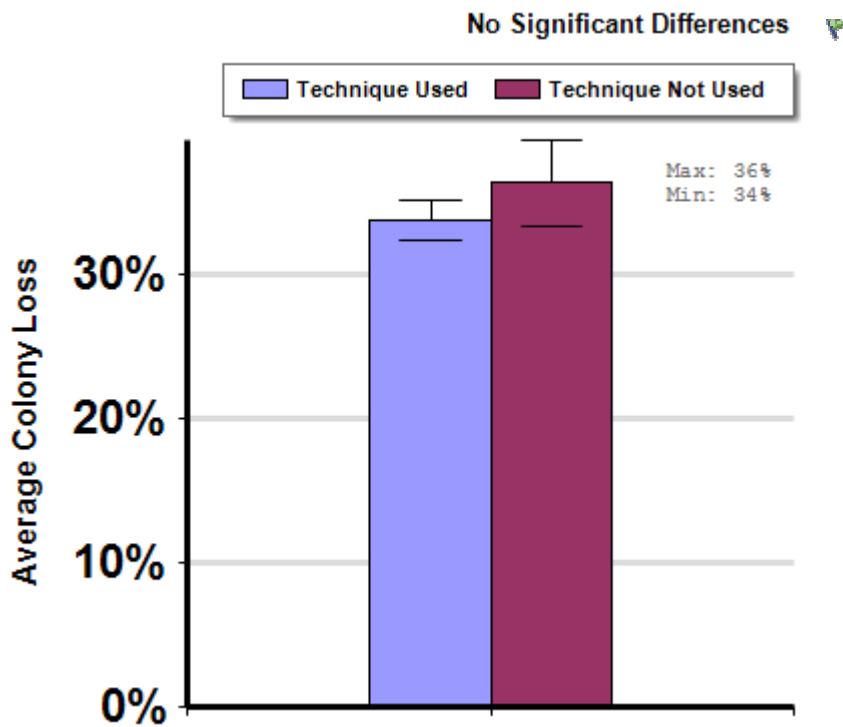


Screen Bottom Board Use

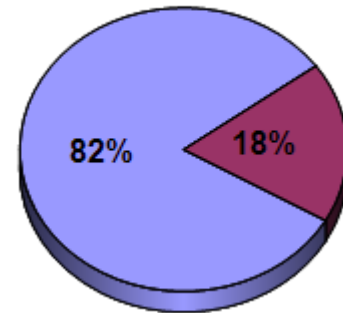
Average winter colony mortality reported by beekeepers who used or did not use screen bottom boards, between April 1 2010 and April 1 2011.

Winter

Report ID: 134



Respondent Ratio



Interpretation

No difference detected between groups.

Survey Question

27. Did you use screen bottom boards in any of the colonies in your operation?

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Technique Used	2,490	31,402	12.6	2.0	33.6	32.2	35.0
Technique Not Used	560	238,716	426.3	161.2	36.3	33.2	39.3

Comments About This Data

Screen bottom board use is not considered a stand-alone varroa mite control technique, so multi-factorial analysis may demonstrate some effect associated with the use of screen bottom boards when used in combination with other mite control techniques. We plan to do this analysis in the future.

Relevant Links, References, and Citations

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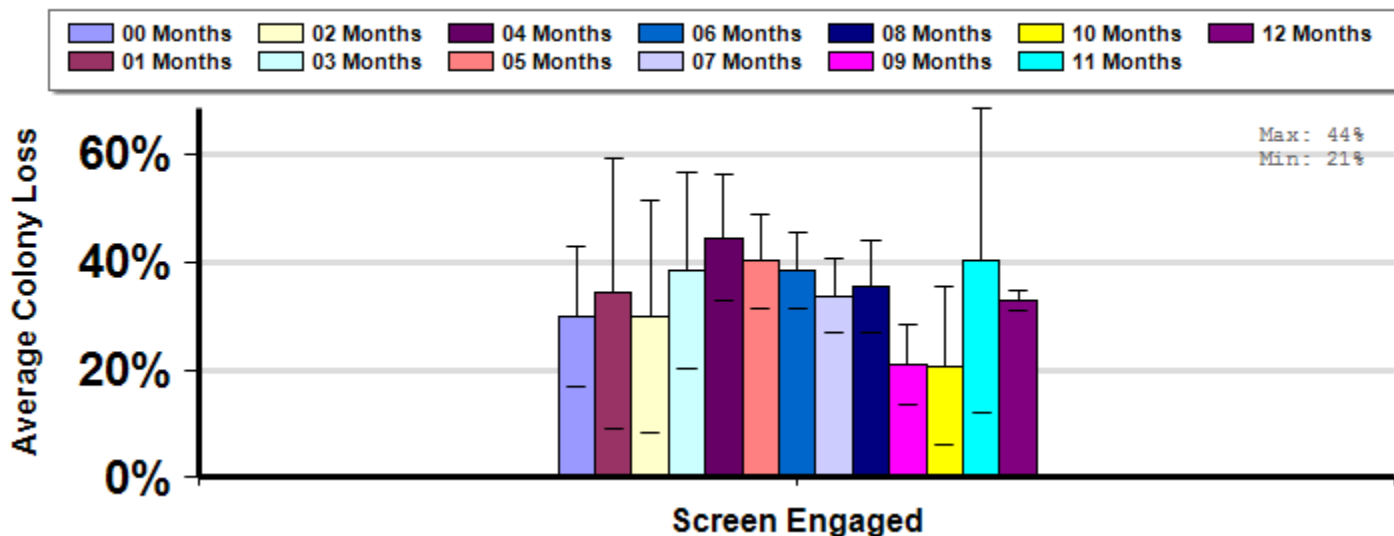
Screen Bottom Boards by Months Engaged

Average winter colony mortality reported by beekeepers that reported use of screen bottom boards on their colonies between April 1 2010 and April 1 2011 by the number of months screen bottom boards were engaged.

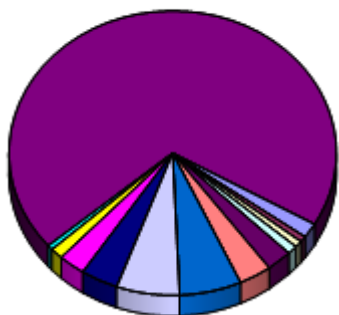
Winter

Report ID: 140

Some Significant Differences



Respondent Ratio



Interpretation

Beekeepers who employed screen bottom boards for 9 months lost fewer colonies, on average than those who employed screen bottom boards for 4, 5, 6 or 12 months.

Survey Question

27. Did you use screen bottom boards in any of the colonies in your operation?
 Yes
 28. In which months did you have your screen bottom board engaged (turned on or open)?

	Screen Engaged	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
	00 Months	34	316	9.3	3.9	29.8	16.8	42.8
	01 Months	13	48	3.7	0.9	34.2	9.0	59.4
	02 Months	15	154	10.3	6.2	29.9	8.2	51.6

03 Months	20	93	4.7	1.6	38.5	20.1	56.8
04 Months	50	384	7.7	2.0	44.4	32.7	56.2
05 Months	65	487	7.5	1.4	40.3	31.5	49.0
06 Months	122	1,094	9.0	1.8	38.5	31.4	45.6
07 Months	124	770	6.2	1.4	33.7	26.8	40.5
08 Months	74	330	4.5	0.4	35.6	27.0	44.1
09 Months	53	495	9.3	1.9	21.0	13.4	28.6
10 Months	25	127	5.1	1.1	20.7	6.1	35.4
11 Months	11	40	3.6	0.9	40.4	12.2	68.5
12 Months	1,389	10,769	7.8	0.6	33.0	31.2	34.9

Comments About This Data

Response rates were low for some months which resulted in large confidence intervals. A larger response rate may help highlight other differences.

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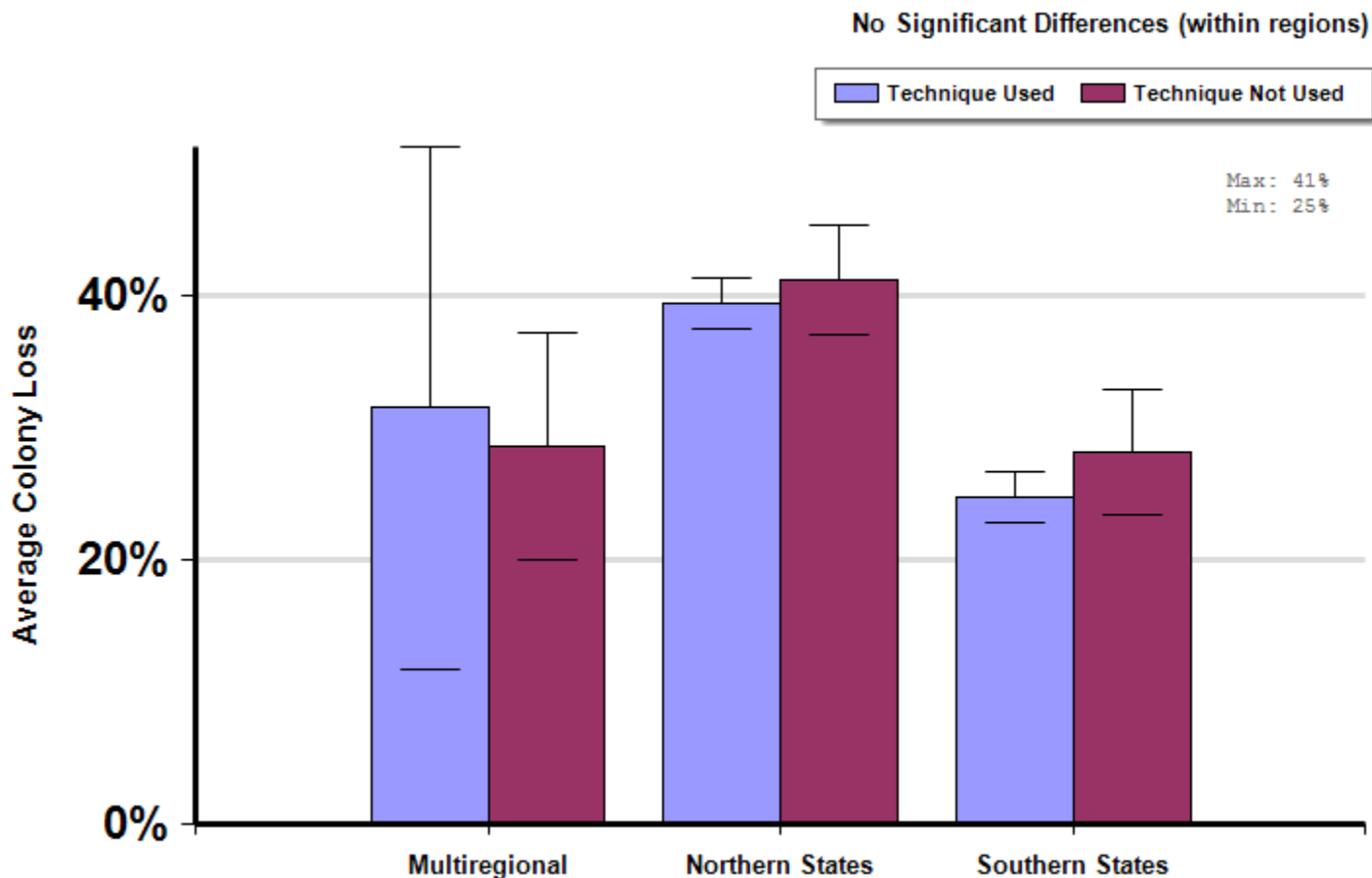


Screen Bottom Board Use By Region

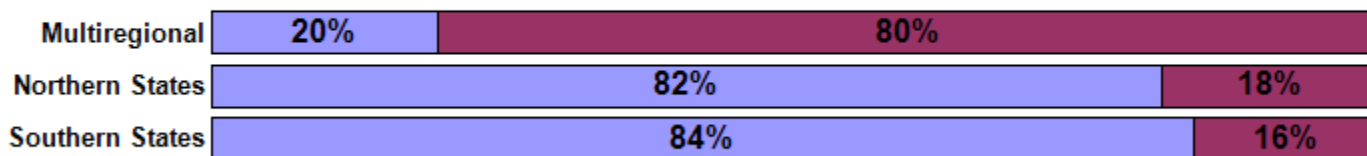
Average winter colony mortality reported by beekeepers that employed or did not employ screen bottom boards in their colonies between April 1 2010 and April 1 2011 by region of operation.

Winter

Report ID: 137



Respondent Ratio



Interpretation

No differences detected between groups

Survey Question

27. Did you use screen bottom boards in any of the colonies in your operation?

		Total Number of Respondents Providing Valid	Total Number of Colonies Managed	Average Number of Colonies Managed	Average Colony Loss

		Responses						
					Mean	Standard Error	Mean(%)	Lower 95% CI
Multiregional	Technique Used	8	1,099	137.4	95.3	31.5	11.7	51.2
	Technique Not Used	33	196,705	5960.8	2551.8	28.5	19.9	37.2
Northern States	Technique Used	1,444	15,047	10.4	1.0	39.4	37.5	41.3
	Technique Not Used	325	9,010	27.7	11.6	41.2	37.0	45.3
Southern States	Technique Used	1,005	10,207	10.2	0.8	24.7	22.8	26.7
	Technique Not Used	186	32,750	176.1	70.5	28.1	23.4	32.9

Comments About This Data

Screen Bottom Board use is not considered a stand-alone varroa mite control technique, so multi-factorial analysis may demonstrate some effect associated with the use of screen bottom boards when used in combination with another mite control technique. We plan to do this analysis in the future.

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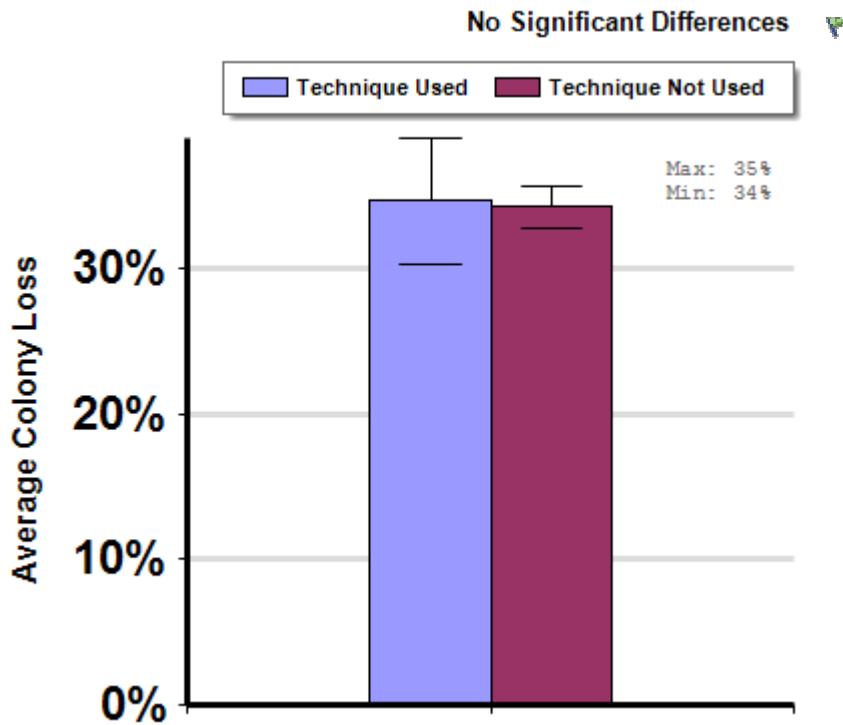


Small Cell Size Comb Use

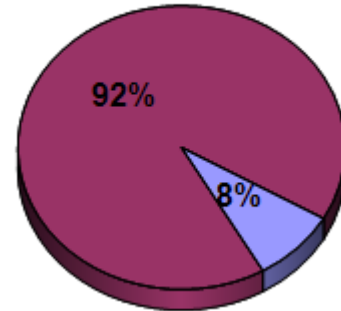
Average winter colony mortality reported by beekeepers who used or did not use brood comb with small cell size in at least some of the colonies in their operation, between April 1 2010 and April 1 2011.

Winter

Report ID: 113



Respondent Ratio



Interpretation

No differences between groups detected

Survey Question

26. Over the last year, in what proportion (percentage) of your colonies did you employ the practices/equipment listed below?
Small Cell Size

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Technique Used	225	13,812	61.4	28.4	34.6	30.3	39.0
Technique Not Used	2,455	212,321	86.5	36.2	34.2	32.8	35.7

Comments About This Data

We did not collect data on the type of small cell size comb used. Had we gathered this information we may have seen some effect.

Relevant Links, References, and Citations

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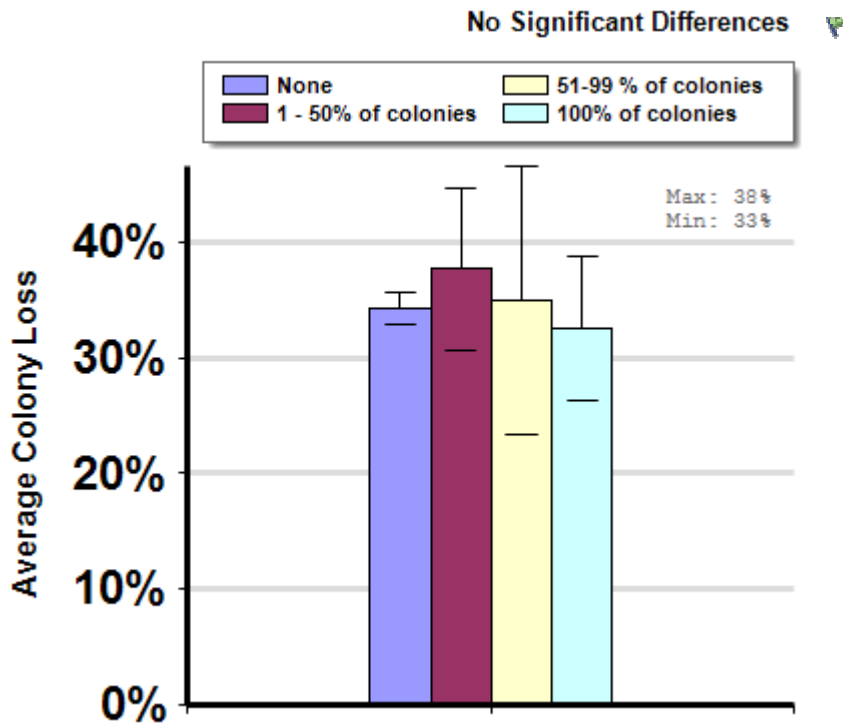


Small Cell Size Comb Use by Percent of Use in Operation

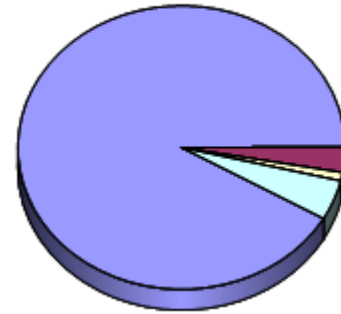
Average winter colony mortality suffered by beekeepers who reported they did not use and those who did use brood comb with small cell size in at least some percentage of the colonies in their operation, between April 1 2010 and April 1 2011, by percentage of use within operations.

Winter

Report ID: 119



Respondent Ratio



Interpretation

No difference between groups

Survey Question

26. Over the last year, in what proportion (percentage) of your colonies did you employ the practices/equipment listed below?
Small cell size

	Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss		
			Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
None	2,455	212,321	86.5	36.2	34.2	32.8	35.7
1 - 50% of colonies	78	7,710	98.8	51.0	37.7	30.7	44.7
51-99 % of colonies	26	5,189	199.6	192.0	35.0	23.3	46.6
100% of colonies	122	917	7.5	1.7	32.5	26.2	38.8

Comments About This Data

We did not collect data on the type of small cell size comb used. Numbers of respondents using small cell size comb is low. Had we gathered this information and greater numbers of respondents were using small cell size comb we may have seen some effect.

Relevant Links, References, and Citations

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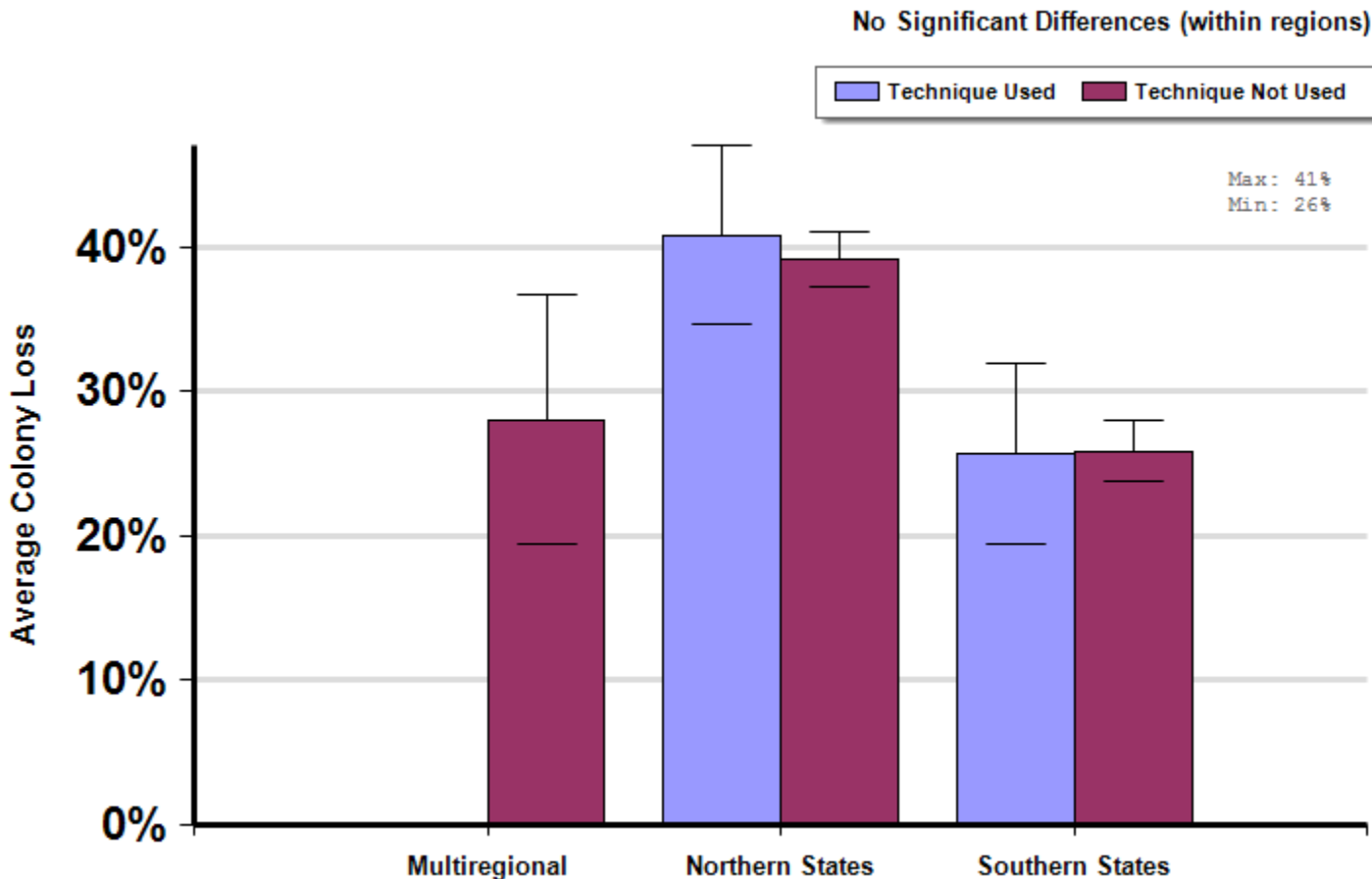


Small Cell Size Comb Use by Region

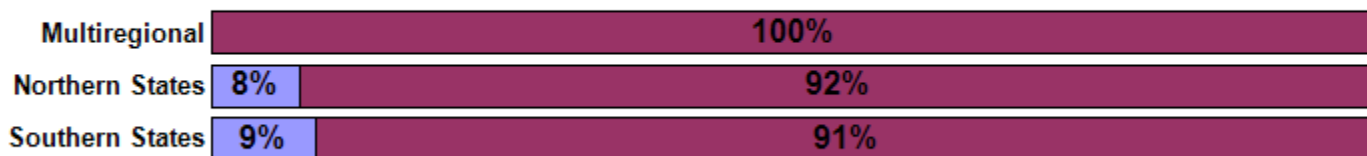
Winter

Report ID: 116

Average winter colony mortality suffered by beekeepers who reported they used and those who did not use brood comb with small cell size in at least some of the colonies in their operation, between April 1 2010 and April 1 2011, by region.



Respondent Ratio



Interpretation

No difference between groups

Survey Question

26. Over the last year, in what proportion (percentage) of your colonies did you employ the practices/equipment listed below?
Small cell size

		Total Number of Respondents Providing	Total Number of Colonies Managed	Average Number of Colonies Managed	Average Colony Loss

		Valid Responses						
				Mean	Standard Error	Mean(%)	Lower 95% CI	Upper 95% CI
Multiregional	Technique Not Used	30	170,099	5670.0	2820.5	28.0	19.4	36.7
Northern States	Technique Used	121	5,168	42.7	30.3	40.8	34.6	47.0
	Technique Not Used	1,471	17,044	11.6	1.1	39.1	37.2	41.0
Southern States	Technique Used	91	1,213	13.3	3.2	25.7	19.4	31.9
	Technique Not Used	925	24,802	26.8	5.4	25.9	23.8	27.9

Comments About This Data

We did not collect data on the type of small cell size comb used. Had we gathered this information we may have seen some effect.

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