



The Bee Informed Partnership Management Survey Results (2014-2015) Comb Management

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Funded by:



United States
Department of
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National Institute
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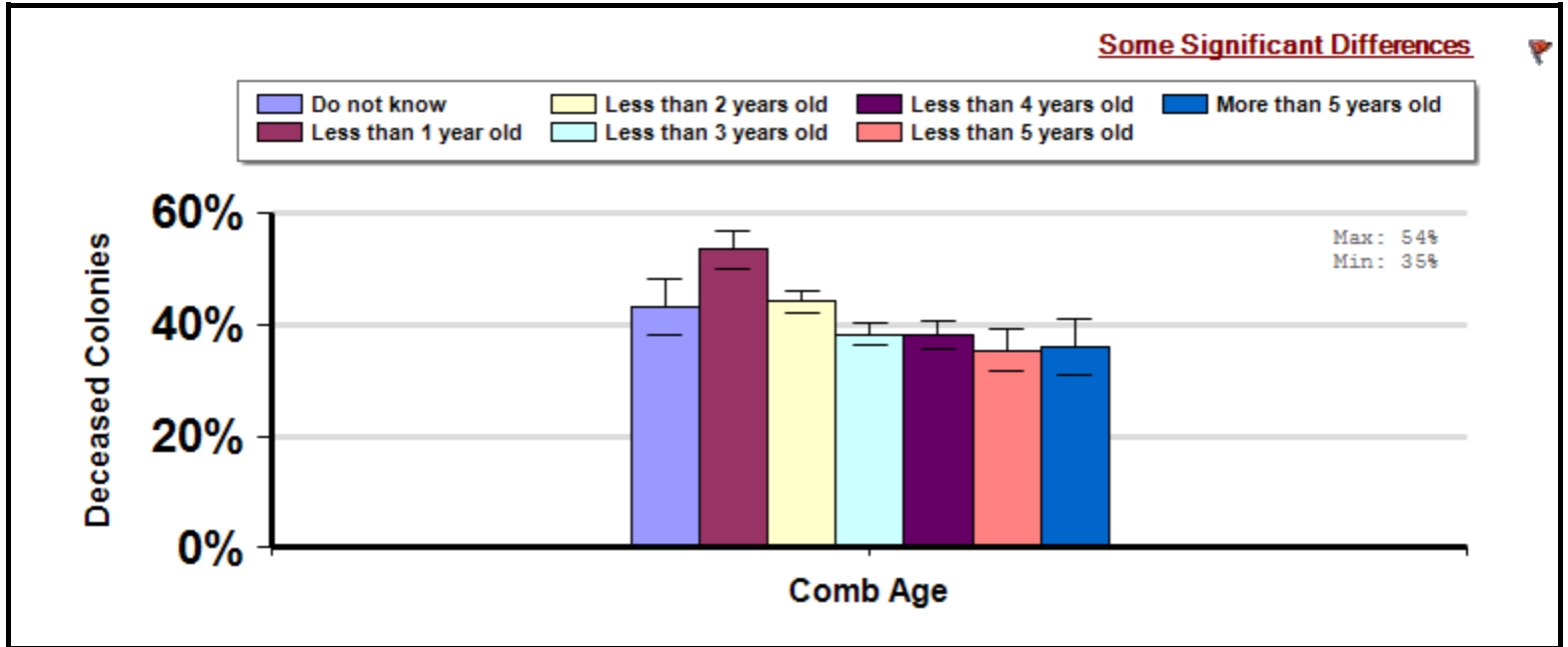
Average Brood Comb Age

Management
Survey 2015

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

Winter

Report ID: 143-
2015



Interpretation

Beekeepers who kept their bees in colonies with brood comb of less than 2 years old reported significantly higher overwintering colony deaths than beekeepers who used brood comb older than 2 years.

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	229	23,249	101.5	68.0	43.2 [38.1,48.2]
	Less than 1 year old	559	1,879	3.4	0.2	53.5 [50.1,57.0]
	Less than 2 years old	1,367	9,318	6.8	0.4	44.1 [42.1,46.1]
	Less than 3 years old	1,266	58,117	45.9	18.1	38.3 [36.4,40.1]
	Less than 4 years old	632	35,108	55.6	17.0	38.1 [35.6,40.7]
	Less than 5 years old	247	111,468	451.3	258.3	35.4 [31.6,39.1]
	More than 5 years old	147	113,055	769.1	211.2	36.1 [31.0,41.1]

Comments About This Data

Relevant Links, References, and Citations

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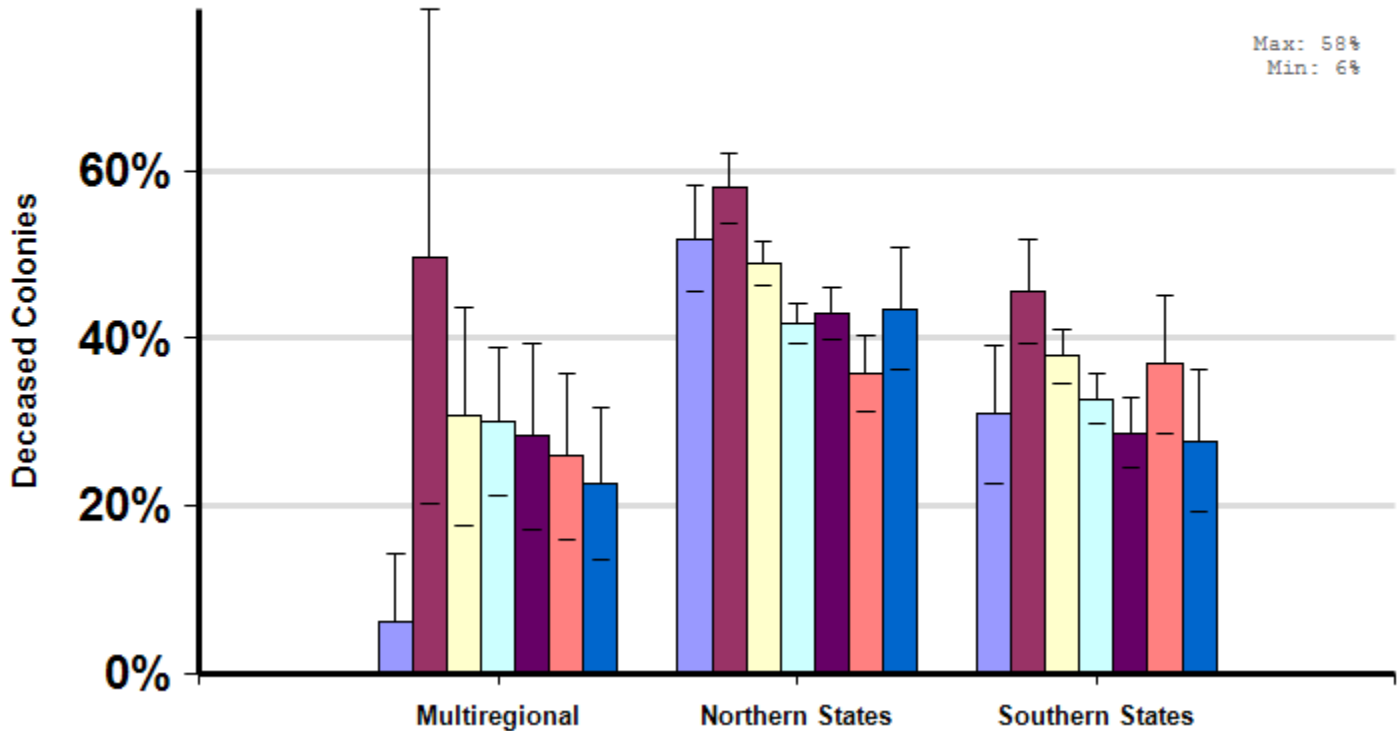
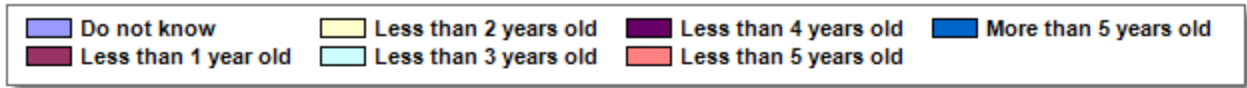
Average Brood Comb Age By Region

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

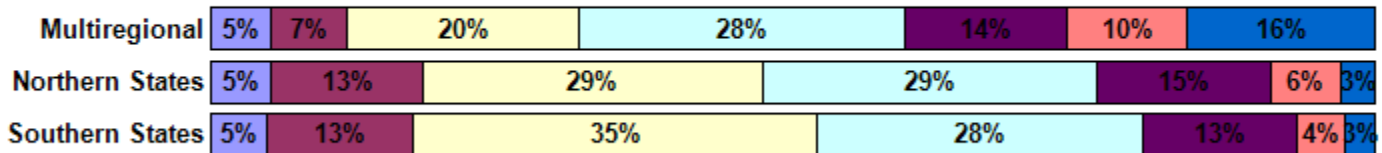
Winter

Report ID: 146-2015

Some Significant Differences (within regions)



Respondent Ratio



Interpretation

Northern beekeepers who kept their bees in colonies with brood comb of less than 2 years old reported significantly higher overwintering colony deaths than beekeepers who used brood comb older than 2 years. There are no significant differences for beekeepers in the southern states, or beekeepers who kept their bees in both regions.

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	7	5,763	823.3	572.2	6.1 [0.0,14.4]
	Less than 1 year old	9	51	5.7	1.3	49.7 [20.2,79.2]
	Less than 2 years old	27	222	8.2	1.9	30.7 [17.7,43.7]
	Less than 3 years old	38	37,420	984.7	557.8	30.1 [21.3,38.9]
	Less than 4 years old	19	12,740	670.5	315.3	28.3 [17.1,39.5]
	Less than 5 years old	14	101,422	7244.4	4294.4	26.0 [16.1,35.9]
	More than 5 years old	22	82,055	3729.8	1091.4	22.6 [13.5,31.6]
Northern States	Do not know	148	1,036	7.0	0.8	51.9 [45.6,58.2]
	Less than 1 year old	368	1,128	3.1	0.2	58.0 [53.8,62.2]
	Less than 2 years old	829	4,948	6.0	0.5	49.0 [46.4,51.6]
	Less than 3 years old	816	14,523	17.8	9.0	41.7 [39.4,44.1]
	Less than 4 years old	421	16,559	39.3	19.2	43.0 [39.7,46.2]
	Less than 5 years old	173	3,434	19.8	3.0	35.8 [31.3,40.2]
	More than 5 years old	84	6,455	76.8	28.1	43.5 [36.3,50.8]
Southern States	Do not know	69	15,775	228.6	217.2	31.0 [22.8,39.2]
	Less than 1 year old	178	682	3.8	0.5	45.6 [39.5,51.7]
	Less than 2 years old	493	3,421	6.9	0.6	37.8 [34.7,41.0]
	Less than 3 years old	397	5,650	14.2	1.9	32.8 [29.8,35.8]
	Less than 4 years old	188	5,533	29.4	15.5	28.7 [24.5,32.9]
	Less than 5 years old	59	3,212	54.4	25.9	36.9 [28.7,45.1]
	More than 5 years old	37	21,964	593.6	350.3	27.8 [19.4,36.2]

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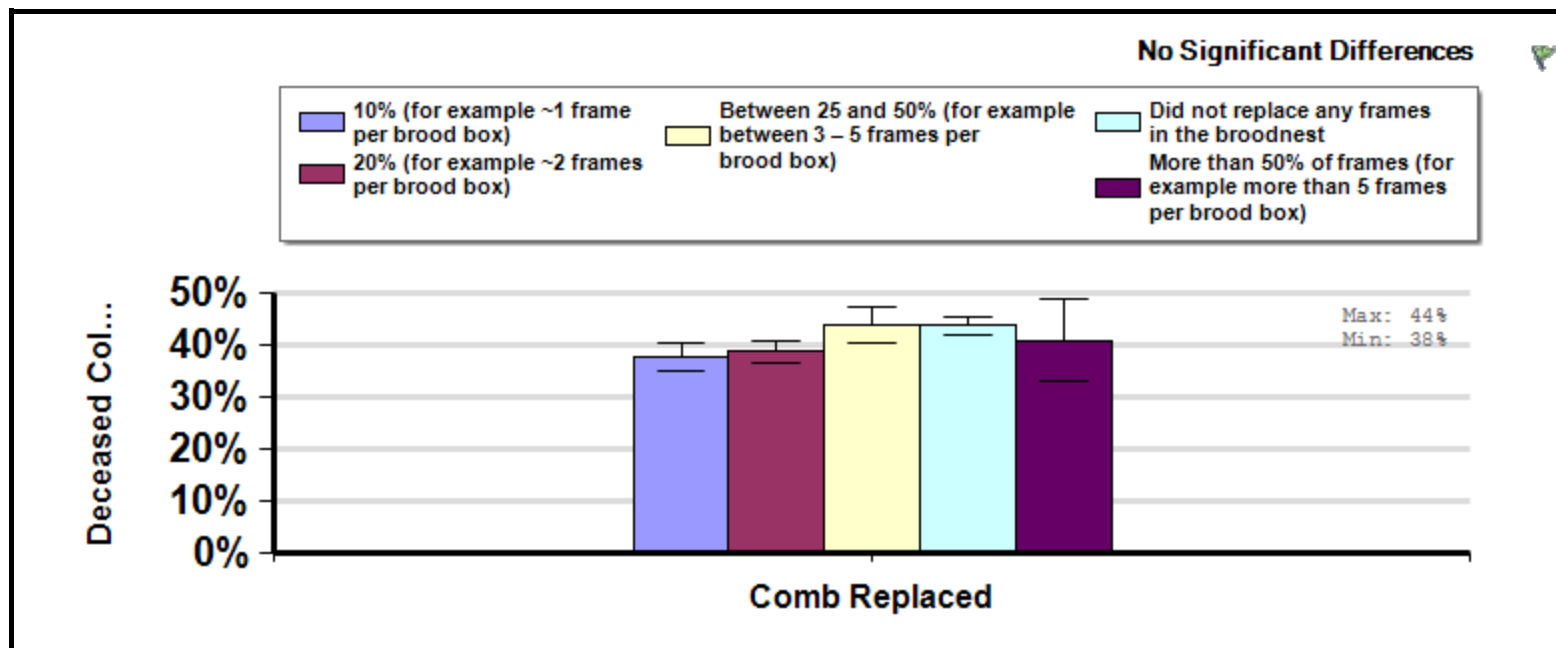
Degree of Brood Comb Replacement

Management Survey 2015

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

Winter

Report ID: 149-2015



Interpretation

Beekeepers who replaced 10% or 20% of brood frames in their colonies reported significantly less overwintering colony deaths than beekeepers who did not replace any brood frames.

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 brood nest
- 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 Error	Mean(%) [Lower, Upper] CI

Comb Replaced	10% (for example ~1 frame per brood box)	571	107,548	188.4	56.2	37.8 [35.0,40.5]
	20% (for example ~2 frames per brood box)	816	82,334	100.9	23.3	38.7 [36.5,41.0]
	Between 25 and 50% (for example between 3 – 5 frames per brood box)	394	45,023	114.3	55.7	44.0 [40.5,47.4]
	Did not replace any frames in the broodnest	1,782	9,957	5.6	0.5	43.7 [41.9,45.5]
	More than 50% of frames (for example more than 5 frames per brood box)	82	847	10.3	2.7	40.9 [33.0,48.7]

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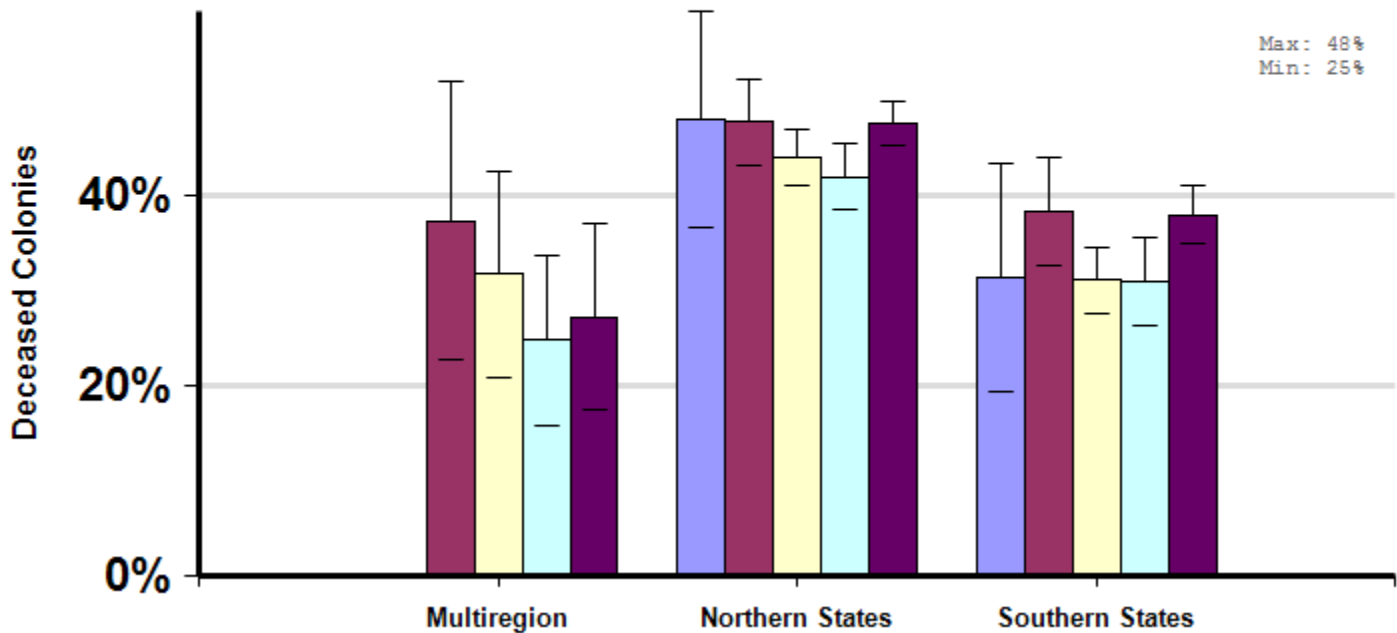
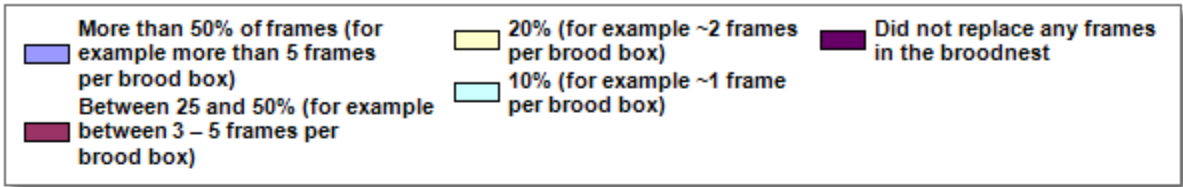
Degree of Brood Comb Replacement By Region

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

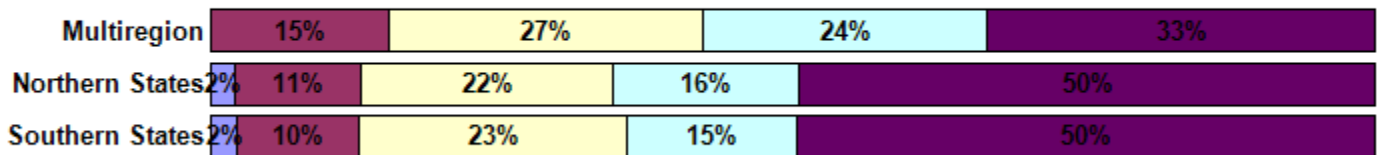
Winter

Report ID: 152-2015

Some Significant Differences (within regions)



Respondent Ratio



Interpretation

Southern beekeepers who replaced 2 frames per brood box reported 6.8 fewer overwintering colony deaths out of 100 managed colonies than southern beekeepers who did not replace any frames in the brood nest. In other words, southern beekeepers who replaced 20% of comb in their brood nest lost 17.9% fewer colonies than southern beekeepers who did not replace any.

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	39,684	2334.4	1201.1	37.4 [22.8,52.0]
	20% (for example ~2 frames per brood box)	30	45,918	1530.6	453.3	31.7 [20.9,42.5]
	10% (for example ~1 frame per brood box)	27	73,407	2718.8	955.0	24.8 [15.9,33.6]
	Did not replace any frames in the broodnest	37	599	16.2	7.8	27.2 [17.4,37.0]
Northern States	More than 50% of frames (for example more than 5 frames per brood box)	49	372	7.6	1.7	48.0 [36.7,59.3]
	Between 25 and 50% (for example between 3 – 5 frames per brood box)	248	2,999	12.1	1.6	47.8 [43.2,52.3]
	20% (for example ~2 frames per brood box)	502	18,686	37.2	17.4	44.0 [41.0,46.9]
	10% (for example ~1 frame per brood box)	365	13,316	36.5	18.3	42.0 [38.5,45.4]
	Did not replace any frames in the broodnest	1,144	6,072	5.3	0.8	47.6 [45.3,49.9]
Southern States	More than 50% of frames (for example more than 5 frames per brood box)	28	231	8.3	2.3	31.4 [19.3,43.4]
	Between 25 and 50% (for example between 3 – 5 frames per brood box)	123	2,004	16.3	2.5	38.3 [32.6,44.0]
	20% (for example ~2 frames per brood box)	272	14,122	51.9	20.3	31.1 [27.7,34.5]
	10% (for example	173	18,557	107.3	72.1	31.0 [26.3,35.7]

~1 frame per brood box)						
Did not replace any frames in the broodnest	589	3,026	5.1	0.4		37.9 [34.9,41.0]

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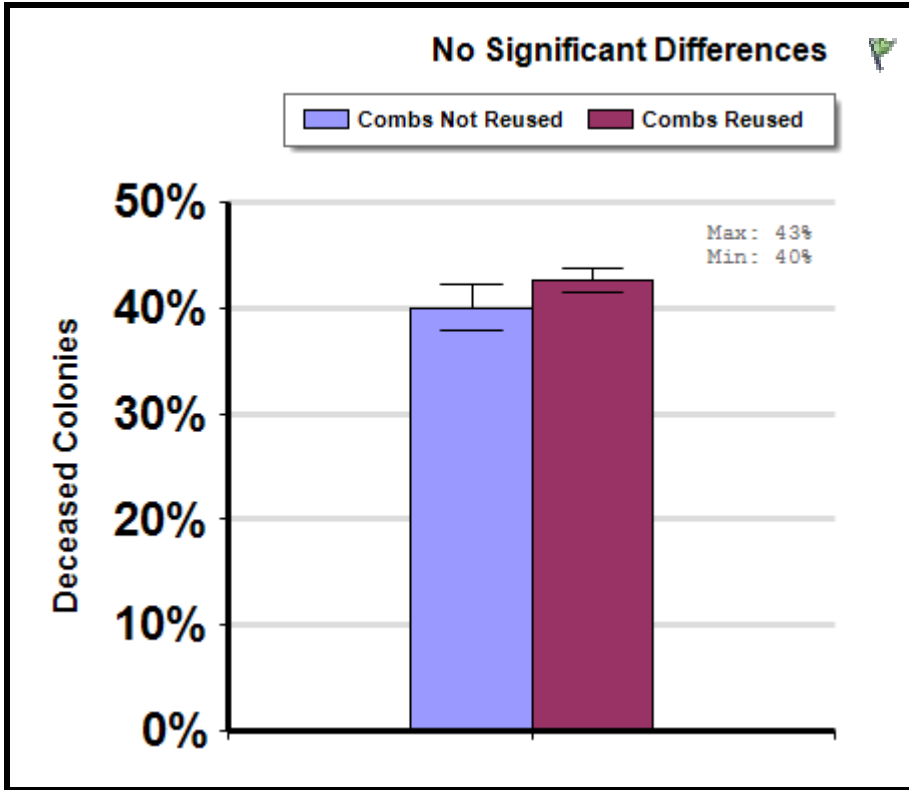
Brood Comb Reuse

Management Survey 2015

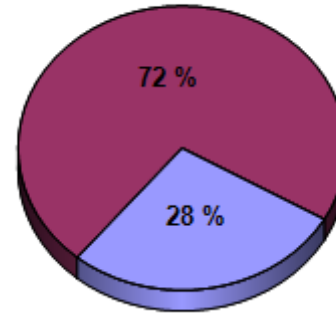
Average winter colony mortality reported by beekeepers who reported they reused or did not reuse brood comb.

Winter

Report ID: 71-2015



Participant Ratio



Interpretation

Beekeepers who reported reusing brood comb did not suffer fewer or greater losses than beekeepers who did not reuse any old brood comb.

Survey Question

Between April, 2014 and March, 2015, 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	1,211	25,024	20.7	9.4	40.0 [37.8, 42.3]

Combs Reused	3,162	312,528	98.8	24.1	42.7 [41.5, 43.9]
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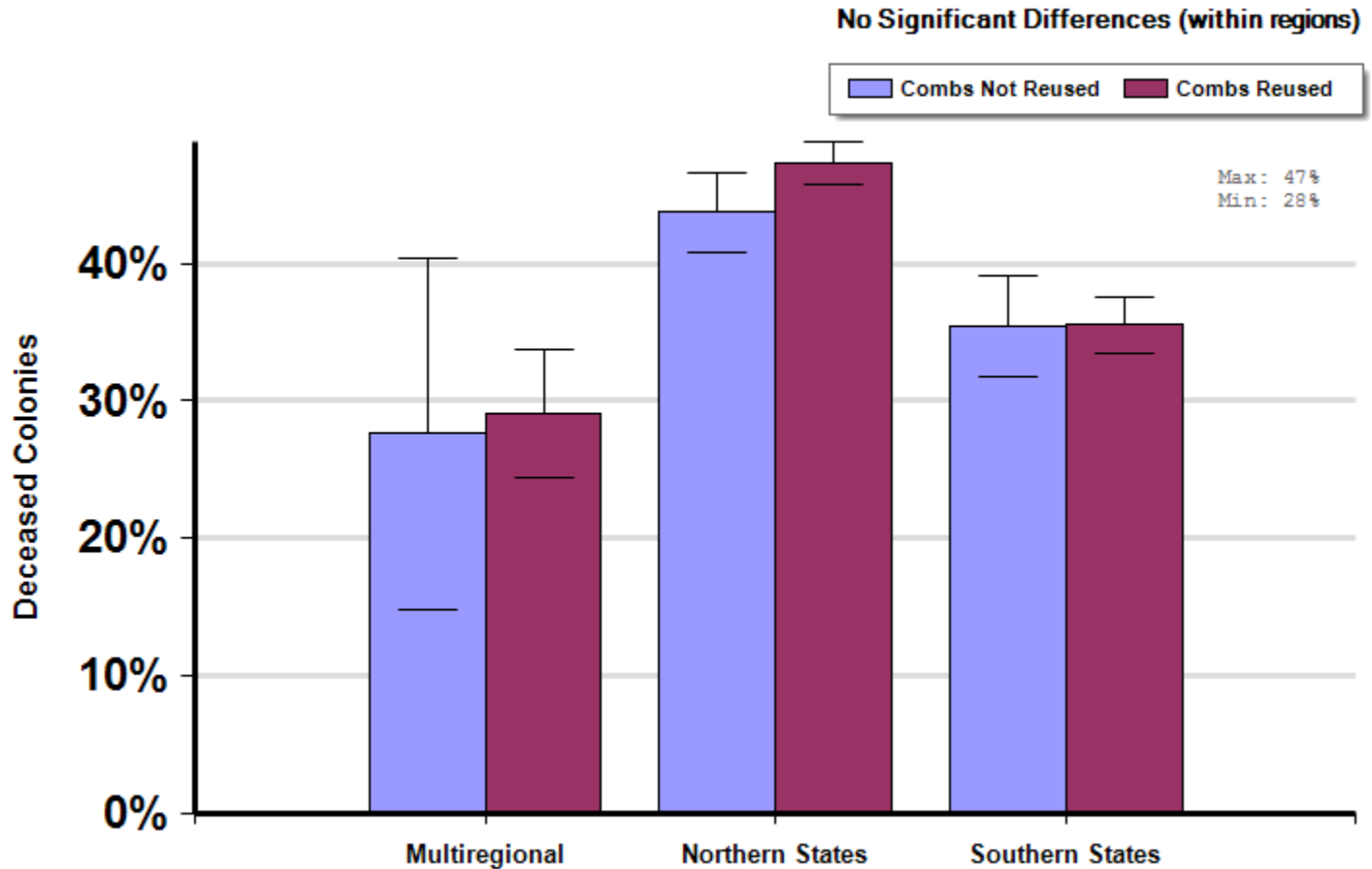
Brood Comb Reuse By Region

Management Survey 2015

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: 77-2015



Respondent Ratio



Interpretation

Beekeepers who managed colonies in the northern states, southern states or across regions did not suffer fewer or greater losses based on their reuse of old brood comb.

Survey Question

Between April, 2014 and March, 2015, 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	33	16,981	514.6	336.5	27.6 [14.8, 40.4]
	Combs Reused	99	212,938	2150.9	707.1	29.1 [24.4, 33.7]
Northern States	Combs Not Reused	750	4,760	6.3	0.9	43.7 [40.8, 46.6]
	Combs Reused	2,043	42,827	21.0	5.5	47.2 [45.7, 48.8]
Southern States	Combs Not Reused	409	2,887	7.1	1.6	35.4 [31.7, 39.1]
	Combs Reused	988	48,958	49.6	20.0	35.5 [33.5, 37.5]

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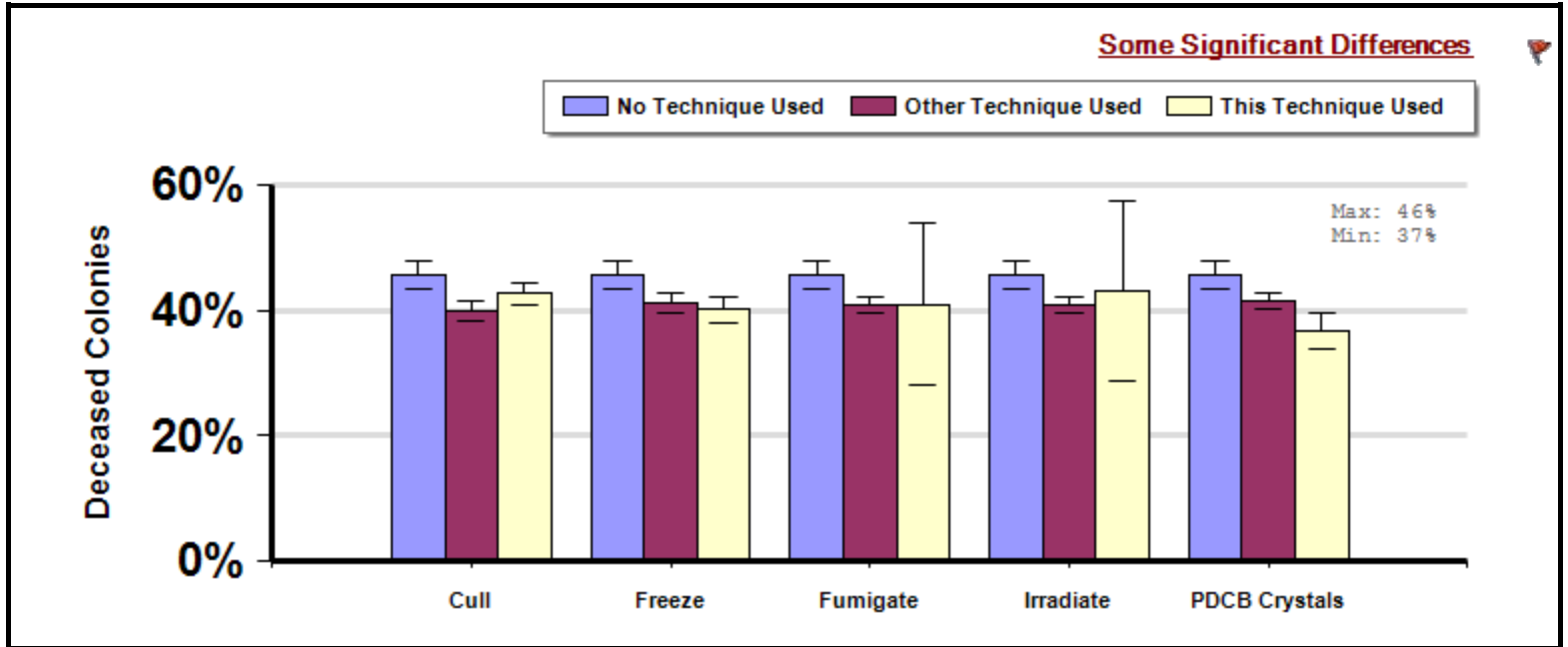
Brood Comb Treatment Before Reuse

Management Survey 2015

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

Winter

Report ID: 74-2015



Interpretation

Beekeepers who reported freezing, or using paradichlorobenzene (PDCB) crystals lost significantly fewer overwintering colonies than beekeepers who did not treat the comb in any particular way. To explain further, beekeepers who froze their comb before reuse saw 5.4 less overwintering deaths out of 100 managed colonies (11.9% fewer losses) than beekeepers who did not use any technique. Also, beekeepers who used PDCB crystals on removed brood comb lost 8.8 fewer colonies out of 100 managed colonies (19.3% fewer losses) than beekeepers who did not use any technique. Beekeepers who reported culling, fumigating or irradiating their brood comb after removal did not suffer fewer or greater losses than beekeepers who did not use these techniques.

Survey Question

Between April, 2014 and March, 2015, 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	Total Number of Colonies Managed	Average Number of Colonies Managed	Average Colony Loss

		Providing Valid Responses				Mean(%) [Lower, Upper] CI
				Mean	Standard Error	
Cull	No Technique Used	994	53,343	53.7	11.4	45.5 [43.3,47.8]
	Other Technique Used	2,078	59,197	28.5	10.6	39.8 [38.2,41.4]
	This Technique Used	1,468	243,175	165.7	49.9	42.7 [41.0,44.4]
Freeze	No Technique Used	994	53,343	53.7	11.4	45.5 [43.3,47.8]
	Other Technique Used	2,229	217,658	97.6	32.3	41.2 [39.7,42.8]
	This Technique Used	1,212	72,454	59.8	21.4	40.1 [38.2,42.0]
Fumigate	No Technique Used	994	53,343	53.7	11.4	45.5 [43.3,47.8]
	Other Technique Used	3,362	283,387	84.3	22.7	40.9 [39.7,42.1]
	This Technique Used	17	822	48.4	28.1	40.9 [28.0,53.9]
Irradiate	No Technique Used	994	53,343	53.7	11.4	45.5 [43.3,47.8]
	Other Technique Used	3,358	271,532	80.9	22.4	40.9 [39.6,42.1]
	This Technique Used	22	12,716	578.0	548.8	43.1 [28.8,57.5]
PDCB Crystals	No Technique Used	994	53,343	53.7	11.4	45.5 [43.3,47.8]
	Other Technique Used	2,972	270,177	90.9	25.6	41.5 [40.2,42.8]
	This Technique Used	441	22,089	50.1	16.7	36.7 [33.8,39.5]

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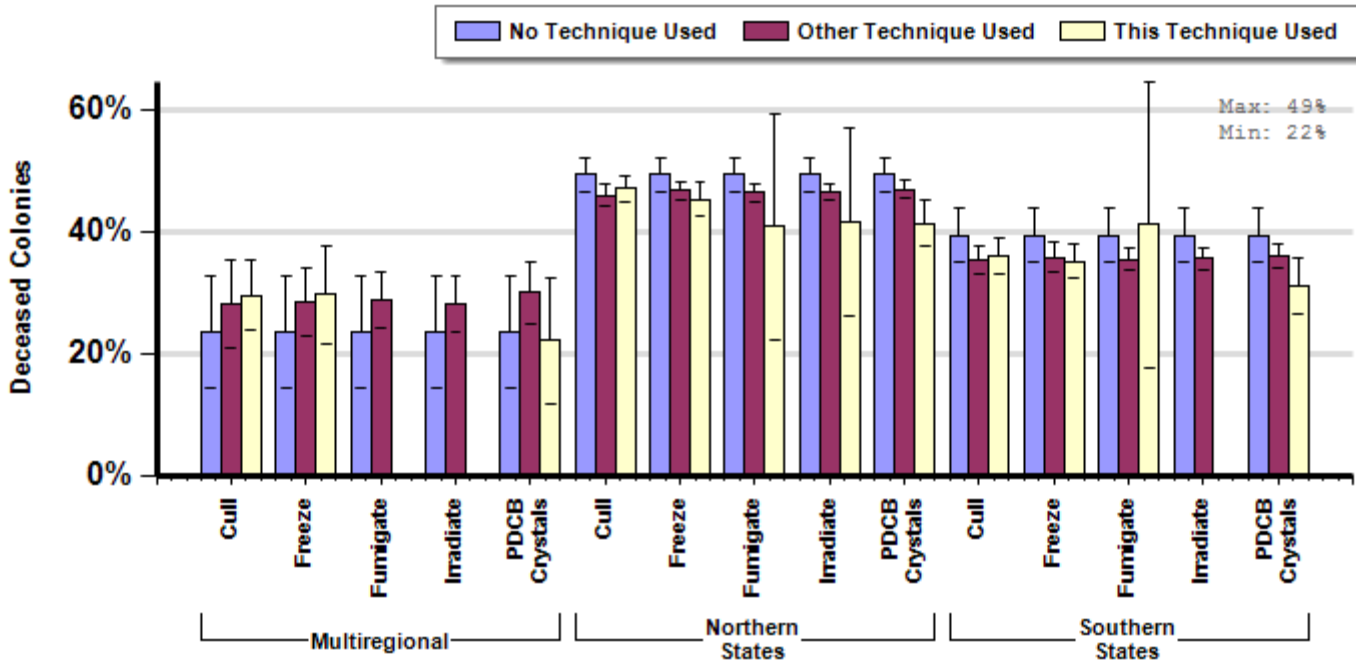
Brood Comb Treatment Before Reuse by Region

Winter

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

Report ID: 80-2015

Some Significant Differences (within regions)



Respondent Ratio



Interpretation

Northern beekeepers who stored brood comb with paradichlorobenzene (PDCB) crystals before reuse reported 8 fewer overwintering colony deaths than beekeepers who did not treat the comb in any particular way. In other words, beekeepers in the northern region who used PDCB crystals lost 16.3% fewer overwintering colonies than beekeepers who did not use any brood comb treatment.

Survey Question

Between April, 2014 and March, 2015, 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	28	30,503	1089.4	294.1	24[14.2,32.8]	
		Other Technique Used	73	50,553	692.5	236.5	28[21.0,35.1]	
		This Technique Used	59	179,366	3040.1	1154.7	30[23.8,35.2]	
	Freeze	No Technique Used	28	30,503	1089.4	294.1	24[14.2,32.8]	
		Other Technique Used	100	171,357	1713.6	672.2	28[22.8,34.0]	
		This Technique Used	32	58,562	1830.1	753.4	30[21.5,37.6]	
	Fumigate	No Technique Used	28	30,503	1089.4	294.1	24[14.2,32.8]	
		Other Technique Used	132	229,919	1741.8	539.7	29[24.1,33.3]	
	Irradiate	No Technique Used	28	30,503	1089.4	294.1	24[14.2,32.8]	
		Other Technique Used	131	229,917	1755.1	543.7	28[23.6,32.7]	
	PDCB Crystals	No Technique Used	28	30,503	1089.4	294.1	24[14.2,32.8]	
		Other Technique Used	112	221,868	1981.0	632.2	30[24.7,35.0]	
		This Technique Used	20	8,051	402.6	258.1	22[11.7,32.4]	
	Northern States	Cull	No Technique Used	708	9,475	13.4	2.9	49[46.6,51.9]
			Other Technique Used	1,825	13,890	7.6	0.7	46[44.2,47.7]
This Technique Used			968	33,697	34.8	11.5	47[44.9,49.1]	

		Used					
	Freeze	No Technique Used	708	9,475	13.4	2.9	49[46.6,51.9]
		Other Technique Used	2,147	41,282	19.2	5.2	47[45.0,48.2]
		This Technique Used	646	6,305	9.8	2.2	45[42.5,47.9]
	Fumigate	No Technique Used	708	9,475	13.4	2.9	49[46.6,51.9]
		Other Technique Used	2,784	47,445	17.0	4.0	46[44.9,47.7]
		This Technique Used	9	142	15.8	5.9	41[22.3,59.2]
	Irradiate	No Technique Used	708	9,475	13.4	2.9	49[46.6,51.9]
		Other Technique Used	2,775	46,997	16.9	4.0	46[45.0,47.7]
		This Technique Used	18	590	32.8	12.6	42[26.1,57.1]
	PDCB Crystals	No Technique Used	708	9,475	13.4	2.9	49[46.6,51.9]
		Other Technique Used	2,531	36,104	14.3	3.9	47[45.4,48.3]
		This Technique Used	262	11,483	43.8	19.5	41[37.6,45.0]
Southern States	Cull	No Technique Used	241	6,209	25.8	13.8	39[34.8,43.7]
		Other Technique Used	975	27,038	27.7	15.8	35[33.0,37.5]
		This Technique Used	422	24,807	58.8	29.7	36[33.0,38.8]
	Freeze	No Technique Used	241	6,209	25.8	13.8	39[34.8,43.7]
		Other Technique Used	873	45,053	51.6	22.7	36[33.4,38.1]
		This Technique Used	524	6,792	13.0	1.9	35[32.2,37.8]
	Fumigate	No Technique Used	241	6,209	25.8	13.8	39[34.8,43.7]

	Other Technique Used	1,389	51,165	36.8	14.3	35[33.6,37.2]
	This Technique Used	8	680	85.0	58.4	41[17.7,64.6]
Irradiate	No Technique Used	241	6,209	25.8	13.8	39[34.8,43.7]
	Other Technique Used	1,394	39,721	28.5	11.3	35[33.7,37.3]
PDCB Crystals	No Technique Used	241	6,209	25.8	13.8	39[34.8,43.7]
	Other Technique Used	1,239	49,318	39.8	16.0	36[34.1,38.0]
	This Technique Used	158	2,527	16.0	2.3	31[26.3,35.7]

Comments About This Data

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.