NAPPC National Beekeeper Forage Survey

North American Pollinator Partnership
Forage, Roadsides & Nutrition Task Force

NATIONAL BEEKEEPER SURVEY OF THE
FORAGING NEEDS OF BEE COLONIES
NAPPC National Beekeeper Forage Survey

The North American Pollinator Partnership Campaign, NAPPC, is a collaborative body of more than 160 diverse partners, including respected scientists, researchers, conservationists, government officials and dedicated volunteers.

The Forage, Nutrition & Roadsides Task Force is a working group of NAPPC partners tasked with supporting the development of increased acres of bee forage in key regions, working to increase access to existing potential forage for beekeepers and developing guidelines for regional seed mixes that can be used by Departments/Ministries of Transportation to effectively promote key pollinators along roadsides.

To better understand the amount of forage land needed for managed bee colonies in non-pollination settings, the Forage, Nutrition & Roadsides Task Force conducted a survey of U.S. beekeepers between October 2015 and February 2016. Beekeepers are highly knowledgeable about forage needs in their specific locations, as they are intimately familiar with the health of their colonies, the success of breeding, the amount of excess honey produced and whether supplemental feeding is required at the location. The survey asked beekeepers to consider forage needs at a specific location rather than the beekeeper’s general view of forage needs in order to obtain the most accurate information possible. The survey also asked about forage needs during winter and summer (January and July) to reflect differences in available forage.

2,250 beekeepers from 30+ states responded to the survey. Most beekeepers responded that they need 2-5 acres of forage land per colony at their southernmost yard in both winter and summer. In every state, the vast majority of beekeepers responded that they need at least 1 acre of forage per colony, with 100% of beekeepers so responding in some states. Nationally, 92% of beekeepers responded that they need at least 1 acre of forage per colony in summer.

The beekeepers were asked about the types of ecosystems upon which their managed colonies were foraging. The types of habitats were diverse, ranging from forest land to pasture land to commercial and residential properties. Additionally, there was a wide diversity in the plants used as the primary foraging source. Despite the diversity in habitats and primary forage sources, however, the average number of acres needed fell within the range of 4.2 to 6.1 acres per colony. Bees can apparently survive in many diverse habitats so long as they have sufficient foraging resources to do so.

The national and state by state results are below. The survey questions are shown at the end.
NAPPC National Beekeeper Forage Survey

National Survey Results

Number of Acres of Forage Needed per Colony by U.S. Beekeepers

<table>
<thead>
<tr>
<th>Acres</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>200</td>
<td>100</td>
</tr>
<tr>
<td>1</td>
<td>400</td>
<td>300</td>
</tr>
<tr>
<td>2 - 5</td>
<td>600</td>
<td>500</td>
</tr>
<tr>
<td>6 - 10</td>
<td>800</td>
<td>700</td>
</tr>
<tr>
<td>10 +</td>
<td>1000</td>
<td>900</td>
</tr>
</tbody>
</table>

Average Acres per Colony Needed by U.S. Beekeepers

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.9</td>
<td>4.6</td>
</tr>
<tr>
<td>Median</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Mode</td>
<td>11</td>
<td>2</td>
</tr>
</tbody>
</table>

January | July
NAPPC National Beekeeper Forage Survey

Acres per Colony Needed Based on Property Type

<table>
<thead>
<tr>
<th>Type of Ecosystem</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>5.4</td>
<td>5.1</td>
</tr>
<tr>
<td>Wild/Natural</td>
<td>5.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Mostly Natural</td>
<td>4.3</td>
<td>4.4</td>
</tr>
<tr>
<td>Pasture Land</td>
<td>4.8</td>
<td>5.7</td>
</tr>
<tr>
<td>Range Land</td>
<td>5.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Residential</td>
<td>4.2</td>
<td>5.0</td>
</tr>
<tr>
<td>Commercial</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Other</td>
<td>4.6</td>
<td>4.7</td>
</tr>
</tbody>
</table>

Percent of Beekeepers that Require at Least 1 Acre per Colony for Various Property Types.

<table>
<thead>
<tr>
<th>Ecosystem Type</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>92.3%</td>
<td>89.1%</td>
</tr>
<tr>
<td>Wild/Natural</td>
<td>84.0%</td>
<td>81.5%</td>
</tr>
<tr>
<td>Mostly Natural</td>
<td>78.2%</td>
<td>92.4%</td>
</tr>
<tr>
<td>Pasture Land</td>
<td>95.3%</td>
<td>98.2%</td>
</tr>
<tr>
<td>Range Land</td>
<td>95.3%</td>
<td>98.2%</td>
</tr>
<tr>
<td>Residential</td>
<td>81.2%</td>
<td>88.4%</td>
</tr>
<tr>
<td>Commercial</td>
<td>63.6%</td>
<td>92.9%</td>
</tr>
<tr>
<td>Other</td>
<td>81.0%</td>
<td>90.1%</td>
</tr>
<tr>
<td>National Average</td>
<td>81.0%</td>
<td>91.7%</td>
</tr>
</tbody>
</table>
Percent of U.S. Beekeepers that Require at least 1 Acre per Colony in January

- 19.0% require 1 acre or more
- 81.0% require less than 1 acre per hive

Percent of U.S. Beekeepers that Require at Least 1 Acre per Colony in July

- 8.0% require 1 acre or more
- 92.0% require less than 1 acre per hive
NAPPC National Beekeeper Forage Survey

Florida

In Florida, a total of 73 beekeepers responded to the survey.
The regions were divided by county as follows: North: Alachua, Bradford, Clay, Marion, Nassau, Putnam, Seminole, St. John, Union; Panhandle: Bay, Calhoun, Escambia, Gadsden, Gulf, Jackson, Jefferson, Leon, Okaloosa, Santa Rosa, Wakulla, Walton, Washington; Southeast: Brevard, Broward, Martin, Orange, Osceola, Palm Beach, St. Lucie; and Southwest: Collier, Lee.
Percent of Florida Beekeepers that Require 1 Acre or More per Colony in Various Ecosystem Types

Common Property Types Used for Bee Apiaries in Florida
Common Forage Types Found on Properties Used for Bee Apiaries in Florida

- Saw Palmetto, 8.37%
- Wildflowers, 16.73%
- Brazilian Pepper, 4.06%
- Melaleuca, 1.27%
- Gallberry, 4.06%
- Virginia Creeper, 4.31%
- Citrus, 5.32%
- Cabbage Palm, 7.10%
- Pine Trees, 12.42%
- Maple, 5.83%
- Clover, 3.55%
- Goldenrod, 7.61%
- Grasses, 11.41%
- Other, 5.32%
- Creosote Bush, 0.51%
- Privet, 2.28%
- Holly, 5.07%
- Oak, 11.16%
- Redbud, 2.79%
- Fruit trees, 6.34%
- Honeysuckle, 3.30%
- Asters, 4.31%
- Honeysuckle, 3.30%
- Black Mangrove
In Alabama, a total of 21 beekeepers responded to the survey.

### Acres of Forage Needed per Colony by Alabama Beekeepers

<table>
<thead>
<tr>
<th>Acres</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>2-5</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>6-10</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10+</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>NA</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Summary of Acres per Colony Needed by Alabama Beekeepers

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>5.6</td>
<td>3.8</td>
<td>5</td>
</tr>
<tr>
<td>July</td>
<td>5</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>

### Acres per Colony Needed by Alabama Beekeepers Based on Property Type

<table>
<thead>
<tr>
<th>Property Type</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pastureland</td>
<td>6.4</td>
<td>3.7</td>
</tr>
<tr>
<td>Forest</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Residential</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Mostly Natural</td>
<td>6.7</td>
<td>4.8</td>
</tr>
<tr>
<td>Vacant Land</td>
<td>3.5</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Notice: The graphs and tables display the number of responses and the distribution of acres needed by Alabama beekeepers, categorized by property type and time of year.
NAPPC National Beekeeper Forage Survey

Alabama (continued)

Common Property Types Used for Bee Apiaries in Alabama

- Mostly Natural: 33%
- Pasture: 24%
- Vacant Land: 24%
- Forest: 9%
- Residential: 5%
- Other: 5%

Percent of Alabama Beekeepers that Require at Least 1 Acre per Colony in January

- 88% require less than 1 acre per hive
- 12% require 1 acre or more per hive

Percent of Georgia Beekeepers that Require at Least 1 Acre per Colony in July

- 89% require less than 1 acre per hive
- 11% require 1 acre or more per hive
Arizona

In Arizona, a total of 11 beekeepers responded to the survey.

**Acres of Forage Needed per Colony by Arizona Beekeepers**

- **January**
  - <1 Acres: 1 response
  - 1-5 Acres: 3 responses
  - 6-10 Acres: 2 responses
  - 10+ Acres: 2 responses

- **July**
  - <1 Acres: 2 responses
  - 1-5 Acres: 3 responses
  - 6-10 Acres: 3 responses

**Summary of Acres per Colony Needed by Arizona Beekeepers**

- **January**
  - Mean: 6.2
  - Median: 5
  - Mode: 4

- **July**
  - Mean: 5.4
  - Median: 4
  - Mode: 10

**Acres Per Colony Needed by Arizona Beekeepers Based on Property Type**

- **Mostly Natural**
  - January: 6.5
  - July: 6.0

- **Natural**
  - January: 1.0
  - July: 2.7

- **Pasture Land**
  - January: 6.0
  - July: 11.0

- **Range**
  - January: 11.0
  - July: 10.0

- **Other**
  - January: 5.0
  - July: 10.0

**Number of Responses**

- <1 Acres: 2 responses
- 1-5 Acres: 6 responses
- 6-10 Acres: 3 responses
- 10+ Acres: 0 responses

**Number of Acres Per Colony Needed by Arizona Beekeepers Based on Property Type**

- **Mostly Natural**
  - January: 6.5
  - July: 6.0

- **Natural**
  - January: 1.0
  - July: 2.7

- **Pasture Land**
  - January: 6.0
  - July: 11.0

- **Range**
  - January: 11.0
  - July: 10.0

- **Other**
  - January: 5.0
  - July: 10.0
NAPPC National Beekeeper Forage Survey

Arizona (continued)

Percent of Arizona Beekeepers that Require at Least 1 Acre per Colony in January
- 9% Percent of Beekeepers that require less than 1 acre per hive
- 91% Percent of Beekeepers that require 1 acre or more per hive

Percent of Arizona Beekeepers that Require at Least 1 Acre per Colony in July
- 9% Percent of Beekeepers that require less than 1 acre per hive
- 91% Percent of Beekeepers that require 1 acre or more per hive

Common Property Types Used for Bee Apiaries in Arizona
- Mostly Natural 37%
- Natural 18%
- Pasture Land 27%
- Range 9%
- Other 9%
Arizona (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Arizona

- Wildflowers: 18%
- Brazilian Pepper: 0%
- Citrus: 2%
- Pine Trees: 8%
- Maple: 4%
- Clover: 14%
- Asters: 2%
- Goldenrod: 4%
- Honeysuckle: 8%
- Redbud: 2%
- Fruit trees: 4%
- Grasses: 10%
- Creosote Bush: 2%
- Privet: 2%
- Virginia Creeper: Other 6%
Arkansas

In Arkansas, a total of 19 beekeepers responded to the survey.

**Acres of Forage Needed per Colony by Arkansas Beekeepers**

- **January**: 2, 2, 3, 3, 4, 4, 5, 6, 6, 6, 7
- **July**: 1, 2, 4, 6, 8, 10, 12

**Summary of Acres per Colony Needed by Arkansas Beekeepers**

- **Mean**: 4.75 (January), 6 (July)
- **Median**: 3.5 (January), 5 (July)
- **Mode**: 11 (January), 0 (July)

**Acres per Colony Needed by Arkansas Beekeepers Based on Property Type**

- **Forest**: 10.5 (January), 10.5 (July)
- **Mostly Natural**: 4 (January), 4.2 (July)
- **Pasture Land**: 10 (January), 0 (July)
- **Residential**: 4 (January), 5.4 (July)

- **January**: Blue; **July**: Orange
Arkansas (continued)

**Percent of Arkansas Beekeepers that Require at Least 1 Acre per Colony in January**

- Percent of Beekeepers that require less than 1 acre per hive: 25%
- Percent of Beekeepers that require 1 acre or more per hive: 75%

**Percent of Arkansas Beekeepers that Require at Least 1 Acre per Colony in July**

- Percent of Beekeepers that require less than 1 acre per hive: 13%
- Percent of Beekeepers that require 1 acre or more per hive: 87%

**Common Property Types Used for Bee Apiaries in Arkansas**

- Forest: 11%
- Mostly Natural: 26%
- Pasture Land: 21%
- Residential: 37%
- Other: 5%
Arkansas (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Arkansas

- Wildflowers: 10%
- Pine Trees: 6%
- Maple: 9%
- Clover: 10%
- Goldenrod: 6%
- Asters: 2%
- Honeysuckle: 10%
- Fruit trees: 10%
- Redbud: 10%
- Oak: 10%
- Holly: 3%
- Privet: 1%
- Grasses: 12%
- Other: 1%
In California, a total of 15 beekeepers responded to the survey.
NAPPC National Beekeeper Forage Survey

California (continued)

- **Percent of California Beekeepers that Require at Least 1 Acre per Colony in January**
  - Percent of Beekeepers that require less than 1 acre per hive: 7%
  - Percent of Beekeepers that require 1 acre or more per hive: 93%

- **Percent of California Beekeepers that Require at Least 1 Acre per Colony in July**
  - Percent of Beekeepers that require less than 1 acre per hive: 7%
  - Percent of Beekeepers that require 1 acre or more per hive: 93%

**Common Property Types Used for Bee Apiaries in California**

- Mostly Natural: 27%
- Natural: 13%
- Pasture: 20%
- Residential: 20%
- Range: 7%
- Forest: 6%
- Other: 7%

---

*Note: The information is based on the NAPPC National Beekeeper Forage Survey data.*
Common Forage Types Found on Properties Used for Bee Apiaries in California

- Wildflowers: 21%
- Brazilian Pepper: 6%
- Citrus: 8%
- Pine Trees: 5%
- Maple: 3%
- Clover: 9%
- Asters: 3%
- Honeysuckle: 2%
- Grasses: 10%
- Other: 14%
- Oak: 6%
- Fruit trees: 11%
- Holly: 2%
- Other: 14%
NAPPC National Beekeeper Forage Survey

Colorado

In Colorado, a total of 117 beekeepers responded to the survey.

**Acres of Forage Needed per Colony by Colorado Beekeepers**

- **January**
  - <1 acre: 1 response
  - 1 acre: 2 responses
  - 2-5 acres: 4 responses
  - 6-10 acres: 10 responses
  - 10+ acres: 1 response
  - NA: 10 responses
- **July**
  - <1 acre: 1 response
  - 1 acre: 2 responses
  - 2-5 acres: 6 responses
  - 6-10 acres: 10 responses
  - 10+ acres: 1 response
  - NA: 10 responses

**Summary of Acres per Colony Needed by Colorado Beekeepers**

- **January**
  - Mean: 3.7 acres
  - Median: 2 acres
  - Mode: 0 acres
- **July**
  - Mean: 5.3 acres
  - Median: 5 acres
  - Mode: 5 acres

**Acres per Colony Needed by Colorado Beekeepers in July Based on Property type**

- **Forest**: 7.0 acres
- **Industrial**: 6.0 acres
- **Mostly Natural**: 5.0 acres
- **Natural**: 4.0 acres
- **Pasture Land**: 3.0 acres
- **Range land**: 9.0 acres
- **Residential**: 5.0 acres
- **Other**: 2.0 acres

- **January**
  - Forest: 7.0 acres
  - Industrial: 6.0 acres
  - Mostly Natural: 5.0 acres
  - Natural: 4.0 acres
  - Pasture Land: 3.0 acres
  - Range land: 9.0 acres
  - Residential: 5.0 acres
  - Other: 2.0 acres
NAPPC National Beekeeper Forage Survey

Colorado (continued)

Percent of Colorado Beekeepers that Require at Least 1 Acre per Colony in January

- 31% require at least 1 acre per colony
- 69% require less than 1 acre per colony

Percent of Colorado Beekeepers that Require at Least 1 Acre per Colony in July

- 91% require at least 1 acre per colony
- 9% require less than 1 acre per colony

Common Property Types Used for Bee Apiaries in Colorado

- Mostly Natural: 31%
- Natural: 12%
- Pasture Land: 23%
- Residential: 0%
- Range land: 5%
- Other: 22%
- Forest: 5%
- Industrial: 2%
In Connecticut, a total of 12 beekeepers responded to the survey. No data was available for January because bees are typically not active in cold weather.
NAPPC National Beekeeper Forage Survey

Connecticut (continued)

Percent of Connecticut Beekeepers that Require at Least 1 Acre per Colony in July

Common Property Types Used for Bee Apiaries in Connecticut

Common Forage Types Found on Properties Used for Bee Apiaries in Connecticut
No Data was available for Delaware.
In Georgia, a total of 30 beekeepers responded to the survey.

NAPPC National Beekeeper Forage Survey

Georgia

In Georgia, a total of 30 beekeepers responded to the survey.

Acres of Forage Needed per Colony by Georgia Beekeepers

Summary of Acres per Colony Needed by Georgia Beekeepers

Acres per Colony Needed by Georgia Beekeepers Based on Property Type
NAPPC National Beekeeper Forage Survey

Georgia (continued)

Percent of Georgia Beekeepers that Require at Least 1 Acre per Colony in January

- 100%

- Percent of Beekeepers requiring more than 1 acre per hive

Percent of Georgia Beekeepers that Require at Least 1 Acre per Colony in July

- 96.4%
- 3.6%

- Percent of Beekeepers that require less than 1 acre per hive
- Percent of Beekeepers requiring more than 1 acre per hive

Common Property Types Used for Bee Apiaries in Georgia

- Residential, 36.7%
- Pastureland, 23.3%
- Mostly Natural, 16.7%
- Vacant Land, 10.0%
- Forest, 6.7%
- Other, 6.7%
Common Forage Types Found on Properties Used for Bee Apiaries in Georgia

- Saw Palmetto, 1.3%
- Wildflowers, 32.6%
- Gallberry, 2.6%
- Redbud, 15.6%
- Asters, 15.6%
- Pine Trees, 24.8%
- Clover, 28.7%
- Goldenrod, 28.7%
- Cabbage Palm, 1.3%
- Cactus, 1.3%
- Grasses, 22.2%
- Virginia Creeper, 5.2%
- Holly, 13.0%
- Fruit Trees, 19.6%
- Honeysuckle, 27.4%
- Oak, 33.9%
- Citrus, 1.3%

Other, 9.1%
Hawaii

No Data was available for Hawaii.
In Idaho, a total of 30 beekeepers responded to the survey.

### Common Property Types Used for Bee Apiaries in Idaho

- **Mostly Natural**: 54%
- **Natural**: 10%
- **Pasture land**: 20%
- **Residential**: 10%
- **Other**: 3%
- **Forest**: 3%

### Summary of Acres Per Colony Needed by Idaho Beekeepers

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.6</td>
<td>4.0</td>
</tr>
<tr>
<td>Median</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>Mode</td>
<td>1.0</td>
<td>1.0</td>
</tr>
</tbody>
</table>

### Acres of Foraged Needed per Colony by Idaho Beekeepers

- **January**
  - <1: 2 responses
  - 1: 2 responses
  - 2-5: 6 responses
  - 6-10: 1 response
  - 10+: 1 response
  - NA: 1 response

- **July**
  - <1: 3 responses
  - 1: 4 responses
  - 2-5: 14 responses
  - 6-10: 1 response
  - 10+: 3 responses
  - NA: 1 response

Number of Acres

- **Mostly Natural**: 54%
- **Natural**: 10%
- **Pasture land**: 20%
- **Residential**: 10%
- **Other**: 3%
- **Forest**: 3%
Idaho (continued)

**Percent of Idaho Beekeepers that Require at Least 1 Acre per Colony in January**
- 78% require less than 1 acre per hive
- 22% require 1 acre or more per hive

**Percent of Idaho Beekeepers that Require at Least 1 Acre per Colony in July**
- 93% require less than 1 acre per hive
- 7% require 1 acre or more per hive

**Common Property Types Used for Bee Apiaries in Idaho**
- Mostly Natural: 54%
- Natural: 10%
- Pasture land: 20%
- Residential: 10%
- Other: 3%
- Forest: 3%
Idaho (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Idaho

- Wildflowers: 11%
- Pine Trees: 6%
- Maple: 11%
- Clover: 11%
- Goldenrod: 11%
- Asters: 7%
- Honeysuckle: 7%
- Fruit trees: 5%
- Redbud: 8%
- Oak: 8%
- Holly: 2%
- Grasses: 9%
- Other: 4%
Illinois

In Illinois, a total of 72 beekeepers responded to the survey.
Illinois (continued)

**Common Property types Used for Bee Apiaries in Illinois**

- Mostly Natural: 42%
- Residential: 17%
- Natural: 4%
- Pasture land: 14%
- Range land: 1%
- Other: 19%
- Forest: 3%

**Percent of Illinois Beekeepers that Require at Least 1 Acre per Colony in January**
- Percent of Beekeepers that require less than 1 acre per hive: 68%
- Percent of Beekeepers that require 1 acre or more per hive: 32%

**Percent of Illinois Beekeepers that Require at Least 1 Acre per Colony in July**
- Percent of Beekeepers that require less than 1 acre per hive: 18%
- Percent of Beekeepers that require 1 acre or more per hive: 82%
Illinois (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Illinois

- Wildflowers: 11%
- Pine Trees: 6%
- Maple: 9%
- Clover: 11%
- Goldenrod: 11%
- Asters: 7%
- Honeysuckle: 8%
- Fruit trees: 8%
- Redbud: 4%
- Oak: 8%
- Holly: 1%
- Virginia Creeper: 2%
- Privet: 1%
- Grasses: 10%
- Other: 3%

- Other: 3%
- Grasses: 10%
- Goldenrod: 11%
- Clover: 11%
- Asters: 7%
- Honeysuckle: 8%
- Fruit trees: 8%
- Redbud: 4%
- Oak: 8%
- Holly: 1%
- Virginia Creeper: 2%
- Privet: 1%
- Grasses: 10%
- Other: 3%
In Indiana, a total of 31 beekeepers responded to the survey.

**Acres of Forage Needed per Colony by Indiana Beekeepers**

**Summary of Acres Per Colony Needed by Indiana Beekeepers**

**Acres Per Colony Needed by Indiana Beekeepers Based on Property Type**
Indiana (continued)

### Percent of Indiana Beekeepers that Require at Least 1 Acre per Colony in January

- **77.8%** require less than 1 acre per hive.
- **22.2%** require more than 1 acre per hive.

### Percent of Indiana Beekeepers that Require at Least 1 Acre per Colony in July

- **7.0%** require 1 acre or less per hive.
- **93.0%** require 1 acre or more per hive.

### Common Property Types Used for Bee Apiaries in Indiana

- Mostly Natural: 45.0%
- Pastureland: 19.4%
- Residential: 9.7%
- Forest: 3.2%
- Vacant: 9.7%
- Other: 9.7%
Indiana (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Indiana

- Wildflowers, 33.8%
- Pine Trees, 21.5%
- Maple, 33.8%
- Clover, 35.1%
- Goldenrod, 33.8%
- Grasses, 27.3%
- Other, 11.7%
- Redbud, 26.0%
- Fruit Trees, 16.9%
- Honeysuckle, 15.4%
- Asters, 23.4%
- Holly, 6.5%
- Virginia Creeper, 2.6%
- Other, 11.7%
In Iowa, a total of 30 beekeepers responded to the survey.
Iowa (continued)

Percent of Iowa Beekeepers that Require at Least 1 Acre per Colony in January

- 75% Percent of Beekeepers requiring less than 1 acre per hive
- 25% Percent of Beekeepers requiring more than 1 acre per hive

Percent of Iowa Beekeepers that Require at Least 1 Acre per Colony in July

- 93.3% Percent of Beekeepers that require less than 1 acre per hive
- 6.7% Percent of Beekeepers that require more than 1 acre per hive

Common Property Types Used for Bee Apiaries in Iowa

- Pastureland, 33.3%
- Mostly Natural, 26.6%
- Residential, 13.3%
- Vacant, 6.6%
- Other, 20.0%
Iowa (continued)

**Common Forage Types Found on Properties Used for Bee Apiaries in Iowa**

- **Wildflowers**: 41.3%
- **Citrus**: 3.0%
- **Pine Trees**: 30.6%
- **Maple**: 29.1%
- **Clover**: 38.2%
- **Goldenrod**: 32.1%
- **Asters**: 15.3%
- **Honeysuckle**: 16.8%
- **Oak**: 26.0%
- **Redbud**: 9.2%
- **Fruit Trees**: 26.0%
- **Holly**: 3.1%
- **Virginia Creeper**: 10.7%
- **Grasses**: 38.2%
- **Other**: 12.2%

---

**Legend**
- Saw Palmetto
- Wildflowers
- Citrus
- Pine Trees
- Maple
- Clover
- Goldenrod
- Asters
- Honeysuckle
- Fruit Trees
- Redbud
- Oak
- Holly
- Virginia Creeper
- Grasses
- Other
Kansas

No Data was available for Kansas.
In Kentucky, a total of 37 beekeepers responded to the survey.

Acres of Forage Needed per Colony by Kentucky Beekeepers

Summary of Acres per Colony Needed by Kentucky Beekeepers

Acres Per Colony Needed by Kentucky Beekeepers Based on Property Type
NAPPC National Beekeeper Forage Survey

Kentucky (continued)

Percent of Kentucky Beekeepers that Require at Least 1 Acre per Colony in January

- 100% Percent of Beekeepers requiring more than 1 acre per hive

Percent of Kentucky Beekeepers that Require at Least 1 Acre per Colony in July

- 100% Percent of Beekeepers requiring more than 1 acre per hive

Common Property Types Used for Bee Apiaries in Kentucky

- Pastureland, 24.3%
- Mostly Natural, 29.7%
- Residential, 18.9%
- Vacant land, 13.5%
- Other, 10.8%
- Commercial, 2.7%
Common Forage Types Found on Properties Used for Bee Apiaries in Kentucky

- Wildflowers, 27.3%
- Gallberry, 1.0%
- Pine Trees, 14.1%
- Maple, 24.4%
- Clover, 29.2%
- Goldenrod, 25.4%
- Honeysuckle, 17.3%
- Asters, 16.9%
- Honeysuckle, 18.8%
- Oak, 22.5%
- Virginia Creeper, 3.7%
- Privet, 4.7%
- Grasses, 23.5%
- Other, 8.4%

Kentucky (continued)
Louisiana

In Louisiana, a total of 23 beekeepers responded to the survey.
Common Property Types Used for Bee Apiaries in Louisiana

- **Pasture land**: 26%
- **Natural**: 9%
- **Residential**: 13%
- **Range land**: 9%
- **Mostly Natural**: 26%
- **Forest**: 13%
- **Other**: 4%
Louisiana (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Louisiana

- Saw Palmetto: 2%
- Wildflowers: 11%
- Gallberry: 1%
- Citrus: 3%
- Cabbage Palm: 1%
- Pine Trees: 8%
- Maple: 4%
- Clover: 10%
- Goldenrod: 9%
- Asters: 2%
- Oak: 11%
- Honeysuckle: 7%
- Fruit trees: 7%
- Redbud: 5%
- Oak: 11%
- Holly: 4%
- Privet: 5%
- Grasses: 8%
- Other: 2%
NAPPC National Beekeeper Forage Survey

Maine

In Maine, a total of 138 beekeepers responded to the survey.

![Graph showing acres of forage needed per colony by Maine beekeepers]

- **January**
  - < 1 acres: 10 responses
  - 1 acre: 20 responses
  - 2-5 acres: 30 responses
  - 6-10 acres: 20 responses
  - 10+ acres: 20 responses
  - NA: 20 responses
- **July**
  - < 1 acres: 20 responses
  - 1 acre: 60 responses
  - 2-5 acres: 40 responses
  - 6-10 acres: 20 responses
  - 10+ acres: 10 responses
  - NA: 0 responses

**Summary of Acres Per Colony Needed by Maine Beekeepers**

- **January**
  - Mean: 3.6 acres
  - Median: 4.3 acres
  - Mode: 4.0 acres
- **July**
  - Mean: 2.0 acres
  - Median: 2.0 acres
  - Mode: 2.0 acres

**Acres Per Colony Needed by Maine Beekeepers Based on Property Type**

- **January**
  - Forest: 5.0 acres
  - Industrial: 1.0 acres
  - Mostly Natural: 2.0 acres
  - Natural: 2.9 acres
  - Pasture Land: 4.0 acres
  - Range land: 0.0 acres
  - Residential: 5.0 acres
  - Other: 4.6 acres
- **July**
  - Forest: 5.0 acres
  - Industrial: 4.2 acres
  - Mostly Natural: 2.5 acres
  - Natural: 3.8 acres
  - Pasture Land: 0.0 acres
  - Range land: 4.3 acres
  - Residential: 5.0 acres
  - Other: 4.9 acres
NAPPC National Beekeeper Forage Survey

Maine (continued)

**Percent of Maine Beekeepers that Require at Least 1 Acre per Colony in January**
- 35% require 1 acre or more per hive
- 65% require less than 1 acre per hive

**Percent of Maine Beekeepers that Require at Least 1 Acre per Colony in July**
- 7% require 1 acre or more per hive
- 93% require less than 1 acre per hive

**Common Property Types Used for Bee Apiaries in Maine**
- Mostly Natural (41%)
- Natural (6%)
- Pasture Land (14%)
- Residential (18%)
- Other (14%)
- Range land (1%)
- Industrial (1%)
- Forest (4%)

- Forest
- Industrial
- Mostly Natural
- Natural
- Pasture Land
- Range land
- Residential
- Other
Common Forage Types Found on Properties Used for Bee Apiaries in Maine

- Saw Palmetto: 0%
- Wildflowers: 11%
- Cabbage Palm: 0%
- Pine Trees: 11%
- Maple: 12%
- Clover: 11%
- Goldenrod: 11%
- Asters: 9%
- Honeysuckle: 4%
- Virginia Creeper: 1%
- Holly: 2%
- Redbud: 1%
- Fruit trees: 8%
- Grasses: 9%
- Other: 3%
In Maryland, a total of 13 beekeepers responded to the survey. No data was available for January because bees are typically not active in cold weather.
NAPPC National Beekeeper Forage Survey

Maryland (continued)

Percent of Maryland Beekeepers that Require at Least 1 Acre per Colony in July

- 9% require 1 acre or more per hive
- 91% require less than 1 acre per hive

Common Property Types Used for Bee Apiaries in Maryland

- Forest 8%
- Mostly Natural 46%
- Pasture Land 15%
- Residential 31%

Common Forage Types Found on Properties Used for Bee Apiaries in Maryland

- Wildflowers 12%
- Pine Trees 6%
- Maple 12%
- Clover 9%
- Goldenrod 11%
- Grasses 7%
- Asters 7%
- Honeysuckle 8%
- Fruit trees 1%
- Redbud 4%
- Privet 3%
- Creosote Bush 1%
- Holly 8%
- Oak 8%
- Other 3%

Legend:
- Wildflowers
- Pine Trees
- Maple
- Clover
- Goldenrod
- Asters
- Honeysuckle
- Fruit trees
- Redbud
- Oak
- Holly
- Privet
- Creosote Bush
- Grasses
- Other
NAPPC National Beekeeper Forage Survey

Massachusetts

In Massachusetts, a total of 12 beekeepers responded to the survey. No data was available for January because bees are typically not active in cold weather.
Massachusetts (continued)

### Percent of Massachusetts Beekeepers that Require at Least 1 Acre per Colony in July

- **25%** require less than 1 acre per hive
- **75%** require 1 acre or more per hive

### Common Property Types Used for Bee Apiaries in Massachusetts

- **Mostly Natural** (33%) & **Natural** (25%)
- **Residential** (42%)

### Common Forage Types Found on Properties Used for Bee Apiaries in Massachusetts

- **Wildflowers**: 12%
- **Pine Trees**: 5%
- **Maple**: 12%
- **Clover**: 10%
- **Goldenrod**: 14%
- **Asters**: 7%
- **Honeysuckle**: 3%
- **Oak**: 9%
- **Fruit trees**: 8%
- **Privet**: 3%
- **Virginia Creeper**: 1%
- **Holly**: 4%
- **Grasses**: 8%
- **Other**: 3%

---

NAPPC National Beekeeper Forage Survey
Michigan

In Michigan, a total of 60 beekeepers responded to the survey.

**Acres of Forage Needed per Colony by Michigan Beekeepers**

- Number of Responses
  - < 1: 1
  - 1: 5
  - 2 - 5: 10
  - 6 - 10: 15
  - 10+: 20

- Acres: January, July

**Summary of Acres Per Colony Needed by Michigan Beekeepers**

- Number of Acres
  - Mean: January 3.0, July 4.4
  - Median: January 1.5, July 3
  - Mode: January 0, July 2

**Acres Per Colony Needed by Michigan Beekeepers Based on Property Type**

- Average Number of Acres
  - Pastureland: January 0, July 11
  - Mostly Natural: January 3.0, July 4.4
  - Residential: January 2.4, July 4.2
  - Forest: January 2.9, July 4.3
  - Vacant: January 3.4, July 4.1
  - Commercial: January 0, July 1
  - Other: January 2.8, July 4.0

- Property Type: January, July
Michigan (continued)

**Percent of Michigan Beekeepers that Require at Least 1 Acre per Colony in January**

- 68.0% requiring less than 1 acre per hive
- 32.0% requiring more than 1 acre per hive

**Percent of Michigan Beekeepers that Require at Least 1 Acre per Colony in July**

- 8.6% requiring less than 1 acre per hive
- 91.4% requiring more than 1 acre per hive

**Common Property Types Used for Bee Apiaries in Michigan**

- Mostly Natural, 38.3%
- Residential, 21.6%
- Vacant, 8.3%
- Forest, 6.7%
- Commercial, 1.7%
- Other, 10.0%
- Pastureland, 1.7%
Common Forage Types Found on Properties Used for Bee Apiaries in Michigan

- **Gallberry**: 19.7%
- **Pine Trees**: 13.0%
- **Maple**: 17.7%
- **Clover**: 18.1%
- **Goldenrod**: 19.3%
- **Asters**: 17.0%
- **Redbud**: 6.3%
- **Fruit Trees**: 11.5%
- **Honeysuckle**: 7.1%
- **Oak**: 13.3%
- **Virginia Creeper**: 2.4%
- **Cactus**: 0.4%
- **Wildflowers**: 14.5%
- **Grasses**: 14.5%
- **Other**: 6.7%
In Minnesota, a total of 29 beekeepers responded to the survey. No data was available for January because bees are typically not active in cold weather.
Minnesota (continued)

Percent of Minnesota Beekeepers that Require at Least 1 Acre per Colony in July

- 96% of Beekeepers require 1 acre or more per hive
- 4% require less than 1 acre

Common Property Types Used for Bee Apiaries in Minnesota

- Mostly Natural: 52%
- Natural: 24%
- Mostly Natural: 52%
- Residential: 7%
- Pasture/land: 10%

Common Forage Types Found on Properties Used for Bee Apiaries in Minnesota

- Wildflowers: 10%
- Black Mangrove: 0%
- Pine Trees: 9%
- Maple: 11%
- Clover: 11%
- Others: 6%
- Goldenrod: 10%
- Honeysuckle: 5%
- Asters: 7%
- Fruit trees: 9%
- Oak: 12%
- Grasses: 9%
- Holly: 1%

Legend:
- Wildflowers
- Black Mangrove
- Pine Trees
- Maple
- Clover
- Goldenrod
- Asters
- Honeysuckle
- Fruit trees
- Oak
- Grasses
- Others
- Residential
- Pasture/land
Mississippi

No Data was available for Mississippi.
In Montana, a total of 18 beekeepers responded to the survey.
Common Property Types Used for Bee Apiaries in Missouri

- Residential: 6%
- Forest: 5%
- Range Land: 11%
- Mostly Natural: 11%
- Natural: 39%
- Pasture land: 28%
Missouri (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Missouri

- Wildflowers: 14%
- Clover: 5%
- Goldenrod: 10%
- Asters: 13%
- Honeysuckle: 7%
- Fruit trees: 5%
- Redbud: 7%
- Pine Trees: 2%
- Maple: 5%
- Grasses: 12%
- Virginia Creeper: 1%
- Other: 2%
- Brazilian Pepper: 1%
Montana

No Data was available for Montana.
Nebraska

No Data was available for Nebraska
NAPPC National Beekeeper Forage Survey

Nevada

In Nevada, a total of 20 beekeepers responded to the survey.

[Diagram: Acres of Forage Needed per Colony by Nevada Beekeepers]

[Diagram: Summary of Acres per Colony Needed by Nevada Beekeepers]

[Diagram: Acres per Colony Needed by Nevada Beekeepers Based on Property Type]
NAPPC National Beekeeper Forage Survey

Nevada (continued)

Percent of Nevada Beekeepers that Require at Least 1 Acre per Colony in January

- 8% of Beekeepers require less than 1 acre per hive
- 92% of Beekeepers require 1 acre or more per hive

Percent of Nevada Beekeepers that Require at Least 1 Acre per Colony in July

- 0% of Beekeepers require less than 1 acre per hive
- 100% of Beekeepers require 1 acre or more per hive

Common Property Types Used for Bee Apiaries in Nevada

- Mostly Natural: 43%
- Residential: 19%
- Pasture land: 19%
- Range land: 5%
- Natural: 5%
- Industrial: 9%
NAPPC National Beekeeper Forage Survey

Nevada (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Nevada
In New Hampshire, a total of 15 beekeepers responded to the survey.

**Acres of Forage Needed per Colony by New Hampshire Beekeepers**

<table>
<thead>
<tr>
<th>Acres</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2-5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6-10</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10 +</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>NA</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Summary of Acres per Colony Needed by New Hampshire Beekeepers**

- **January**:
  - Mean: 3.7
  - Median: 4.2
  - Mode: 3.5

- **July**:
  - Mean: 0
  - Median: 2
  - Mode: 0

**Acres per Colony Needed by New Hampshire Beekeepers Based on Property Type**

<table>
<thead>
<tr>
<th>Property Type</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>5.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Mostly Natural</td>
<td>3.9</td>
<td>6.0</td>
</tr>
<tr>
<td>Pasture land</td>
<td>2.5</td>
<td>4.3</td>
</tr>
<tr>
<td>Range land</td>
<td>0.0</td>
<td>5.0</td>
</tr>
<tr>
<td>Residential</td>
<td>2.5</td>
<td>4.3</td>
</tr>
</tbody>
</table>

*January and July columns are color-coded.*
Common Property Types Used for Bee Apiaries in New Hampshire

- Mostly Natural: 46%
- Pasture land: 20%
- Residential: 20%
- Range land: 7%
- Forest: 7%

Percent of New Hampshire Beekeepers that Require at Least 1 Acre per Colony in January:
- 67% require less than 1 acre per hive
- 33% require 1 acre or more per hive

Percent of New Hampshire Beekeepers that Require at Least 1 Acre per Colony in July:
- 80% require less than 1 acre per hive
- 20% require 1 acre or more per hive

NAPPC National Beekeeper Forage Survey
New Hampshire (continued)
Common Forage Types Found on Properties Used for Bee Apiaries in New Hampshire

- Wildflowers 11%
- Pine Trees 9%
- Maple 12%
- Clover 11%
- Goldenrod 12%
- Fruit trees 10%
- Grasses 10%
- Asters 8%
- Honeysuckle 1%
- Holly 3%
- Privet 1%
- Other 2%
New Jersey

Not enough data was available for New Jersey.
NAPPC National Beekeeper Forage Survey

New Mexico

In New Mexico, a total of 13 beekeepers responded to the survey.
New Mexico (continued)

- **Percent of New Mexico Beekeepers that Require at Least 1 Acre per Colony in January**
  - 78% require less than 1 acre per hive
  - 22% require 1 acre or more per hive

- **Percent of New Mexico Beekeepers that Require at Least 1 Acre per Colony in July**
  - 92% require less than 1 acre per hive
  - 8% require 1 acre or more per hive

- **Common Property Types Used for Bee Apiaries in New Mexico**
  - Mostly Natural: 61%
  - Natural: 15%
  - Pasture land: 8%
  - Range land: 8%
  - Other: 8%
Common Forage Types Found on Properties Used for Bee Apiaries in New Mexico

- Wildflowers: 11%
- Pine Trees: 6%
- Maple: 0%
- Clover: 9%
- Goldenrod: 6%
- Asters: 10%
- Honeysuckle: 4%
- Fruit trees: 13%
- Cactus: 10%
- Creosote Bush: 3%
- Virginia Creeper: 1%
- Oak: 4%
- Redbud: 1%
- Other: 11%
- Grasses: 11%
New York

In New York, a total of 49 beekeepers responded to the survey.

![Chart 1: Acres of Forage Needed per Colony by New York Beekeepers]

![Chart 2: Summary of Acres Per Colony Needed by New York Beekeepers]

![Chart 3: Acres per Colony Needed by New York Beekeepers Based on Property Type]
New York (continued)

Percent of New York Beekeepers that Require at Least 1 Acre per Colony in January:
- 56.5% require 1 acre or less per hive
- 43.5% require more than 1 acre per hive

Percent of New York Beekeepers that Require at Least 1 Acre per Colony in July:
- 88.4% require 1 acre or less per hive
- 11.6% require more than 1 acre per hive

Common Property Types Used for Bee Apiaries in New York:
- Mostly Natural, 40.8%
- Residential, 22.4%
- Vacantland, 14.2%
- Other, 14.2%
- Pastureland, 8.2%
New York (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in New York

- Wildflowers: 25.5%
- Clover: 21.0%
- Goldenrod: 23.5%
- Virginia Creeper: 4.6%
- Honeysuckle: 14.4%
- Fruit Trees: 17.0%
- Oak: 18.3%
- Holly: 8.5%
- Asters: 16.4%
- Privet: 3.3%
- Pine Trees: 16.4%
- Cactus: 0.7%
- Grasses: 19.0%
- Other: 5.9%
North Carolina

In North Carolina, a total of 35 beekeepers responded to the survey.

Number of Acres Needed per Colony by North Carolina Beekeepers

Summary of Acres per Colony Needed by North Carolina Beekeepers

Acres per Colony Needed by North Carolina Beekeepers Based on Property Type
NAPPC National Beekeeper Forage Survey

North Carolina (continued)

**Percent of North Carolina Beekeepers that Require at Least 1 Acre per Colony in January**

- 6.5% require at least 1 acre per colony
- 93.5% require less than 1 acre per colony

**Percent of North Carolina Beekeepers that Require at Least 1 Acre per Colony in July**

- 3.1% require at least 1 acre per colony
- 96.9% require less than 1 acre per colony

**Common Property Types used for Bee Apiaries in North Carolina**

- Mostly Natural, 31.4%
- Residential, 34.2%
- Pastureland, 8.6%
- Forest, 2.8%
- Vacant, 8.6%
- Other, 11.4%
- Rangeland, 2.8%
Fruit Trees, 14.8%
Wildflowers, 21.7%
Gallberry, 7.0%
Citrus, 1.7%
Asters, 13.0%
Pine Trees, 22.6%
Maple, 25.2%
Clover, 26.9%
Grasses, 22.6%
Cabbage Palm, 0.9%
Virginia Creeper, 7.8%
Privet, 13.9%
Holly, 20.8%
Oak, 20.8%
Redbud, 17.4%
Saw Palmetto, 0.9%
Honeysuckle, 17.4%
Goldenrod, 20.84%
Cactus, 0.9%

Common Forage Types Found on Properties used for Bee Apiaries in North Carolina
North Dakota

No Data
Ohio

In Ohio, a total of 328 beekeepers responded to the survey.
Ohio (continued)

Percent of Ohio Beekeepers that Require at Least 1 Acre per Colony in January

- 23% require less than 1 acre per hive
- 77% require 1 acre or more per hive

Percent of Ohio Beekeepers that Require at Least 1 Acre per Colony in July

- 7% require less than 1 acre per hive
- 93% require 1 acre or more per hive

Common Property Types used for Bee Apiaries in Ohio

- Mostly Natural: 33%
- Natural: 13%
- Residential: 22%
- Pasture Land: 9%
- Range land: 1%
- Other: 17%
- Industrial: 1%
- Forest: 3%
Ohio (continued)

Common Forage Types Found on Properties used for Bee Apiaries in Ohio

- Saw Palmetto: 0%
- Wildflowers: 11%
- Brazilian Pepper: 0%
- Melaleuca: 0%
- Gallberry: 0%
- Citrus: 0%
- Pine Trees: 7%
- Maple: 10%
- Clover: 11%
- Goldenrod: 11%
- Other: 3%
- Grasses: 8%
- Honeysuckle: 6%
- Fruit trees: 7%
- Asters: 7%
- Redbud: 5%
- Oak: 8%
- Holly: 2%
- Virginia Creeper: 2%
- Privet: 1%
- Creosote Bush: 0%
- Cactus: 0%
Oklahoma

Not enough data was available for Oklahoma
In Oregon, a total of 13 beekeepers responded to the survey.

### Acres Needed per Colony by Oregon Beekeepers

- **January**
  - < 1: 2 responses
  - 1: 4 responses
  - 2-5: 5 responses
  - 6-10: 1 response
  - 10+: 1 response
  - NA: 1 response

- **July**
  - < 1: 1 response
  - 1: 3 responses
  - 2-5: 5 responses
  - 6-10: 5 responses
  - 10+: 0 responses
  - NA: 0 responses

### Summary of Acres per Colony Needed by Oregon Beekeepers

- **Mean**
  - January: 3.3
  - July: 3.8

- **Median**
  - January: 3
  - July: 3

- **Mode**
  - January: 5
  - July: 0

### Acres per Colony Needed by Oregon Beekeepers Based on Property Type

- **January**
  - Forest: 11 responses
  - Mostly Natural: 5 responses
  - Pasture land: 4 responses
  - Residential: 5 responses

- **July**
  - Forest: 12 responses
  - Mostly Natural: 1.25 responses
  - Pasture land: 3 responses
  - Residential: 2.4 responses
NAPPC National Beekeeper Forage Survey

Oregon (continued)

- **Percent of Oregon Beekeepers that Require at Least 1 Acre per Colony in January**
  - 89% require less than 1 acre per hive
  - 11% require 1 acre or more per hive

- **Percent of Oregon Beekeepers that Require at Least 1 Acre per Colony in July**
  - 62% require less than 1 acre per hive
  - 38% require 1 acre or more per hive

**Common Property Types Used for Bee Apiaries in Oregon**
- Residential: 38%
- Pasture land: 31%
- Mostly Natural: 23%
- Forest: 8%
NAPPC National Beekeeper Forage Survey

Oregon (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Oregon

- Saw Palmetto: 1%
- Wildflowers: 11%
- Melaleuca: 1%
- Citrus: 1%
- Black Mangrove: 1%
- Pine Trees: 9%
- Maple: 13%
- Clover: 12%
- Grasses: 9%
- Other: 10%
- Goldenrod: 2%
- Asters: 2%
- Honeysuckle: 3%
- Foxtails: 4%
- Redbud: 4%
- Fruit trees: 12%
- Holly: 4%
- Redbud: 4%
- Fruit trees: 12%
- Clovers: 12%
- Grasses: 9%
In Pennsylvania, a total of 42 beekeepers responded to the survey.
NAPPC National Beekeeper Forage Survey

Pennsylvania (continued)

**Common Property Types Used for Bee Apiaries in Pennsylvania**

- **Pastureland**, 11.9%
- **Residential**, 19.0%
- **Forest**, 14.2%
- ** Mostly Natural**, 28.5%
- **Vacant**, 9.5%
- **Other**, 16.6%

**Percent of Pennsylvania Beekeepers that Require at Least 1 Acre per Colony in January**

- 75.0% require less than 1 acre per hive
- 25.0% require more than 1 acre per hive

**Percent of Pennsylvania Beekeepers that Require at Least 1 Acre per Colony in July**

- 97.4% require less than 1 acre per hive
- 2.6% require more than 1 acre per hive
Common Forage Types Found on Properties Used for Bee Apiaries in Pennsylvania

- Wildflowers, 25.8%
- Pine Trees, 17.4%
- Virginia Creeper, 5.5%
- Clover, 22.3%
- Goldenrod, 21.6%
- Asters, 17.4%
- Honeysuckle, 13.9%
- Fruit Trees, 18.1%
- Redbud, 11.8%
- Oak, 23.7%
- Holly, 5.5%
- Maple, 23.7%
- Grasses, 19.5%
- Privet, 3.4%
- Other, 7.7%
Rhode Island

Not enough data was available for Rhode Island.
South Carolina

In South Carolina, a total of 229 beekeepers responded to the survey.
South Carolina (continued)

### Percent of South Carolina Beekeepers that Require at Least 1 Acre per Colony in January

- 5% require less than 1 acre per hive
- 95% require 1 acre or more per hive

### Percent of South Carolina Beekeepers that Require at Least 1 Acre per Colony in July

- 8% require less than 1 acre per hive
- 92% require 1 acre or more per hive

### Common Property Types Used for Bee Apiaries in South Carolina

- Mostly Natural: 31%
- Natural: 12%
- Pasture Land: 16%
- Range land: 0%
- Residential: 21%
- Other: 10%
- Forest: 9%
- Industrial: 1%

- The pie chart shows the distribution of common property types used for bee apiaries in South Carolina, with Mostly Natural being the most common, followed by Natural and Pasture Land.
South Carolina (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in South Carolina

- Saw Palmetto: 2%
- Wildflowers: 9%
- Brazilian Pepper: 0%
- Gallberry: 1%
- Black Mangrove: 0%
- Cabbage Palm: 1%
- Pine Trees: 10%
- Maple: 7%
- Clover: 7%
- Goldenrod: 8%
- Fruit trees: 5%
- Honeysuckle: 7%
- Asters: 4%
- Virginia Creeper: 3%
- Privet: 5%
- Cactus: 1%
- Grasses: 9%
- Grasses: 9%
- Other: 3%
NAPPC National Beekeeper Forage Survey

South Dakota

No Data was available for South Dakota.
NAPPC National Beekeeper Forage Survey

Tennessee

In Tennessee, a total of 59 beekeepers responded to the survey.
Tennessee (continued)

**Percent of Tennessee Beekeepers that Require at Least 1 Acre per Colony in January**

- 91.3% require less than 1 acre per hive
- 8.7% require more than 1 acre per hive

**Percent of Tennessee Beekeepers that Require at Least 1 Acre per Colony in July**

- 100% require more than 1 acre per hive

**Common Property Types Used for Bee Apiaries in Tennessee**

- Most Natural, 35.5%
- Residential, 32.2%
- Vacant, 6.8%
- Forest, 5.1%
- Other, 15.3%
- Pastureland, 5.1%
Common Forage Types Found on Properties Used for Bee Apiaries in Tennessee

- Grasses, 15.0%
- Wildflowers, 14.6%
- Goldenrod, 12.8%
- Maple, 16.0%
- Cabbage, 15.3%
- Other, 3.6%
- Clover, 15.3%
- Pine Trees, 11.4%
- Cactus, 1.1%
- Virginia Creeper, 4.6%
- Privet, 8.6%
- Holly, 7.1%
- Oak, 15.7%
- Redbud, 13.9%
- Fruit Trees, 9.6%
- Honeysuckle, 12.5%
- Asters, 6.4%
- Cabbage Palm, 0.03%
- Gallberry, 0.7%
In Texas, a total of 30 beekeepers responded to the survey.
Texas (continued)

**Percent of Texas Beekeepers that Require at Least 1 Acre per Colony in January**
- 4.2% require less than 1 acre per hive
- 95.8% require more than 1 acre per hive

**Percent of Texas Beekeepers that Require at Least 1 Acre per Colony in July**
- 7.7% require less than 1 acre per hive
- 92.3% require more than 1 acre per hive

**Common Property Types Used for Bee Apiaries in Texas**
- Residential, 10%
- Vacant land, 13.3%
- Mostly Natural, 20%
- Forest, 20%
- Pastureland, 20%
- Rangeland, 10%
- Other, 6.7%
Texas (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Texas

- Saw Palmetto, 3.7%
- Wildflowers, 14.8%
- Asters, 20.1%
- Citrus, 5.5%
- Pine Trees, 14.6%
- Maple, 2.3%
- Clover, 18.3%
- Goldenrod, 34.8%
- Gallberry, 1.8%
- Honeysuckle, 12.8%
- Fruit Trees, 16.5%
- Redbud, 18.3%
- Oak, 36.6%
- Other, 23.8%
- Grasses, 34.8%
- Cactus, 12.8%
- Creosote Bush, 4%
- Privet, 5.5%
- Virginia Creeper, 7.3%
- Holly, 5.5%
In Utah, a total of 15 beekeepers responded to the survey.

### Acres Needed per Colony by Utah Beekeepers

- **January**
  - <1: 3
  - 1: 2
  - 2-5: 4
  - 6-10: 3
  - 10+: 1
  - NA: 2

- **July**
  - <1: 1
  - 1: 2
  - 2-5: 4
  - 6-10: 3
  - 10+: 3
  - NA: 1

### Summary of Acres per Colony Needed by Utah Beekeepers

- **January**
  - Mean: 4.2
  - Median: 2.5
  - Mode: 6-10

- **July**
  - Mean: 4.3
  - Median: 3
  - Mode: 0

### Acres per Colony Needed by Utah Beekeepers Based on Property Type

- **Mostly Natural**
  - January: 3
  - July: 3

- **Pasture**
  - January: 4
  - July: 4

- **Residential**
  - January: 2
  - July: 2
NAPPC National Beekeeper Forage Survey

Utah (continued)

Percent of Utah Beekeepers that Require at Least 1 Acre per Colony in January

- 60% require less than 1 acre per hive
- 40% require 1 acre or more per hive

Percent of Utah Beekeepers that Require at Least 1 Acre per Colony in July

- 100% require at least 1 acre per hive

Common Property Types Used for Bee Apiaries in Utah

- Mostly Natural 50%
- Residential 36%
- Pasture 14%

- Percent of Beekeepers that require less than 1 acre per hive
- Percent of Beekeepers that require 1 acre or more per hive
Common Forage Types Found on Properties Used for Bee Apiaries in Utah

- Wildflowers: 20%
- Pine Trees: 5%
- Maple: 8%
- Clover: 11%
- Goldenrod: 3%
- Asters: 3%
- Honeysuckle: 6%
- Fruit trees: 14%
- Grasses: 14%
- Other: 8%
- Cactus: 1%
- Privet: 1%
- Oak: 6%

Utah (continued)
In Vermont, a total of 30 beekeepers responded to the survey.
Vermont (continued)

Common Property Types used for Bee Apiaries in Vermont

- Mostly Natural, 43.3%
- Pasture land, 23.3%
- Residential, 13.3%
- Forest, 10.0%
- Other, 6.7%
- Vacant, 3.3%

Percent of Vermont Beekeepers that Require at Least 1 Acre per Colony in January

- 57.1% require less than 1 acre per hive
- 42.9% require more than 1 acre per hive

Percent of Vermont Beekeepers that Require at Least 1 Acre per Colony in July

- 92.9% require less than 1 acre per hive
- 7.1% require more than 1 acre per hive
Vermont (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Vermont

- Wildflowers: 38.7%
- Brazilian Pepper: 1.5%
- Pine Trees: 29.8%
- Black Mangrove: 1.5%
- Maple: 41.7%
- Clover: 38.7%
- Asters: 29.8%
- Redbud: 3.0%
- Virginia Creeper: 1.5%
- Grasses: 26.8%
- Other: 19.3%
- Honeysuckle: 13.4%
- Holly: 1.5%
- Oak: 19.3%
- Goldenrod: 41.7%
- Fruit Trees: 25.3%
In Virginia, a total of 30 beekeepers responded to the survey.
NAPPC National Beekeeper Forage Survey

Virginia (continued)

Percent of Virginia Beekeepers that Require at Least 1 Acre per Colony in January

- 100%

Percent of Virginia Beekeepers that Require at Least 1 Acre per Colony in July

- 12.9%
- 87.1%

Common Property Types Used for Bee Apiaries in Virginia

- Pasture land, 22.8%
- Mostly Natural, 25.7%
- Residential, 22.8%
- Vacant, 5.7%
- Forest, 2.9%
- 17.1%
Virginia (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in Virginia

- Grasses, 23.6%
- Wildflowers, 27.7%
- Pine Trees, 21.6%
- Maple, 26.7%
- Clover, 26.8%
- Goldenrod, 24.7%
- Asters, 18.5%
- Honeysuckle, 18.5%
- Redbud, 15.4%
- Fruit Trees, 17.7%
- Oak, 19.5%
- Holly, 16.4%
- Virginia Creeper, 13.4%
- Privet, 4.10%
- Other, 12.3%
- Gallberry, 1.02%
In Washington, a total of 46 beekeepers responded to the survey.
Washington (continued)

Percent of Washington Beekeepers that Require at Least 1 Acre per Colony in January

- 78.8% require less than 1 acre per hive
- 21.2% require more than 1 acre per hive

Percent of Washington Beekeepers that Require at Least 1 Acre per Colony in July

- 84.1% require less than 1 acre per hive
- 15.9% require more than 1 acre per hive

Common Property Types Used for Bee Apiaries in Washington

- Mostly Natural, 26.1%
- Residential, 15.2%
- Forest, 8.7%
- Vacant, 4.3%
- Range land, 2.2%
- Other, 12.4%
- Pasture land, 21.7%
Common Forage Types Found on Properties Used for Bee Apiaries in Washington

- Wildflowers: 30.0%
- Maple: 27.4%
- Grasses: 19.7%
- Honeysuckle: 10.3%
- Fruit Trees: 25.7%
- Clover: 24.0%
- Pine Trees: 15.4%
- Aster: 6.0%
- Cabbage Palm: 0.9%
- Black Mangrove: 1.7%
- Cactus: 2.6%
- Meleleuca: 0.9%
- Goldenrod: 7.7%
- Citrus: 0.9%
- Oak: 6.0%
- Holly: 12.8%
- Redbud: 3.4%
- Privet: 1.7%
- Other: 20.5%
West Virginia

In West Virginia, a total of 32 beekeepers responded to the survey.

![Number of Acres Needed per Colony by West Virginia Beekeepers](image1)

Number of Acres Needed per Colony by West Virginia Beekeepers

<table>
<thead>
<tr>
<th>Acres</th>
<th>January</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2 - 5</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>6 - 10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>10+</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

![Summary of Acres per Colony Needed by West Virginia Beekeepers](image2)

Summary of Acres per Colony Needed by West Virginia Beekeepers

- Mean: January 4.0, July 4.7
- Median: January 3, July 4
- Mode: January 5, July 5

![Acres per Colony Needed by West Virginia Beekeepers Based on Property Type](image3)

Acres per Colony Needed by West Virginia Beekeepers Based on Property Type

- Pasture land: January 3.7, July 4.4
- Residential: January 2.8, July 4.3
- Mostly Natural: January 5.3, July 4.7
- Vacant land: January 3.3, July 4
- Other: January 3.1, July 4.8
NAPPC National Beekeeper Forage Survey

West Virginia (continued)

Common Property Types Used for Bee Apiaries in West Virginia

- Mostly Natural, 56.3%
- Residential, 12.5%
- Pasture land, 15.6%
- Other, 9.4%
- Vacant land, 6.3%

Percent of West Virginia Beekeepers that Require at Least 1 Acre per Colony in January
- 9.5% require more than 1 acre per hive
- 90.5% require less than 1 acre per hive

Percent of West Virginia Beekeepers that Require at Least 1 Acre per Colony in July
- 6.5% require more than 1 acre per hive
- 93.5% require less than 1 acre per hive
West Virginia (continued)

Common Forage Types Found on Properties Used for Bee Apiaries in West Virginia

- Wildflowers, 34.5%
- Pine Trees, 19.2%
- Maple, 24.4%
- Clover, 28.1%
- Goldenrod, 29.4%
- Honeysuckle, 19.2%
- Brazillian Pepper, 1.3%
- Other, 12.8%
- Grasses, 28.1%
- Privet, 5.1%
- Virginia Creeper, 5.1%
- Holly, 10.2%
- Oak, 25.6%
- Redbud, 16.6%
- Fruit Trees, 24.3%
In Wisconsin, a total of 80 beekeepers responded to the survey.

### Number of Acres Needed per Colony by Wisconsin

- **January:**
  - <1 Acres: 5
  - 1: 10
  - 2-5 Acres: 15
  - 6-10 Acres: 20
  - 10+: 25
  - NA: 10

- **July:**
  - <1 Acres: 5
  - 1: 10
  - 2-5 Acres: 15
  - 6-10 Acres: 20
  - 10+: 25
  - NA: 10

### Summary of Acres per Colony Needed by Wisconsin Beekeepers

- **Mean:**
  - January: 4.8
  - July: 5.2
- **Median:**
  - January: 3
  - July: 4
- **Mode:**
  - January: 11
  - July: 11

### Acres per Colony Needed by Wisconsin Beekeepers Based on Property Type

- **January:**
  - Forest: 5.3
  - Mostly Natural: 3.5
  - Natural: 2.3
  - Pasture Land: 4.4
  - Range land: 4.0
  - Residential: 3.5
  - Other: 4.8

- **July:**
  - Forest: 7.7
  - Mostly Natural: 5.4
  - Natural: 4.0
  - Pasture Land: 7.3
  - Range land: 7.0
  - Residential: 6.1
  - Other: 4.8

- **Average Number of Acres:**
  - January: Forest: 5.3, Mostly Natural: 3.5, Natural: 2.3, Pasture Land: 4.4, Range land: 4.0, Residential: 3.5, Other: 4.8

### Forest, Mostly Natural, Natural, Pasture Land, Range land, Residential, Other

- **January:**
  - Forest: 5.3
  - Mostly Natural: 3.5
  - Natural: 2.3
  - Pasture Land: 4.4
  - Range land: 4.0
  - Residential: 3.5
  - Other: 4.8

- **July:**
  - Forest: 7.7
  - Mostly Natural: 5.4
  - Natural: 4.0
  - Pasture Land: 7.3
  - Range land: 7.0
  - Residential: 6.1
  - Other: 4.8
Wisconsin (continued)

**Percent of Wisconsin Beekeepers that Require at Least 1 Acre per Colony in January**
- 76% require less than 1 acre per hive
- 24% require 1 acre or more per hive

**Percent of Wisconsin Beekeepers that Require at Least 1 Acre per Colony in July**
- 92% require less than 1 acre per hive
- 8% require 1 acre or more per hive

**Common Property Types Used for Bee Apiaries in Wisconsin**
- 30%
- 28%
- 17%
- 13%
- 9%
- 3%
- 9%
Common Forage Types Found on Properties Used for Bee Apiaries in Wisconsin

- Saw Palmetto: 0%
- Wildflowers: 11%
- Brazilian Pepper: 0%
- Melaleuca: 0%
- Gallberry: 0%
- Cabbage Palm: 0%
- Pine Trees: 9%
- Maple: 10%
- Clover: 10%
- Grasses: 9%
- Other: 5%
- Goldenrod: 11%
- Fruit trees: 9%
- Honeysuckle: 5%
- Asters: 9%
- Honeysuckle: 5%
- Redbud: 1%
- Oak: 8%
- Holly: 0%
- Virginia Creeper: 1%
- Privet: 0%
NAPPC National Beekeeper Forage Survey

Wyoming

No Data was available for Wyoming