



# The Bee Informed Partnership Management Survey Results (2013-2014) Comb Management

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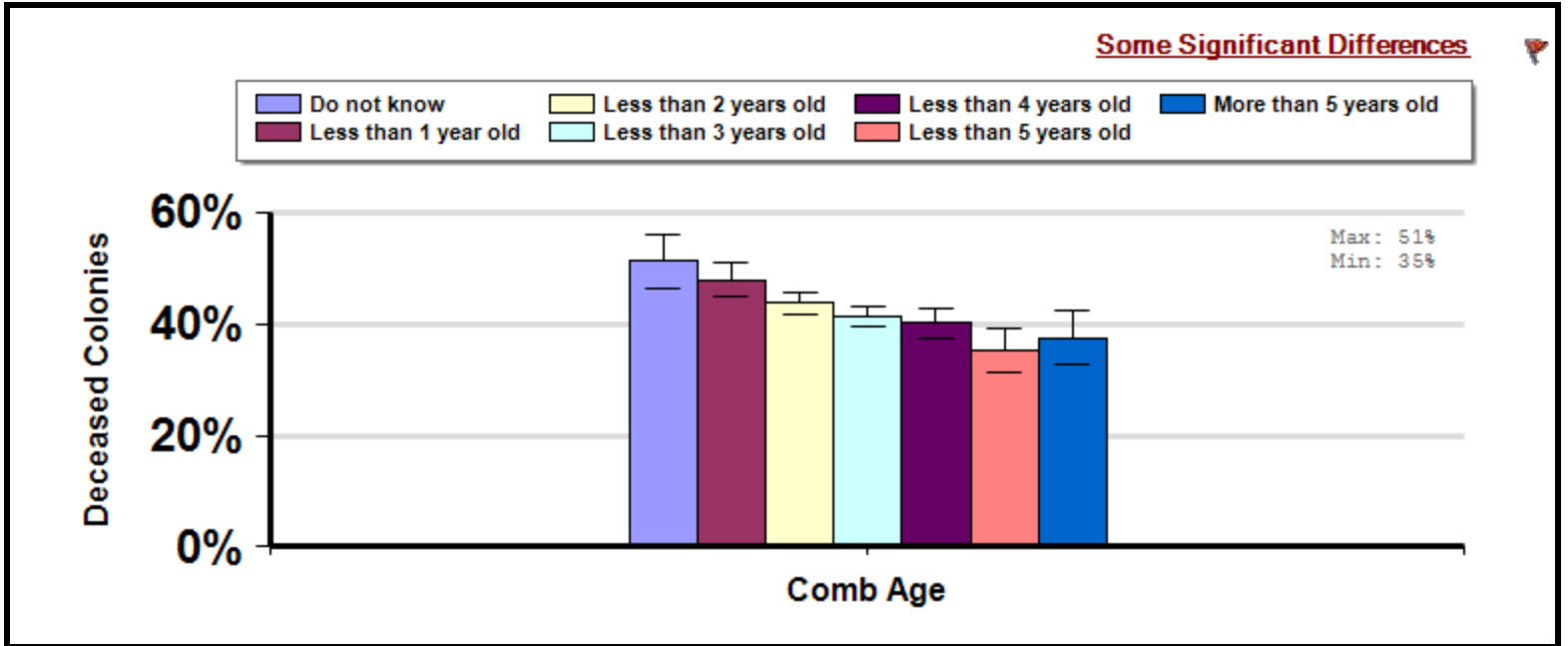
# Average Brood Comb Age

Management  
Survey 2014

Average winter colony mortality suffered by beekeepers who kept bees in colonies with brood comb of different ages.

## Winter

Report ID: 143-  
2014



## Interpretation

There are some significant differences between average ages of brood comb. Beekeepers who had brood comb less than a year old in their colonies reported losing more overwintering colonies than those beekeepers whose colonies had brood comb 2 years of age and older.

## Survey Question

What proportions of your colonies brood comb fall into the following age ranges?  
If you do not know just skip this question, otherwise the proportions should total 100%

- More than 5 years old
- Between 4 and 5 years old
- Between 3 and 4 years old
- Between 2 and 3 years old
- Between 1 and 2 years old
- Less than 1 year old

		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, Upper] CI
Comb Age	Do not know	274	50,586	184.6	104.7	51.4 [46.5,56.2]
	Less than 1 year old	821	2,876	3.5	0.3	47.9 [45.0,50.9]
	Less than 2 years old	1,546	27,706	17.9	10.4	43.8 [41.9,45.7]
	Less than 3 years old	1,508	38,164	25.3	5.9	41.3 [39.5,43.1]
	Less than 4 years old	712	59,424	83.5	22.3	40.2 [37.6,42.7]
	Less than 5 years old	256	144,226	563.4	275.8	35.3 [31.3,39.3]
	More than 5 years old	170	188,769	1110.4	219.1	37.5 [32.7,42.3]

## Comments About This Data

## Relevant Links, References, and Citations

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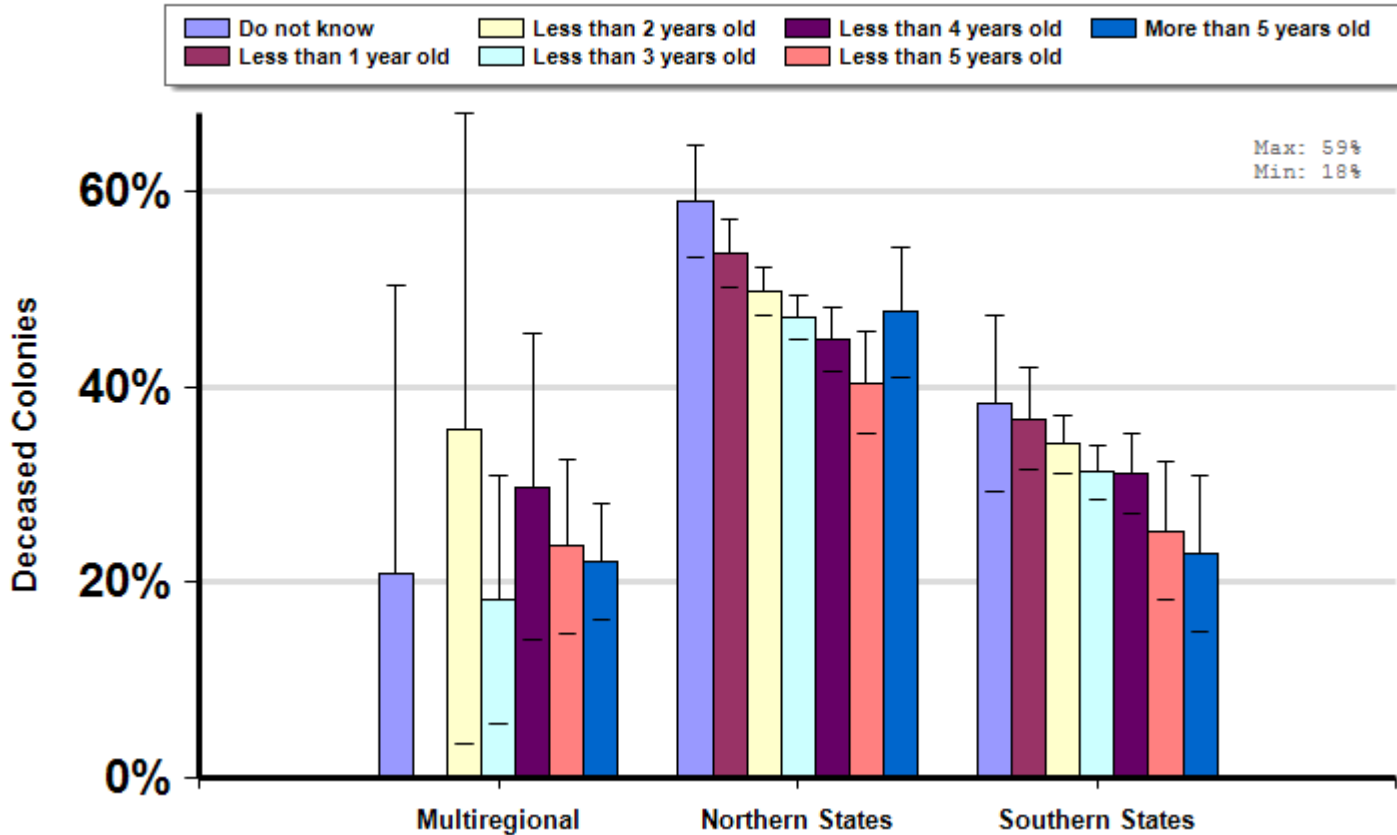
# Average Brood Comb Age By Region

Average winter colony mortality suffered by beekeepers who kept bees in colonies with brood comb of different ages by operations in different regions.

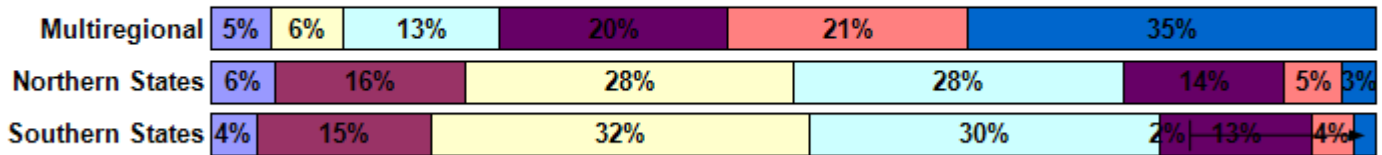
## Winter

Report ID: 146-2014

**Some Significant Differences (within regions)**



## Respondent Ratio



## Interpretation

There are some significant differences between average ages of brood comb. Beekeepers in Northern states who had brood comb less than a year old in their colonies reported losing more overwintering colonies than those beekeepers whose colonies had brood comb 2-5 years old.

## Survey Question

What proportions of your colonies brood comb fall into the following age ranges? If you don't know just skip this question, otherwise the proportions should total 100%.

-More than 5 years old

- Between 4 and 5 years old
- Between 3 and 4 years old
- Between 2 and 3 years old
- Between 1 and 2 years old
- Less than 1 year old

		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, Upper] CI
Multiregional	Do not know	5	32,490	6498.0	4391.9	21.0 [0.0,50.3]
	Less than 2 years old	6	16,039	2673.2	2665.4	35.7 [3.4,68.0]
	Less than 3 years old	13	10,685	821.9	512.0	18.2 [5.5,30.9]
	Less than 4 years old	19	39,618	2085.2	582.2	29.8 [14.1,45.4]
	Less than 5 years old	20	132,169	6608.5	3306.6	23.7 [14.8,32.5]
	More than 5 years old	34	163,056	4795.8	790.3	22.2 [16.2,28.2]
Northern States	Do not know	192	1,998	10.4	4.9	59.0 [53.3,64.7]
	Less than 1 year old	560	1,773	3.2	0.2	53.7 [50.1,57.2]
	Less than 2 years old	973	5,681	5.8	0.4	49.8 [47.4,52.2]
	Less than 3 years old	979	15,170	15.5	4.5	47.1 [44.8,49.4]
	Less than 4 years old	471	6,272	13.3	1.2	44.9 [41.7,48.1]
	Less than 5 years old	174	5,174	29.7	8.8	40.5 [35.3,45.6]
	More than 5 years old	101	6,202	61.4	16.8	47.6 [40.9,54.4]
Southern States	Do not know	68	16,022	235.6	223.4	38.3 [29.2,47.4]
	Less than 1 year old	250	747	3.0	0.2	36.7 [31.5,41.9]
	Less than 2 years old	546	5,430	9.9	3.5	34.2 [31.2,37.1]
	Less than 3 years old	506	12,166	24.0	6.8	31.3 [28.6,34.0]
	Less than 4 years old	221	13,530	61.2	34.3	31.2 [27.0,35.3]
	Less than 5	59	3,257	55.2	20.0	25.3 [18.2,32.4]

years old						
More than 5 years old	34	17,221	506.5	281.2		22.9 [14.9,30.9]

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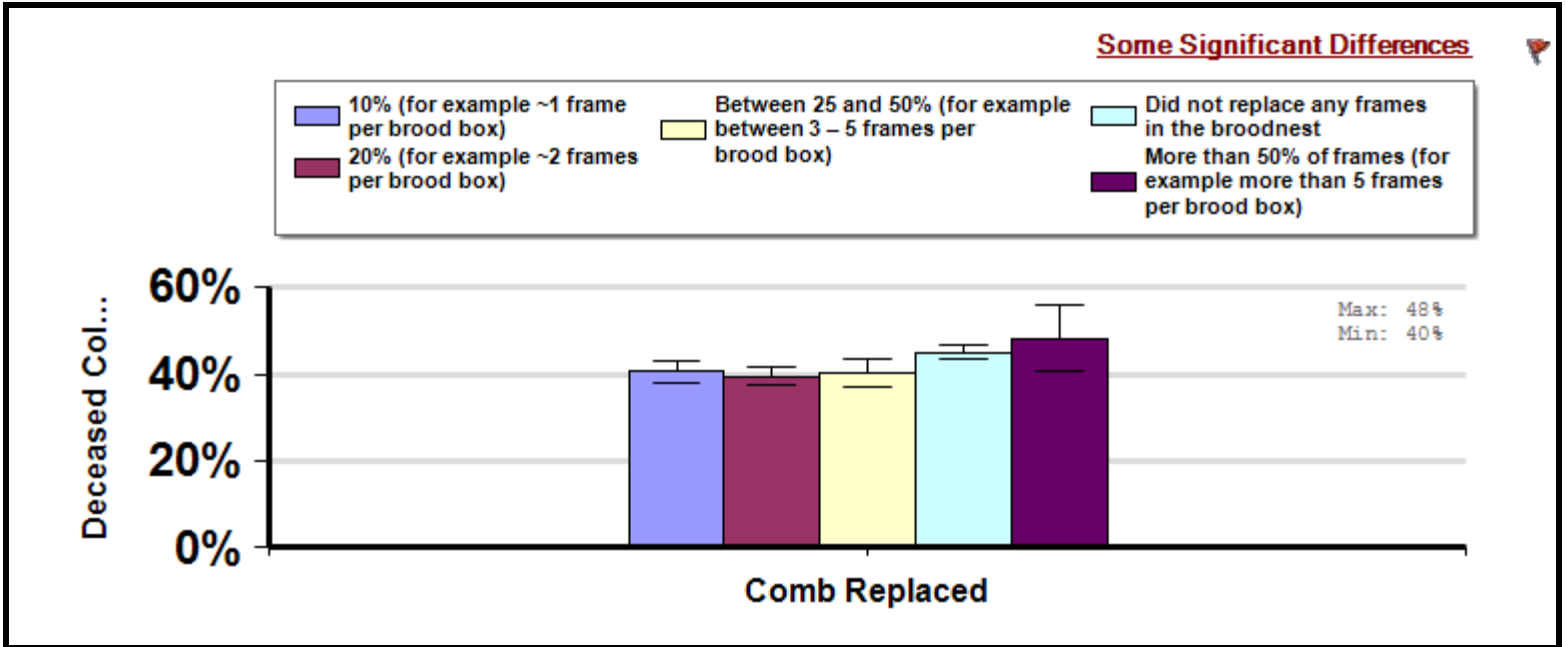
# Degree of Brood Comb Replacement

Management Survey 2014

Average winter colony mortality reported by beekeepers who replaced different percentages of their brood nest comb in April to March.

## Winter

Report ID: 149-2014



## Interpretation

Beekeepers who replaced 10-20% of the comb in their colonies lost fewer colonies per 100 managed colonies than those who did not replace any frames in the brood comb in their colonies.

## Survey Question

On average, how many frames from the brood nest of your colonies did you replace last year? Select one of the following..

- Did not replace any frames in the broodnest
- 10% (for example ~1 frame per brood box)
- 20% (for example ~2 frames per brood box)
- Between 25 and 50% (for example between 3 – 5 frames per brood box)
- More than 50% of frames (for example more than 5 frames per brood box)
- Don't know
- Other (please specify)

		Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss
				Mean	Standard	Mean(%) [Lower. Upper] CI



					Error	
Comb Replaced	10% (for example ~1 frame per brood box)	664	121,150	182.5	39.5	40.5 [37.9,43.1]
	20% (for example ~2 frames per brood box)	921	159,585	173.3	38.4	39.5 [37.3,41.7]
	Between 25 and 50% (for example between 3 - 5 frames per brood box)	448	105,852	236.3	153.6	40.1 [36.8,43.4]
	Did not replace any frames in the broodnest	2,278	16,157	7.1	2.0	45.0 [43.3,46.6]
	More than 50% of frames (for example more than 5 frames per brood box)	90	17,054	189.5	177.7	48.3 [40.7,55.9]

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# Degree of Brood Comb Replacement By Region

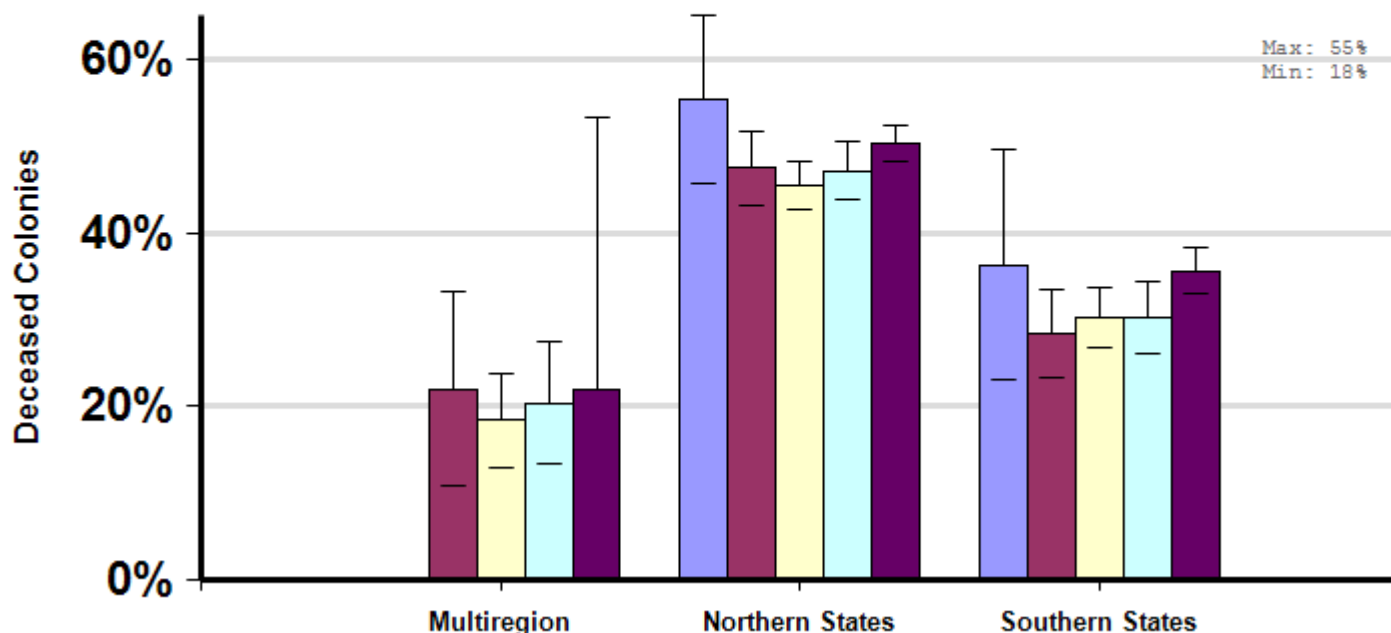
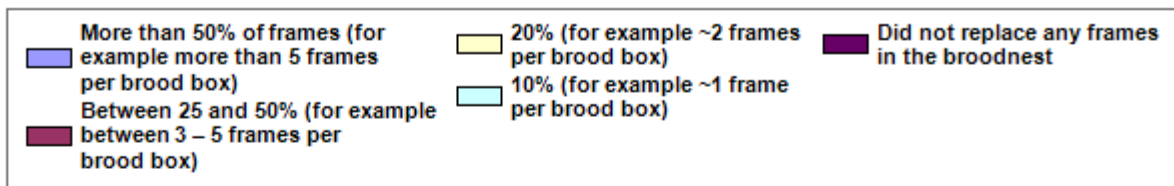
Management Survey 2014

Average winter colony mortality suffered by beekeepers who replaced different percentages of their brood nest comb the previous year by region of operation.

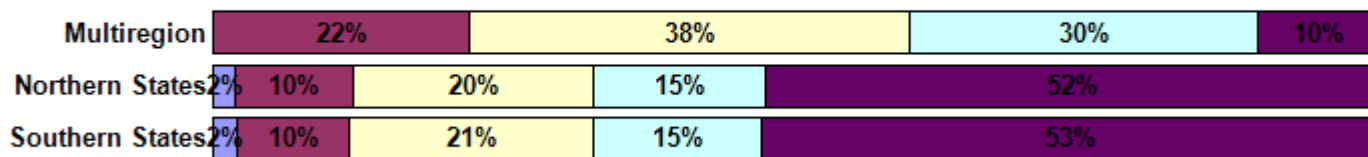
## Winter

Report ID: 152-2014

### Some Significant Differences (within regions)



## Respondent Ratio



## Interpretation

Beekeepers in the North who replaced 20% of the brood nest reported losing 4.8 fewer overwintering colonies (9.6% less deaths) than those who did not replace any brood frames in their colonies.

## Survey Question

On average, how many frames from the brood nest of your colonies did you replace last year?

- Did not replace any frames in the brood nest
- 10% (for example ~1 frame per box)
- 20% (for example ~2 frames per brood box)

- Between 25 and 50% (for example ~3-5 frames per brood box)
- More than 50% of frames (for example more than 5 frames per brood box)

		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, Upper] CI
Multiregion	Between 25 and 50% (for example between 3 - 5 frames per brood box)	17	97,933	5760.8	3922.0	22.0 [10.7,33.3]
	20% (for example ~2 frames per brood box)	29	126,844	4373.9	879.3	18.4 [12.9,23.9]
	10% (for example ~1 frame per brood box)	23	89,799	3904.3	721.8	20.3 [13.3,27.3]
	Did not replace any frames in the broodnest	8	1,890	236.3	223.4	21.9 [0.0,53.3]
Northern States	More than 50% of frames (for example more than 5 frames per brood box)	58	377	6.5	0.9	55.3 [45.6,65.0]
	Between 25 and 50% (for example between 3 - 5 frames per brood box)	289	5,260	18.2	4.4	47.4 [43.1,51.7]
	20% (for example ~2 frames per brood box)	588	12,772	21.7	7.4	45.4 [42.6,48.3]
	10% (for example ~1 frame per brood box)	428	12,445	29.1	5.1	47.2 [43.9,50.4]
	Did not replace any frames in the	1,506	6,267	4.2	0.2	50.2 [48.1,52.3]

	broodnest					
Southern States	More than 50% of frames (for example more than 5 frames per brood box)	29	583	20.1	15.6	36.3 [23.1,49.5]
	Between 25 and 50% (for example between 3 - 5 frames per brood box)	137	2,334	17.0	3.0	28.4 [23.3,33.4]
	20% (for example ~2 frames per brood box)	295	16,297	55.2	27.0	30.2 [26.7,33.6]
	10% (for example ~1 frame per brood box)	205	16,466	80.3	44.2	30.2 [25.9,34.4]
	Did not replace any frames in the broodnest	746	7,829	10.5	5.5	35.6 [32.9,38.3]

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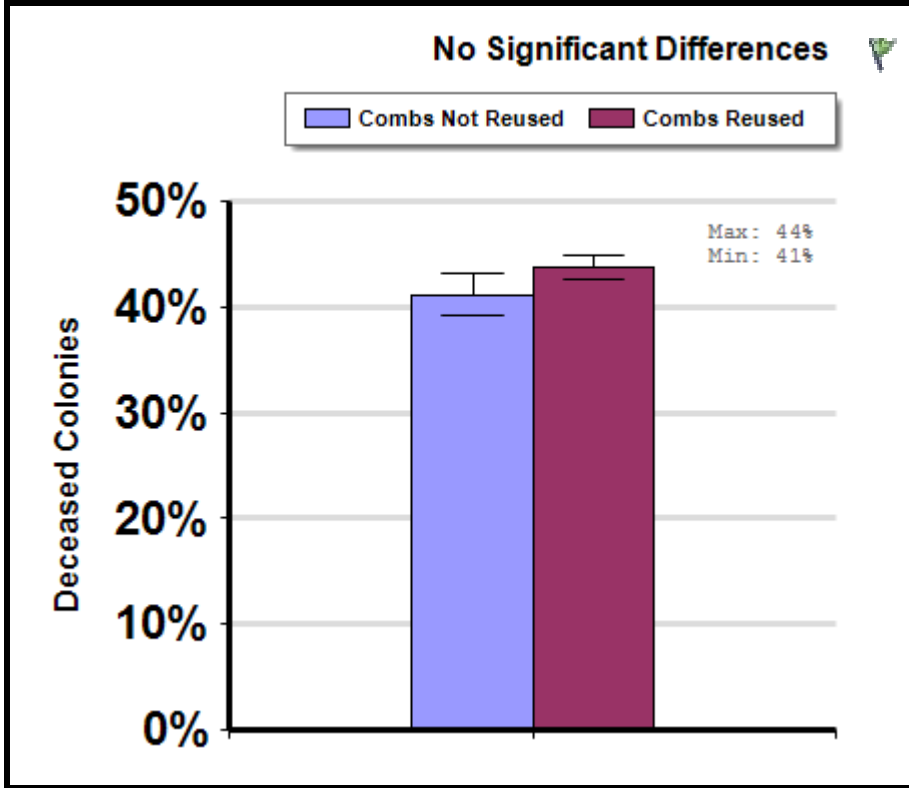


# Brood Comb Reuse

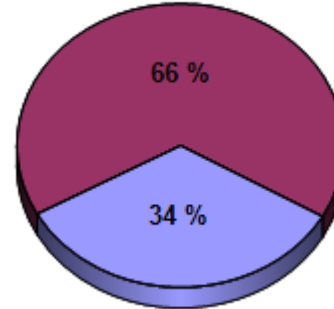
Average winter colony mortality reported by beekeepers who reported they reused or did not reuse brood comb.

## Winter

Report ID: 71-2014



## Participant Ratio



## Interpretation

Beekeepers who reported that they did not reuse comb did not report losing more or less colonies than those who did reuse brood comb. In other words, there was not a significant difference.

## Survey Question

Between April, 2013 and March, 2014, before you re-used brood comb that you had taken out of production or purchased, did you...

Check all that apply

- I did not reuse any old brood comb
- Cull any particularly old or bad combs and replace them
- Irradiate the comb
- Fumigate the comb with acetic acid
- Freeze the comb
- Store the comb with paradichlorobenzene crystals
- Did not treat the comb in any particular way
- Other (please specify)

		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, Upper] CI

Disposed Used Brood Comb	Combs Not Reused	1,758	22,482	12.8	3.1	41.2 [39.3, 43.1]
	Combs Reused	3,465	482,060	139.1	25.7	43.8 [42.6, 45.0]

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## Comments About This Data

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# Brood Comb Reuse By Region

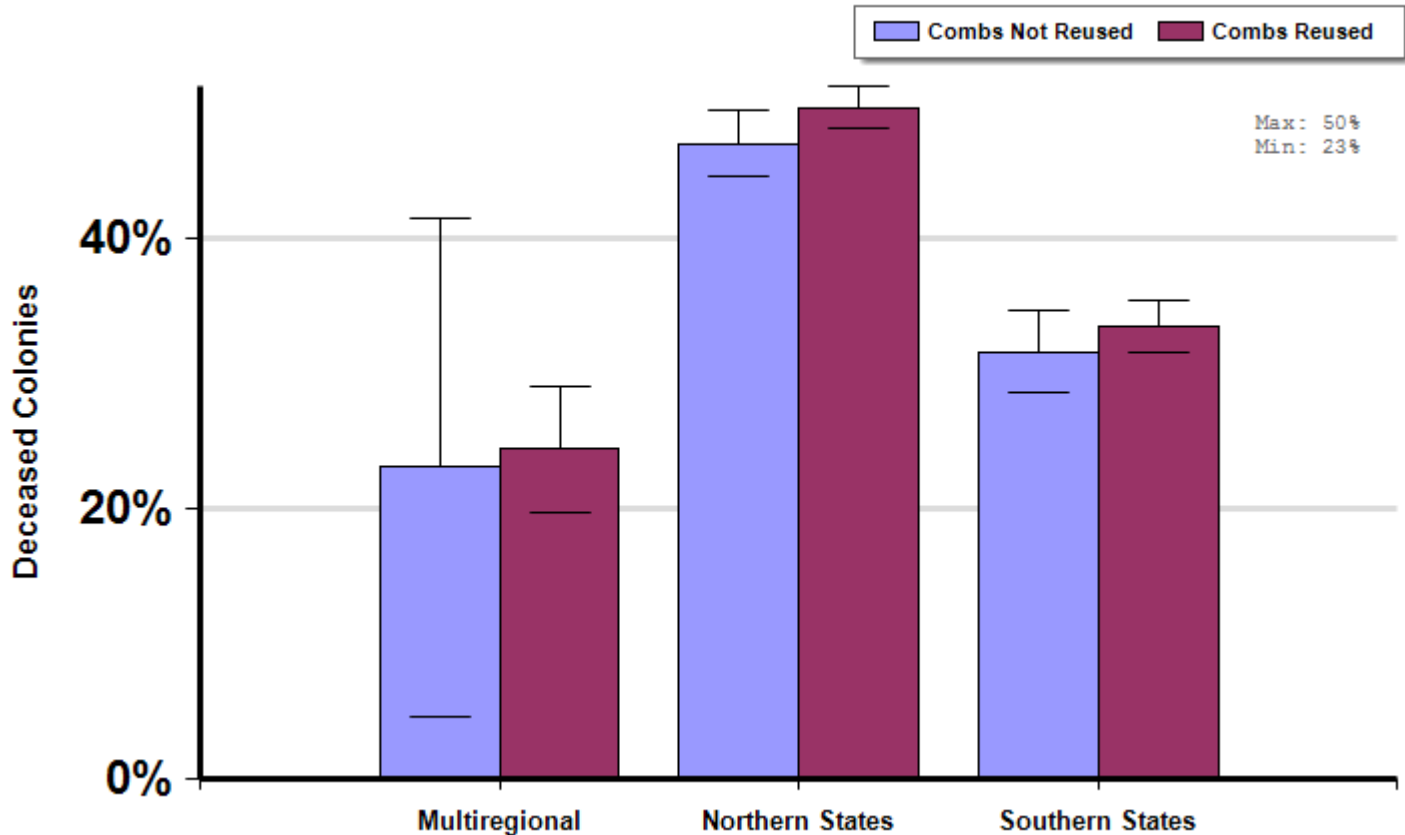
Management Survey 2014

Average winter colony mortality reported by beekeepers who did or did not reuse any old brood comb in their colonies, by region of operation between April and March.

## Winter

Report ID: 77-2014

No Significant Differences (within regions)



## Respondent Ratio



## Interpretation

No significant differences between the groups.

## Survey Question

Between April, 2013 and March, 2014, before you re-used brood comb that you had taken out of production or purchased, did you...

Check all that apply

- I did not reuse old brood comb
- Cull any particularly old or bad combs and replace them
- Irradiate the comb

- Fumigate the comb with acetic acid
- Freeze the comb
- Store the comb with paradichlorobenzene crystals (moth crystals)
- Did not treat the comb in any particular way
- Other, please specify

		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, Upper] CI
Multiregional	Combs Not Reused	13	8,627	663.6	307.1	23.1 [4.6,41.6]
	Combs Reused	84	380,805	4533.4	914.5	24.4 [19.8,29.0]
Northern States	Combs Not Reused	1,129	5,671	5.0	0.4	47.1 [44.7,49.5]
	Combs Reused	2,274	36,358	16.0	2.2	49.8 [48.3,51.3]
Southern States	Combs Not Reused	589	7,691	13.1	5.0	31.6 [28.6,34.7]
	Combs Reused	1,081	58,510	54.1	18.2	33.5 [31.6,35.5]

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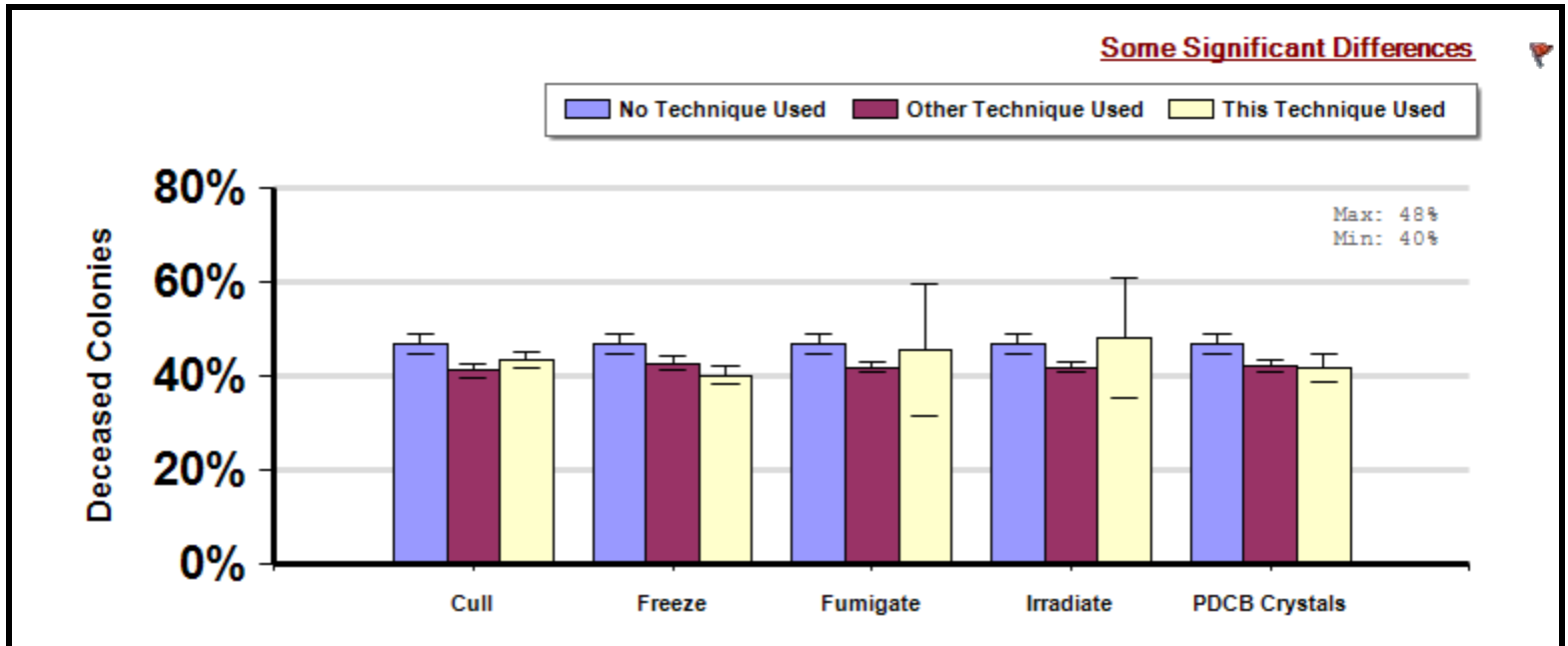
# Brood Comb Treatment Before Reuse

Management Survey 2014

## Winter

Report ID: 74-2014

Average winter colony mortality reported by beekeepers who treated brood comb differently before re-using them between April and March.



### Interpretation

Beekeepers who reported culling, freezing, fumigating, irradiating, and using PDCB crystals reported losing fewer colonies than those who did not use those techniques.

### Survey Question

Between April, 2013 and March, 2014, before you re-used brood comb that you had taken out of production or purchased, did you...  
Check all that apply

- I did not reuse any old brood comb
- Cull any particularly old or bad combs and replace them
- Irradiate the comb
- Fumigate the comb with acetic acid
- Freeze the comb
- Store the comb with paradichlorobenzene crystals
- Did not treat the comb in any particular way
- Other (please specify)

		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, Upper] CI
Cull	No Technique Used	1,078	144,597	134.1	66.2	46.8 [44.6,49.0]
	Other Technique Used	2,714	64,636	23.8	5.1	41.3 [39.8,42.8]
	This Technique Used	1,630	309,071	189.6	32.3	43.5 [41.8,45.2]
Freeze	No Technique Used	1,078	144,597	134.1	66.2	46.8 [44.6,49.0]
	Other Technique Used	2,891	258,582	89.4	14.4	42.7 [41.3,44.1]
	This Technique Used	1,322	123,899	93.7	27.9	40.2 [38.3,42.1]
Fumigate	No Technique Used	1,078	144,597	134.1	66.2	46.8 [44.6,49.0]
	Other Technique Used	4,128	327,340	79.3	11.6	41.9 [40.8,43.1]
	This Technique Used	17	32,605	1917.9	1380.9	45.6 [31.6,59.5]
Irradiate	No Technique Used	1,078	144,597	134.1	66.2	46.8 [44.6,49.0]
	Other Technique Used	4,116	355,275	86.3	13.0	41.9 [40.7,43.1]
	This Technique Used	31	4,703	151.7	112.1	48.0 [35.3,60.7]
PDCB Crystals	No Technique Used	1,078	144,597	134.1	66.2	46.8 [44.6,49.0]
	Other Technique Used	3,673	319,682	87.0	14.3	42.0 [40.8,43.3]
	This Technique Used	514	43,248	84.1	23.5	41.8 [38.9,44.7]

### Comments About This Data

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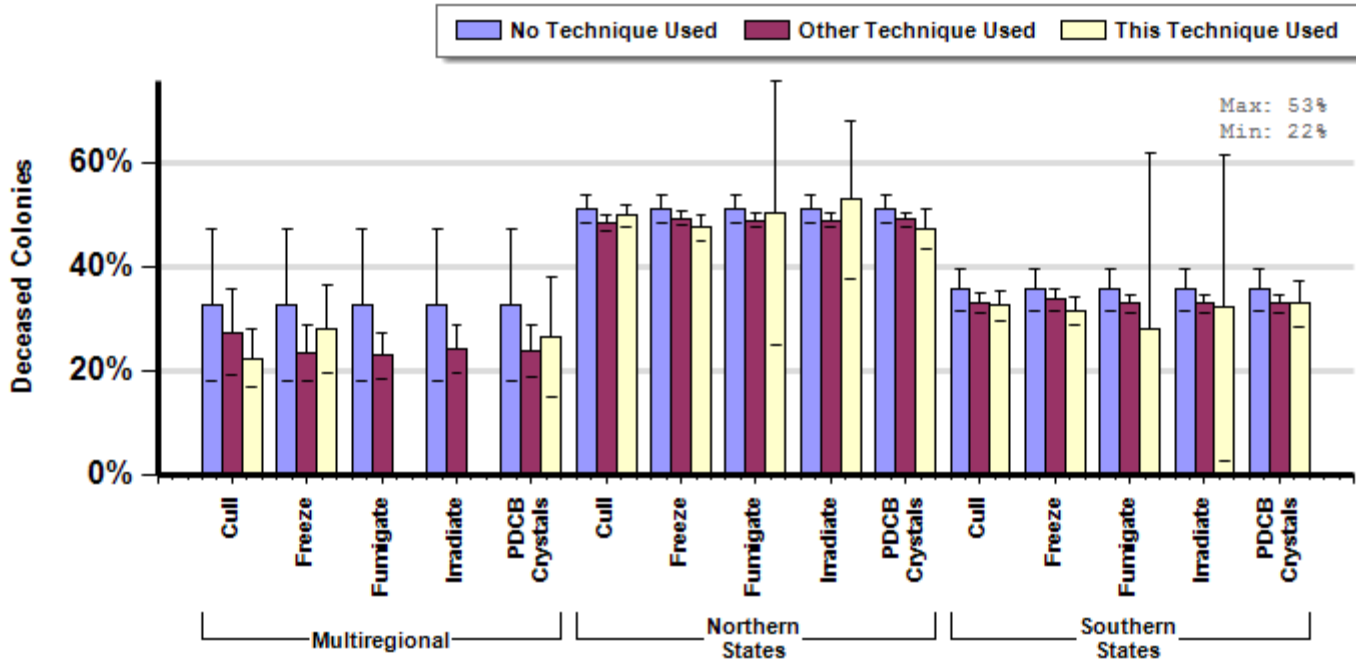
# Brood Comb Treatment Before Reuse by Region

## Winter

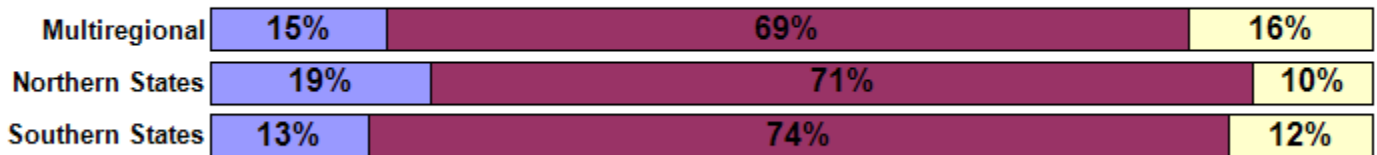
Average winter colony mortality suffered by beekeepers who reported different treatments before reusing old comb between April and March.

Report ID: 80-2014

No Significant Differences (within regions)



## Respondent Ratio



## Interpretation

There are no significant differences between the groups.

## Survey Question

Between April, 2013 and March, 2014, before you re-used brood comb that you had taken out of production or purchased, did you...

Check all that apply

- I did not reuse any old brood comb
- Cull any particularly old or bad combs and replace them
- Irradiate the comb
- Fumigate the comb with acetic acid
- Freeze the comb
- Store the comb with paradichlorobenzene crystals
- Did not treat the comb in any particular way
- Other (please specify)

			Total Number of Respondents Providing Valid Responses	Total Number of Colonies Managed	Average Number of Colonies Managed		Average Colony Loss Mean(%) [Lower, Upper] CI	
					Mean	Standard Error		
Multiregional	Cull	No Technique Used	17	125,686	7393.3	3906.2	33[18.1,47.3]	
		Other Technique Used	38	146,304	3850.1	1794.2	27[19.1,35.6]	
		This Technique Used	59	243,128	4120.8	659.2	22[16.7,27.8]	
	Freeze	No Technique Used	17	125,686	7393.3	3906.2	33[18.1,47.3]	
		Other Technique Used	79	280,450	3550.0	920.3	23[18.1,28.7]	
		This Technique Used	18	108,982	6054.6	1517.0	28[19.5,36.6]	
	Fumigate	No Technique Used	17	125,686	7393.3	3906.2	33[18.1,47.3]	
		Other Technique Used	93	358,314	3852.8	810.2	23[18.3,27.3]	
	Irradiate	No Technique Used	17	125,686	7393.3	3906.2	33[18.1,47.3]	
		Other Technique Used	95	385,997	4063.1	819.6	24[19.5,28.7]	
	PDCB Crystals	No Technique Used	17	125,686	7393.3	3906.2	33[18.1,47.3]	
		Other Technique Used	84	364,381	4337.9	917.9	24[18.9,28.9]	
		This Technique Used	13	25,051	1927.0	694.7	26[14.9,38.1]	
	Northern States	Cull	No Technique Used	795	7,820	9.8	1.0	51[48.4,53.7]
			Other Technique	2,316	15,028	6.5	0.4	48[46.8,50.0]

		Used					
		This Technique Used	1,087	27,001	24.8	4.6	50[47.7,51.9]
	Freeze	No Technique Used	795	7,820	9.8	1.0	51[48.4,53.7]
		Other Technique Used	2,654	34,097	12.8	1.8	49[47.8,50.7]
		This Technique Used	749	7,932	10.6	2.1	47[44.8,50.1]
	Fumigate	No Technique Used	795	7,820	9.8	1.0	51[48.4,53.7]
		Other Technique Used	3,395	41,890	12.3	1.5	49[47.6,50.2]
		This Technique Used	8	139	17.4	5.6	50[24.8,75.8]
	Irradiate	No Technique Used	795	7,820	9.8	1.0	51[48.4,53.7]
		Other Technique Used	3,379	40,790	12.1	1.5	49[47.5,50.1]
		This Technique Used	24	1,239	51.6	33.5	53[37.5,68.1]
	PDCB Crystals	No Technique Used	795	7,820	9.8	1.0	51[48.4,53.7]
		Other Technique Used	3,079	29,324	9.5	0.7	49[47.7,50.4]
		This Technique Used	324	12,705	39.2	14.2	47[43.5,51.0]
Southern States	Cull	No Technique Used	260	7,379	28.4	15.8	35[31.4,39.5]
		Other Technique Used	1,201	29,750	24.8	7.8	33[31.0,35.0]
		This Technique Used	469	36,451	77.7	37.5	32[29.7,35.3]
	Freeze	No Technique Used	260	7,379	28.4	15.8	35[31.4,39.5]

	Other Technique Used	1,130	59,591	52.7	17.6	34[31.5,35.6]
	This Technique Used	540	6,610	12.2	1.9	31[28.6,34.1]
Fumigate	No Technique Used	260	7,379	28.4	15.8	35[31.4,39.5]
	Other Technique Used	1,665	64,853	39.0	12.0	33[31.2,34.5]
	This Technique Used	5	1,348	269.6	92.4	28[0.0,62.0]
Irradiate	No Technique Used	260	7,379	28.4	15.8	35[31.4,39.5]
	Other Technique Used	1,665	66,172	39.7	12.0	33[31.2,34.5]
	This Technique Used	5	29	5.8	1.4	32[2.7,61.3]
PDCB Crystals	No Technique Used	260	7,379	28.4	15.8	35[31.4,39.5]
	Other Technique Used	1,493	60,709	40.7	13.3	33[31.1,34.6]
	This Technique Used	177	5,492	31.0	10.8	33[28.4,37.3]

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## Comments About This Data

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### Relevant Links, References, and Citations



This information is for educational purposes only. References to commercial products or trade names do not imply endorsement by the Bee Informed Partnership or its members. The results presented here are the summary of the population who responded. The sample may not be representative of the beekeeping population at large. These results simply highlight differences in the sample population. The results cannot be considered conclusive, causative, protective, or attest to product efficacy or lack of efficacy.